APPENDIX A – AIR QUALITY AND GREENHOUSE GAS CALCULATIONS AND DATA

Greenfield Commons

Monterey County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Mobile Home Park	222.00	Dwelling Unit	11.00	214,000.00	635

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.6	**Precipitation Freq (Days)**	55
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual site acerage used

Construction Phase - A conservative 50% reduction in construction is used to reflect modular construction.

Woodstoves - No fireplaces will be constructed. Natural gas will not be used at the site.

Land Use Change -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Grading - Actual site area used.

Road Dust -

Mobile Commute Mitigation -

Sequestration -

Greenfield Commons - Monterey County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	300.00	150.00
tblConstructionPhase	PhaseEndDate	9/10/2019	1/15/2020
tblConstructionPhase	PhaseEndDate	10/22/2019	2/26/2020
tblConstructionPhase	PhaseEndDate	12/15/2020	9/23/2020
tblConstructionPhase	PhaseEndDate	1/12/2021	10/21/2020
tblConstructionPhase	PhaseEndDate	2/9/2021	11/18/2020
tblConstructionPhase	PhaseStartDate	8/28/2019	1/2/2020
tblConstructionPhase	PhaseStartDate	9/11/2019	1/16/2020
tblConstructionPhase	PhaseStartDate	10/23/2019	2/27/2020
tblConstructionPhase	PhaseStartDate	12/16/2020	9/24/2020
tblConstructionPhase	PhaseStartDate	1/13/2021	10/22/2020
tblFireplaces	NumberGas	222.00	0.00
tblLandUse	LandUseSquareFeet	266,400.00	214,000.00
tblLandUse	LotAcreage	27.97	11.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	1.6876	2.8523	2.7513	5.5300e-003	0.3900	0.1385	0.5285	0.1489	0.1293	0.2782	0.0000	489.5827	489.5827	0.0893	0.0000	491.8161
Maximum	**1.6876**	**2.8523**	**2.7513**	**5.5300e-003**	**0.3900**	**0.1385**	**0.5285**	**0.1489**	**0.1293**	**0.2782**	**0.0000**	**489.5827**	**489.5827**	**0.0893**	**0.0000**	**491.8161**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	1.6876	2.8523	2.7513	5.5300e-003	0.2688	0.1385	0.4073	0.0920	0.1293	0.2212	0.0000	489.5823	489.5823	0.0893	0.0000	491.8158
Maximum	**1.6876**	**2.8523**	**2.7513**	**5.5300e-003**	**0.2688**	**0.1385**	**0.4073**	**0.0920**	**0.1293**	**0.2212**	**0.0000**	**489.5823**	**489.5823**	**0.0893**	**0.0000**	**491.8158**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**31.08**	**0.00**	**22.94**	**38.26**	**0.00**	**20.49**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
2	11-28-2019	2-27-2020	1.0669	1.0669
3	2-28-2020	5-27-2020	0.8410	0.8410
4	5-28-2020	8-27-2020	0.8553	0.8553
5	8-28-2020	9-30-2020	0.2900	0.2900
		Highest	1.0669	1.0669

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0389	0.0264	2.2919	1.2000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	3.7397	3.7397	3.6100e-003	0.0000	3.8299
Energy	0.0203	0.1738	0.0740	1.1100e-003		0.0141	0.0141		0.0141	0.0141	0.0000	547.0371	547.0371	0.0195	6.9300e-003	549.5881
Mobile	0.4968	2.3120	6.4272	0.0193	1.5380	0.0184	1.5564	0.4131	0.0172	0.4303	0.0000	1,771.8215	1,771.8215	0.0854	0.0000	1,773.9559
Waste						0.0000	0.0000		0.0000	0.0000	20.7294	0.0000	20.7294	1.2251	0.0000	51.3563
Water						0.0000	0.0000		0.0000	0.0000	4.5888	32.0530	36.6418	0.4728	0.0114	51.8667
Total	**1.5561**	**2.5123**	**8.7930**	**0.0206**	**1.5380**	**0.0451**	**1.5831**	**0.4131**	**0.0439**	**0.4570**	**25.3183**	**2,354.6514**	**2,379.9696**	**1.8063**	**0.0184**	**2,430.5969**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0389	0.0264	2.2919	1.2000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	3.7397	3.7397	3.6100e-003	0.0000	3.8299
Energy	0.0179	0.1526	0.0649	9.7000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	176.7302	176.7302	3.3900e-003	3.2400e-003	177.7804
Mobile	0.4846	2.2379	6.1762	0.0185	1.4640	0.0176	1.4815	0.3932	0.0164	0.4096	0.0000	1,690.8168	1,690.8168	0.0820	0.0000	1,692.8667
Waste						0.0000	0.0000		0.0000	0.0000	20.7294	0.0000	20.7294	1.2251	0.0000	51.3563
Water						0.0000	0.0000		0.0000	0.0000	3.6711	26.9330	30.6040	0.3783	9.1500e-003	42.7890
Total	**1.5414**	**2.4169**	**8.5330**	**0.0195**	**1.4640**	**0.0426**	**1.5065**	**0.3932**	**0.0414**	**0.4346**	**24.4005**	**1,898.2197**	**1,922.6202**	**1.6923**	**0.0124**	**1,968.6223**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.94**	**3.80**	**2.96**	**5.01**	**4.82**	**5.59**	**4.84**	**4.82**	**5.65**	**4.89**	**3.62**	**19.38**	**19.22**	**6.31**	**32.52**	**19.01**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-68.2000
Total	**-68.2000**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2020	1/15/2020	5	10	
2	Grading	Grading	1/16/2020	2/26/2020	5	30	
3	Building Construction	Building Construction	2/27/2020	9/23/2020	5	150	
4	Paving	Paving	9/24/2020	10/21/2020	5	20	
5	Architectural Coating	Architectural Coating	10/22/2020	11/18/2020	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 433,350; Residential Outdoor: 144,450; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	160.00	24.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	32.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0903**	**0.0110**	**0.1013**	**0.0497**	**0.0101**	**0.0598**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	5.4000e-004	4.7400e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	1.0476	1.0476	4.0000e-005	0.0000	1.0487
Total	**5.5000e-004**	**5.4000e-004**	**4.7400e-003**	**1.0000e-005**	**1.1100e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**1.0476**	**1.0476**	**4.0000e-005**	**0.0000**	**1.0487**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0407**	**0.0110**	**0.0516**	**0.0223**	**0.0101**	**0.0325**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	5.4000e-004	4.7400e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	1.0476	1.0476	4.0000e-005	0.0000	1.0487
Total	**5.5000e-004**	**5.4000e-004**	**4.7400e-003**	**1.0000e-005**	**1.1100e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**1.0476**	**1.0476**	**4.0000e-005**	**0.0000**	**1.0487**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0668	0.7530	0.4794	9.3000e-004		0.0326	0.0326		0.0300	0.0300	0.0000	81.7264	81.7264	0.0264	0.0000	82.3872
Total	**0.0668**	**0.7530**	**0.4794**	**9.3000e-004**	**0.1301**	**0.0326**	**0.1627**	**0.0540**	**0.0300**	**0.0840**	**0.0000**	**81.7264**	**81.7264**	**0.0264**	**0.0000**	**82.3872**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8400e-003	1.8100e-003	0.0158	4.0000e-005	3.7100e-003	3.0000e-005	3.7400e-003	9.9000e-004	3.0000e-005	1.0100e-003	0.0000	3.4920	3.4920	1.5000e-004	0.0000	3.4956
Total	**1.8400e-003**	**1.8100e-003**	**0.0158**	**4.0000e-005**	**3.7100e-003**	**3.0000e-005**	**3.7400e-003**	**9.9000e-004**	**3.0000e-005**	**1.0100e-003**	**0.0000**	**3.4920**	**3.4920**	**1.5000e-004**	**0.0000**	**3.4956**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0586	0.0000	0.0586	0.0243	0.0000	0.0243	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0668	0.7530	0.4794	9.3000e-004		0.0326	0.0326		0.0300	0.0300	0.0000	81.7263	81.7263	0.0264	0.0000	82.3871
Total	**0.0668**	**0.7530**	**0.4794**	**9.3000e-004**	**0.0586**	**0.0326**	**0.0912**	**0.0243**	**0.0300**	**0.0543**	**0.0000**	**81.7263**	**81.7263**	**0.0264**	**0.0000**	**82.3871**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8400e-003	1.8100e-003	0.0158	4.0000e-005	3.7100e-003	3.0000e-005	3.7400e-003	9.9000e-004	3.0000e-005	1.0100e-003	0.0000	3.4920	3.4920	1.5000e-004	0.0000	3.4956
Total	**1.8400e-003**	**1.8100e-003**	**0.0158**	**4.0000e-005**	**3.7100e-003**	**3.0000e-005**	**3.7400e-003**	**9.9000e-004**	**3.0000e-005**	**1.0100e-003**	**0.0000**	**3.4920**	**3.4920**	**1.5000e-004**	**0.0000**	**3.4956**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1590	1.4390	1.2636	2.0200e-003		0.0838	0.0838		0.0788	0.0788	0.0000	173.7075	173.7075	0.0424	0.0000	174.7670
Total	**0.1590**	**1.4390**	**1.2636**	**2.0200e-003**		**0.0838**	**0.0838**		**0.0788**	**0.0788**	**0.0000**	**173.7075**	**173.7075**	**0.0424**	**0.0000**	**174.7670**

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.5900e-003	0.2134	0.0584	4.7000e-004	0.0107	1.1100e-003	0.0118	3.1000e-003	1.0600e-003	4.1600e-003	0.0000	45.1621	45.1621	2.1900e-003	0.0000	45.2169
Worker	0.0735	0.0723	0.6322	1.5500e-003	0.1483	1.2800e-003	0.1495	0.0394	1.1800e-003	0.0406	0.0000	139.6795	139.6795	5.8300e-003	0.0000	139.8253
Total	**0.0811**	**0.2857**	**0.6906**	**2.0200e-003**	**0.1590**	**2.3900e-003**	**0.1614**	**0.0425**	**2.2400e-003**	**0.0448**	**0.0000**	**184.8416**	**184.8416**	**8.0200e-003**	**0.0000**	**185.0423**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1590	1.4390	1.2636	2.0200e-003		0.0838	0.0838		0.0788	0.0788	0.0000	173.7073	173.7073	0.0424	0.0000	174.7667
Total	**0.1590**	**1.4390**	**1.2636**	**2.0200e-003**		**0.0838**	**0.0838**		**0.0788**	**0.0788**	**0.0000**	**173.7073**	**173.7073**	**0.0424**	**0.0000**	**174.7667**

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.5900e-003	0.2134	0.0584	4.7000e-004	0.0107	1.1100e-003	0.0118	3.1000e-003	1.0600e-003	4.1600e-003	0.0000	45.1621	45.1621	2.1900e-003	0.0000	45.2169
Worker	0.0735	0.0723	0.6322	1.5500e-003	0.1483	1.2800e-003	0.1495	0.0394	1.1800e-003	0.0406	0.0000	139.6795	139.6795	5.8300e-003	0.0000	139.8253
Total	**0.0811**	**0.2857**	**0.6906**	**2.0200e-003**	**0.1590**	**2.3900e-003**	**0.1614**	**0.0425**	**2.2400e-003**	**0.0448**	**0.0000**	**184.8416**	**184.8416**	**8.0200e-003**	**0.0000**	**185.0423**

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0136	0.1407	0.1465	2.3000e-004		7.5300e-003	7.5300e-003		6.9300e-003	6.9300e-003	0.0000	20.0282	20.0282	6.4800e-003	0.0000	20.1902
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0136**	**0.1407**	**0.1465**	**2.3000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9300e-003**	**6.9300e-003**	**0.0000**	**20.0282**	**20.0282**	**6.4800e-003**	**0.0000**	**20.1902**

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	9.0000e-004	7.9000e-003	2.0000e-005	1.8500e-003	2.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.1000e-004	0.0000	1.7460	1.7460	7.0000e-005	0.0000	1.7478
Total	**9.2000e-004**	**9.0000e-004**	**7.9000e-003**	**2.0000e-005**	**1.8500e-003**	**2.0000e-005**	**1.8700e-003**	**4.9000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.7460**	**1.7460**	**7.0000e-005**	**0.0000**	**1.7478**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0136	0.1407	0.1465	2.3000e-004		7.5300e-003	7.5300e-003		6.9300e-003	6.9300e-003	0.0000	20.0282	20.0282	6.4800e-003	0.0000	20.1901
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0136**	**0.1407**	**0.1465**	**2.3000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9300e-003**	**6.9300e-003**	**0.0000**	**20.0282**	**20.0282**	**6.4800e-003**	**0.0000**	**20.1901**

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	9.0000e-004	7.9000e-003	2.0000e-005	1.8500e-003	2.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.1000e-004	0.0000	1.7460	1.7460	7.0000e-005	0.0000	1.7478
Total	**9.2000e-004**	**9.0000e-004**	**7.9000e-003**	**2.0000e-005**	**1.8500e-003**	**2.0000e-005**	**1.8700e-003**	**4.9000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.7460**	**1.7460**	**7.0000e-005**	**0.0000**	**1.7478**

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4200e-003	0.0168	0.0183	3.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	2.5533	2.5533	2.0000e-004	0.0000	2.5582
Total	**1.3415**	**0.0168**	**0.0183**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.1100e-003**	**1.1100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.0000e-004**	**0.0000**	**2.5582**

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.9300e-003	0.0169	4.0000e-005	3.9500e-003	3.0000e-005	3.9900e-003	1.0500e-003	3.0000e-005	1.0800e-003	0.0000	3.7248	3.7248	1.6000e-004	0.0000	3.7287
Total	**1.9600e-003**	**1.9300e-003**	**0.0169**	**4.0000e-005**	**3.9500e-003**	**3.0000e-005**	**3.9900e-003**	**1.0500e-003**	**3.0000e-005**	**1.0800e-003**	**0.0000**	**3.7248**	**3.7248**	**1.6000e-004**	**0.0000**	**3.7287**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4200e-003	0.0168	0.0183	3.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	2.5533	2.5533	2.0000e-004	0.0000	2.5582
Total	**1.3415**	**0.0168**	**0.0183**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.1100e-003**	**1.1100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.0000e-004**	**0.0000**	**2.5582**

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.9300e-003	0.0169	4.0000e-005	3.9500e-003	3.0000e-005	3.9900e-003	1.0500e-003	3.0000e-005	1.0800e-003	0.0000	3.7248	3.7248	1.6000e-004	0.0000	3.7287
Total	**1.9600e-003**	**1.9300e-003**	**0.0169**	**4.0000e-005**	**3.9500e-003**	**3.0000e-005**	**3.9900e-003**	**1.0500e-003**	**3.0000e-005**	**1.0800e-003**	**0.0000**	**3.7248**	**3.7248**	**1.6000e-004**	**0.0000**	**3.7287**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Integrate Below Market Rate Housing

Employee Vanpool/Shuttle

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4846	2.2379	6.1762	0.0185	1.4640	0.0176	1.4815	0.3932	0.0164	0.4096	0.0000	1,690.8168	1,690.8168	0.0820	0.0000	1,692.8667
Unmitigated	0.4968	2.3120	6.4272	0.0193	1.5380	0.0184	1.5564	0.4131	0.0172	0.4303	0.0000	1,771.8215	1,771.8215	0.0854	0.0000	1,773.9559

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Mobile Home Park	1,107.78	1,110.00	967.92	4,101,836	3,904,330
Total	1,107.78	1,110.00	967.92	4,101,836	3,904,330

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Mobile Home Park	16.80	7.10	7.90	44.00	18.80	37.20	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Mobile Home Park	0.543895	0.028716	0.205211	0.131753	0.021859	0.005504	0.019097	0.027308	0.004155	0.002738	0.007724	0.001236	0.000805

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	345.7151	345.7151	0.0156	3.2300e-003	347.0697
NaturalGas Mitigated	0.0179	0.1526	0.0649	9.7000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	176.7302	176.7302	3.3900e-003	3.2400e-003	177.7804
NaturalGas Unmitigated	0.0203	0.1738	0.0740	1.1100e-003		0.0141	0.0141		0.0141	0.0141	0.0000	201.3220	201.3220	3.8600e-003	3.6900e-003	202.5184

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Mobile Home Park	3.77263e+006	0.0203	0.1738	0.0740	1.1100e-003		0.0141	0.0141		0.0141	0.0141	0.0000	201.3220	201.3220	3.8600e-003	3.6900e-003	202.5184
Total		**0.0203**	**0.1738**	**0.0740**	**1.1100e-003**		**0.0141**	**0.0141**		**0.0141**	**0.0141**	**0.0000**	**201.3220**	**201.3220**	**3.8600e-003**	**3.6900e-003**	**202.5184**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Mobile Home Park	3.3118e+006	0.0179	0.1526	0.0649	9.7000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	176.7302	176.7302	3.3900e-003	3.2400e-003	177.7804
Total		**0.0179**	**0.1526**	**0.0649**	**9.7000e-004**		**0.0123**	**0.0123**		**0.0123**	**0.0123**	**0.0000**	**176.7302**	**176.7302**	**3.3900e-003**	**3.2400e-003**	**177.7804**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Mobile Home Park	1.18839e+006	345.7151	0.0156	3.2300e-003	347.0697
Total		**345.7151**	**0.0156**	**3.2300e-003**	**347.0697**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Mobile Home Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0389	0.0264	2.2919	1.2000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	3.7397	3.7397	3.6100e-003	0.0000	3.8299
Unmitigated	1.0389	0.0264	2.2919	1.2000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	3.7397	3.7397	3.6100e-003	0.0000	3.8299

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1339					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8358					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0692	0.0264	2.2919	1.2000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	3.7397	3.7397	3.6100e-003	0.0000	3.8299
Total	**1.0389**	**0.0264**	**2.2919**	**1.2000e-004**		**0.0127**	**0.0127**		**0.0127**	**0.0127**	**0.0000**	**3.7397**	**3.7397**	**3.6100e-003**	**0.0000**	**3.8299**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1339					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8358					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0692	0.0264	2.2919	1.2000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	3.7397	3.7397	3.6100e-003	0.0000	3.8299
Total	**1.0389**	**0.0264**	**2.2919**	**1.2000e-004**		**0.0127**	**0.0127**		**0.0127**	**0.0127**	**0.0000**	**3.7397**	**3.7397**	**3.6100e-003**	**0.0000**	**3.8299**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	30.6040	0.3783	9.1500e-003	42.7890
Unmitigated	36.6418	0.4728	0.0114	51.8667

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Mobile Home Park	14.4642 / 9.11873	36.6418	0.4728	0.0114	51.8667
Total		**36.6418**	**0.4728**	**0.0114**	**51.8667**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Mobile Home Park	11.5714 / 8.56249	30.6040	0.3783	9.1500e-003	42.7890
Total		**30.6040**	**0.3783**	**9.1500e-003**	**42.7890**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	20.7294	1.2251	0.0000	51.3563
Unmitigated	20.7294	1.2251	0.0000	51.3563

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Mobile Home Park	102.12	20.7294	1.2251	0.0000	51.3563
Total		**20.7294**	**1.2251**	**0.0000**	**51.3563**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Mobile Home Park	102.12	20.7294	1.2251	0.0000	51.3563
Total		**20.7294**	**1.2251**	**0.0000**	**51.3563**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-68.2000	0.0000	0.0000	-68.2000

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Cropland	11 / 0	-68.2000	0.0000	0.0000	-68.2000
Total		**-68.2000**	**0.0000**	**0.0000**	**-68.2000**

Greenfield Commons

Monterey County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	222.00	Dwelling Unit	11.00	214,000.00	635

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.6	**Precipitation Freq (Days)**	55
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Actual site acerage used

Construction Phase - A conservative 50% reduction in construction is used to reflect modular construction.

Woodstoves - No fireplaces will be constructed. Natural gas will not be used at the site.

Land Use Change -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Grading - Actual site area used.

Road Dust -

Mobile Commute Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	300.00	150.00
tblConstructionPhase	PhaseEndDate	2/9/2021	11/18/2020
tblConstructionPhase	PhaseEndDate	12/15/2020	9/23/2020
tblConstructionPhase	PhaseEndDate	10/22/2019	2/26/2020
tblConstructionPhase	PhaseEndDate	1/12/2021	10/21/2020
tblConstructionPhase	PhaseEndDate	9/10/2019	1/15/2020
tblConstructionPhase	PhaseStartDate	1/13/2021	10/22/2020
tblConstructionPhase	PhaseStartDate	10/23/2019	2/27/2020
tblConstructionPhase	PhaseStartDate	9/11/2019	1/16/2020
tblConstructionPhase	PhaseStartDate	12/16/2020	9/24/2020
tblConstructionPhase	PhaseStartDate	8/28/2019	1/2/2020
tblFireplaces	NumberGas	222.00	0.00
tblLandUse	LandUseSquareFeet	222,000.00	214,000.00
tblLandUse	LotAcreage	13.88	11.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	1.6876	2.8523	2.7513	5.5300e-003	0.3900	0.1385	0.5285	0.1489	0.1293	0.2782	0.0000	489.5827	489.5827	0.0893	0.0000	491.8161
Maximum	**1.6876**	**2.8523**	**2.7513**	**5.5300e-003**	**0.3900**	**0.1385**	**0.5285**	**0.1489**	**0.1293**	**0.2782**	**0.0000**	**489.5827**	**489.5827**	**0.0893**	**0.0000**	**491.8161**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	1.6876	2.8523	2.7513	5.5300e-003	0.2688	0.1385	0.4073	0.0920	0.1293	0.2212	0.0000	489.5823	489.5823	0.0893	0.0000	491.8158
Maximum	**1.6876**	**2.8523**	**2.7513**	**5.5300e-003**	**0.2688**	**0.1385**	**0.4073**	**0.0920**	**0.1293**	**0.2212**	**0.0000**	**489.5823**	**489.5823**	**0.0893**	**0.0000**	**491.8158**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**31.08**	**0.00**	**22.94**	**38.26**	**0.00**	**20.49**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
2	11-28-2019	2-27-2020	1.0669	1.0669
3	2-28-2020	5-27-2020	0.8410	0.8410
4	5-28-2020	8-27-2020	0.8553	0.8553
5	8-28-2020	9-30-2020	0.2900	0.2900
		Highest	1.0669	1.0669

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0389	0.0264	2.2919	1.2000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	3.7397	3.7397	3.6100e-003	0.0000	3.8299
Energy	0.0122	0.1043	0.0444	6.7000e-004		8.4400e-003	8.4400e-003		8.4400e-003	8.4400e-003	0.0000	401.6791	401.6791	0.0150	4.8400e-003	403.4976
Mobile	0.6687	3.1119	8.6508	0.0260	2.0701	0.0247	2.0949	0.5560	0.0232	0.5792	0.0000	2,384.8067	2,384.8067	0.1149	0.0000	2,387.6795
Waste						0.0000	0.0000		0.0000	0.0000	20.7294	0.0000	20.7294	1.2251	0.0000	51.3563
Water						0.0000	0.0000		0.0000	0.0000	4.5888	32.0530	36.6418	0.4728	0.0114	51.8667
Total	**1.7198**	**3.2426**	**10.9870**	**0.0268**	**2.0701**	**0.0458**	**2.1160**	**0.5560**	**0.0443**	**0.6003**	**25.3183**	**2,822.2785**	**2,847.5968**	**1.8314**	**0.0163**	**2,898.2300**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0389	0.0264	2.2919	1.2000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	3.7397	3.7397	3.6100e-003	0.0000	3.8299
Energy	0.0109	0.0935	0.0398	6.0000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	108.3064	108.3064	2.0800e-003	1.9900e-003	108.9500
Mobile	0.6523	3.0121	8.3129	0.0248	1.9705	0.0236	1.9941	0.5292	0.0221	0.5514	0.0000	2,275.7773	2,275.7773	0.1104	0.0000	2,278.5364
Waste						0.0000	0.0000		0.0000	0.0000	20.7294	0.0000	20.7294	1.2251	0.0000	51.3563
Water						0.0000	0.0000		0.0000	0.0000	3.6711	26.9330	30.6040	0.3783	9.1500e-003	42.7890
Total	**1.7021**	**3.1321**	**10.6446**	**0.0256**	**1.9705**	**0.0439**	**2.0143**	**0.5292**	**0.0424**	**0.5716**	**24.4005**	**2,414.7564**	**2,439.1569**	**1.7194**	**0.0111**	**2,485.4615**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.03**	**3.41**	**3.12**	**4.70**	**4.81**	**4.30**	**4.80**	**4.81**	**4.32**	**4.78**	**3.62**	**14.44**	**14.34**	**6.12**	**31.53**	**14.24**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2020	1/15/2020	5	10	
2	Grading	Grading	1/16/2020	2/26/2020	5	30	
3	Building Construction	Building Construction	2/27/2020	9/23/2020	5	150	
4	Paving	Paving	9/24/2020	10/21/2020	5	20	
5	Architectural Coating	Architectural Coating	10/22/2020	11/18/2020	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 433,350; Residential Outdoor: 144,450; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Greenfield Commons - Monterey County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	160.00	24.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	32.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0903**	**0.0110**	**0.1013**	**0.0497**	**0.0101**	**0.0598**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	5.4000e-004	4.7400e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	1.0476	1.0476	4.0000e-005	0.0000	1.0487
Total	**5.5000e-004**	**5.4000e-004**	**4.7400e-003**	**1.0000e-005**	**1.1100e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**1.0476**	**1.0476**	**4.0000e-005**	**0.0000**	**1.0487**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0407**	**0.0110**	**0.0516**	**0.0223**	**0.0101**	**0.0325**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	5.4000e-004	4.7400e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1200e-003	3.0000e-004	1.0000e-005	3.0000e-004	0.0000	1.0476	1.0476	4.0000e-005	0.0000	1.0487
Total	**5.5000e-004**	**5.4000e-004**	**4.7400e-003**	**1.0000e-005**	**1.1100e-003**	**1.0000e-005**	**1.1200e-003**	**3.0000e-004**	**1.0000e-005**	**3.0000e-004**	**0.0000**	**1.0476**	**1.0476**	**4.0000e-005**	**0.0000**	**1.0487**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0668	0.7530	0.4794	9.3000e-004		0.0326	0.0326		0.0300	0.0300	0.0000	81.7264	81.7264	0.0264	0.0000	82.3872
Total	**0.0668**	**0.7530**	**0.4794**	**9.3000e-004**	**0.1301**	**0.0326**	**0.1627**	**0.0540**	**0.0300**	**0.0840**	**0.0000**	**81.7264**	**81.7264**	**0.0264**	**0.0000**	**82.3872**

3.3 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8400e-003	1.8100e-003	0.0158	4.0000e-005	3.7100e-003	3.0000e-005	3.7400e-003	9.9000e-004	3.0000e-005	1.0100e-003	0.0000	3.4920	3.4920	1.5000e-004	0.0000	3.4956
Total	**1.8400e-003**	**1.8100e-003**	**0.0158**	**4.0000e-005**	**3.7100e-003**	**3.0000e-005**	**3.7400e-003**	**9.9000e-004**	**3.0000e-005**	**1.0100e-003**	**0.0000**	**3.4920**	**3.4920**	**1.5000e-004**	**0.0000**	**3.4956**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0586	0.0000	0.0586	0.0243	0.0000	0.0243	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0668	0.7530	0.4794	9.3000e-004		0.0326	0.0326		0.0300	0.0300	0.0000	81.7263	81.7263	0.0264	0.0000	82.3871
Total	**0.0668**	**0.7530**	**0.4794**	**9.3000e-004**	**0.0586**	**0.0326**	**0.0912**	**0.0243**	**0.0300**	**0.0543**	**0.0000**	**81.7263**	**81.7263**	**0.0264**	**0.0000**	**82.3871**

3.3 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8400e-003	1.8100e-003	0.0158	4.0000e-005	3.7100e-003	3.0000e-005	3.7400e-003	9.9000e-004	3.0000e-005	1.0100e-003	0.0000	3.4920	3.4920	1.5000e-004	0.0000	3.4956
Total	**1.8400e-003**	**1.8100e-003**	**0.0158**	**4.0000e-005**	**3.7100e-003**	**3.0000e-005**	**3.7400e-003**	**9.9000e-004**	**3.0000e-005**	**1.0100e-003**	**0.0000**	**3.4920**	**3.4920**	**1.5000e-004**	**0.0000**	**3.4956**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1590	1.4390	1.2636	2.0200e-003		0.0838	0.0838		0.0788	0.0788	0.0000	173.7075	173.7075	0.0424	0.0000	174.7670
Total	**0.1590**	**1.4390**	**1.2636**	**2.0200e-003**		**0.0838**	**0.0838**		**0.0788**	**0.0788**	**0.0000**	**173.7075**	**173.7075**	**0.0424**	**0.0000**	**174.7670**

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.5900e-003	0.2134	0.0584	4.7000e-004	0.0107	1.1100e-003	0.0118	3.1000e-003	1.0600e-003	4.1600e-003	0.0000	45.1621	45.1621	2.1900e-003	0.0000	45.2169
Worker	0.0735	0.0723	0.6322	1.5500e-003	0.1483	1.2800e-003	0.1495	0.0394	1.1800e-003	0.0406	0.0000	139.6795	139.6795	5.8300e-003	0.0000	139.8253
Total	**0.0811**	**0.2857**	**0.6906**	**2.0200e-003**	**0.1590**	**2.3900e-003**	**0.1614**	**0.0425**	**2.2400e-003**	**0.0448**	**0.0000**	**184.8416**	**184.8416**	**8.0200e-003**	**0.0000**	**185.0423**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1590	1.4390	1.2636	2.0200e-003		0.0838	0.0838		0.0788	0.0788	0.0000	173.7073	173.7073	0.0424	0.0000	174.7667
Total	**0.1590**	**1.4390**	**1.2636**	**2.0200e-003**		**0.0838**	**0.0838**		**0.0788**	**0.0788**	**0.0000**	**173.7073**	**173.7073**	**0.0424**	**0.0000**	**174.7667**

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.5900e-003	0.2134	0.0584	4.7000e-004	0.0107	1.1100e-003	0.0118	3.1000e-003	1.0600e-003	4.1600e-003	0.0000	45.1621	45.1621	2.1900e-003	0.0000	45.2169
Worker	0.0735	0.0723	0.6322	1.5500e-003	0.1483	1.2800e-003	0.1495	0.0394	1.1800e-003	0.0406	0.0000	139.6795	139.6795	5.8300e-003	0.0000	139.8253
Total	**0.0811**	**0.2857**	**0.6906**	**2.0200e-003**	**0.1590**	**2.3900e-003**	**0.1614**	**0.0425**	**2.2400e-003**	**0.0448**	**0.0000**	**184.8416**	**184.8416**	**8.0200e-003**	**0.0000**	**185.0423**

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0136	0.1407	0.1465	2.3000e-004		7.5300e-003	7.5300e-003		6.9300e-003	6.9300e-003	0.0000	20.0282	20.0282	6.4800e-003	0.0000	20.1902
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0136**	**0.1407**	**0.1465**	**2.3000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9300e-003**	**6.9300e-003**	**0.0000**	**20.0282**	**20.0282**	**6.4800e-003**	**0.0000**	**20.1902**

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	9.0000e-004	7.9000e-003	2.0000e-005	1.8500e-003	2.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.1000e-004	0.0000	1.7460	1.7460	7.0000e-005	0.0000	1.7478
Total	**9.2000e-004**	**9.0000e-004**	**7.9000e-003**	**2.0000e-005**	**1.8500e-003**	**2.0000e-005**	**1.8700e-003**	**4.9000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.7460**	**1.7460**	**7.0000e-005**	**0.0000**	**1.7478**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0136	0.1407	0.1465	2.3000e-004		7.5300e-003	7.5300e-003		6.9300e-003	6.9300e-003	0.0000	20.0282	20.0282	6.4800e-003	0.0000	20.1901
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0136**	**0.1407**	**0.1465**	**2.3000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9300e-003**	**6.9300e-003**	**0.0000**	**20.0282**	**20.0282**	**6.4800e-003**	**0.0000**	**20.1901**

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	9.0000e-004	7.9000e-003	2.0000e-005	1.8500e-003	2.0000e-005	1.8700e-003	4.9000e-004	1.0000e-005	5.1000e-004	0.0000	1.7460	1.7460	7.0000e-005	0.0000	1.7478
Total	**9.2000e-004**	**9.0000e-004**	**7.9000e-003**	**2.0000e-005**	**1.8500e-003**	**2.0000e-005**	**1.8700e-003**	**4.9000e-004**	**1.0000e-005**	**5.1000e-004**	**0.0000**	**1.7460**	**1.7460**	**7.0000e-005**	**0.0000**	**1.7478**

3.6 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4200e-003	0.0168	0.0183	3.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	2.5533	2.5533	2.0000e-004	0.0000	2.5582
Total	**1.3415**	**0.0168**	**0.0183**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.1100e-003**	**1.1100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.0000e-004**	**0.0000**	**2.5582**

3.6 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.9300e-003	0.0169	4.0000e-005	3.9500e-003	3.0000e-005	3.9900e-003	1.0500e-003	3.0000e-005	1.0800e-003	0.0000	3.7248	3.7248	1.6000e-004	0.0000	3.7287
Total	**1.9600e-003**	**1.9300e-003**	**0.0169**	**4.0000e-005**	**3.9500e-003**	**3.0000e-005**	**3.9900e-003**	**1.0500e-003**	**3.0000e-005**	**1.0800e-003**	**0.0000**	**3.7248**	**3.7248**	**1.6000e-004**	**0.0000**	**3.7287**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4200e-003	0.0168	0.0183	3.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	2.5533	2.5533	2.0000e-004	0.0000	2.5582
Total	**1.3415**	**0.0168**	**0.0183**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.1100e-003**	**1.1100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.0000e-004**	**0.0000**	**2.5582**

3.6 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.9300e-003	0.0169	4.0000e-005	3.9500e-003	3.0000e-005	3.9900e-003	1.0500e-003	3.0000e-005	1.0800e-003	0.0000	3.7248	3.7248	1.6000e-004	0.0000	3.7287
Total	**1.9600e-003**	**1.9300e-003**	**0.0169**	**4.0000e-005**	**3.9500e-003**	**3.0000e-005**	**3.9900e-003**	**1.0500e-003**	**3.0000e-005**	**1.0800e-003**	**0.0000**	**3.7248**	**3.7248**	**1.6000e-004**	**0.0000**	**3.7287**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Integrate Below Market Rate Housing

Employee Vanpool/Shuttle

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6523	3.0121	8.3129	0.0248	1.9705	0.0236	1.9941	0.5292	0.0221	0.5514	0.0000	2,275.7773	2,275.7773	0.1104	0.0000	2,278.5364
Unmitigated	0.6687	3.1119	8.6508	0.0260	2.0701	0.0247	2.0949	0.5560	0.0232	0.5792	0.0000	2,384.8067	2,384.8067	0.1149	0.0000	2,387.6795

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	1,462.98	1,589.52	1347.54	5,520,921	5,255,085
Total	1,462.98	1,589.52	1,347.54	5,520,921	5,255,085

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	16.80	7.10	7.90	44.00	18.80	37.20	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543895	0.028716	0.205211	0.131753	0.021859	0.005504	0.019097	0.027308	0.004155	0.002738	0.007724	0.001236	0.000805

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	280.8557	280.8557	0.0127	2.6300e-003	281.9562
NaturalGas Mitigated	0.0109	0.0935	0.0398	6.0000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	108.3064	108.3064	2.0800e-003	1.9900e-003	108.9500
NaturalGas Unmitigated	0.0122	0.1043	0.0444	6.7000e-004		8.4400e-003	8.4400e-003		8.4400e-003	8.4400e-003	0.0000	120.8234	120.8234	2.3200e-003	2.2200e-003	121.5414

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	2.26414e+006	0.0122	0.1043	0.0444	6.7000e-004		8.4400e-003	8.4400e-003		8.4400e-003	8.4400e-003	0.0000	120.8234	120.8234	2.3200e-003	2.2200e-003	121.5414
Total		**0.0122**	**0.1043**	**0.0444**	**6.7000e-004**		**8.4400e-003**	**8.4400e-003**		**8.4400e-003**	**8.4400e-003**	**0.0000**	**120.8234**	**120.8234**	**2.3200e-003**	**2.2200e-003**	**121.5414**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	2.02958e+006	0.0109	0.0935	0.0398	6.0000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	108.3064	108.3064	2.0800e-003	1.9900e-003	108.9500
Total		**0.0109**	**0.0935**	**0.0398**	**6.0000e-004**		**7.5600e-003**	**7.5600e-003**		**7.5600e-003**	**7.5600e-003**	**0.0000**	**108.3064**	**108.3064**	**2.0800e-003**	**1.9900e-003**	**108.9500**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	965434	280.8557	0.0127	2.6300e-003	281.9562
Total		**280.8557**	**0.0127**	**2.6300e-003**	**281.9562**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0389	0.0264	2.2919	1.2000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	3.7397	3.7397	3.6100e-003	0.0000	3.8299
Unmitigated	1.0389	0.0264	2.2919	1.2000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	3.7397	3.7397	3.6100e-003	0.0000	3.8299

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1339					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8358					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0692	0.0264	2.2919	1.2000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	3.7397	3.7397	3.6100e-003	0.0000	3.8299
Total	**1.0389**	**0.0264**	**2.2919**	**1.2000e-004**		**0.0127**	**0.0127**		**0.0127**	**0.0127**	**0.0000**	**3.7397**	**3.7397**	**3.6100e-003**	**0.0000**	**3.8299**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1339					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8358					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0692	0.0264	2.2919	1.2000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	3.7397	3.7397	3.6100e-003	0.0000	3.8299
Total	**1.0389**	**0.0264**	**2.2919**	**1.2000e-004**		**0.0127**	**0.0127**		**0.0127**	**0.0127**	**0.0000**	**3.7397**	**3.7397**	**3.6100e-003**	**0.0000**	**3.8299**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	30.6040	0.3783	9.1500e-003	42.7890
Unmitigated	36.6418	0.4728	0.0114	51.8667

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	14.4642 / 9.11873	36.6418	0.4728	0.0114	51.8667
Total		**36.6418**	**0.4728**	**0.0114**	**51.8667**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	11.5714 / 8.56249	30.6040	0.3783	9.1500e-003	42.7890
Total		**30.6040**	**0.3783**	**9.1500e-003**	**42.7890**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	20.7294	1.2251	0.0000	51.3563
Unmitigated	20.7294	1.2251	0.0000	51.3563

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	102.12	20.7294	1.2251	0.0000	51.3563
Total		**20.7294**	**1.2251**	**0.0000**	**51.3563**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	102.12	20.7294	1.2251	0.0000	51.3563
Total		**20.7294**	**1.2251**	**0.0000**	**51.3563**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B – BIOLOGICAL CONSTRAINTS ANALYSIS

E M C

Planning for Success.

June 7, 2019

Cinnamon Crake, Associate
AEM Consulting
422 Larkfield Center #104
Santa Rosa, CA 95403

Re: Biological Constraints Analysis for the Greenfield Commons Farmworker Housing Project, City of Greenfield, CA

Dear Ms. Crake:

EMC Planning Group conducted a biological constraints analysis for the Greenfield Commons Farmworker Housing project site located at 41206 Walnut Avenue in the City of Greenfield, Monterey County, California. A location map is attached as Figure 1, an aerial showing the project site is included as Figure 2, and representative site photographs are contained in Figure 3. The project site plan is also attached. This report includes a discussion of existing plant and wildlife habitats observed, and the potential for special-status biological resources to occur on the site. It also provides recommendations for avoiding and/or minimizing impacts to special-status biological resources that otherwise could require discretionary permit oversight from regulatory resource agencies such as the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), Army Corps of Engineers (USACE), and Regional Water Quality Control Board (RWQCB).

METHODS

Prior to the field survey, site plans, aerial photographs, natural resource database accounts, and other relevant scientific literature were reviewed. This included searching the USFWS *Endangered Species Program* (USFWS 2019), CDFW *California Natural Diversity Database* (CDFW 2019), and California Native Plant Society (CNPS) *Inventory of Rare and*

Endangered Plants (CNPS 2019) to identify special-status plants, wildlife, and habitats known to occur in the vicinity of the project site. Special-status species in this report are those listed as Endangered, Threatened, or Rare, or as Candidates for listing by the USFWS and/or CDFW; as Species of Special Concern or Fully Protected species by the CDFW; or as Rare Plant Rank 1B or 2B species by the CNPS.

EMC Planning Group senior biologist Andrea Edwards conducted a reconnaissance-level biological survey of the site on May 29, 2019. All species observed were recorded in field notes, along with information on plant communities and wildlife habitats. Qualitative observations of plant cover, structure, and species composition were used to determine plant communities and wildlife habitats. Plant species were identified in the field or collected for subsequent identification. Searches for reptiles and amphibians were performed by overturning and then replacing rocks and debris, as well as assessment of potentially suitable habitat areas found on the site. Birds were identified by visual and/or auditory recognition; mammals were identified by diagnostic signs (including scat and tracks).

EXISTING CONDITIONS

The approximately 11-acre site consists of a fallow agricultural field positioned on the Greenfield U.S. Geological Survey (USGS) 7.5-minute quadrangle map; elevation on the site is approximately 270 feet. The field is bordered to the west and north by agricultural fields, and to the east and south by residential development and Cesar Chavez Elementary School. The disturbed field contains non-native ruderal (weedy) plants, including common knotweed (*Polygonum aviculare* ssp. *depressum*), hedge mustard (*Sisymbrium officinale*), shortpod mustard (*Hirschfeldia incana*), lamb's quarters (*Chenopodium album*), red-stemmed filaree (*Erodium cicutarium*), cheeseweed (*Malva parviflora*), barley (*Hordeum murinum*), and slender wild oat (*Avena barbata*). Non-native grassland patches and a row of non-native ornamental Australian pine trees (*Casuarina equisetifolia*) are located adjacent to the southwestern edges of the site.

Wildlife habitat quality on the project site is low due to the level of disturbance from past agricultural activities and mechanical disking. Common wildlife species expected to occur on the site include raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), and California ground squirrel (*Spermophilus beecheyi*). Common species of small rodents including mice (*Mus musculus*,

Reithrodontomys megalotis, and *Peromyscus maniculatus*) and California vole (*Microtus californicus*) may also occur, though few burrows were noted on the site. No wetlands or other drainage features are present.

POTENTIAL IMPACTS TO SPECIAL-STATUS SPECIES

Most special-status plant and wildlife species known to occur in the region are not expected to occur on the project site due to lack of suitable habitat, including but certainly not limited to the following species of regional concern:

- San Joaquin kit fox (*Vulpes macrotis mutica*) is a state-listed Threatened and federally listed Endangered species; its current range extends from the southern end of the San Joaquin Valley, north to Tulare County, and along the interior Coast Range valleys and foothills to central Contra Costa County. San Joaquin kit foxes typically inhabit annual grasslands or grassy open spaces with scattered shrubby vegetation, but can occasionally be found in agricultural habitats and urban areas. The project site biological survey found no indication of the possible presence of this species, and no medium or large burrows were present. The site is located adjacent to dense residential development with frequent barking of multiple domestic dogs. Regular disking/mechanical disturbance of the site and surrounding agricultural properties has diminished habitat suitability for the kit fox in the Greenfield area. The nearest observation of this species was documented about two miles northeast of the project site in 1975, and all other records from the region also are dated 1975. This species is not expected to occur on the site; no project impacts to this species are anticipated.

- The high level of site disturbance (regular mechanical ground disking) makes it unsuitable to support California Species of Special Concern American badger (*Taxidea taxus*) or San Joaquin coachwhip (*Masticophis flagellum ruddocki*); no project impacts to these species are anticipated.

- The site lacks trees or buildings that could provide roosting habitat for California Species of Special Concern pallid bat (*Antrozous pallidus*) or Townsend's big-eared bat (*Corynorhinus townsendii*); no project impacts to these species are anticipated.

The proposed project does have potential to impact certain special-status avian species (burrowing owl and nesting birds) with potential to occur on or adjacent to the site as discussed below; these potential impacts would be reduced to a less-than-significant level by incorporating the mitigation measures recommended below.

Burrowing owl (*Athene cunicularia*) is a California Species of Special Concern with low potential to occur on and adjacent to the project site. Burrowing owls live and breed in burrows in the ground. Optimal habitat conditions include large, open, dry, and nearly level grasslands or prairies with short to moderate vegetation height and cover, areas of bare ground, and populations of burrowing mammals. This species occurs in open, dry grasslands, deserts, and shrub-lands with low-growing vegetation; it usually occupies natural burrows excavated by other fossorial species such as California ground squirrel. In open habitats, they prefer flat, open areas where the vegetation is relatively short, affording a vantage point from which to evade potential predators. Marginally suitable habitat for this species is present in open fields on and adjacent to the project site. If individuals are present on or adjacent to the site, construction activities could result in indirect disturbance or direct loss (mortality) of individual animals. Implementation of the following mitigation measure will reduce these potential impacts to a less-than-significant level.

Mitigation Measure

BIO-1 To avoid/minimize potential impacts to burrowing owl, the developer will retain a qualified biologist to conduct a two-visit (i.e. morning and evening) presence/absence survey at areas of suitable habitat on and adjacent to the project site no less than 14 days prior to the start of construction. Surveys shall be conducted according to methods described in the CDFW 2012 *Staff Report on Burrowing Owl Mitigation*. If these pre-construction "take avoidance" surveys performed during the breeding season (February through August) or the non-breeding season (September through January) for the species locate occupied burrows in or near the construction area, then consultation with the CDFW would be required to interpret survey results and develop a project-specific avoidance and minimization approach.

Construction activities including ground disturbance can impact nesting birds protected under the federal Migratory Bird Treaty Act and California Fish and Game Code, should nesting birds be present during construction. To avoid impacts to nesting birds,

construction activities that include any vegetation removal or ground disturbance (such as grading or grubbing) shall be conducted outside of the bird nesting season (January 15 through September 15) to the greatest extent feasible. If construction occurs during the bird nesting season, then a qualified biologist shall conduct pre-construction surveys for nesting birds to ensure that no nests would be disturbed during project construction. Implementation of the following mitigation measure will reduce the potential impacts to a less-than-significant level.

Mitigation Measure

BIO-2. To avoid impacts to nesting birds during the nesting season (January 15 through September 15), to the extent feasible, construction activities that include any vegetation removal or ground disturbance (such as grading or grubbing) shall be conducted between September 16 and January 14, which is outside of the bird nesting season. If construction activities commence during the bird nesting season, then a qualified biologist shall conduct a pre-construction survey for nesting birds to ensure that no nests would be disturbed during project construction.

If construction activities are scheduled during the nesting season (February 15 to August 30 for small bird species such as passerines; January 15 to September 15 for owls; and February 15 to September 15 for other raptors), a qualified biologist shall conduct nesting bird surveys. Two surveys for active nests of such birds shall occur within 10 days prior to start of construction, with the second survey conducted with 48 hours prior to start of construction. Appropriate minimum survey radius surrounding the work area is typically 250 feet for passerines, 500 feet for smaller raptors, and 1,000 feet for larger raptors. Surveys shall be conducted at the appropriate times of day to observe nesting activities.

If the qualified biologist documents active nests within the project site or in nearby surrounding areas, an appropriate buffer between each nest and active construction shall be established. The buffer shall be clearly marked and maintained until the young have fledged and are foraging independently. Prior to construction, the qualified biologist shall conduct baseline monitoring of each nest to characterize "normal" bird behavior and establish a buffer distance, which allows the birds to exhibit normal behavior. The qualified biologist shall monitor the nesting birds daily during construction activities and increase the buffer if birds show signs of unusual or distressed behavior

(e.g. defensive flights and vocalizations, standing up from a brooding position, and/or flying away from the nest). If buffer establishment is not possible, the qualified biologist or construction foreman shall have the authority to cease all construction work in the area until the young have fledged and the nest is no longer active. This measure shall be implemented by the developer prior to start of construction activities.

CONCLUSION

Mitigation measures are included above to avoid/minimize potential project impacts to burrowing owl and nesting birds. No other special-status species are expected to occur on the project site.

In addition, the site does not contain riparian habitats or other sensitive natural communities; wetlands/waterways; native wildlife nursery sites; City-regulated trees or other biological resources; or areas addressed by a habitat conservation plan. The proposed project therefore would not impact these types of biological resources. Finally, the site may allow limited movement opportunities for common, urban-adapted wildlife species to access neighboring fields; however, the field is already bordered by dense development to the east and south, so the proposed development project would have a less-than-significant impact on wildlife movement.

With implementation of the two recommended mitigation measures, potential project impacts to special-status biological resources would be reduced to a less-than-significant level. Please contact me with any questions at (831) 649-1799 ext. 209. Thank you for the opportunity to assist with this project.

Sincerely,

Andrea Edwards

Andrea Edwards
Senior Biologist

Attachments: Figure 1 – Location Map
Figure 2 – Aerial Photograph
Figure 3 – Site Photographs
Project Site Plan

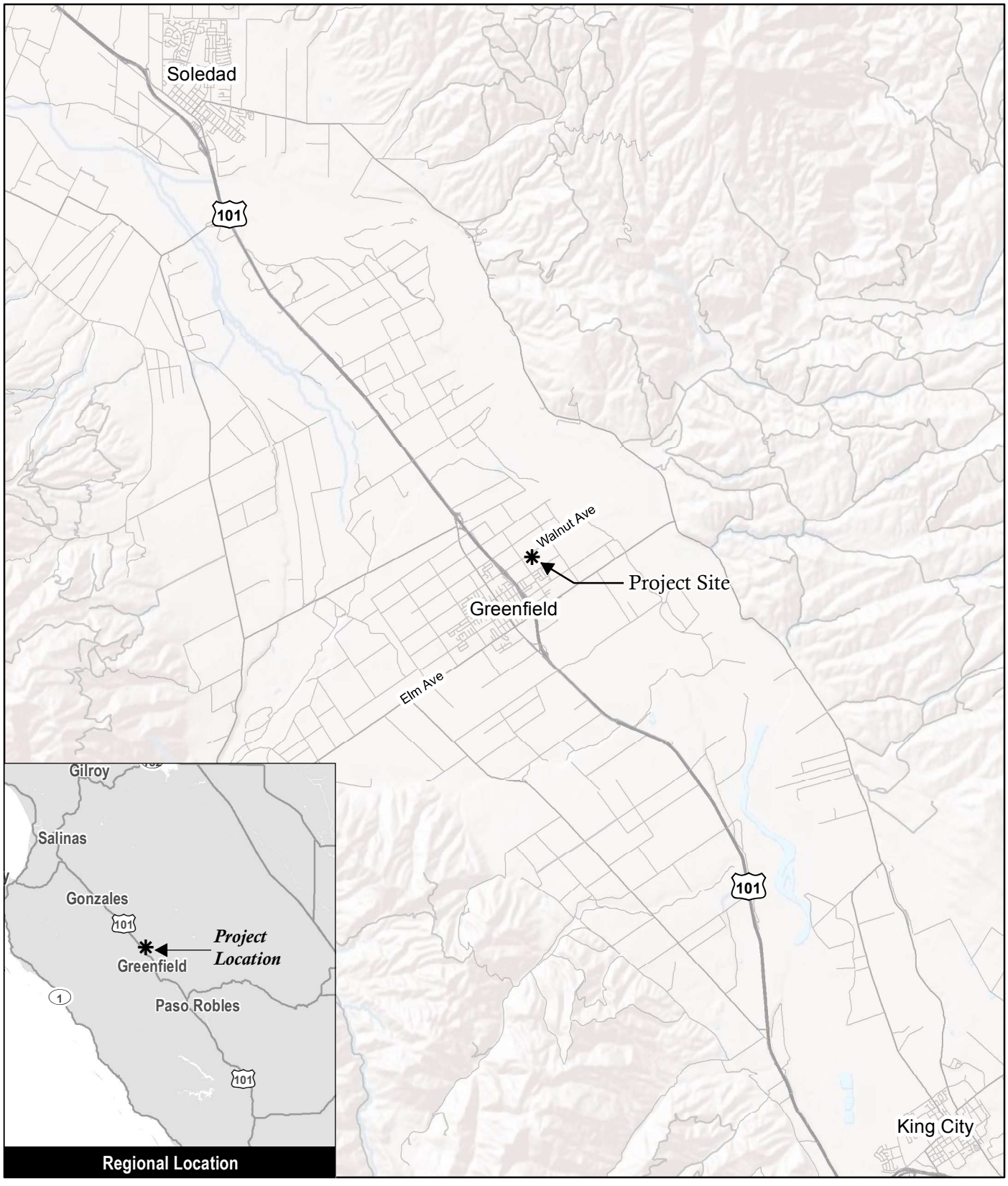
Sources:

California Department of Fish and Wildlife (CDFW). 2019. *California Natural Diversity Database*. Records of occurrence for Soledad, North Chalone Peak, Topo Valley, Paraiso Springs, Greenfield, Pinalito Canyon, Reliz Canyon, Thompson Canyon, and San Lucas quadrangle maps. Sacramento, CA. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp.

CDFW. 2012. *Staff Report on Burrowing Owl Mitigation*. Sacramento, CA. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843&inline=true.

California Native Plant Society (CNPS). 2019. *Inventory of Rare and Endangered Plants*. Records of occurrence for Soledad, North Chalone Peak, Topo Valley, Paraiso Springs, Greenfield, Pinalito Canyon, Reliz Canyon, Thompson Canyon, and San Lucas quadrangle maps. Sacramento, CA. http://www.cnps.org/inventory.

U.S. Fish and Wildlife Service (USFWS). 2019. *Endangered Species Program*. Species list for Monterey County. Washington, D.C. http://www.fws.gov/endangered/.



0 2 miles

Source: ESRI 2019

Figure 1

Location Map

Greenfield Commons Farmworker Housing Project: Biological Constraints Analysis

Source: Monterey County GIS 2018, ESRI 2018

Figure 2

Aerial Photograph

Greenfield Commons Farmworker Housing Project: Biological Constraints Analysis

1 Fallow agricultural field along Walnut Avenue

2 Ruderal weedy vegetation and cracked clay soils

Project Site

Source: ESRI 2019
Photographs: EMC Planning Group 2019

3 Field corner with adjacent schoolyard and residences

4 Field facing intersection of Walnut Avenue and Third Street

Figure 3
Site Photographs

LEGEND

Community Support		
Trash Enclosure		
Stairs		
1-Bedroom Unit	A	= (8) one bedroom units, two story
2-Bedroom Unit	B1	= (8) two bedroom units, two story
	B2	= (12) two bedroom units, three story
3-Bedroom Unit	C	= (8) three bedroom units, two story
Mixed Unit	D1	= (3) three bedroom / (1) two bedroom manager, one story
	D2	= (3) two bedroom / (1) three bedroom manager, one story
Retention	F	

PROJECT SUMMARY

Building Coverage	88,415 sf	18.5%
Green/ Open Space	265,132 sf	55.5%
Parking & Drives	123,783 sf	25.9%
Site Area Total	477,330 sf	100%

	9% Site	4% Site	Total
1-Bedroom	8	32	40
2-Bedroom	27	72	99
3-Bedroom	24	35	59
Manager	1	1	2
Total	60	140	200

***Parking Summary:**

1 Bedroom Unit: 1 space x 40= 40
2/3 Bedroom Unit: 2 space x 160= 320
Parking Required: 360
Parking Provided: **360**

CONCEPTUAL SITE PLAN

EAH HED

APPENDIX C – CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT

March 2019

MATERIAL CULTURE
CONSULTING

Submitted to:

Cinnamon Crake
AEM Consulting
422 Larkfield Center, #104
Santa Rosa, CA 95403

Prepared on Behalf of:

EAH Housing
22 Pelican Way
San Rafael, CA 94901

CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT

Greenfield Commons Residential Project

City of Greenfield, Monterey County, California

Material Culture Consulting™
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CULTURAL AND PALEONTOLOGICAL ASSESSMENT: GREENFIELDS COMMONS RESIDENTIAL PROJECT CITY OF GREENFIELDS, MONTEREY COUNTY, CALIFORNIA

Prepared on Behalf of:
EAH Housing
22 Pelican Way
San Rafael, CA 94901

Prepared for:
AEM Consulting
422 Larkfield Center, #104
Santa Rosa, CA 95403

Principal Investigators/Authors:
Tria Marie Belcourt, M.A., Registered Professional Archaeologist
Jennifer Kelly, M.Sc., Geology, Professional Paleontologist
Sonia Sifuentes, M.Sc., Registered Professional Archaeologist

July 2019

MCC Project Number: 20190714
Type of Study: Cultural and paleontological resources assessment
Cultural/Paleontological Resources within Area of Potential Impact: None
Paleontological Formations: younger Quaternary Alluvium, older Quaternary Alluvium
USGS 7.5-minute Quadrangle: Greenfield Section 29 of Township 18 South, Range 07 East
APN(s): 109-082-012
Survey Area: approximately 11 acres
Date of Fieldwork: June 05, 2019
Key Words: Paleontology, Archaeology, CEQA, Phase I Survey, Quaternary Alluvium, Negative Survey

MANAGEMENT SUMMARY

EAH Housing (Proponent) proposes the construction of the Greenfields Commons (Project), which includes the development of a currently vacant lot into a multi-family residential complex allocated for agricultural workers. The proposed Project will consist of two parcels totaling approximately 11 acres, located at 41206 Walnut Avenue in the city of Greenfield, Monterey County, California. The Project will consist one- to three-bedroom units with associated green open spaces, community support facilities, trash enclosures, and parking spaces. Material Culture Consulting, Inc. (MCC) was retained by AEM Consulting to conduct a Phase I cultural and paleontological resource investigation of the Project Area. These assessments were conducted in accordance with the California Environmental Quality Act (CEQA), and included cultural and paleontological records searches, a search of the Sacred Lands File by the Native American Heritage Commission (NAHC), outreach efforts with 12 Native American tribal representatives, background research, and a field survey.

A search of the California Historical Resource Information System (CHRIS) was conducted on June 5, 2019 at the Northwest Information Center (NWIC), located at Sonoma State University in Rohnert Park, Sonoma County. The cultural resources search identified 15 cultural resources investigations which have been previously conducted within a 1-mile radius buffer around the Project Area, with a total of one of these studies encompassing the Project Area. One previously recorded cultural resource lies within the 1-mile buffer of the Project Area, Highway 101/El Camino Real. A review of historical aerial photographs and maps indicate that the Project Area has consistently been an agricultural and residential area up to the 2000s, when it has remained unused since 2010.

The SLF search was conducted by the NAHC and did not identify the presence of known Sacred Lands or Tribal Cultural Resources. The NAHC provided contact information for 12 Native American tribal representatives for outreach efforts. MCC sent letters on May 29, 2019 to all 12 contacts, requesting any information related to cultural resources or heritage sites within or adjacent to the Project Area. Additional attempts by email and/or phone call were made on June 18 and July 3, 2019. As a result of this outreach effort, MCC received one response from Fredrick Segobia, Tribal Rep, Salinan Tribe of Monterey, San Luis Obispo Counties; however, no specific information was shared regarding presence of Tribal Cultural Resources within the Project Area. As on July 9, 2019, this is the only response MCC received from our outreach efforts. The pedestrian survey of the Project Area was conducted on June 5, 2019 by Judy Cardoza, B.A., MCC Archaeologist and Cross-Trained Paleontologist. Survey conditions were very fair with limited visibility (less than 25%) due to dense overgrowth of vegetation. All residential properties near the Project Area are either new or have been modernized. No cultural or paleontological resources were identified during the field survey.

Based on the above findings, the probability of encountering cultural resources within the Project Area is considered low in previously graded areas. MCC recommends ***No Further Mitigation*** measures are needed for the duration of the Project. While we do not recommend additional mitigation prior to Project implementation, we do recommend setting a plan in place to expediently address inadvertent discoveries and human remains, should these be encountered during construction activities. If Native American monitoring is required as a mitigation measure, we highly recommend including archaeological monitoring as well, in order to allow for expeditious and collaborative review of potential archaeological resources, if such potential resources are unearthed during the course of ground disturbance.

The geologic unit present within the Project Area is identified as younger Quaternary Alluvium, derived as alluvial fan deposits from the Coast Ranges that surround the region. No significant paleontological resources were identified directly within the Project Area during the locality search, additional database searches, or the field

survey. The locality search did yield fossils within the region that have been recovered in similar sediment deposits. Based on these findings, the probability of encountering paleontological resources within the Project Area is low (at surface) to moderate (at depth). Therefore, MCC recommends paleontological monitoring during the course of substantial grading excavations at depths greater than 10 ft below surface, in order to quickly and professionally recover any fossil remains.

A copy of this report will be permanently filed with the Northwest Information Center (NWIC) at Sonoma State University, Rohnert Park, California. All notes, photographs, correspondence and other materials related to this Project are located at Material Culture Consulting, Inc., located in Pomona, California.

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INTRODUCTION

EAH Housing (Proponent) proposes the construction of the Greenfields Commons (Project), which includes the development of a currently vacant lot into a multi-family residential complex allocated for agricultural workers. The proposed Project will consist of two parcels totaling approximately 11 acres, located at 41206 Walnut Avenue in the city of Greenfield, Monterey County, California. The Project will consist one- to three-bedroom units with associated green open spaces and parking spaces. Material Culture Consulting, Inc. (MCC) was retained by AEM Consulting to conduct a Phase I cultural and paleontological investigation of the Project in accordance with the California Environmental Quality Act (CEQA). The City of Greenfield is the Lead CEQA agency for the Project. These assessments were conducted pursuant to all applicable State of California regulations regarding cultural and paleontological resources, as well as paleontological guidelines established by the Society of Vertebrate Paleontology (SVP 2010). According to these regulations and guidelines, if development of a Project impacts significant cultural and/or paleontological resources, a plan must be developed to mitigate those impacts. This assessment documents the potential for encountering cultural and paleontological resources during development of this Project and provides recommendations on how to mitigate impacts to those resources.

PROJECT LOCATION AND DESCRIPTION

The proposed Project Area is located at 41206 Walnut Avenue, at the corner of Walnut Avenue and 3rd Street, in the City of Greenfield, Monterey County, California (Figures 1 and 2). The Project Area is located in a currently vacant parcel and is bounded to the north-northwest by Walnut Avenue and agricultural fields, to the east by tract residential properties, to the west-southwest by a single residence property, and to the south by additional tract residential properties and Cesar Chavez Elementary School (Figure 3). Specifically, the proposed Project is located on the Greenfield USGS 7.5-minute quadrangle, Section 29 of Township 18 South, Range 07 East (Mt. Diablo Base Meridian) (Figure 2).

The proposed Project includes the construction of a total of 200 mixed residential units, comprised of one-to three-bedroom units. These units will be either two- or three-story buildings, with two units designated for on-site managers that will be in single story buildings. The mixed use of the low-scale buildings is intended to create a neighborhood feel that is consistent with the rural nature of the site and the scale of the surrounding development. The site plan incorporates community buildings which will include amenities for all residents. Multi-purpose spaces, fitness space, laundry and leasing offices will be among the amenities within these buildings. The proposed architecture is envisioned as more traditional in nature incorporating sloped roofs, textured siding and stepped massing. The development will be built to Green Point Gold standard and will utilize photovoltaic panels to lower overall operating costs. Vehicular access will be provided at 2 locations from Walnut Avenue to the north. A simple driveway loop around the site will provide fire truck access as well as resident and guest parking. Space has been allocated in the site plan for retention of drainage and implementation of water quality systems. The frontage along Walnut will be landscaped and planted to create a pleasing edge that reinforces the residential nature of the development. Sidewalks along the street frontage will connect to a broader network of pedestrian walks throughout the development. Additional space will include six trash enclosures, and 360 parking spaces.

PROJECT PERSONNEL

Tria Belcourt, M.A., RPA, President of Material Culture Consulting Inc., served as the Project Manager and Principal Archaeologist for the study. Ms. Belcourt coordinated the records searches, created the maps for the report, and performed editorial review of the cultural components of this report. Belcourt is a Registered Professional Archaeologist (RPA) with a M.A. in Anthropology from the University of Florida, a B.A. in Anthropology from the University of California at Los Angeles and is a cross-trained paleontologist with over 15 years of experience in

California archaeology and ten years of experience in California paleontology (See Appendix A). Jennifer Kelly, M.S., a Geologist and Qualified Professional Paleontologist, served as the Principal Paleontologist for the study. Ms. Kelly conducted the paleontological resource literature and map reviews, oversaw the field study, and performed editorial review of the paleontological components of this report. Ms. Kelly has a M.Sc. in Geology from California State University, Long Beach. Ms. Kelly has over fourteen years of experience in environmental and paleontological compliance in California (See Appendix A). Sonia Sifuentes, Material Culture archaeologist and cross-trained paleontologist, conducted the cultural records search, conducted pedestrian survey on June 5, 2019, and prepared this report. Ms. Sifuentes is a Registered Professional Archaeologist (RPA) with a M.Sc. in Archaeology of the North from University of Aberdeen, Scotland, a B.A. in Anthropology from University of Southern California, Los Angeles, as well as ten years of professional experience working in Southern California archaeology and five years of experience in California paleontology. Julia Carvajal, B.S., provided technical editorial support, prepared all report maps, and managed the GIS data for this project.

Figure 1. Greenfield Commons Project Location (1:500,000)

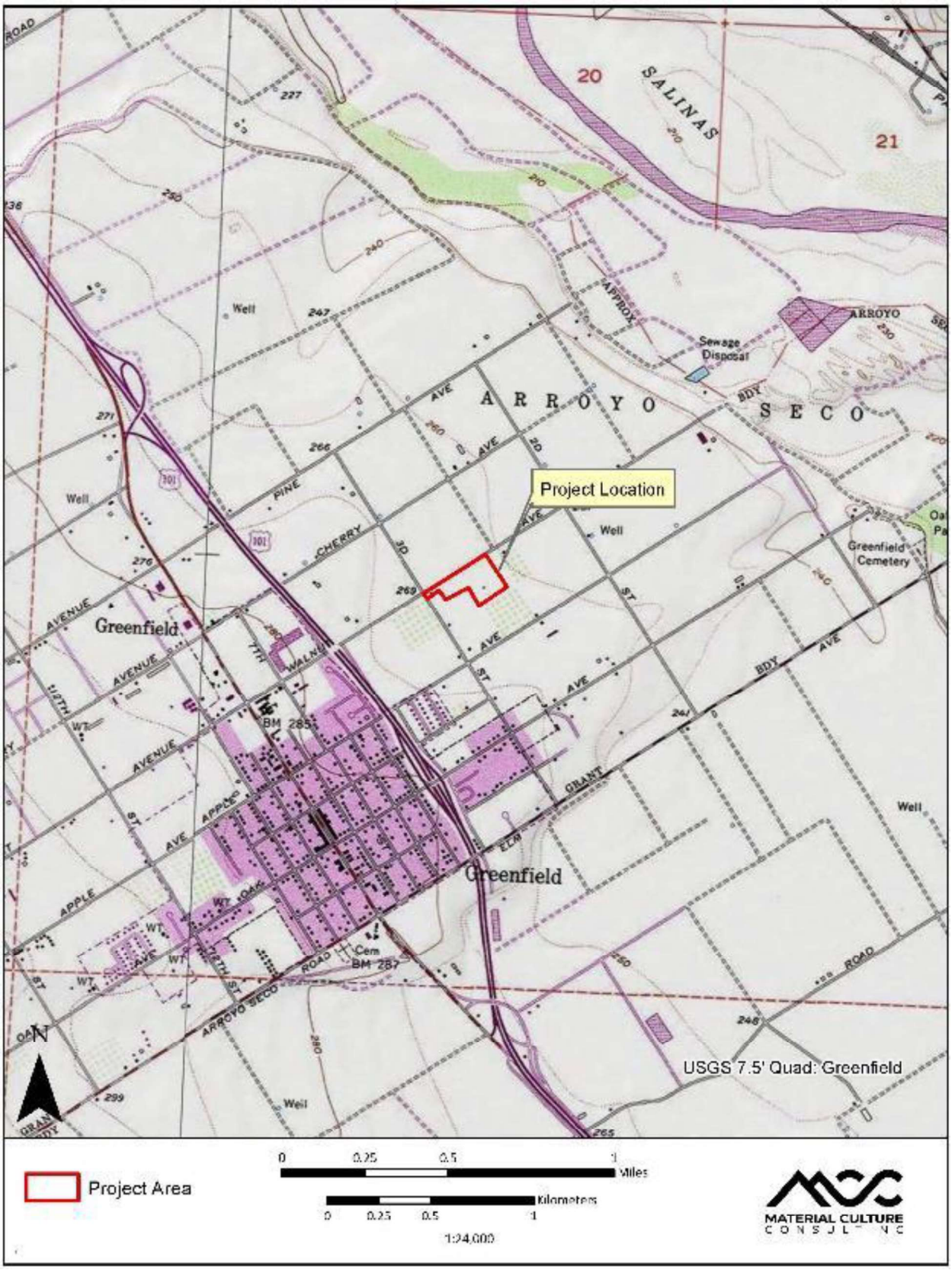

Figure 2. Greenfield Commons Residential Project Area (1:24,000, as depicted on Greenfield USGS 7.5 Minute Quadrangle)

Figure 3. Greenfield Commons Project Area (1:2,500, as depicted on aerial photograph)

REGULATORY ENVIRONMENT

This Project is subject to state regulations, including CEQA and the California Public Resources Code. These state regulations require the identification of archaeological and paleontological resources during the planning stage of new Projects; include application review for Projects that would potentially involve land disturbance; provide a Project-level standard condition of approval that addresses unanticipated archaeological and/or paleontological discoveries; and provide requirements to develop specific mitigation measures if resources are encountered during any development activity.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA declares that it is state policy to "take all action necessary to provide the people of this state with...historic environmental qualities." It further states that public or private Projects financed or approved by the state are subject to environmental review by the state. All such Projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed Project. In the event that a Project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered. CEQA includes historic and archaeological resources as integral features of the environment. If paleontological resources are identified as being within a proposed Project Area, the sponsoring agency must take those resources into consideration when evaluating Project impacts. The level of consideration may vary with the importance of the resource.

CEQA requires a lead agency to determine whether a Project may have a significant effect on historical resources. A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (Section 21084.1), a resource included in a local register of historical resources (Section 15064.5(a)(2)), or any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant (Section 15064.5 (a)(3)). Public Resources Code (PRC) Section 5024.1, Section 15064.5 of the Guidelines, and Sections 21083.2 and 21084.1 of the Statutes of CEQA were used as the basic guidelines for the cultural resources study. PRC Section 5024.1 directs evaluation of historical resources to determine their eligibility for listing on the CRHR. The purpose of the register is to maintain listings of the state's historical resources and to indicate which properties are to be protected from substantial adverse change.

The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing on the NRHP, enumerated above, and require similar protection to what NHPA Section 106 mandates for historic properties. According to Public Resources Code (PRC) Section 5024.1(c)(1-4), a resource is considered historically significant if it meets at least one of the following criteria:

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
2. Associated with the lives of persons important to local, California or national history;
3. Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; or
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired, or significant individuals made their important contributions. Integrity is the authenticity of a historical resource’s physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource’s period of significance.

Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data. Note that California Historical Landmarks with numbers 770 or higher are automatically included in the CRHR.

Under CEQA, if an archeological site is not a significant "historical resource" but meets the definition of a "unique archeological resource" as defined in PRC Section 21083.2, then it should be treated in accordance with the provisions of that section. A unique archaeological resource is defined in PRC Section 21083.2(g) as follows:

An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Resources that neither meet any of these criteria for listing on the NRHP or CRHR nor qualify as a "unique archaeological resource" under CEQA PRC Section 21083.2 are viewed as not significant. Under CEQA, "A non-unique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects" [PRC Section 21083.2(h)]. Impacts to historical resources that alter the characteristics that qualify the historical resource for listing on the CRHR are considered to be a significant effect (under CEQA). The impacts to a historical resource are considered significant, if the Project activities physically destroy or damage all or part of a resource, change the character of the use of the resource or physical feature within the setting of the resource which contribute to its significance, or introduce visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource. If it can be demonstrated that a Project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2 (a), (b), and (c)).

CALIFORNIA HISTORICAL LANDMARKS AND POINTS OF HISTORICAL INTEREST

Historical landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. In order to be considered a California Historical Landmark, the landmark must meet at least one of the following criteria:

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
2. Associated with the lives of persons important to local, California, or national history;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic values;
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

If a site is primarily of local or countywide interest, it may meet the criteria for the California Point of Historical Interest Program. Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria:

1) The first, last, only, or most significant of its type in the local geographic region (city or county);
2) Associated with an individual or group having a profound influence on the history of the local area;
3) A prototype of, or an outstanding example of, a period, style, architectural movement or construction; or
4) One of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register. No historical resource may be designated as both a Landmark and a Point of Interest. If a Point of Interest is subsequently granted status as a Landmark, the Point of Interest designation will be retired.

PALEONTOLOGY

The State of California Public Resources Code (Chapter 1.7), Sections 5097.5 and 30244, includes additional state level requirements for the assessment and management of paleontological resources. These statutes require reasonable mitigation of adverse impacts to paleontological resources resulting from development on state lands, define the removal of paleontological "sites" or "features" from state lands as a misdemeanor, and prohibit the removal of any paleontological "site" or "feature" from State land without permission of the jurisdictional agency. These protections apply only to State of California land, and thus apply only to portions of the Project, if any, which occur on State land.

As defined by Society for Vertebrate Paleontology (SVP), paleontological resources means any fossilized remains, traces, or imprints of prehistoric plants and/or animals which are preserved in or on the earth's crust that can provide information about the history of past life on the planet (2009). Generally, any resource greater than 5,000 years old is considered to be a fossil and are considered a nonrenewable resource that are subject to impacts from land development (SVP, 2010). Paleontological resources are important scientific and educational resources because they are used to:

1) Document the evolutionary history of now extinct organisms to study any associated evolution patterns and/or speciation;
2) Reconstruct the environments, climate change, and/or paleoecological relationships these organism lived in; and
3) Determine the relative geologic age of the strata in which the resources occur and any geological events that resulted in the deposition of the sediments that formed the strata.

Fossil resources vary widely in their relative abundance and distribution and not all are regarded as significant. Vertebrate fossils, whether preserved remains or track ways, are classed as significant by most state and federal agencies and professional groups (and are specifically protected under the California Public Resources Code). In some cases, fossils of plants or invertebrate animals are also considered significant and can provide important information about ancient local environments. Assessment of significance is also subject to the California Environmental Quality Act (CEQA) criterion that the resource constitutes a "unique paleontological resource or site." A significant paleontological resource is considered to be of scientific interest if it is a rare or previously unknown species, it is of high quality and well-preserved, it preserves a previously unknown anatomical or other

characteristic, provides new information about the history of life on earth, or has an identified educational or recreational value. Paleontological resources that may be considered not to have scientific significance include those that lack provenience or context, lack physical integrity due to decay or natural erosion, or that are overly redundant or are otherwise not useful for research. Vertebrate fossil remains and traces include bone, scales, scutes, skin impressions, burrows, tracks, tail drag marks, vertebrate coprolites (feces), gastroliths (stomach stones), or other physical evidence of past vertebrate life or activities (BLM, 2007). The full significance of fossil specimens or fossil assemblages cannot be accurately predicted before they are collected, and in many cases, before they are prepared in the laboratory and compared with previously collected material.

Pre-construction assessment of significance associated with an area or formation must be made based on previous finds, characteristics of the sediments, and other methods that can be used to determine paleoenvironmental conditions. A separate issue is the potential of a given geographic area or geologic unit to preserve fossils. Information that can contribute to assessment of this potential includes:

1) The existence of known fossil localities or documented absence of fossils nearby and in the same geologic unit (e.g. "Formation" or one of its subunits);
2) Observation of fossils within the Project vicinity;
3) The nature of sedimentary deposits in the area of interest, compared with those of similar deposits known elsewhere (size of particles, clasts and sedimentary structures conducive or non-conducive to fossil inclusion) that may favor or disfavor inclusion of fossils; and
4) Sedimentology details, and known geologic history, of the sedimentary unit of interest in terms of the environments in which the sediments were deposited, and assessment of the favorability of those environments for the probable preservation of fossils.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003; Scott et al. 2004).

CITY OF GREENFIELD GENERAL PLAN

The City of Greenfield's General Plan states that "Implementation of the proposed General Plan could result in the disturbance of known and undiscovered prehistoric and historic resources in the City" and that implementation of General Plan polices and programs, along with existing regulations, would "effectively mitigate potential cultural and historic resource impacts" (City of Greenfield 2005). Chapter 7 (Conservation, Recreation, and Open Space Element) of the General Plan lists two goals and related polices that provides guidance for cultural resources:

1. Goal 7.6: Encourage preservation of cultural resources within the Planning Area
    a. Policy 7.6.1: Preserve areas that have identifiable and important archaeological or paleontological significance:
        i. Program 7.6.A: Adopt the following conditions on all discretionary projects regarding the discovery of archaeological or paleontological resources:
            1. The Planning Department shall be notified immediate if any prehistoric, archaeological, or paleontological artifact is uncovered during construction. All construction must stop and an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical

archaeology shall be retained to evaluate the finds and recommend appropriate action.

2. All construction must stop and the authorities notified if human remains are uncovered. The County Coroner must be notified according to Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the procedures outline in CEAQ Section 15064.5 (d) and (e) shall be followed.

2. Goal 7.7: Preserve and enhance historic structures and features within the community.
    a. Policy 7.7.1: Promote the compatibility of new development located adjacent to existing structures of historic significance with the architecture and site development of the historic structure.
    b. Policy 7.7.2: Respect the character of the building and it's setting during the remodeling and renovation of facades of historic buildings.
    c. Policy 7.7.3: Encourage the use of the State Historic Building Code for historic buildings and other structures that contribute to the City's historic character.
    d. Policy 7.7.4: Recognize the value of Greenfield's historic resources as an economic development tool.
    e. Policy 7.7.5: Preserve the integrity of historic structures and the parcels on which they are located by properly implementing applicable design, building, and fire codes.
    f. Policy 7.7.6: Work with property owners to preserve historic features within the community.
    g. Policy 7.7.7: Encourage owners of eligible historic properties to apply for State and Federal registration of these sites and to participate in tax incentive programs for historic restoration.
        i. Program 7.7.A: Identify funding mechanisms, including funding from the City to the extent possible, to support programs to preserve, restore, and enhance unique historic sites
        ii. Program 7.7.B: For structures that potentially have historic significance, a study conducted by a professional historian shall be prepared to determine the actual significance of the structure and potential impacts of the proposed development.

BACKGROUND

ENVIRONMENTAL SETTING

The Project Area is located in the city of Greenfield, Monterey County, California. The city of Greenfield is located in central Monterey County in Central California, within eastern extent of the Salinas Valley. The Salinas Valley is located south of the Santa Clara Valley and west of the San Joaquin Valley, extending southeast/northwest for approximately 90 miles. The Salinas Valley is defined on the east by the foothills of the Galiban Range and bounded on the west by the Santa Lucia Range. The region is considered one of the most productive areas for agriculture in California, with water provided by underground watersheds near the mountain ranges. Presently, the vegetation community is comprised of agricultural fields and non-native grasses and weeds. The Salinas Valley experiences a range in climate, where coastal areas receive more cooling temperatures and inland areas see more extreme temperatures. The combination of marine layers and inland warming provides ideal temperatures for agricultural activities. The Project Area is flat, with elevations within the Project Area averaging approximately 80 m (262 ft) above mean sea level (AMSL).

PALEONTOLOGICAL SETTING

The Project Area is situated in the Salinas Valley, which lies within the central Coast Ranges geomorphic province. This area is dominated by active tectonic plates, with regional tectonic forces generating an estimated relative motion between the North American and Pacific plates by approximately 2 inches per year (ICF Jones & Stokes 2007). The Salinas Valley consists primarily of consolidated Quaternary deposits, which have been derived from the Salinas River, its tributaries, basin and tidal flat sediments, and eolian or dune sediments (Project Design Consultants 2004). Underlying these Quaternary sediments is a layer of mostly marine Pliocene to Pleistocene sediment with basement rock composed of high grade metamorphic rock and Cretaceous granitic rock (Project Design Consultants 2004). Rapid erosion and deposition of soil from uplifted mountains of the Galiban and Santa Lucia Ranges have formed the broad alluvial fans of well-drained, nutrient-rich soil, which has made the region valuable agricultural land (ICF Jones & Stokes 2007). The Salinas Valley structural development is difficult to interpret, although the stream produced features are visible, downward folding from the Gabilan and Santa Lucia ranges was important to the development of the area (Norris and Webb 1976). The entire proposed project area has surficial deposits of younger Quaternary Alluvium, derived as alluvial fan deposits from the Coast Ranges via either the Salinas River that currently flows just to the east or from Reliz Creek that currently flows to the west.

PREHISTORIC CONTEXT

The Project Area is located in what is known as the Central Coast region. This region is defined as the area south of San Francisco that stretches towards the Southern California Bight and includes the counties of Santa Clara, San Benito, Santa Cruz, Monterey, and San Luis Obispo. Portions of Kings, Merced, and Fresno counties are also included within this region. Archaeological studies located within the Central Coast date back to the late 1940s, with most archaeological work in the region focusing along or near the coast (City of Greenfield 2005). However, regional chronologies for the area continue to evolve and have resulted in the development of six temporal periods that serve as a general chronological framework for integrating general cultural patterns within Monterey Bay and the Central region in proximity to it (Jones et al. 2007). The following section briefly covers these temporal periods: Paleoindian (pre-8,000 cal B.C.), Millingstone/Early Archaic (8,000 to 3,500 cal B.C.), Early Hunting (3,500 to 600 cal B.C.), Middle Hunting (600 cal B.C. to cal A.D. 1000), Middle/Late Transition Hunting (cal A.D. 1000 to 1250), and Late (cal A.D. 1250 to 1769) (Jones et al. 2007).

PaleoIndian (pre-8,000 cal B.C.)

The Paleoindian period within the Central Coast region is limited in both information and occurrence. Known evidence shows an environmental shift of pine and juniper-cypress environments replaced by oak woodland,

chaparral, and coastal sage scrub communities (Denise Duffy & Associates, Inc 2016). Archaeological evidence for such early occupation in the Central Coast region is only known in two locations (Nipomo and Santa Margarita) and based on isolated fluted projectile pointes (Jones et al. 2007).

Millingstone/Early Archaic (8,000 to 3,500 cal B.C.)

The Millingstone/Early Archaic Period is characterized by stone tool technologies that include large numbers of well-made handstones and/or millingslabs, crude core and cobble-core tools, with less abundant flake tools and large side-notched projectile point present (Jones et al. 2007). Pitted stones have been observed during this period, as well as a small number of contracting stemmed points. Faunal remains suggest the Millingstone period people practiced a broad-spectrum of hunting and gathering subsistence strategies, including shellfish, fish, birds and mammals. Remains from terrestrial mammals such as deer and rabbit are commonly associated within this period, but stable isotope analysis from a site in Santa Cruz County indicated that the majority of the diet (70-84 percent) consisted of marine food (Denise Duffy and Associates 2016). While the Millingstone sites of the region have been are located in a range of settings, including open rocky coasts, within estuaries, and near shore interior valleys, few have been found farther than 25 kilometers (km) from coastline (Jones et al. 2007).

The Early Hunting Period (3,500 to 600 cal B.C)

The Early Hunting Period assemblages contracting-stemmed, Rossi square-stemmed, Año Nuevo long-stemmed, and large side-notched projectile points (Holland and Jones 2018). These projectiles points are often associated with new settlement establishments (Jones et al 2007; Denise Duffy and Associates, Inc 2016). There is some retention of some Millingstone Period traits, including the handstone and millingslab; however, mortars and pestles begin to appear for the first time in the local archaeological record (Jones et al. 2007). The Early Hunting Period assemblages suggest a generalized forager adaptation that includes hunting, fishing, and gathering (Breschini and Haversat 2011). Burials during this period are flexed and are often accompanied by Rossi square-stemmed points, fish gorges, and square beads (Denise Duffy and Associates, Inc 2016). It is also during this period that increased number of sites appear within the interior valleys, though the general preference is for coastal habitation.

The Middle Hunting Period (600 cal B.C. to cal A.D. 1000)

The Middle Hunting Period is characterized by a decline of square-stemmed and large side-notched points with contracting-stemmed points retained in the assemblages. Beads transition to saucers and circular shell fishhooks appear for the first time (Denise Duffy and Associates, Inc 2016). Breschini and Haversat (2011) theorize a chronological interruption in the local archaeological record during this period, suggesting a significant change in local subsistence and settlement pattern.

The Middle/Late Transition Hunting Period (cal A.D. 1000 to 1250)

The Middle/Late Transition Hunting Period is characterized with the introduction of the bow and arrow via the presence of smaller leaf-shaped projectile points and the retention of older, contracting-stemmed and small leaf-shaped projectile point types (Jones et al. 2007). Graves dating to this period indicate a continued preference for a flexed position and often include bone tubes and large quantities of beads (Denise Duffy and Associates, Inc 2016).

The Late Period (cal A.D. 1250 to 1769)

The Late Period is characterized by a dramatic shift in artifact assemblage and development of single-component sites. The Late Period artifact assemblage includes ample Desert side-notched and Cottonwood projectile points, small bifacial bead drills, bedrock and hopper mortars, lipped and cupped *Olivella* beads, and steatite disk beads. Late Period sites, particularly in the interior, suggest population expansion (Jones et al. 2007; Breschini and Haversat 2011).

ETHNOGRAPHY

The Salinas Valley is in the ethnographically shared territory of the Salinan, Esselen, and Costanoan Esselen groups. The Salinan inhabited areas south of Soledad, while the Esselen inhabited areas north of Soledad along the Salinas River and west over the Santa Lucia Range towards the coast. The Ohlone Costanoan Esselen Nation (OCEN) (2018) offers some historical documentation of multiple native villages along the Salinas river within the Salinas Valley (Figures 4 and 5). The Project Area lies within the area that has been historically occupied by the Salinan group and following provides a brief description of this group.

Salinan

The traditional territory occupied by the Salinan group spans from just south of Soledad to the east of San Luis Obispo. The Salinan group spoke a form of Hokan language. Trade was a major factor in relationships between the Salinan, who maintained a positive trade network with the Yokuts. According to Kroeber (1925), it was this strong relationship with the Yokuts that influenced other Salinan customs such as basketry and language. Villages or village groups were considered the major sociopolitical unit of the Salinan culture (City of Greenfield 2005). These were headed by chiefs which often feuded amongst one another. There is evidence of patrilineal family descent among the Salinan, with a combined office of ordinary chief and war chief, which is a unique role for California tribes. The Salinan were hunter gatherers and their technology primarily highlighting exploitation of terrestrial resources, although both coastal and inland groups engaged in fishing (Hester 1978). Hunting weaponry and facilities included: sinew-backed and self-bows; wooden arrow shafts; projectile points and other flaked stone tools; and nets. Salinan utilitarian tools and facilities included: baskets, both coiled and twined, for food and water collection, food storage, and food preparation; bowl mortars; pestles; metates; stone bowls; and bone awls. Clothing included tule aprons, rabbitskin or otterskin cloaks, and basket hats. While Salinan generally experienced friendly relations with neighboring cultural groups to the East and South, hostile relations existed between the Salinan and the Costanoan groups, most presumably stemming from trade competition (City of Greenfield 2005). The southern Costanoan groups were considered to be the Salinan's "tribal foes" (Hester 1978). Both groups vying for the rich inland trade market where marine resources were desired.

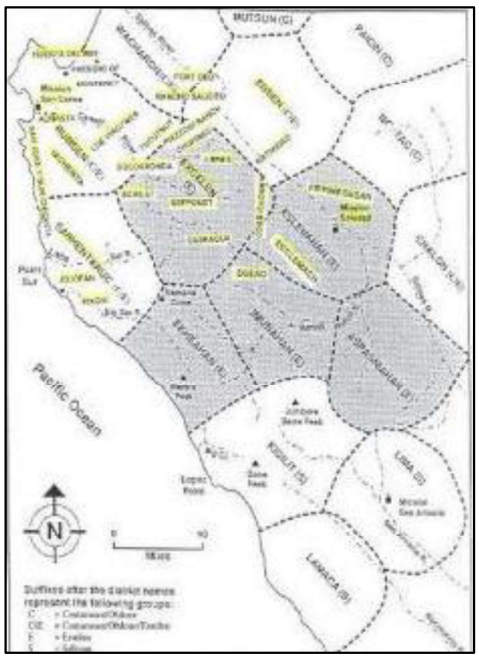

Figure 4. Historically recorded territorial boundaries and land grants (OCEN 2018)

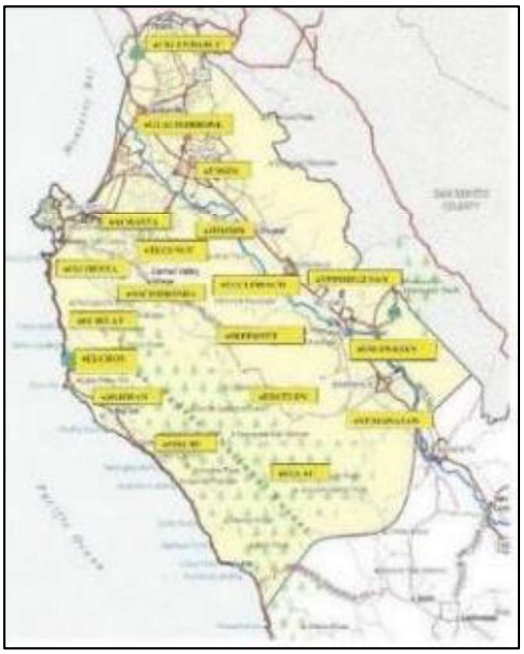

Figure 5. Historically recorded Native Villages in Monterey County (OCEN 2018)

HISTORIC CONTEXT

The Historic Period in California begins in the early-sixteenth century with the start of European contact. In 1521, Spain sent explorer and conquistador Hernan Cortes and his army into what is now Mexico to conquer the indigenous Aztecs and capture the wealth of the land and its people. "New Spain," as the region soon became known, quickly became the hub of Spanish colonial efforts in the New World. Cortes, hopeful of finding comparable wealth in the northern Pacific, authorized the first explorations, and in 1535, founded the first nonnative settlement in Baja (or Lower) California. Inspired by Cortes' success in the New World and hoping to find a waterway from the Pacific to the Atlantic, the Spanish dispatched Juan Rodriguez Cabrillo in 1542 to explore the northwest coast of New Spain. It is believed that Cabrillo sailed as far north as the Oregon border, and that he became the first European to see what was then termed "Alta (or Upper) California" (Paddison 1999: xi).

Spanish Period (1769 to 1821)

The earliest documentation of European contact in the Monterey County began in December 1602 with Sebastian Vizcaino's landing in the region (City of Greenfield 2005). Vizcaino reached the shores of the Sana Lucia Mountains and Monterey Bay in mid-December where they set up a church camp for several days. Due to illness, Vizcaino's crew did little exploring in Monterey County. While he observed at least one village, it was abandoned at the time, with the natives presumably moved inland for the winter. His significant contribution remains to be his extremely detailed map of the coastline up to Monterey Bay, which was used by many other explorers up to the late 1700s (Breschini 1996). Contact with Native American groups was minimal afterwards until the initial overland exploration of the region by Gaspar de Portolá and his founding of Monterey in 1769 (City of Greenfield 2005). The mission system soon began in overtake the region with multiple missions established along the Central Coast, including Mission San Carlos de Borromeo, Mission Santa Cruz, Mission San Miguel, and Mission Soledad to name a few. With the development of the mission system, the impact on the Native American population was dramatic. The process of missionization disrupted traditional Salinan cultural practices, and they were generally slow to adapt to the mission system (City of Greenfield 2005). Despite this, by 1810 most Native Americans in the area were either incorporated or relocated into local missions. Coupled with exposure to European diseases, traditional life ways of Native Americans in the area had ceases by the early 1800s.

Mexican Period (1821 to 1848)

During the early 1830s, the Mexican government de-secularized the missions and divided their lands into land grants for the development of cattle ranching in the Salinas Valley, known as ranchos. While the facilitators were no longer padres and missions, Native American groups, Salinan included, were still largely marginalized by becoming forced labor to accomplish work on these large tracts of land. There were a number of ranchos in the general region, including San Vincente, Los Coches, Arroyo Seco, Posa de los Ositos, and San Lorenzo (Beck and Haase 1974). Two of these ranchos encompassed what is present-day Greenfield: Posa de los Ositos and Arroyo Seco. Rancho Posa de los Ositos was a 16,939-acre land grant awarded to Carlos Cayetano Espinoza in 1839 (Odgen 1862). It extended along the west bank of the Salinas River to south of present-day Greenfield (Kyle et al. 2002). Rancho Arroyo Seco was a 16,523-acre land grant awarded to Joaquín de la Torre in 1840 (Odgen 1862). It extended along the west bank of the Salinas River at Arroyo Seco Creek and encompassed present-day Greenfield (Kyle et al. 2002).

American Period to Present in the Project Area

With the signing of the Treaty of Guadalupe Hidalgo in 1848, the American Period in California began. The Gold Rush of 1849 would see tremendous influx of Americans and Europeans arriving to all parts of California. By the turn of the 20th century, the influx of Anglo-American culture expanded, and dispersed farmsteads slowly began to replace the immense Mexican ranchos (City of Greenfield 2005). Soon, the driving economic activity of the region was agricultural development, leading to additional waves of immigrates to work these farms (City of Greenfield 2005). Greenfield began originally as Clark Colony in April of 1905, created by a subdivision of 4,000 acres of valley

bottomland by the California Home Extension Associations, which was a branch of Rancho Arroyo Seco (City of Greenfield 2019). Around the same time, the Clark Colony Water Company was formed and became in charged of water distribution to the subdivision and surrounding area. Once this water irrigation system was in place, immigration into the area began in earnest. The Clark Colony settlers then constructed the largest irrigation and domestic water supply system in the Salinas Valley (City of Greenfield 2019). Presently, the Clark Colony Water Company still holds 1916 Prior Rights guaranteeing delivery to its members a certain amount of water from the Arroyo Seco River before any other agencies' use of the river water (City of Greenfield 2019). Clark Colony evolved into Clark City and was eventually renamed Greenfield after being informed by the United States Postal Service that there were too many "Clark Cities" in California. The name Greenfield was picked to honor a long-time settler of the area, Mr. Greenfield, who was instrumental in the formation of the City and was active in public affairs of the City and its service clubs such as the Grange Organization (City of Greenfield 2019). Greenfield was incorporated on January 7, 1947.

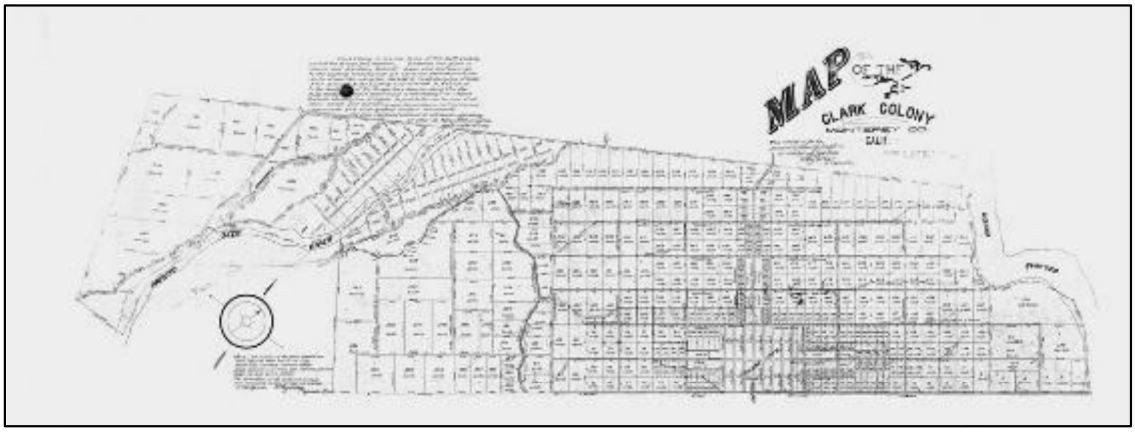

Figure 6. 1905 map of Clark Colony (Franscioni and Griva Corporation 2019).

METHODS

CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM AND CULTURAL BACKGROUND RESEARCH

On June 5, 2019, Judy Cardoza, B.A., MCC Archaeologist, conducted a search of the California Historical Resource Information System (CHRIS) at the Northwestern Information Center, located at Sonoma State University in Rohnert Park, Sonoma County. The search covered any previously recorded cultural resources and investigations within a 1-mile radius of the Project Area within Monterey County. The CHRIS search also included a review of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Inventory of Historic Resources.

NATIVE AMERICAN OUTREACH AND BACKGROUND RESEARCH

A Sacred Lands File search was requested by MCC from the Native American Heritage Commission (NAHC) on May 17, 2019. The Commission responded on May 21, 2019, stating that there are no known/known sacred lands within a one-half mile of the Project Area. The NAHC requested that 12 Native American tribes or individuals be contacted for further information regarding the general Project vicinity. MCC subsequently sent letters to the 12 Native American contacts on May 29,2019, requesting any information related to cultural resources or heritage sites within or adjacent to the Project Area. Additional attempts at contact by letter, email, or phone call were made on June 18, 2019 and July 3, 2019.

PALEONTOLOGICAL RECORDS SEARCH

The literature review included an examination of geologic maps of the project area and a review of relevant geological and paleontological literature to determine which geologic units are present within the project area and whether fossils have been recovered from those geologic units elsewhere in the region. As geologic units may extend over large geographic areas and contain similar lithologies and fossils, the literature review includes areas well beyond the project area. The results of this literature review include an overview of the geology of the project areas and a discussion of the paleontological sensitivity (or potential) of the geologic units within the project area. A search for paleontological records was completed by staff of the Natural History Museum of Los Angeles County (NHMLA) of Los Angeles, California, on May 31, 2019. The record search included a one-mile radius around the Project Area, as well as the Project Area itself identified any vertebrate localities in the museum's records that exist near the project area in the same or similar deposits.

CULTURAL AND PALEONTOLOGICAL FIELD SURVEY

The survey stage is important in a Project's environmental assessment phase to verify the exact location of each identified cultural or paleontological resource, the condition or integrity of the resource, and the proximity of the resource to areas of cultural resources sensitivity. In addition, the field survey provides invaluable information on the type of sediment present within the Project Area, which informs the assessment of paleontological sensitivity. Judy Cardoza, B.A., MCC Archaeologist and Cross-Trained Paleontologist, conducted the survey of the proposed Project Area on June 5, 2019. The survey consisted of walking in parallel transects spaced at approximately 15-meter intervals over the Project parcel, while closely inspecting the ground surface. All undeveloped ground surface areas within the ground disturbance portion of the Project Area were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools or fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic-era debris (e.g., metal, glass, ceramics). Existing ground disturbances (e.g. cutbanks, ditches, animal burrows, etc.) were visually inspected. Representative photographs were taken of the entire Project Area.

RESULTS

CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM AND CULTURAL BACKGROUND RESEARCH

The CHRIS records search identified a total of 13 previously conducted cultural resource studies within a 1-mile buffer (see Table 1). Of these studies, one report encompasses the Project Area. The records search identified one previously recorded cultural resource within a 1-mile buffer, Highway 101/El Camino Real (see Table 2). This resource is also listed on the California Historical Landmarks as resource #784 (see Table 3). Review of additional sources resulted in mostly negative findings. A review of historical imagery and maps indicates the Project Area has undergone extensive disturbance, both residentially and agriculturally, since the 1940s. Since the early 1990s, the Project Area appears to no longer be in use and is presently a vacant lot (See Table 3 and Figures 7 through 10).

Table 1. Previous Conducted Cultural Resources Studies within 1-mile Buffer of Project Area

CHRIS Report Number	Authors	Year	Title of Study	Affiliation	Distance from Project Area
S-003409	Robert Cartier	1978	Archaeological Evaluation of the Proposed Shopping Center Site on Walnut Avenue, Greenfield, CA	N/A	Within ½ mile
S-003445	William Roop	1978	Archaeological Reconnaissance of area proposed for annexation to the City of Greenfield, Monterey County (ARS 78-57) (letter report)	Archaeological Resource Service	Within ½ mile
S-005567	Katherine Flynn	1979	Archaeological reconnaissance and historic evaluation of the HUD Rehabilitation project area, City of Greenfield, Monterey County (letter report)	Archaeological Resource Service	Within ½ mile
S-024513	Mary Doane and Trudy Haversat	2001	Preliminary Archaeological Reconnaissance for the Proposed Creekbridge/Rava Annexation, Near Greenfield, Monterey County, California	Archaeological Consulting	Within ¼ mile
S-024514	Mary Doane and Trudy Haversat	2001	Preliminary Archaeological Reconnaissance for the Proposed Thorp Annexation, Near Greenfield, Monterey County, California	Archaeological Consulting	Within the Project Area
S-024875	Mary Doane and Trudy Haversat	2002	Preliminary Archaeological Reconnaissance for the Walnut Place Self-Help Housing Project, in Greenfield, Monterey County, California	Archaeological Consulting	Within 1 mile
S-045858	Krista Kiaha and Paula Carr	2013	Historic Property Survey Report for the Cure Safety Improvements Near King City Project, Monterey County, California; 05-MON-101 PM 40.5/55.0, 05-002-00243 (05-0T9900)	California Department of Transportation	Within 1 mile
S-045858a	Deborah Jones and Laura Leach-Palm	2013	Archaeological Survey Report for Eucalyptus Tree Removal Project, Monterey County, California	Far Western Anthropological Research Group, Inc	Within 1 mile

Table 1 (Cont.). Previous Conducted Cultural Resources Studies within 1-mile buffer of Project Area

CHRIS Report Number	Authors	Year	Title of Study	Affiliation	Distance from Project Area
S-045858b	N/A	2013	Historical Resources Evaluation Report: US Highway 101 Eucalyptus Tree Removal Project, Monterey County, California	JRP Historical Consulting, LLC	Within 1 mile
S-045858c	Carol Roland-Nawi and Valerie Levulett	2013	FHWA_2013_0805_001; Determination of Eligibility for the Proposed CURE Safety Improvements Near King City, Monterey County, CA	Office of Historic Preservation; California Department of Transportation	Within 1 mile
S-050370	Scott M. Hudlow	2016	A Phase I Cultural Resource Survey For Greenfield Family Apartments, Greenfield, Monterey County, California	Hudlow Cultural Resource Associates	Within 1 mile
S-050370a	Julianne Polanco	2016	USDA_2016_0802_003: Walnut Grove Apartments Project, 1002 Walnut Avenue, Greenfield, California	Office of Historic Preservation	Within 1 mile
S-050370b	Julianne Polanco	2016	USDA_2016_0802_003: 2nd Round of Consultation, Walnut Grove Apartments Project, 1002 Walnut Avenue, Greenfield, California	Office of Historic Preservation	Within 1 mile

Table 2. Previous Recorded Cultural Resources within 1-mile Buffer of Project Area

Primary Number	Trinomial	Age	Attributes	NRHP/CRHR	Distance from Project Area
P-27-002322	CA-MNT-002050H	Historic	AH07-Road, HP39-Road	Not eligible	Within ½ mile

Table 3. Additional Sources Consulted for the Project

Source	Results
National Register of Historic Places (1979-2002 & supplements)	Negative
Historical United States Geological Survey topographic maps (USGS 2012)	Extensive agricultural active observed throughout maps/photos
Historical United States Department of Agriculture aerial photos	Extensive agricultural active observed throughout maps/photos
California Register of Historical Resources (1992-2010)	Negative
California Inventory of Historic Resources (1976-2010)	Negative
California Historical Landmarks (1995 & supplements to 2010)	#784-El Camino Real-located approximately 0.3- mile from Project Area
California Points of Historical Interest (1992 to 2010)	Negative

Table 3 (Cont.). Additional Sources Consulted for the Project

Source	Results
Local Historical Register Listings	Negative
Bureau of Land Management General Land Office Records	Negative

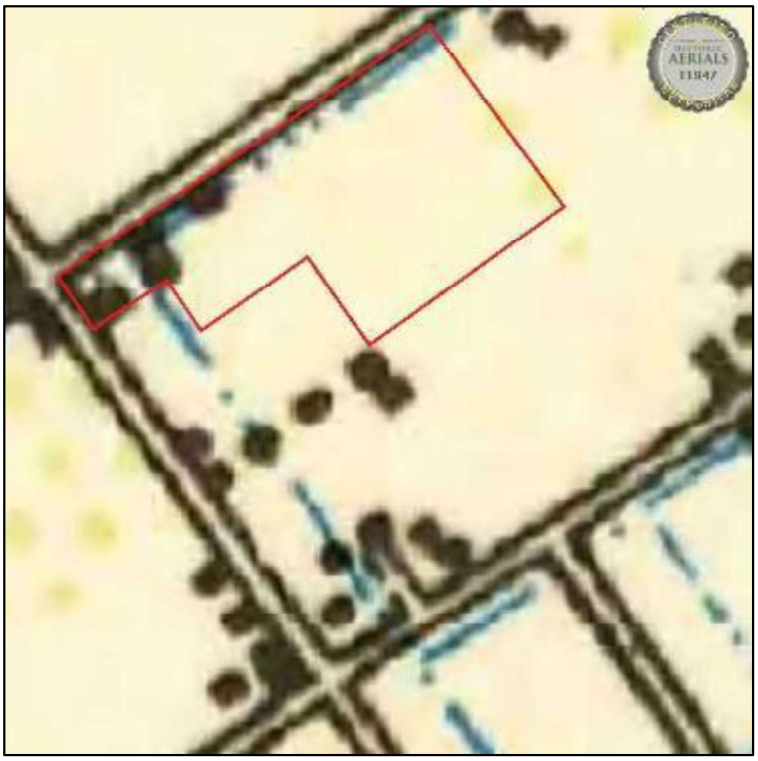

Figure 7. Project Area with minor development (depicted on 1947 topographic map)

Figure 8. Project Area with apparent agricultural development (depicted on 1967 aerial photograph)

Figure 9. Project Area and apparent decrease of agricultural development (depicted on 1994 aerial photograph)

Figure 10. Project Area as a vacant lot (depicted on 2014 aerial photograph)

NATIVE AMERICAN OUTREACH AND BACKGROUND RESEARCH

On June 13, 2019, MCC President Tria Belcourt, M.A., RPA, received a phone call from Mr. Fredrick Segobia, Tribal Representative from the Salinan Tribe of Monterey, San Luis Obispo Counties. Mr. Segobia requested a copy of the Phase I report when it is completed, and noted that if the project is near Arroyo Seco, there would be a greater potential of encountering Tribal Cultural Resources. Mr. Segobia did not have concerns regarding the project at prior to reviewing the report. No other additional groups or individuals have responded with information about the Project Area as of July 9, 2019. All written NAHC and Native American correspondence materials and our communication log are provided as Appendix B.

PALEONTOLOGICAL RECORDS SEARCH AND LITERATURE REVIEW

The locality search at NHMLA did not yield any fossil localities within the Project Area nor within 1 mile of the Project (See Appendix C) (McLeod 2019). The surficial deposits underlying this Project are mapped as consisting of younger Quaternary alluvium, derived as alluvial fan deposits from the Coast Range via either the Salinas River that flows to the east or from Reliz Creek that flows to the west (McLeod 2019). While these deposits generally do not yield significant vertebrate fossils in the uppermost layers, older Quaternary alluvium deposits may be underlaying at unknown depths. LACM does maintains records for fossil localities located within similar deposits, with the nearest recorded fossil localities located due north of the Project Area at Tres Pinos Creek. These localities produced unrecorded specimens of fossil horse (*Equus*) (McLeod 2019). Locality LACM 4069, located north of the Project Area in the San Benito River Valley, produced fossil specimens of horse (*Equus*), pronghorn antelope (*Antilocapridae*), and deer (*Cervidae*) (McLeod, 2019). Additional literature was consulting, including The University of California Museum of Paleontology (UCMP)'s Miocene Mammal Mapping Project (MioMap), which resulted in no fossil localities within the Project Area or within close proximity to the Project.

CULTURAL AND PALEONTOLOGICAL FIELD SURVEY RESULTS

At the time of survey, conditions were good and ground visibility was fair (less than 25%) due to dense vegetation overgrowth. The entire area shows heavy disturbance from past grading/tilled activities. Soil observed was light brown silty sand with smaller well-rounded granitic type pebble inclusions, which is consistent with the mapped Quaternary sediments. Adjacent residential properties consisted of modern features with no observable historic features present. All residential properties near the Project Area are either new or have been modernized. No cultural or paleontological resources were observed during the survey. Representative photos of the area were taken (Figures 11 through 15).

Figure 11. Project Overview from Southwest corner (View towards East)

Figure 12. Project Overview from Western portion (View towards East)

Figure 13. Project Overview from Eastern portion (View towards West)

Figure 14. Project Overview from Southwest corner with historic-era residential property adjacent to Project Area (View towards Southeast). This property will not be impacted by the Project as currently designed.

Figure 15. Representative photo of soils observed in Project Area

CONCLUSIONS AND RECOMMENDATIONS

CULTURAL RESOURCES CONCLUSIONS

The Phase I cultural resource assessment of the Project Area included a CHRIS records search, NAHC outreach, background research, and a field pedestrian survey. The records search results show zero cultural resources within the Project Area and one resource, P-27-002322/Highway 101, located within less of 1/2 mile of the Project Area. The entirety of the Project Area has undergone intensive disturbance with the activities associated with agriculture farming and modern development. Based on these findings, the Project Area is considered to have low potential for encountering significant cultural resources. One thing worth noting is that there is an historic-era residential property just south of the currently proposed Project Area. This property will not be impacted as the project is currently proposed. If the project eventually encompasses this property, it will require formal assessment by an architectural historian, to determine the level of significance in potential impacts as a result of this project.

CULTURAL RESOURCES RECOMMENDATIONS

Based on the above findings, MCC recommends no further mitigation measures needed for implementation of the Project as currently planned. While we do not recommend additional mitigation prior to construction, we do recommend setting a plan in place to expediently address inadvertent discoveries and human remains (as described below), should these be encountered during construction activities. If Native American monitoring is required as a mitigation measure, we highly recommend including archaeological monitoring as well, in order to allow for expeditious and collaborative review of potential archaeological resources, if such potential resources are unearthed during the course of ground disturbance.

INADVERTENT DISCOVERIES

Despite actions taken to ensure that all cultural resources are located prior to construction, including record searches and field surveying, there remains the possibility that undiscovered, buried archaeological resources might be encountered during construction. In the event that these resources are inadvertently discovered during ground-disturbing activities, work must be halted within 50 feet of the find until it can be evaluated by a qualified archaeologist. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation or fossil recovery, may be warranted and would be discussed in consultation with the appropriate regulatory agency(ies).

HUMAN REMAINS

Procedures of conduct following the discovery of human remains on non-federal lands have been mandated by California Health and Safety Code §7050.5, PRC §5097.98 and the California Code of Regulations (CCR) §15064.5(e). According to the provisions in CEQA, should human remains be encountered, all work in the immediate vicinity of the burial must cease, and any necessary steps to insure the integrity of the immediate area must be taken. The Monterey County Coroner will be immediately notified. The Coroner must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the NAHC, who will, in turn, notify the person they identify as the most likely descendent (MLD) of any human remains. Further actions will be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.

PALEONTOLOGICAL RESOURCES CONCLUSIONS

The Phase I paleontological resource assessment of the Project Area included a locality records search, literature

review, and a field pedestrian survey. No significant paleontological resources were identified within the direct Project Area during the locality search or the field survey. LACM had records of fossil specimens, including horse and deer, that were recovered in older Quaternary Alluvium that may be underlying at an undetermined depth within the Project Area. MioMap yield no fossil localities nearby the Project Area. Based on these findings, the Project Area is considered to have low to moderate potential for encountering significant paleontological resources.

PALEONTOLOGICAL RESOURCES RECOMMENDATIONS

Based on the above findings, MCC recommends any substantial mass excavations at depths greater than 10 feet be monitored closely to quickly and professionally recover any fossil remains while not impeding development. As long as excavation does not exceed this depth, monitoring is not recommended. It is recommended the Project implement the following procedures:

- A trained and qualified paleontological monitor should perform spot-check monitoring of any excavations on the Project that have the potential to impact paleontological resources in undisturbed native sediments below 10 feet in depth. The monitor will have the ability to redirect construction activities to ensure avoidance of adverse impacts to paleontological resources.

- The Project paleontologist may re-evaluate the necessity for paleontological monitoring after examination of the affected sediments during excavation, with approval from Lead Agency and Client representatives.

- Any potentially significant fossils observed shall be collected and recorded in conjunction with best management practices and SVP professional standards.

- Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

- A report documenting the results of the monitoring, including any salvage activities and the significance of any fossils, will be prepared and submitted to the appropriate personnel.

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Appendix A:
Qualifications

Tria Belcourt, M.A., RPA
President and Principal Environmental Specialist

Tria Belcourt oversees and is responsible for the entire work process at Material Culture Consulting. She is responsible for planning, supervising, and overseeing field projects, including responsibility for the professional quality of evaluations and recommendations. Tria has primary accountability for the technical completeness and competence of work conducted by her staff. She is responsible for development of work plans and/or research designs, for performance of crew chiefs, for selection standards and limitations on work assignments of crew members, for analysis and interpretation of field data, for integration of fieldwork results into comparative regional perspectives, and for preparation of reports. Tria's advanced academic training and more than twelve years of professional archaeological experience has included rigorous training and application of anthropological and archaeological theory and methods, and in recording, collecting, handling, analyzing, evaluating, and reporting cultural property data, relative to the type and scope of work proposed.

Tria has been an archaeological project manager and principal investigator for over six years, leading and managing several complex compliance projects throughout the State of California and in Southern Nevada, which have involved each step of cultural resource compliance and management. Prior to this, she spent six years as a field technician and crew chief on projects throughout California and the Southeastern United States. Her experience includes conducting background research, field survey, resource testing and formal NRHP/CRHR evaluation, data recovery plan development and implementation. She has prepared hundreds of technical reports for all of the above to state and federal standards, including following BLM standards for GIS spatial data management and technical reporting – ranging from simple clearance forms, to letter reports, to extensive data recovery reports. She was the lead preparer of the Fort Irwin Integrated Cultural Resource Management Plan (2009-2013) and has also prepared several cultural resource management plans for state regulated projects. She has overseen and conducted archaeological monitoring and management of unanticipated discovery of resources, including Native American human remains on federal lands (and repatriation of the remains), and reported the results and outcomes of cultural resource monitoring efforts in lengthy technical reports. Finally, Tria regularly provides third party and QA/QC review of cultural resource technical documents, due to her keen understanding of state and federal regulations and laws governing the management of cultural resources throughout the state of California.

EDUCATION

2014 Graduate Certificate in Environmental Management of Military Lands, Colorado State University
2010 Professional Certification in CEQA/NEPA, ICF International Corporation
2009 M.A. in Anthropology, University of Florida Gainesville, Florida
Professional Certification in GIS
2006 B.A. in Anthropology, Magna Cum Laude, University of California, Los Angeles, California

AFFILIATIONS/CERTIFICATIONS/TRAINING

- Society for Historical Archaeology (SHA)
- Society for California Archaeology (SCA)

UTILITY SECTOR EXPERIENCE

SCE Transmission Line Rating and Remediation Project (TLRR) – Control Silver Peak 66kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (October 2016- present). Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-2018) and Environmental Intelligence (2018-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

SCE Transmission Line Rating and Remediation Project (TLRR) - Kern River 66kV, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (October 2016- present). Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

SCE Transmission Line Rating and Remediation Project (TLRR) – Eldorado Pisgah Lugo 220kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (October 2016- present). Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

SCE Transmission Line Rating and Remediation Project (TLRR) – Control Haiwee 115kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (April 2017- present). Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-2018) and to SWCA (2018-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

SCE Transmission Line Rating and Remediation Project (TLRR) – Ivanpah Coolwater Kramer Inyokern 115kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (April 2017- present). Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-2018) and to SWCA (2018-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

Pacific Gas and Electric Company (PG&E), NERC Alert Program – Archaeological Principal Investigator; throughout California; 2015 – Present. Belcourt provides oversight of all task orders and project management of on-call task orders involving cultural resource desktop reviews, records searches and field reviews for the PG&E NERC Alert program: tracking and reporting efforts, maintaining project schedule, and timely submittal of data to prime contractor (Arcadis).

Southern California Edison (SCE), On-Call and Emergency Projects – Archaeological Principal Investigator and Project Manager; throughout California, 2013 – Present. Belcourt has provided oversight of over 200 task orders for on-call and emergency projects to date, involving cultural resource desktop reviews, records searches and field reviews for deteriorated poles, system upgrades, initial studies to support capital projects, and monitoring support to replace facilities due to natural disasters. This high-volume program includes preparing and submitting budgets, managing support staff and overseeing work, tracking and reporting efforts, maintaining project schedules, and preparing technical reports and GIS datasets for submittal to prime contractor (SWCA).

Southern California Edison (SCE), Large Capital Projects – Archaeological Principal Investigator and Project Manager; throughout California, 2014 – Present. Belcourt has provided oversight of over 20 task orders for major projects to date, involving cultural resources for this contract with SWCA, Environmental Intelligence and ICF. This includes preparing and submitting budgets, managing support staff and overseeing work, tracking and reporting efforts, maintaining project schedule, and preparing technical reports and GIS datasets for submittal to prime contractors.

Southern California Edison (SCE), Small Capital Projects – Archaeological Principal Investigator and Project Manager; throughout California, 2014 – Present. Belcourt provides oversight of all task orders and project management of task orders involving cultural resources for this contract with Environmental Intelligence and ICF. This includes preparing and submitting budgets, managing support staff and overseeing work, tracking and reporting efforts, maintaining project schedule, and preparing technical reports and GIS datasets for submittal to prime contractors.

Southern California Edison (SCE), Coolwater Lugo Transmission Project –– Environmental Project Manager; San Bernardino County, California; 2014 – 2015. Belcourt provided oversight of all project management on CWLTP: tracking and reporting efforts of subconsultants (Pacific Legacy, Paleo Solutions and Urbana Preservation and Planning), maintaining project schedule and timely submittal of project deliverables to agency reviewers. Served as communication facilitator between SCE and BLM/CPUC agency reviewers. Provided final review of the Cultural Resources Technical Report (which included over 1,000 cultural resources) and the Historic Built Environment Report - prior to draft submittal to BLM.

SCE, Eldorado Ivanpah Transmission Project – In-house Consultant for Archaeology; San Bernardino County, California and Clark County, Nevada; 2010-2012. Belcourt provided complex regulatory oversight and project management regarding cultural and paleontological resource management. She developed compliance training to inform and guide construction activities and major capital project teams. She also developed and implemented internal cultural resource management programs based on project migitation measures. Tria coordinated with BLM archaeologists on discovery and management of previously unknown cultural resources identified during construction. She provided environmental analyses, technical reports, and clearance documentation for over 20 project modifications during construction without delay to project. Developed the cultural resources geodatabase for EITP and coordinated regularly with the project GIS team.

Silver State South Substation, In-house Consultant for Archaeology; Southern California Edison, Clark County, NV; 2010-2012. Provided regulatory oversight and project management regarding cultural and paleontological resource management during project licensing and scoping. Identified potential impacts to cultural and paleontological resources, developing appropriate mitigation measures in preparation for and projecting alternative conclusions.

Tehachapi Renewable Transmission Project, Multiple Roles; Southern California Edison, Segments 1-3 and Segments 6-11, Kern, Los Angeles and Orange County, CA; 2009 - Present. Tria provided service to this project over seven years in multiple roles – archaeological field monitor, project coordinator, in-house consultant at SCE, and principal investigator. She provided regulatory oversight and project management regarding cultural and paleontological resource management for all segments of TRTP. Developed and implemented internal cultural resource management programs based on the mitigation measures in the Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) for TRTP, and for the existing Special Use Permits and Record of Decision for TRTP, issued by the Angeles National Forest (ANF). Oversaw preparation of the Historic Properties Treatment Plans, fieldwork and technical report preparation for two large-scale Phase III Data Recovery excavations on Angeles National Forest. Coordinated with ANF archaeologists on discovery and management of previously unknown cultural resources identified during construction. Provided cultural resources analyses and clearance documentation, including technical reports, for over 100 project modifications during construction without delay to project. Finally, Tria was responsible for maintaining the geospatial data for the project within the SCE cultural resources geodatabase TRTP and coordinated with the project GIS team.

Desert Tortoise Habitat Conservation Plan Area, Principal Investigator; Cadiz Inc., San Bernardino County, CA; 2013. Oversaw records search to identify the extent of previous cultural resources surveys and all previously recorded prehistoric and historic resources within the 7,500-acre Desert Tortoise Habitat Conservation Plan (HCP) area (Project Area) located on lands administered by the BLM Needles Field Office in unincorporated San Bernardino County, California.

SOLAR SECTOR EXPERIENCE

Ecoplexus California Correctional Institution Solar Project, Tehachapi, Kern County, California. Cultural and Paleontological Assessments (April 2018 – present). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus Ironwood State Prison and Chuckawalla Valley State Prison Solar Project, City of Blythe, Riverside County. Cultural and Paleontological Assessments (June 2018 – present). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus California State Prison Centinela Solar Project, City of Imperial, Imperial County, California. Cultural and Paleontological Assessments (August 2017 – April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus Calipatiria State Prison Solar Project, City of Calipatria, Imperial County, California. Cultural and Paleontological Assessments (August 2017 – April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus RJ Donovan State Prison Solar Project, San Diego, San Diego County, California. Cultural and Paleontological Assessments (March 2018 – April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus Salinas Valley State Prison Solar Project, City of Soledad, Monterey County, California. Cultural and Paleontological Assessments (March 2018 – April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus Correctional Training Facility Soledad Project, City of Soledad, Monterey County, California. Cultural and Paleontological Assessments (March 2018 – April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

SDG&E Cameron Substation Photovoltaic Project, San Diego, San Diego County, California. Cultural and Paleontological Assessments (September 2017 – present). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, facilitated Native American consultation between County of San Diego and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Beard Solar Project, Dustin Acres, Kern County, California. Cultural and Paleontological Assessments (March 2018- April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Broadman Solar Project, Livermore, Alameda County, California. Cultural and Paleontological Assessments (February 2018- March 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Nachtigall Solar Project, Wasco, Kern County, California. Cultural and Paleontological Assessments (March 2018-April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Rocha Solar Project, Fuller Acres, Kern County, California. Cultural and Paleontological Assessments (March 2018-April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Shafter Solar Project, City of Shafter, Kern County, California. Cultural and Paleontological Assessments (March 2018-present). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Anderson Twisselman Solar Project, Lost Hills, Kern County, California. California. Cultural and Paleontological Assessments (March 2018-April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Weedpatch Solar Project, Kern County, California. Cultural and Paleontological Assessments (March 2018-present). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Jennifer Kelly, M.Sc.
Senior Paleontologist and Principal Investigator

Jennifer Kelly has experience in all aspects of paleontology. She has extensive experience with monitoring, salvage, fieldwork, project management, and report writing, as well as volunteer experience from the La Brea Tar Pits/Page Museum and the Cooper Center of Orange County (Paleontology department) and field experience as a Staff Geologist for Leighton Geotechnical. Her expertise is Geology, and she has her M.S. in Geological Sciences, emphasis in Geochemistry.

Jennifer has taught lab courses in paleontology and general geology, and also assisted with field mapping classes. Jennifer is HAZWOPER 40-hour certified and a registered Orange County paleontologist. She has co-authored more than 60 paleontological compliance documents, including PRMPs, EIR, EIS, PEA, final monitoring reports, survey reports, and other compliance documents, in compliance with NEPA, CEQA, Caltrans and city and county laws, ordinances, regulations, and statutes.

Education

2012 M.Sc. in Geology, California State University, Long Beach, California
2005 B.S., Geology (preliminary work for entry to M.S. Geology Program), California State University, Long Beach
2004 B.A., Theater Arts, California State University, Long Beach

Certifications and Training

- 40 Hour Certification for HAZWOPER training under 29 CFR 1910. 120, CA (2013 – 2014)
- Orange County Certified Paleontologist
- San Diego County Certified Paleontologist

Utility Sector Experience

Assistant PM/Research Specialist, Tehachapi Renewable Transmission Project (TRTP), Southern California Edison (SCE), Kern County, Los Angeles County, San Bernardino County. Kelly conducted and led surveys along this project's right of way. She additionally was in charge of scheduling monitoring crews during grading in areas of paleontological sensitivity, managing and reviewing log sheets, and tracking data that is incorporated to final reports. Ms. Kelly played a valuable role with scheduling for the project's needs. She has monitored, surveyed, and reported on all paleontological facets of this project as the Lead Paleontological Monitor for segment 3B and 4-11. She has co-authored more than 10 of the compliance reports for this project. She has also performed monitoring on every segment of this Project.

Assistant PM/Research Specialist, SCE, Valley South Subtransmission Line Project, Riverside County, California. Kelly assisted with scheduling and oversight for coordination of all surveying, preparation of compliance and environmental documentation for this project, including three proposed alternatives,

and co-wrote the final PEA and survey reports, utilizing CEQA and Riverside County paleontological guidelines.

Assistant PM/Research Specialist, SCE, San Joaquin Cross Valley Loop Project, Tulare County, California. Kelly assisted with coordination of all surveying, preparation of compliance and environmental documentation for this project, and co-authored the final Paleontological Monitoring Plan for this project.

Assistant PM/Research Specialist, SCE, Devore Substation Project, San Bernardino County, California. Kelly assisted with preparation of compliance and environmental documentation including a paleontological inventory and geological map research for this project.

Assistant PM/Research Specialist, SCE, Horsetown Substation Project, Riverside County, California. Kelly assisted with preparation of compliance and environmental documentation including a paleontological inventory and geological map research for this project.

Paleontological Field Technician, El Casco System-Transmission Line, SCE, throughout Riverside County. Kelly performed paleontological monitoring. Her duties included salvaging small and large fossils, screen washing and sorting fossils. She aided in the processing of microfossils collected from bulk sampling of fossil bearing sediment, and documenting stratigraphic locations of fossil bearing units. This project was in compliance with both CEQA and the CPUC.

Assistant PM/Research Specialist, ***South of Kramer Project, SCE, Hesperia to Barstow, San Bernardino, County***. Kelly assisted in overseeing portions of project management and compliance surveying, which included surveying from Hesperia to Barstow, CA for a Proponent's Environmental Assessment (PEA). All portions of the Proposed Project were located within San Bernardino County, California. This project is still active and survey results are being finalized. Kelly co-authored the final survey report for this Project. A BLM Permit was authorized for the survey.

Assistant PM/Research Specialist, ***OC Access Road Grading, SCE, Orange and Riverside County.*** Kelly assisted in documentation for the cultural resources portion, which include information regarding the location and condition of archaeological and paleontological sites recorded at or near the access roads, and recommends impact avoidance measures for future years in implementing the Protocol for 73 known archaeological sites. This required extensive coordination with Orange County Fire Authority grading department, SCE's Operations and Maintenance (O&M), and Orange County Parks. Trimble units were used for the documentation before and after grading of access roads. Communication played a key role when strategizing which locations were being graded where and when. The company came in under budget because of Kelly's efficiency and ability to coordinate and schedule.

Assistant PM/Research Specialist, West of Devers Transmission Line Project, SCE, Riverside County, California. Kelly assisted with all project management and paleontological related services. This included proper BLM authorization and permitting to conduct surveying and a research design for field reconnaissance related to PEA, EIS/EIR documentation for the proposed transmission line. She assisted with managing documentation with laws relating to paleontological resources, among which are CEQA and NEPA compliance.

Assistant PM/Research Specialist, Grid Reliability and Maintenance for Seawolf, Thresher, and Argonaut 12 kV Distribution Lines, SCE, City of Temecula, Riverside County, California.
Kelly assisted with preparation of compliance and environmental documentation including co-authoring the final paleontological report for this project in Riverside County. This report was prepared under CEQA and Riverside County guidelines.

Assistant PM/Research Specialist, Pacific Gas and Electric (PG&E), Line 300A/MP 147.7 and 180.8 Projects, San Bernardino County, California. Kelly assisted in the preparation of mitigation recommendations and a paleontological inventory report for this project. She also assisted with and scheduled planned surveys on BLM and United States Marine Corps lands.

Assistant PM/Research Specialist, PG&E, Jefferson to Stanford No. 2 60 kV Feasibility Project, San Mateo County, California. Kelly assisted with the preparation of the paleontological resources review and paleontological inventory report (PIR) and Proponent's Environmental Assessment (PEA) for this project. Several potential routes were assessed for this project, and the feasibility and paleontological potential was determined for this project. The report and PIR were prepared according to CEQA guidelines.

Assistant PM/Research Specialist, PG&E, Line 107/131 Projects, Alameda County, California. Kelly assisted with preparation of mitigation recommendations and a paleontological inventory report for this project. She also assisted with and scheduled planned surveys of proposed pipeline locations.

Assistant PM/Research Specialist, Laguna Niguel Reliability Project, SDG&E, Laguna Niguel, Orange County. Kelly performed initial research for this Project and co-authored the final report on the monitoring efforts for this project in the Capistrano Formation.

Assistant PM/Research Specialist, ***Camp Pendleton Project, SDG&E, throughout San Diego and Orange Counties.*** Kelly provided on-call paleontological services for this project. She was a key facet in report production and research which enabled her firm to perform all survey and monitoring work required on Camp Pendleton for CEQA/NEPA check list assessments requested from SDG&E. Kelly was cleared from the Department of Defense in order to conduct work on the base. Site assessments and monitoring include all work related to: future location of power poles and towers, water control features, trenching and subsurface excavations, access roads, grading impacts to develop substations and other facilities, work pads, staging yards, and gas pipelines.

Assistant PM/Research Specialist, SDG&E Wind Interconnection Project (WIP), San Diego County, California. Kelly co-authored the paleontological mitigation portion of the Environmental Impact Report (EIR) for this project, utilizing both San Diego County and CEQA guidelines for paleontological resources.

Assistant PM/Research Specialist, LADWP-Scattergood Project, County of Los Angeles.
Kelly provided on-call paleontological support for this project. She assisted with all project aspects associated to paleontology. She co-authored a paleontological mitigation monitoring plan and assisted in scheduling the monitoring the Scattergood Olympic Line 1 Project, completed the final mitigation document for trench exploration, and performed extensive monitoring for the project.

Transportation Sector Experience

Assistant PM/Research Specialist, Paleontological Mitigation Plans (PMP) for Caltrans Cherry/Citrus Ave I-10 interchange Project — PCR/Caltrans, San Bernardino, California. Kelly conducted all aspects of surveying, and literature searches for both projects.

Water Sector Experience

Assistant PM/Research Specialist, Cadiz Ground Water Project, ESA, San Bernardino County, California. Kelly conducted all research and data collection for the Cadiz Groundwater Conservation and

Storage Project for completion of a DEIR section on paleontological resources. The project included the pipeline corridor but not the Well Field Area and Spreading Basins. Based on the results of the analysis, mitigation measures were developed and are designed to reduce potential adverse impacts to paleontological resources as a result of proposed Project construction to a less than significant level. Only one Project alternative was analyzed for impacts on paleontological resources. The paleontological analysis for the Cadiz Project is a requirement of the California Environmental Quality Act (CEQA).

Private Development Sector Experience

Assistant PM/Research Specialist, Holy Sepulchre Cemetery Expansion Project, Diocese of Orange, Santa Ana, Orange County, California. Kelly assisted with scheduling monitoring for this project, performed all project-related research, and was the co-author for the final report. The project consisted of grading and leveling several new areas for expansion of the Holy Sepulchre Cemetery, including portions that lie in paleontologically sensitive rock formations with the potential to produce fossils.

Assistant PM/Research Specialist, UC Irvine Alumni Center Project, Irvine, Orange County, California. Kelly performed all monitoring scheduling and coordination duties, as well as research and writing for the final report and the initial monitoring guidelines. This project was a high-visibility construction project for a new alumni center on the grounds of UC Irvine, in a paleontologically sensitive area.

Assistant PM/Research Specialist, Peters Canyon County Park Restrooms Project, Orange County, California. Kelly performed all paleontological monitoring scheduling and coordination duties, as well as research and writing for the final paleontological resources letter report. This project involved the leveling of a pad and significant trenching through paleontologically sensitive soils in order to install a new restroom at the northern end of this park.

Assistant PM/Research Specialist, UHS Temecula Medical Center, Tuner Construction, Temecula, Riverside County, California. Kelly was in charge of day to day scheduling, conducted occasional monitoring duties and part of the writing process for the final report.

Renewable Energy Sector Experience

Assistant PM/Research Specialist, Ocotillo Wind Express Project, ASPEN, Imperial County, California. Kelly was responsible for managing and collecting all field forms and data that was electronically mailed daily, and incorporating these forms in the final DEIR/EIS Report. She conducted all technical research and compiled both geological and compliance documentation into the final report that was then incorporated into the EIR/EIS.

Assistant PM/Research Specialist, Manzana Wind Express Project, Kern County, California. Kelly assisted in writing the Paleontological Mitigation Monitoring Resource Plan, which allowed her to develop a key role in presenting environmental training programs to construction workers and other environmental compliance monitors. She co-authored the final paleontological monitoring report. The Project's construction consisted of the installation of 107 to 300 wind energy turbines, aligned along approximately 26 rows, on the 6,275-acre proposed site. The Manzana Wind Energy Project site was found to have the potential for scientifically significant paleontological resources that could be impacted by construction-related ground disturbance. She co-authored the final paleontological mitigation report in compliance with CEQA and Kern County guidelines.

Assistant PM/Research Specialist, Pacific Wind Express Project, Kern County, California. Kelly assisted

in writing the Paleontological Mitigation Monitoring Resource Plan, which allowed her to develop a key role in presenting environmental training programs to construction workers and other environmental compliance monitors. She co-authored the final paleontological mitigation report.

Appendix B:
Native American Outreach

Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: Greenfield Commons

County: Monterey

USGS Quadrangle Name: Greenfield

Township: N/A **Range:** N/A **Section(s):** N/A

Company/Firm/Agency: Material Culture Consulting, Inc.

Street Address: 2701-B N. Towne Ave

City: Pomona **Zip:** 91767

Phone: 626-205-8279

Fax: 626-249-0479

Email: tria@materialcultureconsulting.com

Project Description:

The Greenfield Commons Project proposes the construction of Multi Family Residential housing in Greenfield, CA. Please see the attached 24k topo map for a detailed location of the project area.

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov

May 21, 2019

Tria Belcourt
Material Culture Consulting, Inc.

VIA Email to: tria@materialcultureconsulting.com

RE: **Greenfield Commons Project**, City of Greenfield; Greenfield USGS Quadrangle, Monterey County, California.

Dear Ms. Belcourt:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. The absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton

Gayle Totton, B.S., M.A., Ph.D.
Associate Governmental Program Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Monterey County
5/21/2019

Amah MutsunTribal Band
Valentin Lopez, Chairperson
P.O. Box 5272 — Costanoan
Galt, CA, 95632 — Northern Valley
Phone: (916) 743 - 5833 — Yokut
vlopez@amahmutsun.org

Amah MutsunTribal Band of Mission San Juan Bautista
Irenne Zwierlein, Chairperson
789 Canada Road — Costanoan
Woodside, CA, 94062
Phone: (650) 851 - 7489
Fax: (650) 332-1526
amahmutsuntribal@gmail.com

Costanoan Ohlone Rumsen-Mutsun Tribe
Patrick Orozco, Chairman
644 Peartree Drive — Costanoan
Watsonville, CA, 95076
Phone: (831) 728 - 8471
yanapvoic97@gmail.com

Costanoan Rumsen Carmel Tribe
Tony Cerda, Chairperson
244 E. 1st Street — Costanoan
Pomona, CA, 91766
Phone: (909) 629 - 6081
Fax: (909) 524-8041
rumsen@aol.com

Esselen Tribe of Monterey County
Sue Morley, Cultural Resources
PO Box 95 — Costanoan
Carmel Valley, 93924, — Esselen
Phone: (831) 659 - 2153
Fax: (831) 659-0111
Cultural-Resources@EsselenTribe.com

Esselen Tribe of Monterey County
Tom Little Bear Nason, Chairman
P. O. Box 95 — Costanoan
Carmel Valley, CA, 93924 — Esselen
Phone: (831) 659 - 2153
Fax: (831) 659-0111
TribalChair@EsselenTribe.com

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28 — Costanoan
Hollister, CA, 95024
Phone: (831) 637 - 4238
ams@indiancanyon.org

Ohlone/Costanoan-Esselen Nation
Louise Miranda-Ramirez, Chairperson
P.O. Box 1301 — Costanoan
Monterey, CA, 93942 — Esselen
Phone: (408) 629 - 5189
ramirez.louise@yahoo.com

Ohlone/Costanoan-Esselen Nation
Christanne Arias, Vice Chairperson
519 Viejo Gabriel — Costanoan
Soledad, CA, 93960 — Esselen
Phone: (831) 235 - 4590

Salinan Tribe of Monterey, San Luis Obispo Counties
Fredrick Segobia, Tribal Representative
7070 Morro Road, Suite A — Salinan
Atascadero, CA, 93422
Phone: (831) 385 - 1490
info@salinantribe.com

Xolon-Salinan Tribe
Donna Haro, Tribal Headwoman
P. O. Box 7045 — Salinan
Spreckels, CA, 93962
Phone: (925) 470 - 5019
dhxolonaakletse@gmail.com

Xolon-Salinan Tribe
Karen White, Chairperson
P. O. Box 7045 — Salinan
Spreckels, CA, 93962
Phone: (831) 238 - 1488
xolon.salinan.heritage@gmail.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Greenfield Commons Project, Monterey County.

May 29, 2019

EXAMPLE LETTER

RE: Proposed Greenfield Commons Project, City of Greenfield; Greenfield USGS Quadrangle, Monterey County, California.

Greetings,

The Greenfield Commons Project proposes the construction of Multi Family Residential housing within the City of Greenfield, California (see attached map). Material Culture Consulting, Inc. (MCC) is conducting the cultural resources review of the project to support preparation of the environmental documents. As part of our background research, we would like to request your input on potential cultural resources within the Project Area. Please note - this request is **not** part of any formal local, state, or federal consultation process, and all requests for consultation should be directed to the City of Greenfield as Lead CEQA Agency.

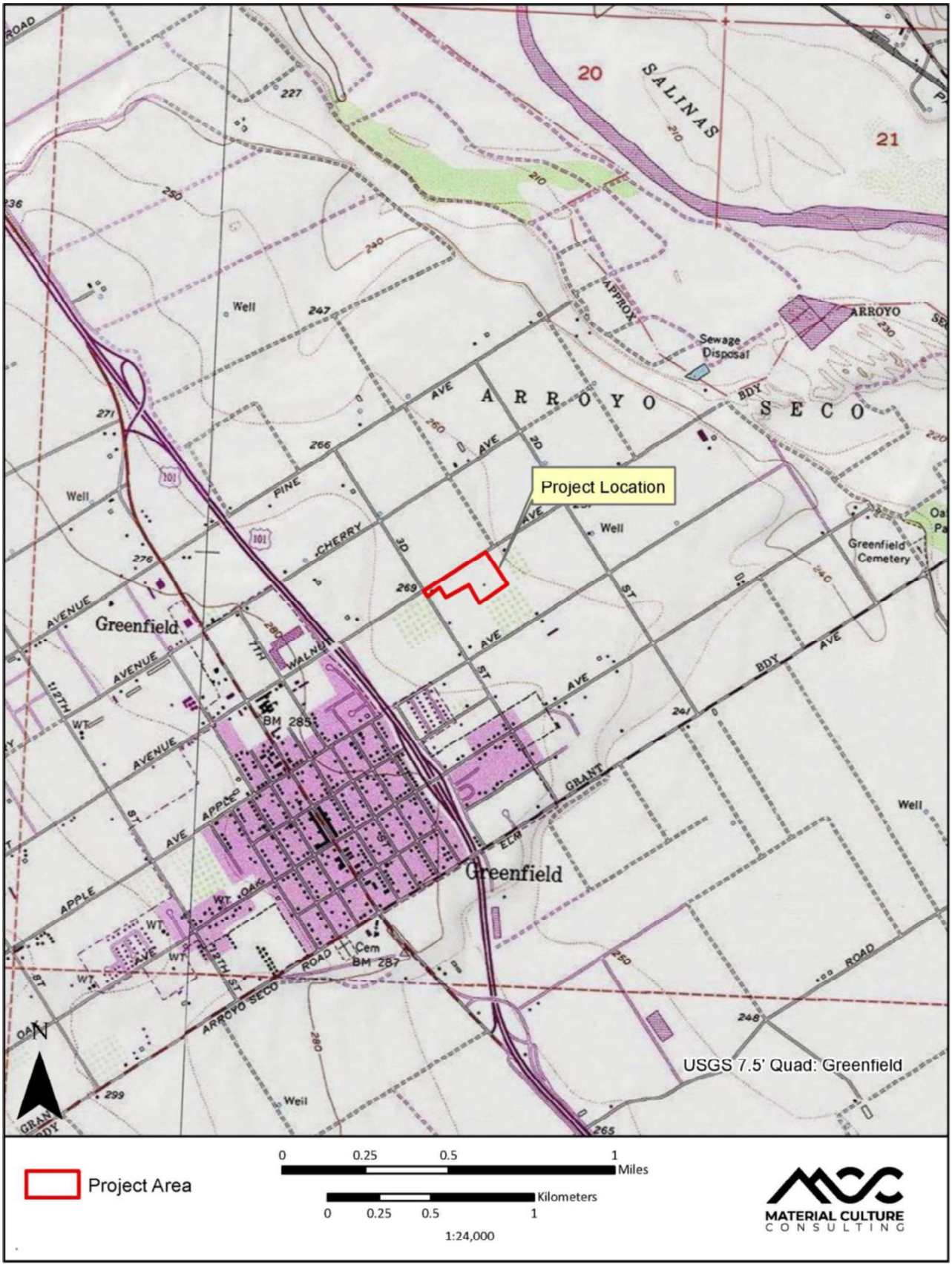
Our firm contacted the Native American Heritage Commission (NAHC) on May 17, 2019 to request review of the Sacred Lands File and for a list of tribes with traditional lands and/or cultural places within the area. The NAHC responded on May 21, 2019, stating that the Sacred Lands File review resulted in **negative** results, and provided your contact information as part of the list. We understand that negative results do not preclude the existence of cultural resources, and that a tribe may be the only source of information regarding the existence of a tribal cultural resource, which is why we are contacting you.

Project Location and Description

The proposed project is located at the corner of Walnut Avenue and 3rd Street. (see attached map). The area of potential impact (API) includes two parcels that encompass a total of approximately 11 acres and located within Section 29 of Township 18 South and Range 7 East (Mt. Diablo Base Meridian).

Please respond at your earliest convenience if you wish to share any knowledge of cultural resources within or adjacent to the API. Any information, concerns, or recommendations regarding cultural resources within the API can be shared with me via telephone, email, or via standard mail. Thank you very much for your assistance.

Kindest regards,
-
Tria Belcourt, M.A., RPA
President and Principal Archaeologist
626-205-8279
tria@materialcultureconsulting.com



Map of Proposed Project, as depicted on Greenfield USGS 7.5 minute Quadrangle

Name/ Affiliation	**Date and Method of 1st Contact**	**Date of 1st Follow-Up Attempt**	**Date of 2nd Follow-Up Attempt**	**Results**	**MCC Response**
Valentine Lopez, Chairperson Amah Mutsun Tribal Band	May 29, 2019- letter sent via USPS	Email sent on June 18, 2019	Email sent on July 3, 2019	No reply as of July 9, 2019	NA
Irenne Zwierlein, Chairperson Amah Mutsun Tribal Band of Mission San Juan Bautista	May 29, 2019- letter sent via USPS	Email sent on June 18, 2019	Email sent on July 3, 2019	No reply as of July 9, 2019	NA
Patrick Orozco, Chairperson Costanoan Ohlone Rumsen-Matsun Tribe	May 29, 2019- letter sent via USPS	Email sent on June 18, 2019	Email sent on July 3, 2019	No reply as of July 9, 2019	NA
Tony Cerda, Chairperson Costanoan Rumsen Carmel Tribe	May 29, 2019- letter sent via USPS	Email sent on June 18, 2019	Email sent on July 3, 2019	No reply as of July 9, 2019	NA
Sue Morley, Cultural Resources Esselen Tribe of Monterery County	May 29, 2019- letter sent via USPS	Email sent on June 18, 2019	Email sent on July 3, 2019	No reply as of July 9, 2019	NA
Tom Little Bear Nasson, Chairman Esselen Tribe of Monterey County	May 29, 2019- letter sent via USPS	Email sent on June 18, 2019	Email sent on July 3, 2019	No reply as of July 9, 2019	NA
Ann Marie Sayers, Chairperson Indian Canyon Mutsun Band of Costanoan	May 29, 2019- letter sent via USPS	Email sent on June 18, 2019	Email sent on July 3, 2019	No reply as of July 9, 2019	NA
Louise Miranda-Ramirez, Chairperson Ohlone/Costanoan-Esselen Nation	May 29, 2019- letter sent via USPS	Email sent on June 18, 2019	Email sent on July 3, 2019	No reply as of July 9, 2019	NA
Christanne Arias, Vice Chairperson Ohlone/Costanoan-Esselen Nation	May 29, 2019- letter sent via USPS	Voicemail left on June 18, 2019	Voicemail left on July 3, 2019	No reply as of July 9, 2019	NA
Fredrick Segobia, Tribal Rep. Salinan Tribe of Monterey, San Luis Obispo Counties	May 29, 2019- letter sent via USPS	Not necessary		Received phone call from Mr. Segobia on 6/13 at 1:15pm requesting a copy of the Phase I report when it is completed. Mr. Segobia shared with MCC that if the project is near Arroyo Seco, that there is a higher potential for encountering cultural resources.	MCC will provide a copy of the final report to Mr. Segobia once the study is accepted by the Lead Agency.
Donna Haro, Tribal Headwoman Xolon-Salinan Tribe	May 29, 2019- letter sent via USPS	Email sent on June 18, 2019	Email sent on July 3, 2019	No reply as of July 9, 2019	NA

Appendix C:
Paleontological
Records Search

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

31 May 2019

Material Culture Consulting
2701-B North Towne Avenue
Pomona, CA 91767

Attn: Julia Carvajal, Archaeologist & GIS Specialist

re: Paleontological resources for the proposed Greenfield Commons Project, in the City of Greenfield, Monterey County, project area

Dear Julia:

I have conducted a thorough check of our paleontology collection records for the locality and specimen data for the proposed Greenfield Commons Project, in the City of Greenfield, Monterey County, project area as outlined on the portion of the Greenfield USGS topographic quadrangle map that you sent to me via e-mail on 17 May 2019. We do not have any vertebrate fossil localities that lie directly within the proposed project area, but we do have localities somewhat nearby from sedimentary deposits similar to those that may occur subsurface in the proposed project area.

The entire proposed project area has surficial deposits of younger Quaternary Alluvium, derived as alluvial fan deposits from the Coast Ranges via either the Salinas River that currently flows just to the east or from Reliz Creek that currently flows to the west. These deposits typically do not contain significant vertebrate fossils in the uppermost layers, but at relatively shallow depth they may be underlain by older deposits that do contain significant fossil vertebrate remains. Almost due north of the proposed project area, in the bed of Tres Pinos Creek just west of its confluence with Muertos Creek, an otherwise unrecorded specimen of fossil horse was recovered. Our closest vertebrate fossil locality from somewhat similar deposits is LACM 4069, north of the proposed project area in the San Benito River Valley, that produced fossil specimens of horse, *Equus*, pronghorn antelope, Antilocapridae, and deer, Cervidae.

Shallow excavations in the younger Quaternary alluvial deposits exposed throughout the proposed project area are unlikely to uncover any significant vertebrate fossils. Deeper excavations in the proposed project area that extend down into older deposits, however, may well encounter significant vertebrate fossil remains. Any substantial and deep excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils collected should be placed in an accredited scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

APPENDIX D – GEOLOGY AND SOILS SAMPLING REPORT

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED MULTI-FAMILY DEVELOPMENT
41206 WALNUT AVENUE
GREENFIELD, CALIFORNIA

KA PROJECT NO. 012-19020
MARCH 14, 2019

Prepared for:

MR. MICHAEL SHAIER
EAH HOUSING, INC.
22 PELICAN WAY
SAN RAFAEL, CALIFORNIA 94901

Prepared by:

KRAZAN & ASSOCIATES, INC.
GEOTECHNICAL ENGINEERING DIVISION
215 W. DAKOTA AVENUE
CLOVIS, CALIFORNIA 93612
(559) 348-2200

Krazan & ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

March 14, 2019

KA Project. No. 012-19020

Mr. Michael Schaier
EAH Development, Inc.
22 Pelican Way
San Rafael, California 94901

RE: Geotechnical Engineering Investigation
Proposed Walnut Grove Apartments
41206 Walnut Avenue
Greenfield, California

Dear Mr. Schaier:

In accordance with your request, we have completed a Geotechnical Engineering Investigation for the above-referenced site. The results of our investigation are presented in the attached report.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (559) 348-2200.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

David R. Jarosz, II
Managing Engineer
RGE No. 2698/RCE No. 60185

DRJ:ht

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March 14, 2019 KA Project No. 012-19020

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED MULTI-FAMILY DEVELOPMENT
41206 WALNUT AVENUE
GREENFIELD, CALIFORNIA

INTRODUCTION

This report presents the results of our Geotechnical Engineering Investigation for the proposed Multi-Family Residential Development to be located at 41206 Walnut Avenue in Greenfield, California. Discussions regarding site conditions are presented herein, together with conclusions and recommendations pertaining to site preparation, Engineered Fill, utility trench backfill, drainage and landscaping, foundations, concrete floor slabs and exterior flatwork, retaining walls, soil cement reactivity, and pavement design.

A site plan showing the approximate boring locations is presented following the text of this report. A description of the field investigation, boring logs and the boring log legend are presented in Appendix A. Appendix A also contains a description of laboratory testing phase of this study, along with laboratory test results. Appendices B and C contain guides to earthwork and pavement specifications. When conflicts in the text of the report occur with the general specifications in the appendices, the recommendations in the text of the report have precedence.

PURPOSE AND SCOPE

This investigation was conducted to evaluate the soil and groundwater conditions at the site, to make geotechnical engineering recommendations for use in design of specific construction elements and to provide criteria for site preparation and Engineered Fill construction.

Our scope of services was outlined in our proposal dated January 18, 2019 (KA Proposal No. P049-19) and included the following:

- A site reconnaissance by a member of our engineering staff to evaluate the surface conditions at the project site.
- A field investigation consisting of drilling 12 borings to depths ranging from approximately 7 to 13 feet for evaluation of the subsurface conditions at the project site. The borings were terminated at a shallow depth due to auger refusal in very dense gravel and cobbles.
- Performing laboratory tests on representative soil samples obtained from the borings to evaluate the physical and index properties of the subsurface soils.

- Evaluation of the data obtained from the investigation and an engineering analysis to provide recommendations for use in the project design and preparation of construction specifications.

- Preparation of this report summarizing the results, conclusions, recommendations and findings of our investigation.

PROPOSED CONSTRUCTION

We understand that design of the proposed development is currently underway; structural load information and other final details pertaining to the structures are unavailable. On a preliminary basis, it is understood the development will consist of approximately 11 acres for the construction of a multi-family residential development. It is anticipated the buildings will be single- to three-story structures utilizing concrete slab-on-grade. Footing loads are anticipated to be light to moderate. On-site paved areas and landscaping are also planned for the development of the project.

In the event these structural or grading details are inconsistent with the final design criteria, the Soils Engineer should be notified so that we may update this writing as applicable.

SITE LOCATION, SITE HISTORY AND SITE DESCRIPTION

The site is irregular in shape and encompasses approximately 11 acres. The site is located south of Walnut Avenue and east of 3rd Street in Greenfield, Monterey County, California. A school, vacant land, rural residential development and single-family residential developments are located south and east of the site. The remainder of the site is predominately surrounded by agricultural land.

Site history was obtained by reviewing historical aerial photographs taken in 1937, 1949, 1956, 1960, 1967, 1971, 1981, 1989, 1994, 2004, 2011, and 2018. Review of the 1937 aerial photograph indicates that the northwestern portion of the site appears to be occupied by a barn-type structure and a smaller structure, which may be a small dwelling. The remainder of the site appears to be utilized for agricultural purposes, including an orchard in the eastern portion of the site.

Review of the 1949 aerial photograph indicates that the project site conditions appeared to be relatively similar to that noted in the 1937 aerial photograph, except the barn-type structure previously noted in the northwestern portion of the site is no longer visible. In addition, the presence of a dwelling and a small outbuilding in the northwestern portion of the site is more prominent in the 1949 aerial photograph. Furthermore, the northeast adjacent property visible in the 1949 aerial photograph appears to be occupied by a rural residence and utilized for agricultural purposes.

Review of the 1956 and 1960 aerial photographs indicate that the project site conditions appeared to be relatively similar to that noted in the 1949 aerial photograph.

Review of the 1967 aerial photograph indicates that the project site conditions appeared to be relatively similar to that noted in the previous aerial photographs, except the structures previously noted in the northwestern portion of the site do not appear to be present. The northwestern portion of the site appears to be vacant land.

Review of the 1971 and 1981 aerial photographs indicate that the project site conditions appeared to be relatively similar to that noted in the 1967 aerial photograph.

Review of the 1989 aerial photograph indicates that the project site conditions appeared to be relatively similar to that noted in the previous aerial photographs, except the northwestern portion of the site appears to be utilized as an exterior equipment/material storage area.

Review of the 1994 aerial photograph indicates that the project site conditions appeared to be relatively similar to that noted in the 1989 aerial photograph, except the exterior storage use of the northwestern portion of the site is no longer visible. The northwestern portion of the site appears to be vacant land.

Review of the 2004 aerial photograph indicates that the project site appears to be fallow agricultural land. No structures are visible on the site.

Review of the 2011 and 2018 aerial photographs indicate that the project site conditions appeared to be relatively similar to that noted in the 2004 aerial photograph.

Presently, the site predominately consists of vacant/fallow agricultural land. The site appears to have been utilized for agricultural purposes historically between 1937 to the mid 2010's, and the northwestern portion of the site appears to have been developed with a rural residence and/or barn-type structure between 1937 and 1960.

GEOLOGIC SETTING

The project site is located in the southeast-central portion of the Salinas Valley, and is situated between the Gabilan Range to the northeast and the Sierra De Salinas Hills to the southwest. The Salinas Valley is narrow valley located within the Coast Ranges Geomorphic Province. The province includes many separate mountain ranges and several major structural valleys. A peculiar distinction to this province is the presence of two entirely different core complexes, one being a disordered Jurassic-Cretaceous sequence of volcanic, metamorphic, and deep marine clastic sedimentary rocks commonly known as the Franciscan assemblage. The other core complex consists of Early Cretaceous granitic intrusives and older metamorphic rocks. The 2 unrelated core complexes lie side by side, separated from each other by faults. A thick blanket of Late Cretaceous and Cenozoic (less than 100 million years old) clastic sedimentary rocks covers large parts of the province. Surface and near surface deposits in the Greenfield area consist of Quaternary alluvium consisting of unconsolidated cobbles, gravels, sands, and silts derived from erosion the surrounding mountain ranges and hills and deposited by the Salinas River from the northeast and the Arroyo Seco River originating from the southwest.

Numerous moderate to large earthquakes have affected the area of the subject site within historic time. Based on the proximity of several dominant active faults and seismogenic structures, as well as the historic seismic record, the area of the subject site is considered subject to moderate to relatively high seismicity. The Rinconada Fault Zone is the nearest active fault to the site and is located approximately 7 km southwest of the project site. The Pinnacles and San Andreas Faults are located approximately 12 and 23 km northeast of the site, respectively.

There are no active fault traces in the project vicinity. Accordingly, the project area is not within an Earthquake Fault Zone (Special Studies Zone).

FIELD AND LABORATORY INVESTIGATIONS

Subsurface soil conditions were explored by drilling 12 borings to depths ranging from approximately 7 to 13 feet below existing site grade, using a truck-mounted drill rig. The borings were terminated at a shallow depth due to auger refusal in very dense gravel and cobbles. In addition, 4 bulk subgrade samples were obtained from the site for laboratory R-value testing. The approximate boring and bulk sample locations are shown on the site plan. During drilling operations, penetration tests were performed at regular intervals to evaluate the soil consistency, obtain information regarding the engineering properties of the subsoils and to retain soil samples for laboratory testing. The soils encountered were continuously examined and visually classified in accordance with the Unified Soil Classification System. A more detailed description of the field investigation is presented in Appendix A.

Laboratory tests were performed on selected soil samples to evaluate their physical characteristics and engineering properties. The laboratory testing program was formulated with emphasis on the evaluation of natural moisture, density, gradation, shear strength, consolidation potential, expansion potential, plasticity R-value, and moisture-density relationships of the materials encountered. In addition, chemical tests were performed to evaluate the soil-cement reactivity. Details of the laboratory test program and the results of laboratory test are summarized in Appendix A. This information, along with the field observations, was used to prepare the final boring logs in Appendix A.

SOIL PROFILE AND SUBSURFACE CONDITIONS

Based on our findings, the subsurface conditions encountered appear typical of those found in the geologic region of the site. In general, the upper soils consisted of approximately 6 to 12 inches of very loose silty sand or sandy silt. Some of these soils were intermixed with varying amounts of gravel, cobbles and traces of clay. These soils are disturbed, have low strength characteristics and are highly compressible when saturated.

Below the loose surface soils, approximately 2 to 3 feet of loose to medium dense silty sand, sandy clayey silt or sandy silt with gravel, trace clay and sand were encountered. Field and laboratory tests suggest that these soils are moderately strong and slightly to moderately compressible. Penetration resistance ranged from 7 to 22 blows per foot. Dry densities ranged from 83 to 114 pcf. Representative soil samples consolidated approximately 3 to 6 percent under a 2 ksf load when saturated. Representative soil samples had angles of internal friction of 22 to 45 degrees. Representative samples of the clayey soils had expansion indices of 13 to 18.

Below approximately 3 to 4 feet, predominately medium dense to very dense silty sand, sandy silt, and gravelly sand or stiff to hard sandy clay were encountered. Field and laboratory tests suggest that these soils are moderately strong and slightly compressible. Penetration resistance ranged from 16 to 48

blows per foot. Dry densities ranged from 90 to 113 pcf. These soils extended to the termination depth of our borings. The borings were terminated at a shallow depth due to auger refusal in very dense gravel and cobbles.

For additional information about the soils encountered, please refer to the logs of borings in Appendix A.

GROUNDWATER

Test boring locations were checked for the presence of groundwater during and immediately following the drilling operations. Free groundwater was not encountered during our subsurface investigation.

It should be recognized that water table elevations may fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use and climatic conditions, as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our field and laboratory investigations, along with previous geotechnical experience in the project area, the following is a summary of our evaluations, conclusions, and recommendations.

Administrative Summary

In brief, the subject site and soil conditions, with the exception of the loose surface soils and existing development, appear to be conducive to the development of the project. The surface soils have a loose consistency. These soils are disturbed, have low strength characteristics, and are highly compressible when saturated. Accordingly, it is recommended that these surface soils be recompacted. The intent is to stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

The site was previously utilized as agricultural land. In addition, several structures surrounded the site. Furthermore, several structures previously occupied portions of the site. Associated with these developments are buried structures, such as utility lines and possible water wells and septic systems that may still extend into portions of the project site. Demolition activities should include proper removal of any buried structures. Any surface or buried structures, utilities, or loosely backfilled excavations encountered during construction should be properly removed and the resulting excavations backfilled with Engineered Fill. Water wells should be abandoned in accordance with county standards. It is suspected that demolition activities of the existing structures will disturb the upper soils. After demolition activities it is recommended that these disturbed soils be removed and/or recompacted. This compaction effort should stabilize the upper soils and locate any unsuitable or pliant areas not found during our field investigation.

Sandy and gravelly soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy and gravelly soils.

Gravelly sands with cobbles were encountered at various locations throughout the site. The possibility exists that site grading operations could expose these soils in areas of proposed buildings, pavements, and/or retaining walls. The Contractor should note that these soils lack the cohesion necessary to stand vertically, even in shallow excavations such as footing trenches. If these conditions are encountered, it will be necessary to over-excavate the affected area(s) to a minimum of 2 feet below the proposed bearing surface. These areas may be backfilled using a mix of the silty sand and sand soils that contains at least 20 percent fines and meeting the requirements for Engineered Fill. This material may be obtained from elsewhere at the site, imported to the site from an approved off-site source, or manufactured through blending of the excavated clean sand with other suitable material containing a higher percentage of fines to result in material meeting the requirements for Engineered Fill.

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structure footings may be designed utilizing an allowable bearing pressure of 2,500 psf for dead-plus-live loads. Footings should have a minimum embedment of 18 inches.

Groundwater Influence on Structures/Construction

Based on our findings and historical records, it is not anticipated that groundwater will rise within the zone of structural influence or affect the construction of foundations and pavements for the project. However, if earthwork is performed during or soon after periods of precipitation, the subgrade soils may become saturated, pump, or not respond to densification techniques. Typical remedial measures include: discing and aerating the soil during dry weather; mixing the soil with dryer materials; removing and replacing the soil with an approved fill material; or mixing the soil with an approved lime or cement product. Our firm should be consulted prior to implementing remedial measures to observe the unstable subgrade conditions and provide appropriate recommendations.

Site Preparation

General site clearing should include removal of vegetation; existing utilities; structures including foundations; basement walls and floors; existing stockpiled soil; trees and associated root systems; rubble; rubbish; and any loose and/or saturated materials. Site stripping should extend to a minimum depth of 2 to 4 inches, or until all organics in excess of 3 percent by volume are removed. Deeper stripping may be required in localized areas. These materials will not be suitable for reuse as Engineered Fill. However, stripped topsoil may be stockpiled and reused in landscape or non-structural areas.

The site was previously utilized as agricultural land and occupied by a rural residential development. In addition, residential developments are located within the project site vicinity. Associated with these developments are buried structures, such as utility lines that may extend into the project site. Any surface and buried structures, including utilities and loosely backfilled excavations, encountered during construction should be properly removed and the resulting excavations backfilled with Engineered Fill.

It is suspected that previous demolition activities disturbed the upper soils. Disturbed areas caused by demolition activities should be recompacted. Excavations, depressions, or soft and pliant areas extending below planned finished subgrade levels should be cleaned to firm, undisturbed soil and backfilled with Engineered Fill. In general, any septic tanks, debris pits, cesspools, or similar structures should be entirely removed. Concrete footings should be removed to an equivalent depth of at least 3 feet below proposed footing elevations or as recommended by the Soils Engineer. Any other buried structures should be removed in accordance with the recommendations of the Soils Engineer. The resulting excavations should be backfilled with Engineered Fill.

Several trees and shrubs are located along the edges of the site. Tree and shrub removal should include roots greater than 1 inch in diameter. The resulting excavations should be cleaned to firm native ground and backfilled with Engineered Fill compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Following stripping, demolition activities and prior to fill placement, the exposed subgrade in building pad areas should be excavated to a depth of at least 24 inches, worked until uniform and free from large clods, moisture-conditioned as necessary, and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. In addition, foundations should be supported by a minimum of 12 inches of Engineered Fill. Within pavement and exterior flatwork areas, the exposed subgrade should be excavated to a depth of 12 inches, moisture-conditioned as necessary, and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Limits of removal and compaction should extend 5 feet beyond buildings and 2 feet beyond flatwork and pavement. Prior to backfilling, the exposed subgrade should be proof-rolled and observed by Krazan & Associates, Inc. to verify stability. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

The upper soils, during wet winter months, become very moist due to the absorptive characteristics of the soil. Earthwork operations performed during winter months may encounter very moist unstable soils, which may require removal to grade a stable building foundation. Project site winterization consisting of placement of aggregate base and protecting exposed soils during the construction phase should be performed.

A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction and stability of the material. The Soils Engineer may reject any material that does not meet compaction and stability requirements. Further recommendations of this report are predicated upon the assumption that earthwork construction will conform to recommendations set forth in this section and the Engineered Fill section.

Engineered Fill

The organic-free, on-site, upper soils are predominately silty sand, sandy clayey silt, sandy silt and sandy silty clay. These soils are occasionally intermixed with varying amounts of clay, gravel and cobbles. The sandy soils that do not contain clay will be suitable for reuse as Engineered Fill, provided

they are cleansed of excessive organics, debris, and fragments larger than 4 inches in maximum dimension. Clayey soils with expansion index greater than 15 should not be used within the upper 12 inches of slab-on-grade and exterior flatwork areas. It is recommended that during construction, additional testing be performed on the on-site soils and fill material to evaluate the physical and index properties prior to reuse as Engineered Fill.

Gravelly sands with cobbles were encountered at various locations throughout the site. The possibility exists that site grading operations could expose these soils in areas of proposed buildings, pavements, and/or retaining walls. The Contractor should note that these soils lack the cohesion necessary to stand vertically, even in shallow excavations such as footing trenches. If these conditions are encountered, it will be necessary to over-excavate the affected area(s) to a minimum of 2 feet below the proposed bearing surface. These areas may be backfilled using a mix of the silty sand and sand soils that contains at least 20 percent fines and meeting the requirements for Engineered Fill. This material may be obtained from elsewhere at the site, imported to the site from an approved off-site source, or manufactured through blending of the excavated clean sand with other suitable material containing a higher percentage of fines to result in material meeting the requirements for Engineered Fill.

The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site winterization and protection of exposed soils during the construction phase should be the sole responsibility of the Contractor, since he has complete control of the project site at that time.

Imported Fill material should be predominately non-expansive granular material with a plasticity index less than 10 and an expansion index less than 15. Imported Fill should be free from rocks and lumps greater than 4 inches in maximum size. All Imported Fill material should be submitted for approval to the Soils Engineer at least 48 hours prior to delivery to the site.

Fill soils should be placed in lifts approximately 6 inches thick, moisture-conditioned as necessary, and compacted to achieve at least 90 percent of maximum density based on ASTM Test Method D1557. Additional lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.

Drainage and Landscaping

The ground surface should slope away from building pad and pavement areas toward appropriate drop inlets or other surface drainage devices. In accordance with Section 1804 of the 2016 California Building Code, it is recommended that the ground surface adjacent to foundations be sloped a minimum of 5 percent for a minimum distance of 10 feet away from structures, or to an approved alternative means of drainage conveyance. Swales used for conveyance of drainage and located within 10 feet of foundations should be sloped a minimum of 2 percent. Impervious surfaces, such as pavement and exterior concrete flatwork, within 10 feet of building foundations should be sloped a minimum of 1 percent away from the structure. Drainage gradients should be maintained to carry all surface water to collection facilities and off-site. These grades should be maintained for the life of the project.

Utility Trench Backfill

Utility trenches should be excavated according to accepted engineering practice following OSHA (Occupational Safety and Health Administration) standards by a Contractor experienced in such work. The responsibility for the safety of open trenches should be borne by the Contractor. Traffic and vibration adjacent to trench walls should be minimized and cyclic wetting and drying of excavation side slopes should be avoided. Depending upon the location and depth of some utility trenches, groundwater flow into open excavations could be experienced, especially during or shortly following periods of precipitation.

Utility trench backfill placed in or adjacent to buildings and exterior slabs should be compacted to at least 90 percent of the maximum density based on ASTM Test Method D1557. The utility trench backfill placed in pavement areas should be compacted to at least 90 percent of the maximum density based on ASTM Test Method D1557. Pipe bedding should be in accordance with pipe manufacturer's recommendations.

Sandy and gravelly soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy and gravelly soils.

The Contractor is responsible for removing all water sensitive settlement from the trench regardless of the backfill location and compaction requirements. The Contractor should use appropriate equipment and methods to avoid damage to the utilities and/or structures during fill placement and compaction.

Foundations

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structures may be supported on a shallow foundation system bearing on a minimum of 12 inches of Engineered Fill. Spread and continuous footings can be designed for the following maximum allowable soil bearing pressures:

Load	Allowable Loading
Dead Load Only	1,875 psf
Dead-Plus-Live Load	2,500 psf
Total Load, including wind or seismic loads	3,325 psf

The footings should have a minimum embedment depth of 18 inches below pad subgrade (soil grade) or adjacent exterior grade. Footings should have a minimum width of 12 inches, regardless of load.

The footing excavations should not be allowed to dry out any time prior to pouring concrete. It is recommended that footings be reinforced by at least one No. 4 reinforcing bar in both top and bottom.

The total settlement is not expected to exceed 1 inch. Differential settlement measured across a horizontal distance of 20 feet or between column footings should be less than ½ inch. Most of the settlement is expected to occur during construction as the loads are applied. However, additional post-construction settlement may occur if the foundation soils are flooded or saturated.

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.35 acting between the base of foundations and the supporting subgrade. Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 325 pounds per cubic foot acting against the appropriate vertical footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. A ⅓ increase in the above value may be used for short duration, wind, or seismic loads. All of the above earth pressures are unfactored and are, therefore, not inclusive of factors of safety.

Floor Slabs and Exterior Flatwork

In areas that will utilize moisture-sensitive floor coverings, concrete slab-on-grade floors should be underlain by a water vapor retarder. The water vapor retarder should be installed in accordance with accepted engineering practice. The water vapor retarder should consist of a vapor retarder sheeting underlain by a minimum of 3 inches of compacted, clean, gravel of ¾-inch maximum size. To aid in concrete curing an optional 2 to 4 inches of granular fill may be placed on top of the vapor retarder. The granular fill should consist of damp clean sand with at least 10 to 30 percent of the sand passing the 100 sieve. The sand should be free of clay, silt, or organic material. Rock dust which is manufactured sand from rock crushing operations is typically suitable for the granular fill. This granular fill material should be compacted.

The floor slab should be reinforced at a minimum with No. 3 reinforcement bars at 24 inches on-center each way within the middle one-third. Thicker floor slabs with increased concrete strength and reinforcement should be designed wherever large vehicular loads, heavy concentrated loads, heavy equipment, or machinery is anticipated.

The exterior floors should be poured separately in order to act independently of the walls and foundation system. All fills required to bring the building pads to grade should be Engineered Fills.

Moisture within the structure may be derived from water vapors, which were transformed from the moisture within the soils. This moisture vapor can travel through the vapor membrane and penetrate the slab-on-grade. This moisture vapor penetration can affect floor coverings and produce mold and mildew in the structure. To reduce moisture vapor intrusion, it is recommended that a vapor retarder be installed. It is recommended that the utility trenches within the structure be compacted, as specified in our report, to reduce the transmission of moisture through the utility trench backfill. Special attention to the immediate drainage and irrigation around the building is recommended. Positive drainage should be established away from the structure and should be maintained throughout the life of the structure. Ponding of water should not be allowed adjacent to the structure. Over-irrigation within landscaped areas adjacent to the structure should not be performed. In addition, ventilation of the structure (i.e. ventilation fans) is recommended to reduce the accumulation of interior moisture.

Lateral Earth Pressures and Retaining Walls

Walls retaining horizontal backfill and capable of deflecting a minimum of 0.1 percent of its height at the top may be designed using an equivalent fluid active pressure of 40 pounds per square foot per foot of depth. Walls incapable of this deflection or are fully constrained walls against deflection may be designed for an equivalent fluid at-rest pressure of 60 pounds per square foot per foot of depth. Expansive soils should not be used for backfill against walls. The wedge of non-expansive backfill material should extend from the bottom of each retaining wall outward and upward at a slope of 2:1 (horizontal to vertical), or flatter. The stated lateral earth pressures do not include the effects of hydrostatic water pressures generated by infiltrating surface water that may accumulate behind the retaining walls; or loads imposed by construction equipment, foundations, or roadways. All of the above earth pressures are unfactored and are, therefore, not inclusive of factors of safety.

During grading and backfilling operations adjacent to any walls, heavy equipment should not be allowed to operate within a lateral distance of 5 feet from the wall, or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand operated equipment ("whackers", vibratory plates, or pneumatic compactors) should be used to compact the backfill soils.

R-Value Test Results and Pavement Design

Four subgrade soil samples were obtained from the project site for R-value testing at the locations shown on the attached site plan. The samples were tested in accordance with the State of California Materials Manual Test Designation 301. Results of the tests are as follows:

Sample	Depth	Description	R-Value at Equilibrium
1	12-24"	Silty Sand (SM)	46
2	12-24"	Silty Sand (SM)	52
3	12-24"	Clayey Sand (SC)	18
4	12-24"	Clayey Sand (SC)	16

The test results are low to moderate and indicate fair to good subgrade support characteristics under dynamic traffic loads. The following table shows the recommended pavement sections for various traffic indices based on an R-value of 16.

Traffic Index	Asphaltic Concrete	Class II Aggregate Base*	Class III Aggregate Subbase	Compacted Subgrade**
4.0	2.0"	7.0"	--	12.0"
4.0	2.0"	4.5"	3.0"	12.0"
4.5	2.5"	7.5"	--	12.0"
4.5	2.5"	4.0"	4.0"	12.0"

5.0	2.5"	9.0"	--	12.0"
5.0	2.5"	5.0"	4.0"	12.0"
5.5	3.0"	9.0"	--	12.0"
5.5	3.0"	5.0"	4.5"	12.0"
6.0	3.0"	11.0"	--	12.0"
6.0	3.0"	6.5"	5.0"	12.0"
6.5	3.5"	11.5"	--	12.0"
6.5	3.5"	6.50	6.0"	12.0"
7.0	4.0"	13.0"	--	12.0"
7.0	4.0"	6.5"	7.0"	12.0"
7.5	4.0"	14.0"	--	12.0"
7.5	4.0"	7.5"	7.5"	12.0"

**** 95% compaction based on ASTM Test Method D1557 or CAL 216***
***** 90% compaction based on ASTM Test Method D1557 or CAL 216***

The following table shows the recommended pavement sections for various traffic indices based on an R-value of 46.

Traffic Index	Asphaltic Concrete	Class II Aggregate Base*	Compacted Subgrade**
4.0	2.0"	4.0"	12.0"
4.5	2.5"	4.0"	12.0"
5.0	2.5"	4.0"	12.0"
5.5	3.0"	4.0"	12.0"
6.0	3.0"	5.0"	12.0"
6.5	3.5"	5.0"	12.0"
7.0	4.0"	5.5"	12.0"
7.5	4.0"	6.5"	12.0"

**** 95% compaction based on ASTM Test Method D1557 or CAL 216***
***** 90% compaction based on ASTM Test Method D1557 or CAL 216***

If traffic indices are not available, an estimated (typical value) index of 4.5 may be used for light automobile traffic, and an index of 7.0 may be used for light truck traffic.

The following recommendations are for light-duty and heavy-duty Portland Cement Concrete Pavement Sections based on the design procedures developed by the Portland Cement Association.

PORTLAND CEMENT PAVEMENT
LIGHT DUTY

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
4.5	5.0"	4.0"	12.0"

HEAVY DUTY

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
7.0	6.5"	4.0"	12.0"

**** 95% compaction based on ASTM Test Method D1557 or CAL 216***
***** 90% compaction based on ASTM Test Method D1557 or CAL 216***
******Minimum compressive strength of 3000 psi***

Seismic Parameters – 2016 California Building Code

The Site Class per Section 1613 of the 2016 California Building Code (2016 CBC) and Table 20.3-1 of ASCE 7-10 is based upon the site soil conditions. It is our opinion that a Site Class D is most consistent with the subject site soil conditions. For seismic design of the structures based on the seismic provisions of the 2016 CBC, we recommend the following parameters:

Seismic Item	Value	CBC Reference
Site Class	D	Section 1613.3.2
Site Coefficient F_a	1.000	Table 1613.3.3 (1)
S_s	1.359	Section 1613.3.1
S_{MS}	1.359	Section 1613.3.3
S_{DS}	0.906	Section 1613.3.4
Site Coefficient F_v	1.544	Table 1613.3.3 (2)
S_1	0.456	Section 1613.3.1
S_{M1}	0.704	Section 1613.3.3
S_{D1}	0.469	Section 1613.3.4

Soil Cement Reactivity

Excessive sulfate in either the soil or native water may result in an adverse reaction between the cement in concrete (or stucco) and the soil. HUD/FHA and CBC have developed criteria for evaluation of sulfate levels and how they relate to cement reactivity with soil and/or water.

Soil samples were obtained from the site and tested in accordance with State of California Materials Manual Test Designation 417. The sulfate concentrations detected from these soil samples were less than 150 ppm and are below the maximum allowable values established by HUD/FHA and CBC. However, it is recommended that a Type II cement be used within the concrete to compensate for sulfate reactivity with the cement.

Compacted Material Acceptance

Compaction specifications are not the only criteria for acceptance of the site grading or other such activities. The compaction test is the most universally recognized test method for assessing the performance of the Grading Contractor. However, the numerical test results from the compaction test cannot be used to predict the engineering performance of the compacted material. Therefore, the acceptance of compacted materials will also be dependent on the stability of that material. The Soils Engineer has the option of rejecting any compacted material regardless of the degree of compaction if that material is considered to be unstable or if future instability is suspected. A specific example of rejection of fill material passing the required percent compaction is a fill which has been compacted with an in-situ moisture content significantly less than optimum moisture. This type of dry fill (brittle fill) is susceptible to future settlement if it becomes saturated or flooded.

Testing and Inspection

A representative of Krazan & Associates, Inc., should be present at the site during the earthwork activities to confirm that actual subsurface conditions are consistent with the exploratory fieldwork. This activity is an integral part of our services as acceptance of earthwork construction is dependent upon compaction testing and stability of the material. This representative can also verify that the intent of these recommendations is incorporated into the project design and construction. Krazan & Associates, Inc., will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

LIMITATIONS

Soils Engineering is one of the newest divisions of Civil Engineering. This branch of Civil Engineering is constantly improving as new technologies and understanding of earth sciences advance. Although your site was analyzed using the most appropriate and most current techniques and methods, undoubtedly there will be substantial future improvements in this branch of engineering. In addition to advancements in the field of Soils Engineering, physical changes in the site, either due to excavation or fill placement, new agency regulations, or possible changes in the proposed structure after the soils report is completed may require the soils report to be professionally reviewed. In light of this, the Owner should be aware that there is a practical limit to the usefulness of this report without critical review. Although the time limit for this review is strictly arbitrary, it is suggested that 2 years be considered a reasonable time for the usefulness of this report.

Foundation and earthwork construction is characterized by the presence of a calculated risk that soil and groundwater conditions have been fully revealed by the original foundation investigation. This risk is derived from the practical necessity of basing interpretations and design conclusions on limited sampling of the earth. The recommendations made in this report are based on the assumption that soil conditions do not vary significantly from those disclosed during our field investigation. If any variations or undesirable conditions are encountered during construction, the Soils Engineer should be notified so that supplemental recommendations may be made.

The conclusions of this report are based on the information provided regarding the proposed construction. If the proposed construction is relocated or redesigned, the conclusions in this report may not be valid. The Soils Engineer should be notified of any changes so the recommendations may be reviewed and re-evaluated.

This report is a Geotechnical Engineering Investigation with the purpose of evaluating the soil conditions in terms of foundation design. The scope of our services did not include any Environmental Site Assessment for the presence or absence of hazardous and/or toxic materials in the soil, groundwater, or atmosphere; or the presence of wetlands. Any statements, or absence of statements, in this report or on any boring log regarding odors, unusual or suspicious items, or conditions observed, are strictly for descriptive purposes and are not intended to convey engineering judgment regarding potential hazardous and/or toxic assessment.

The geotechnical engineering information presented herein is based upon professional interpretation utilizing standard engineering practices and a degree of conservatism deemed proper for this project. It is not warranted that such information and interpretation cannot be superseded by future geotechnical engineering developments. We emphasize that this report is valid for the project outlined above and should not be used for any other sites.

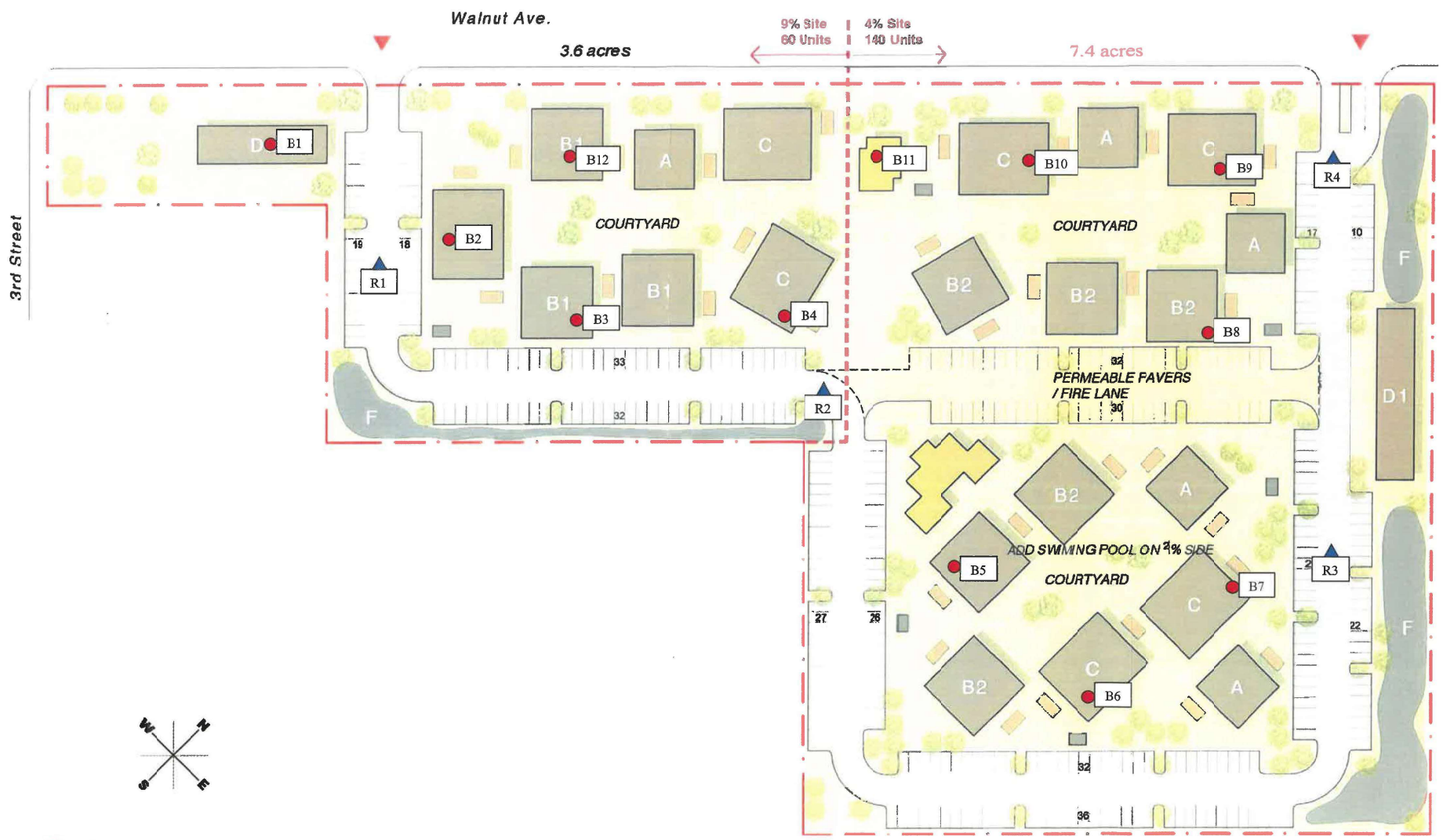
If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (559) 348-2200.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Steve Nelson
Project Engineer

David R. Jarosz, II
Managing Engineer
RGE No. 2698/RCE No. 60185

SN/DRJ:ht



APPROXIMATE BORING LOCATION

APPROXIMATE R-VALUE LOCATION

SITE MAP	Scale: NTS	Date: March 2019	Krazan GEOTECHNICAL ENGINEERING
Multi-Family Development 41206 Walnut Avenue Greenfield, California	Drawn by: HT	Approved by: DJ	
	Project No. 012-19020	Figure No. 1	

APPENDIX A

FIELD AND LABORATORY INVESTIGATIONS

Field Investigation

The field investigation consisted of a surface reconnaissance and a subsurface exploratory program. Twelve 4½-inch diameter exploratory borings were advanced. The boring locations are shown on the site plan.

The soils encountered were logged in the field during the exploration and, with supplementary laboratory test data, are described in accordance with the Unified Soil Classification System.

Modified standard penetration tests were performed at selected depths. This test represents the resistance to driving a 2 ½-inch diameter split barrel sampler. The driving energy was provided by a hammer weighing 140 pounds falling 30 inches. Relatively undisturbed soil samples were obtained while performing this test. Bag samples of the disturbed soil were obtained from the auger cuttings. All samples were returned to our Clovis laboratory for evaluation.

Laboratory Investigation

The laboratory investigation was programmed to determine the physical and mechanical properties of the foundation soil underlying the site. Test results were used as criteria for determining the engineering suitability of the surface and subsurface materials encountered.

In-situ moisture content, dry density, consolidation, direct shear, and sieve analysis tests were completed for the undisturbed samples representative of the subsurface material. Atterberg limits, expansion index and R-value tests were completed for select bag samples obtained from the auger cuttings. These tests, supplemented by visual observation, comprised the basis for our evaluation of the site material.

The logs of the exploratory borings and laboratory determinations are presented in this Appendix.

UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)	GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)	SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

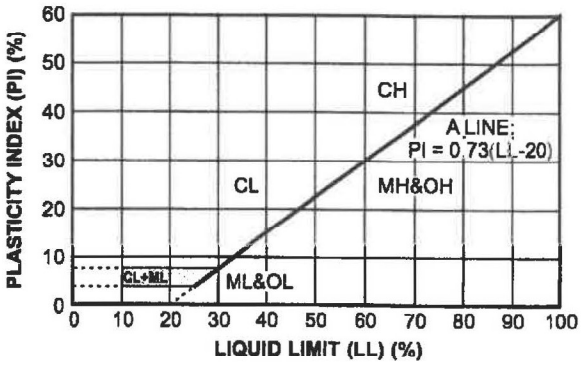
CONSISTENCY CLASSIFICATION

Description	Blows per Foot
Granular Soils	
Very Loose	< 5
Loose	5 – 15
Medium Dense	16 – 40
Dense	41 – 65
Very Dense	> 65
Cohesive Soils	
Very Soft	< 3
Soft	3 – 5
Firm	6 – 10
Stiff	11 – 20
Very Stiff	21 – 40
Hard	> 40

GRAIN SIZE CLASSIFICATION

Grain Type	*Standard Sieve Size*	*Grain Size in Millimeters*
Boulders	Above 12 inches	Above 305
Cobbles	12 to 13 inches	305 to 76.2
Gravel	3 inches to No. 4	76.2 to 4.76
Coarse-grained	3 to ¾ inches	76.2 to 19.1
Fine-grained	¾ inches to No. 4	19.1 to 4.76
Sand	No. 4 to No. 200	4.76 to 0.074
Coarse-grained	No. 4 to No. 10	4.76 to 2.00
Medium-grained	No. 10 to No. 40	2.00 to 0.042
Fine-grained	No. 40 to No. 200	0.042 to 0.074
Silt and Clay	Below No. 200	Below 0.074

PLASTICITY CHART



Log of Boring B1

Project: Multi-Family Development

Project No: 012-19020

Client: EAH Housing, Inc.

Figure No.: A-1

Location: 41206 Walnut Avenue, Greenfield, California

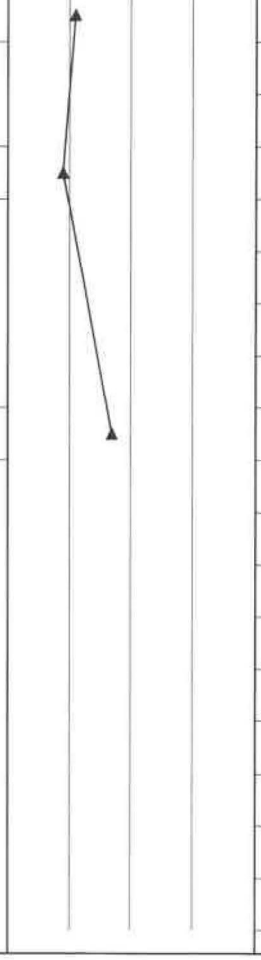
Logged By: Dave Adams

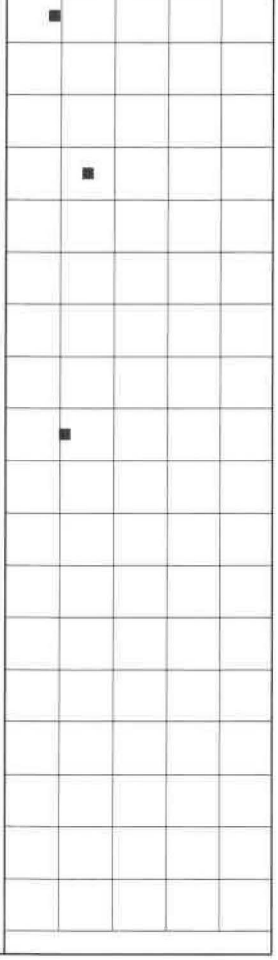
Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
2		***SILTY SAND (SM)*** Very loose, fine- to coarse-grained with trace GRAVEL; brown, moist, drills easily. Loose below 1 foot	112.8	8.8		22
4		***SANDY CLAYEY SILT (ML)*** Very stiff, fine- to medium-grained; brown, moist, drills easily				
6		***GRAVELLY SAND (SP)*** Medium dense, fine- to coarse-grained with trace COBBLES; brown, moist, drills firmly	108.2	15.1		18
8		***SANDY GRAVEL (GP)*** Medium dense, fine- to coarse-grained with trace COBBLES; brown, moist, drills firmly				
10		With increased COBBLES and drills hard below 11 feet	106.8	10.9		34
12		Auger refusal at 13 feet				
		End of Borehole				
14						
16						
18						
20						





Drill Method: Solid Flight

Drill Date: 2-26-19

Drill Rig: CME 45C-4

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 13 Feet

Sheet: 1 of 1

Log of Boring B2

Project: Multi-Family Development

Project No: 012-19020

Client: EAH Housing, Inc.

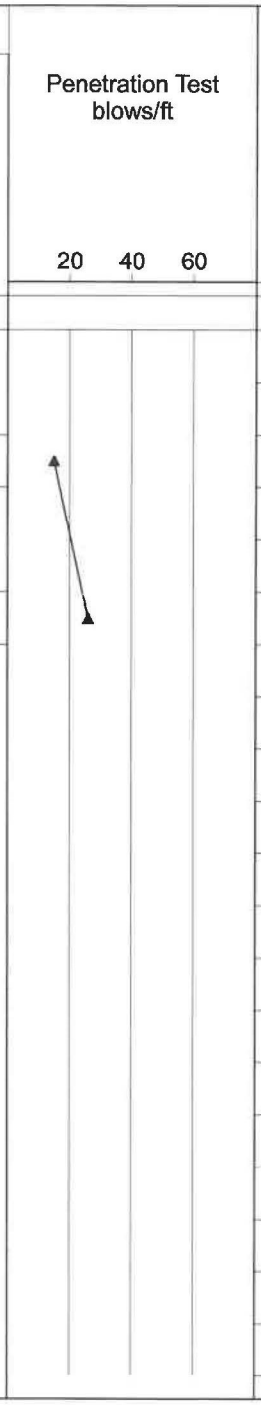
Figure No.: A-2

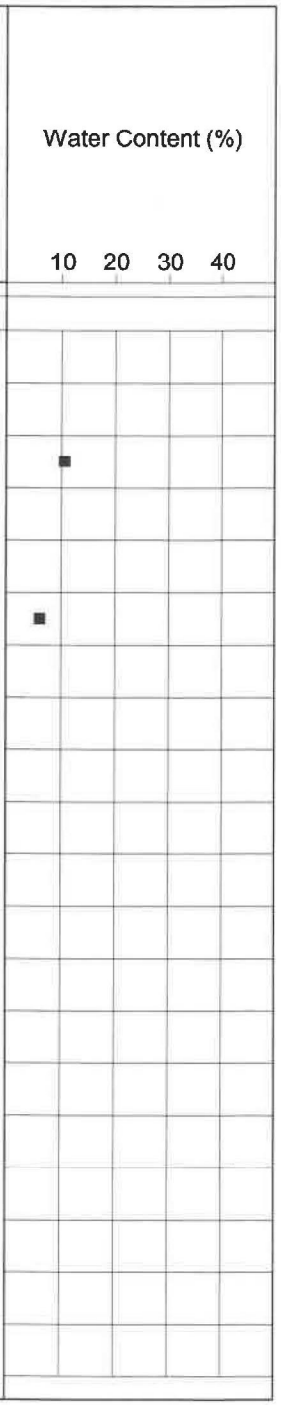
Location: 41206 Walnut Avenue, Greenfield, California

Logged By: Dave Adams

Depth to Water> **Initial:** None **At Completion:** None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to coarse-grained with trace GRAVEL and CLAY; brown, moist, drills easily				
2		Loose below 1 foot	110.4	10.6		15
2		***GRAVELLY SAND (SP)*** Medium dense, fine- to coarse-grained; brown, moist, drills firmly				
4		With COBBLES and drills hard below 5 feet	111.7	6.2		26
6						
8		Auger refusal at 8 feet				
8		End of Borehole				
10						
12						
14						
16						
18						
20						





Drill Method: Solid Flight

Drill Date: 2-26-19

Drill Rig: CME 45C-4

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 8 Feet

Sheet: 1 of 1

Log of Boring B3

Project: Multi-Family Development

Project No: 012-19020

Client: EAH Housing, Inc.

Figure No.: A-3

Location: 41206 Walnut Avenue, Greenfield, California

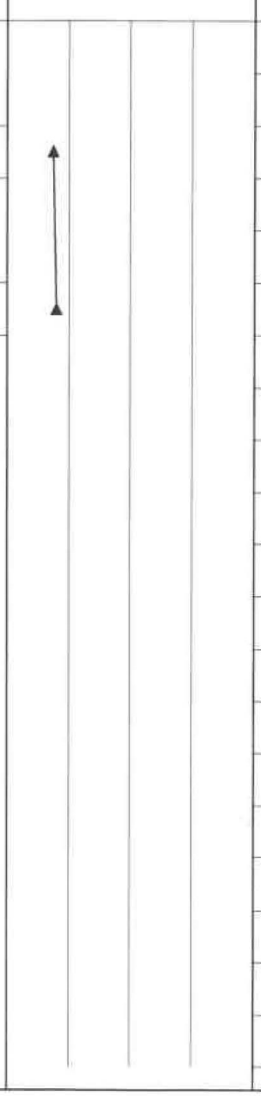
Logged By: Dave Adams

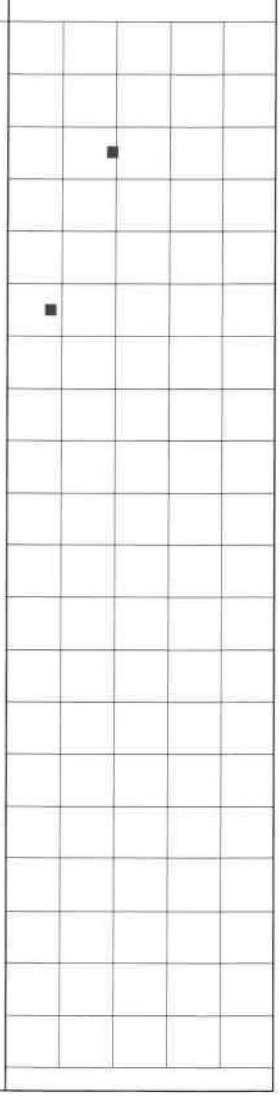
Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SANDY SILT (ML)*** Very loose, fine- to coarse-grained with trace CLAY and GRAVEL; brown, moist, drills easily				
2		Loose below 1 foot	92.9	19.4	■	15
2		***SILTY SAND (SM)*** Medium dense, fine- to coarse-grained with GRAVEL and CLAY; brown, damp, drills easily				
4						
6		***GRAVELLY SAND (SP)*** Medium dense, fine- to coarse-grained; brown, damp, drills easily	99.4	8.0	■	16
8		With trace COBBLES and drills hard below 8 feet Auger refusal at 9 feet				
10		End of Borehole				
12						
14						
16						
18						
20						





Drill Method: Solid Flight

Drill Date: 2-26-19

Drill Rig: CME 45C-4

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 9 Feet

Sheet: 1 of 1

Log of Boring B4

Project: Multi-Family Development

Project No: 012-19020

Client: EAH Housing, Inc.

Figure No.: A-4

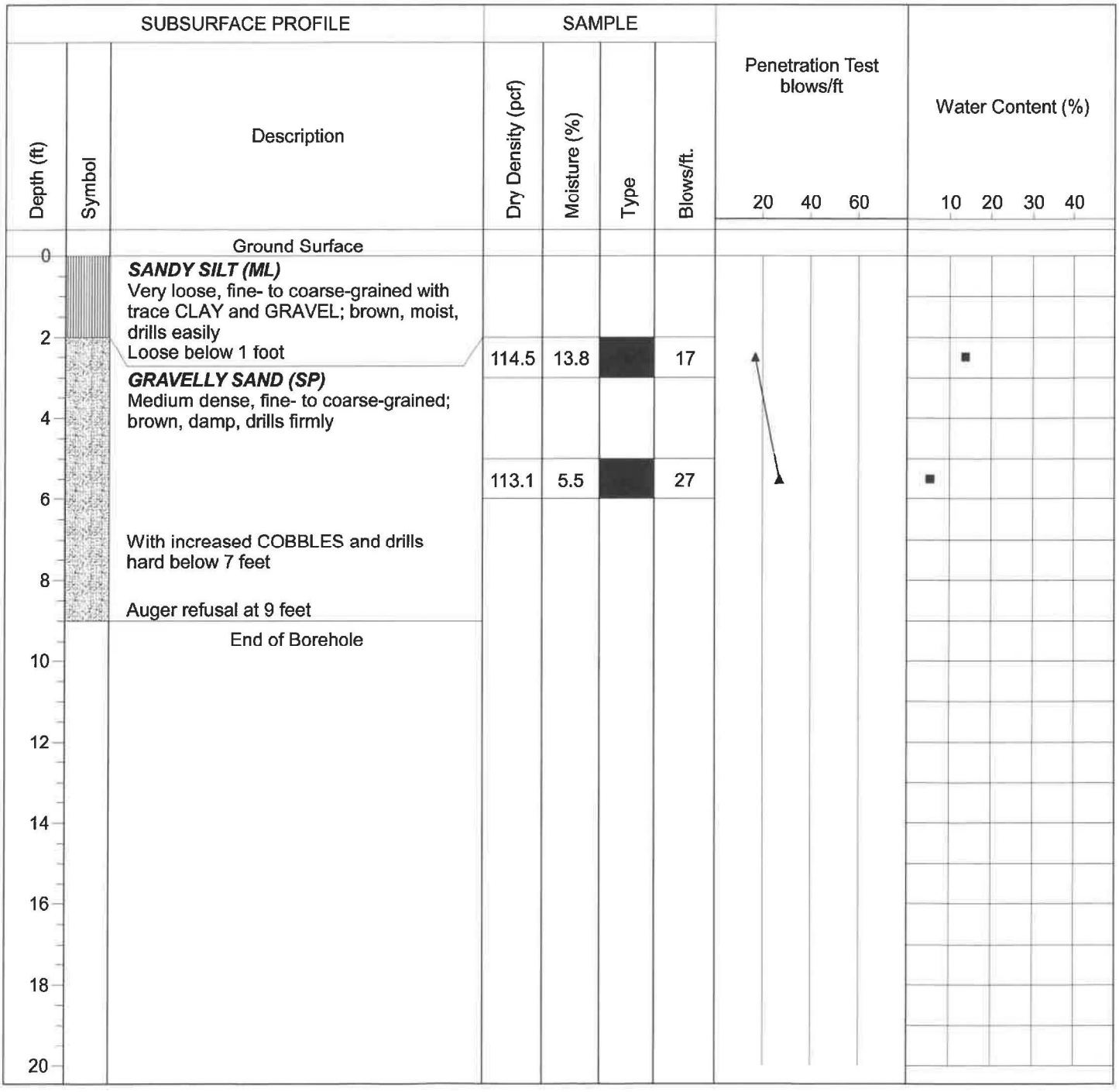
Location: 41206 Walnut Avenue, Greenfield, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None



Drill Method: Solid Flight

Drill Date: 2-26-19

Drill Rig: CME 45C-4

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 9 Feet

Sheet: 1 of 1

Log of Boring B5

Project: Multi-Family Development

Project No: 012-19020

Client: EAH Housing, Inc.

Figure No.: A-5

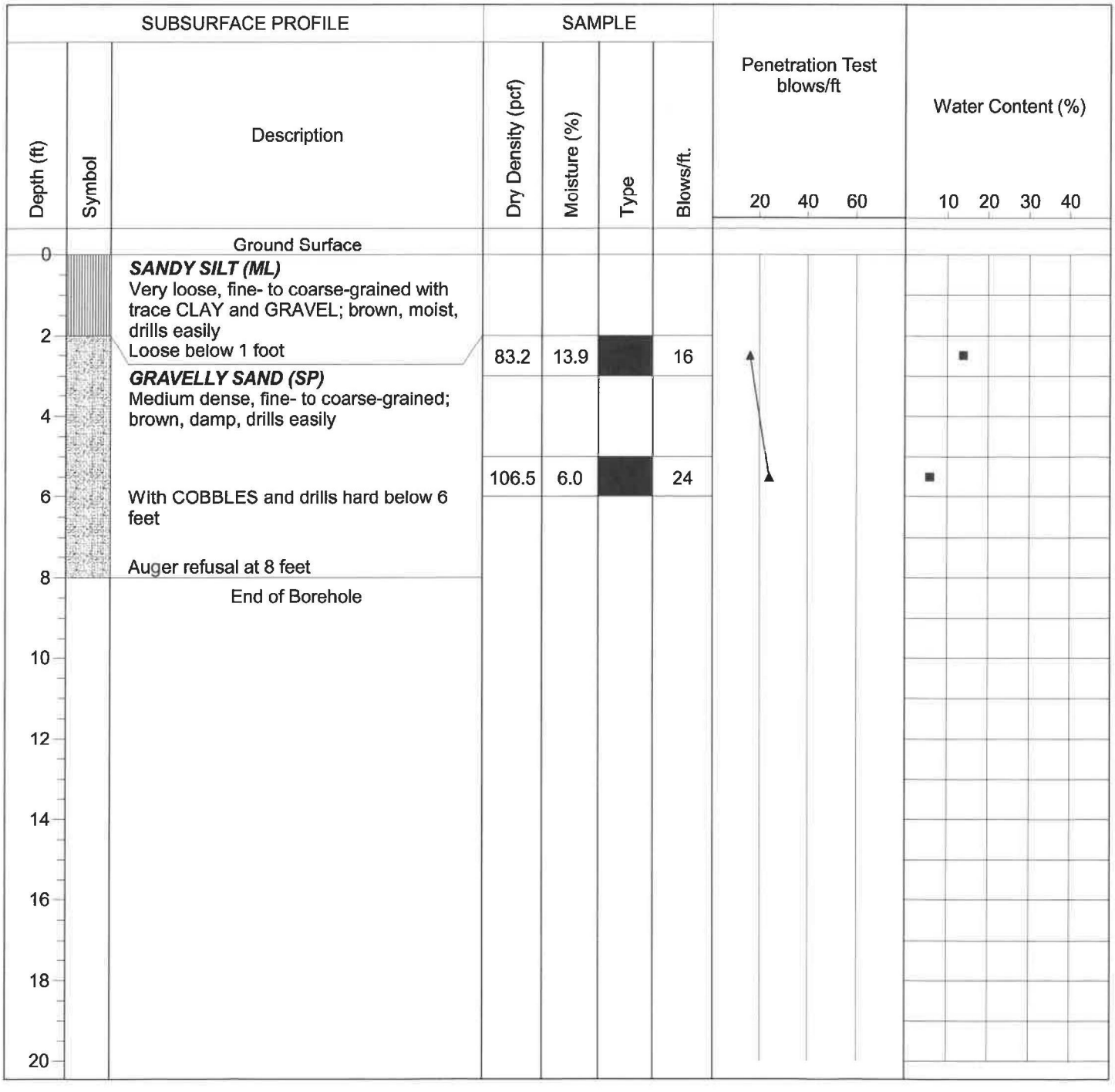
Location: 41206 Walnut Avenue, Greenfield, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None



Drill Method: Solid Flight

Drill Date: 2-26-19

Drill Rig: CME 45C-4

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 8 Feet

Sheet: 1 of 1

Log of Boring B6

Project: Multi-Family Development

Project No: 012-19020

Client: EAH Housing, Inc.

Figure No.: A-6

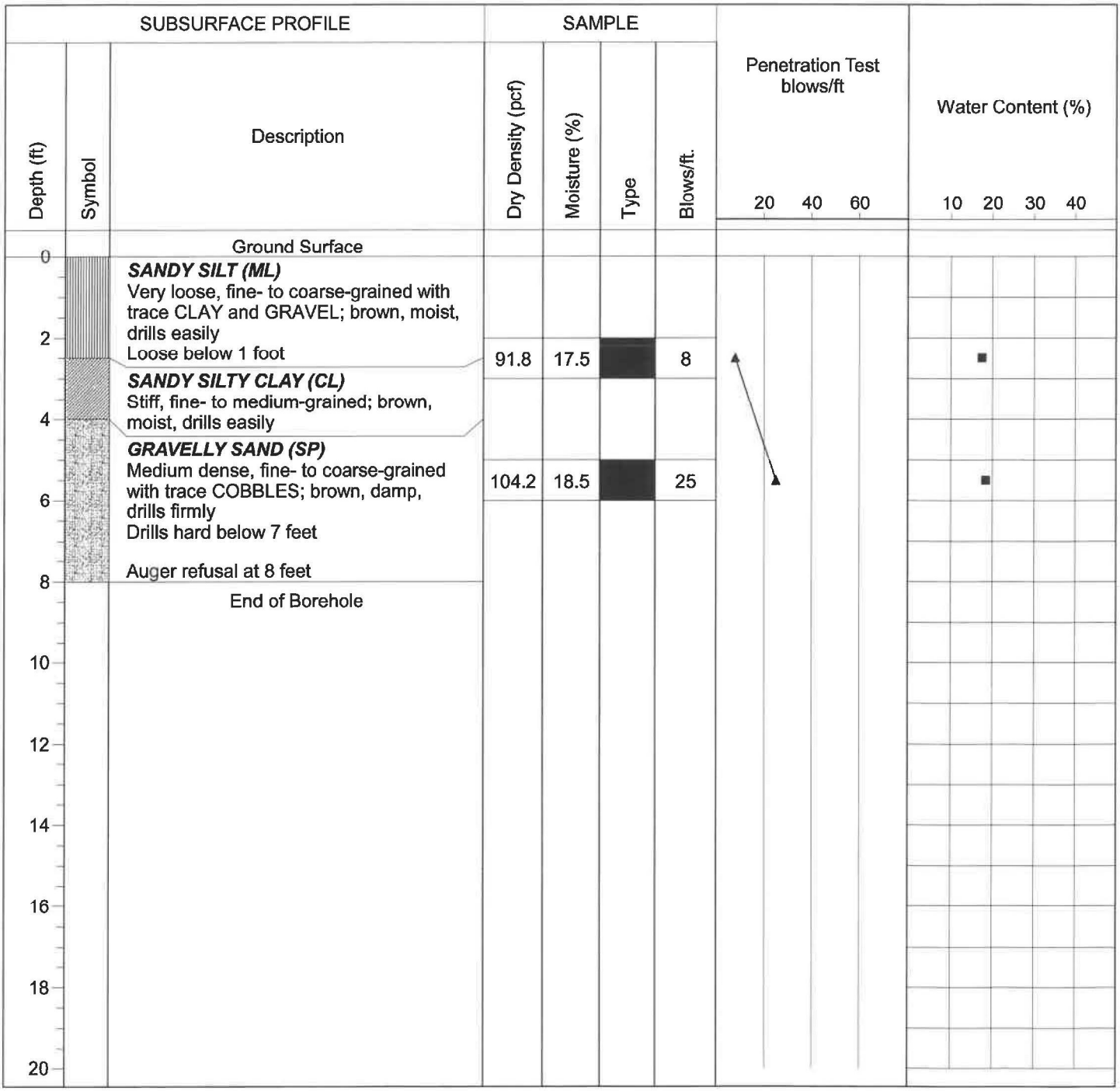
Location: 41206 Walnut Avenue, Greenfield, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None



Drill Method: Solid Flight

Drill Date: 2-26-19

Drill Rig: CME 45C-4

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 8 Feet

Sheet: 1 of 1

Log of Boring B7

Project: Multi-Family Development | **Project No:** 012-19020

Client: EAH Housing, Inc. | **Figure No.:** A-7

Location: 41206 Walnut Avenue, Greenfield, California | **Logged By:** Dave Adams

Depth to Water> | **Initial:** None | **At Completion:** None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		Ground Surface				
0		***SANDY SILT (ML)*** Very loose, fine- to coarse-grained with trace CLAY and GRAVEL; brown, moist, drills easily				
2		***SANDY SILTY CLAY (CL)*** Stiff, fine- to medium-grained; brown, moist, drills easily	108.1	13.8		12
4		***GRAVELLY SAND (SP)*** Medium dense, fine- to coarse-grained with trace COBBLES; brown, moist, drills easily	99.9	5.5		18
6		With increased COBBLES and drills hard below 7 feet				
8		Auger refusal at 9 feet				
		End of Borehole				
10						
12						
14						
16						
18						
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Solid Flight | **Drill Date:** 2-26-19

Drill Rig: CME 45C-4 | **Krazan and Associates** | **Hole Size:** 4½ Inches

Driller: Jim Watts | **Elevation:** 9 Feet

Sheet: 1 of 1

Log of Boring B8

Project: Multi-Family Development

Project No: 012-19020

Client: EAH Housing, Inc.

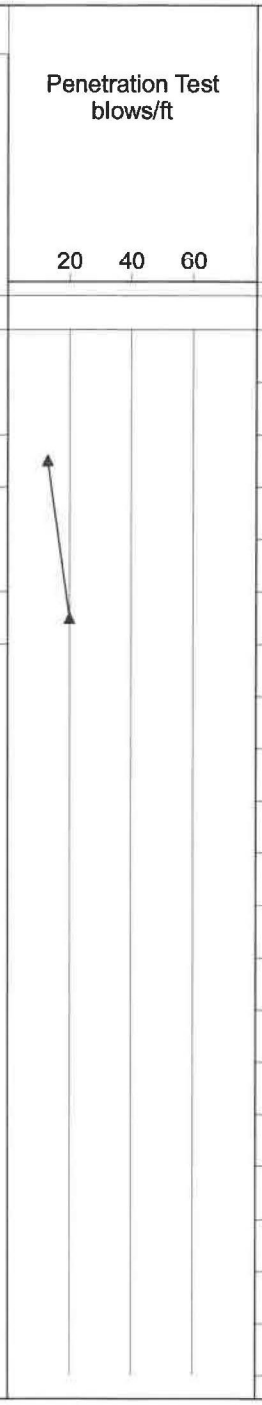
Figure No.: A-8

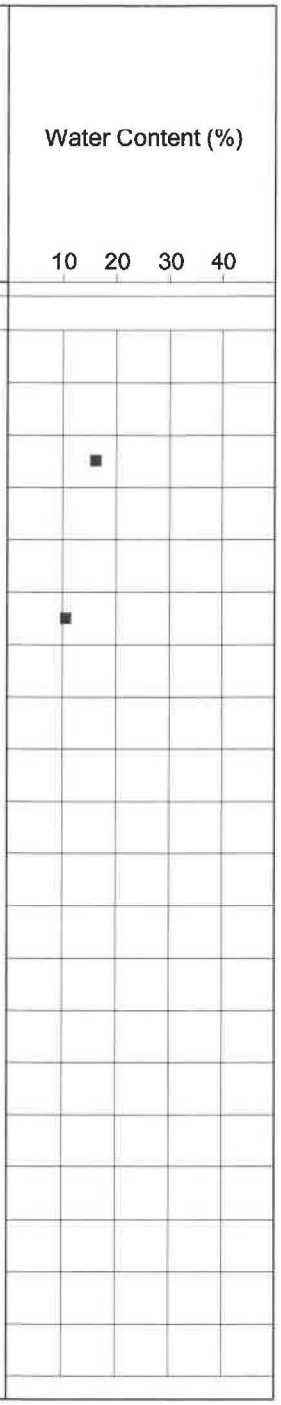
Location: 41206 Walnut Avenue, Greenfield, California

Logged By: Dave Adams

Depth to Water> **Initial:** None **At Completion:** None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SANDY SILTY CLAY (CL)*** Soft, fine- to medium-grained; brown, moist, drills easily Firm below 12 inches				
2			114.1	16.2		13
2		***SILTY SAND (SM)*** Loose, fine- to medium-grained with trace GRAVEL; brown, moist, drills easily				
4		***SAND (SP)*** Medium dense, fine- to coarse-grained with trace GRAVEL and COBBLES; light brown, damp, drills easily	97.4	10.7		20
6						
8		Auger refusal at 8 feet				
8		End of Borehole				
10						
12						
14						
16						
18						
20						





Drill Method: Solid Flight

Drill Rig: CME 45C-4

Driller: Jim Watts

Krazan and Associates

Drill Date: 2-26-19

Hole Size: 4½ Inches

Elevation: 8 Feet

Sheet: 1 of 1

Log of Boring B9

Project: Multi-Family Development

Project No: 012-19020

Client: EAH Housing, Inc.

Figure No.: A-9

Location: 41206 Walnut Avenue, Greenfield, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		Ground Surface				
0		***SANDY SILTY CLAY (CL)*** Soft, fine- to medium-grained; brown, moist, drills easily				
2		Firm below 12 inches ***GRAVELLY SAND (SP)*** Medium dense, fine- to coarse-grained with trace COBBLES; brown, moist, drills easily	108.2	13.2		28
4						
6		With increased COBBLES and drills hard below 6 feet	102.4	6.7		24
8		Auger refusal at 8 feet End of Borehole				
10						
12						
14						
16						
18						
20						

SUBSURFACE PROFILE

SAMPLE

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Solid Flight

Drill Date: 2-26-19

Drill Rig: CME 45C-4

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 8 Feet

Sheet: 1 of 1

Log of Boring B10

Project: Multi-Family Development

Project No: 012-19020

Client: EAH Housing, Inc.

Figure No.: A-10

Location: 41206 Walnut Avenue, Greenfield, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
0		Ground Surface						
		SANDY SILTY CLAY (CL) Soft, fine- to medium-grained with trace GRAVEL; brown, moist, drills easily						
2		Firm below 12 inches Stiff below 2 feet	107.7	15.5		12		■
4		***GRAVELLY SAND (SP)*** Medium dense, fine- to coarse-grained with trace COBBLES; brown, damp, drills firmly						
6			97.3	17.9		26		■
8		With increased COBBLES and drills hard below 7 feet Auger refusal at 9 feet						
10		End of Borehole						
12								
14								
16								
18								
20								

Drill Method: Solid Flight

Drill Rig: CME 45C-4

Driller: Jim Watts

Krazan and Associates

Drill Date: 2-26-19

Hole Size: 4½ Inches

Elevation: 9 Feet

Sheet: 1 of 1

Log of Boring B11

Project: Multi-Family Development

Project No: 012-19020

Client: EAH Housing, Inc.

Figure No.: A-11

Location: 41206 Walnut Avenue, Greenfield, California

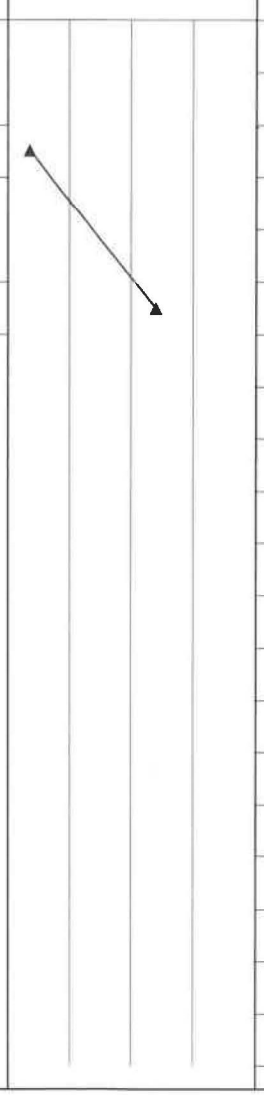
Logged By: Dave Adams

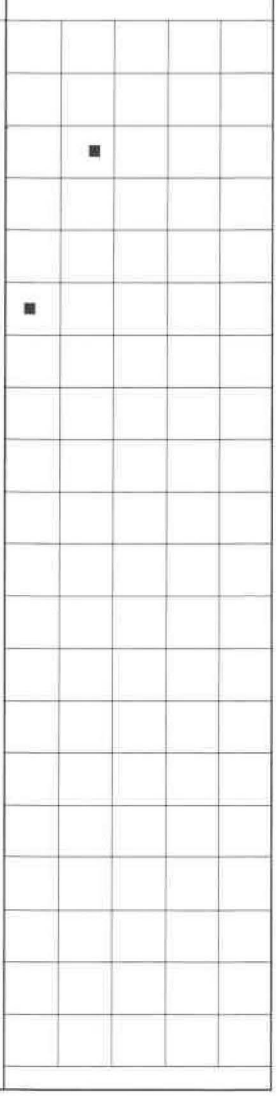
Depth to Water>

Initial: None

At Completion: None

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		Ground Surface				
0		***SANDY CLAYEY SILT (ML)*** Soft, fine- to medium-grained; brown, moist, drills easily Firm below 12 inches				
2			98.9	16.4		7
4		***GRAVELLY SAND (SP)*** Dense, fine- to coarse-grained with COBBLES; brown, damp, drills hard				
6			109.0	4.5		48
		Auger refusal at 7 feet				
		End of Borehole				
8						
10						
12						
14						
16						
18						
20						





Drill Method: Solid Flight

Drill Date: 2-26-19

Drill Rig: CME 45C-4

Krazan and Associates

Hole Size: 4½ Inches

Driller: Jim Watts

Elevation: 7 Feet

Sheet: 1 of 1

Log of Boring B12

Project: Multi-Family Development

Project No: 012-19020

Client: EAH Housing, Inc.

Figure No.: A-12

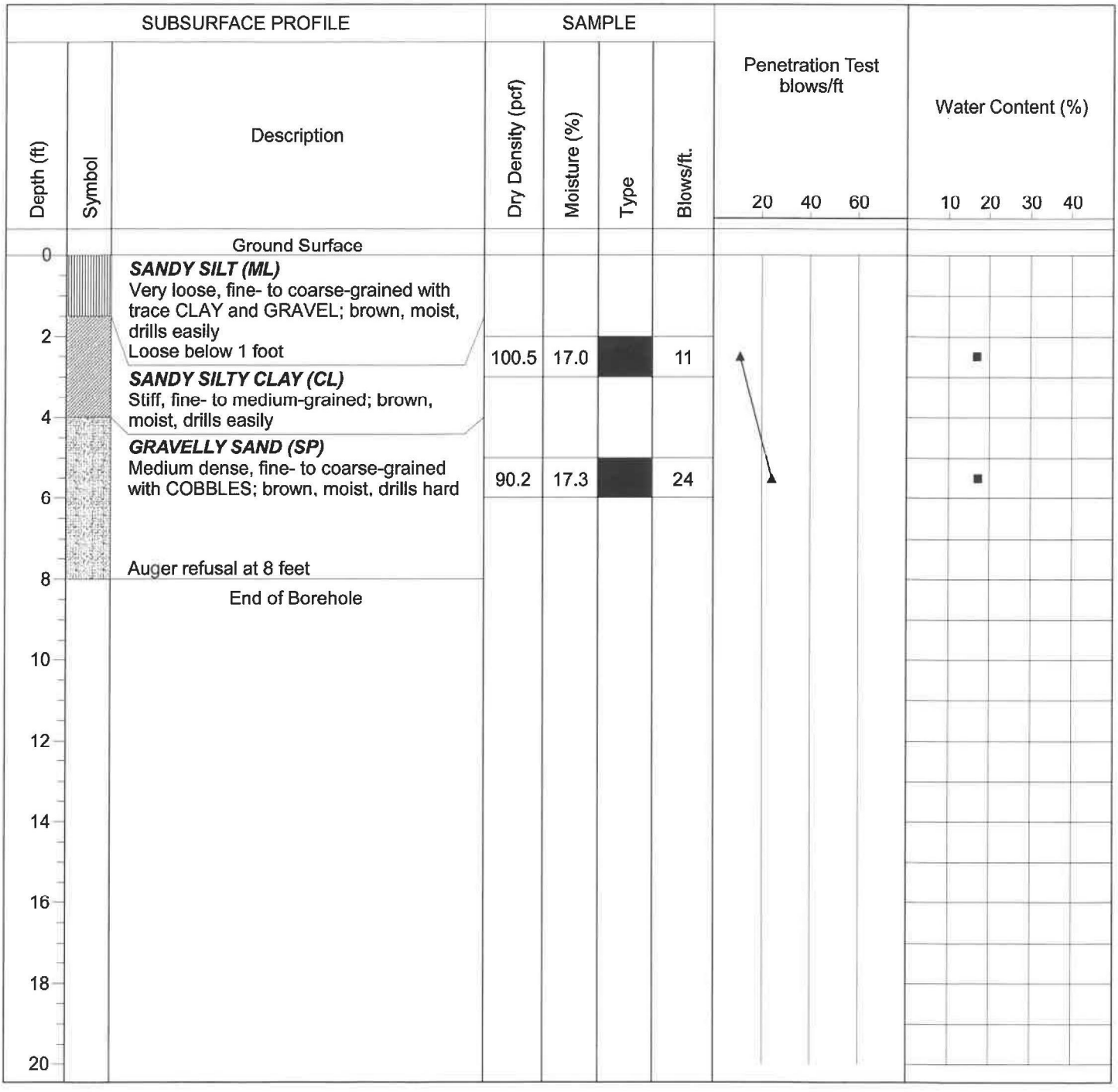
Location: 41206 Walnut Avenue, Greenfield, California

Logged By: Dave Adams

Depth to Water>

Initial: None

At Completion: None



Drill Method: Solid Flight

Drill Date: 2-26-19

Drill Rig: CME 45C-4

Krazan and Associates

Hole Size: 4½ Inches

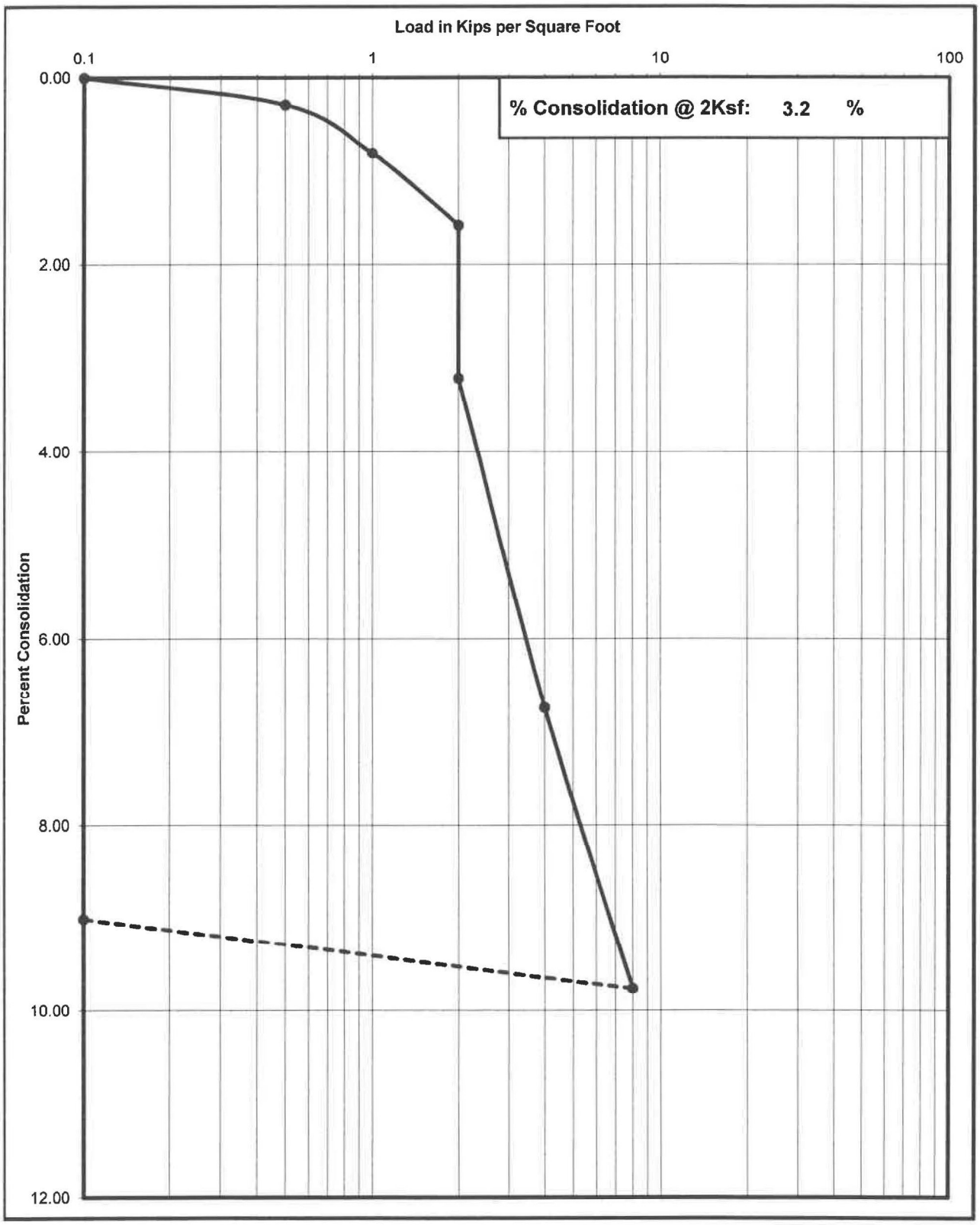
Driller: Jim Watts

Elevation: 8 Feet

Sheet: 1 of 1

Consolidation Test

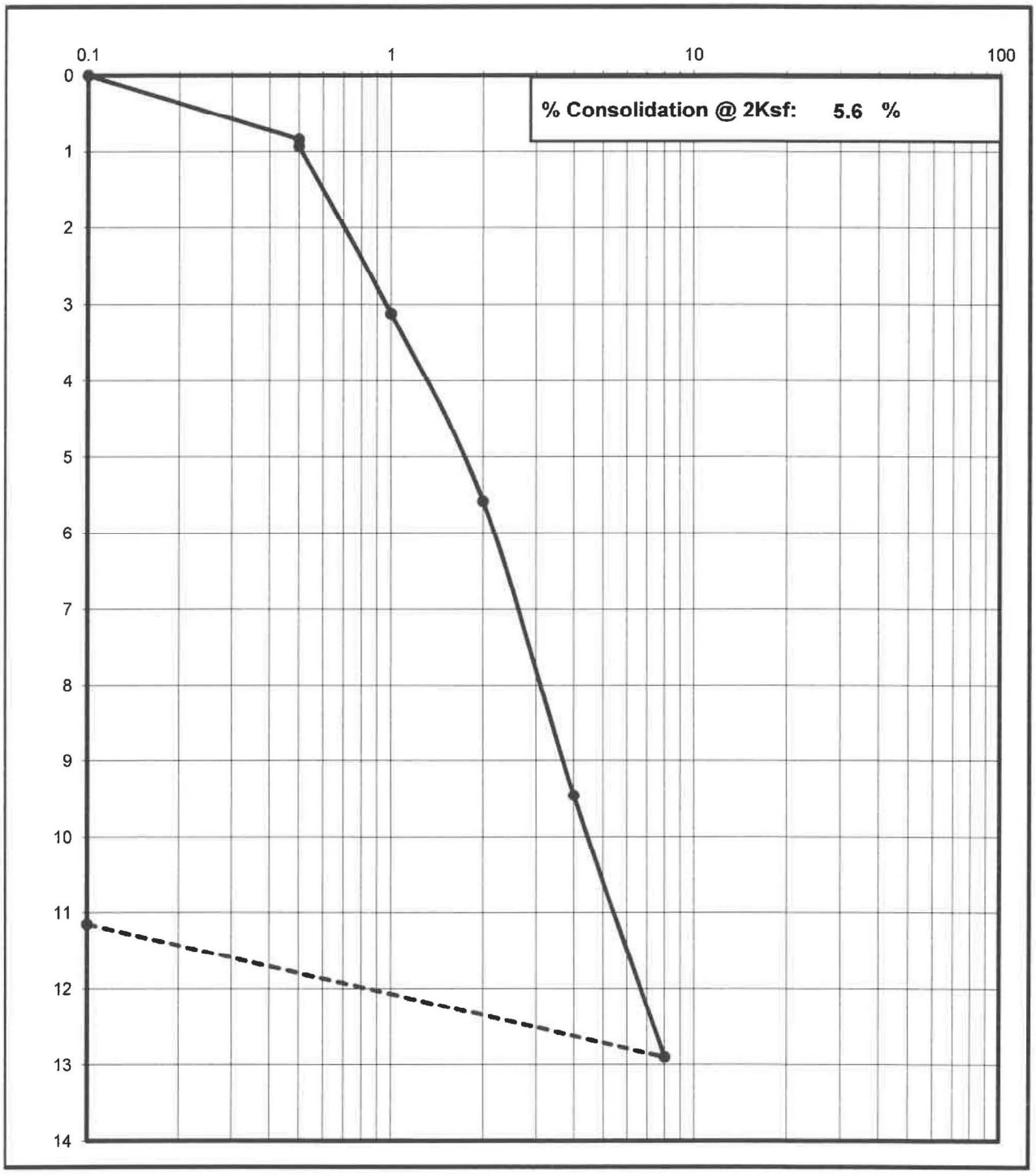
Project No	Boring No. & Depth	Date	Soil Classification
012-19020	B2 @ 2-3'	3/12/2019	SM w/ grvl



Krazan Testing Laboratory

Consolidation Test

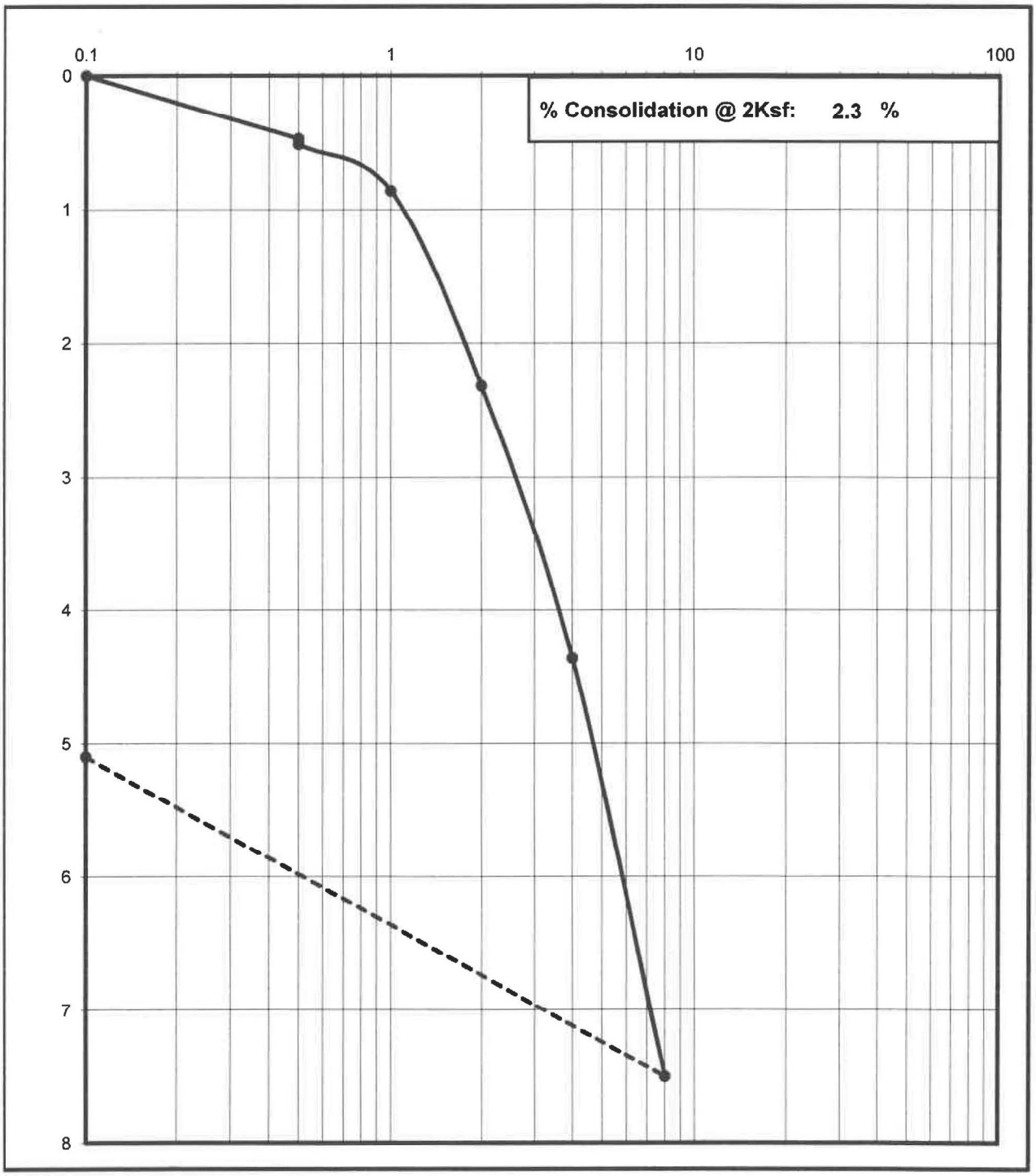
Project No	Boring No. & Depth	Date	Soil Classification
012-19020	B6 @ 2-3'	3/12/2019	ML w/ clay



Krazan Testing Laboratory

Consolidation Test

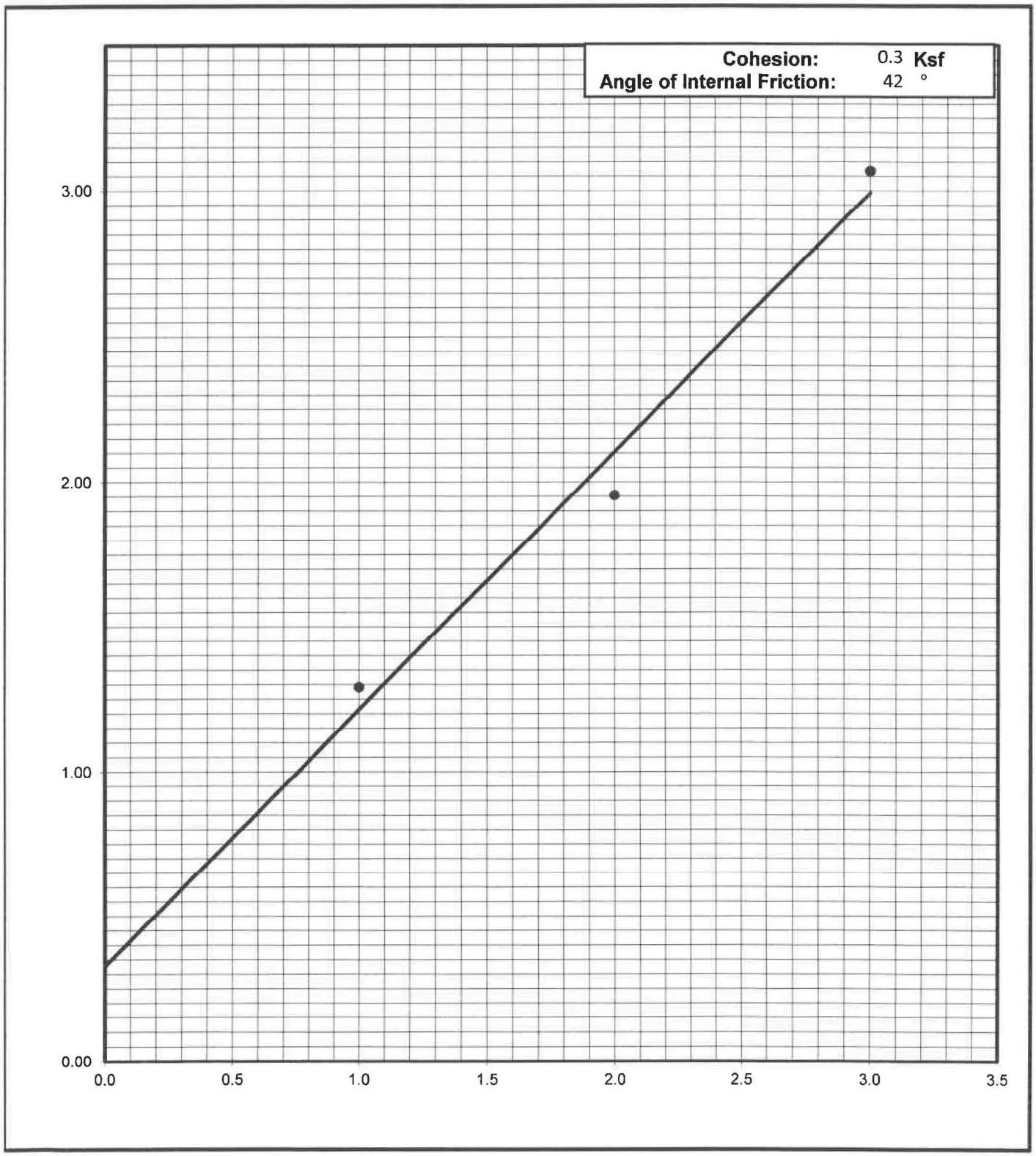
Project No	Boring No. & Depth	Date	Soil Classification
012-19020	B11 @ 2-3'	3/12/2019	ML w/ clay



Krazan Testing Laboratory

Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

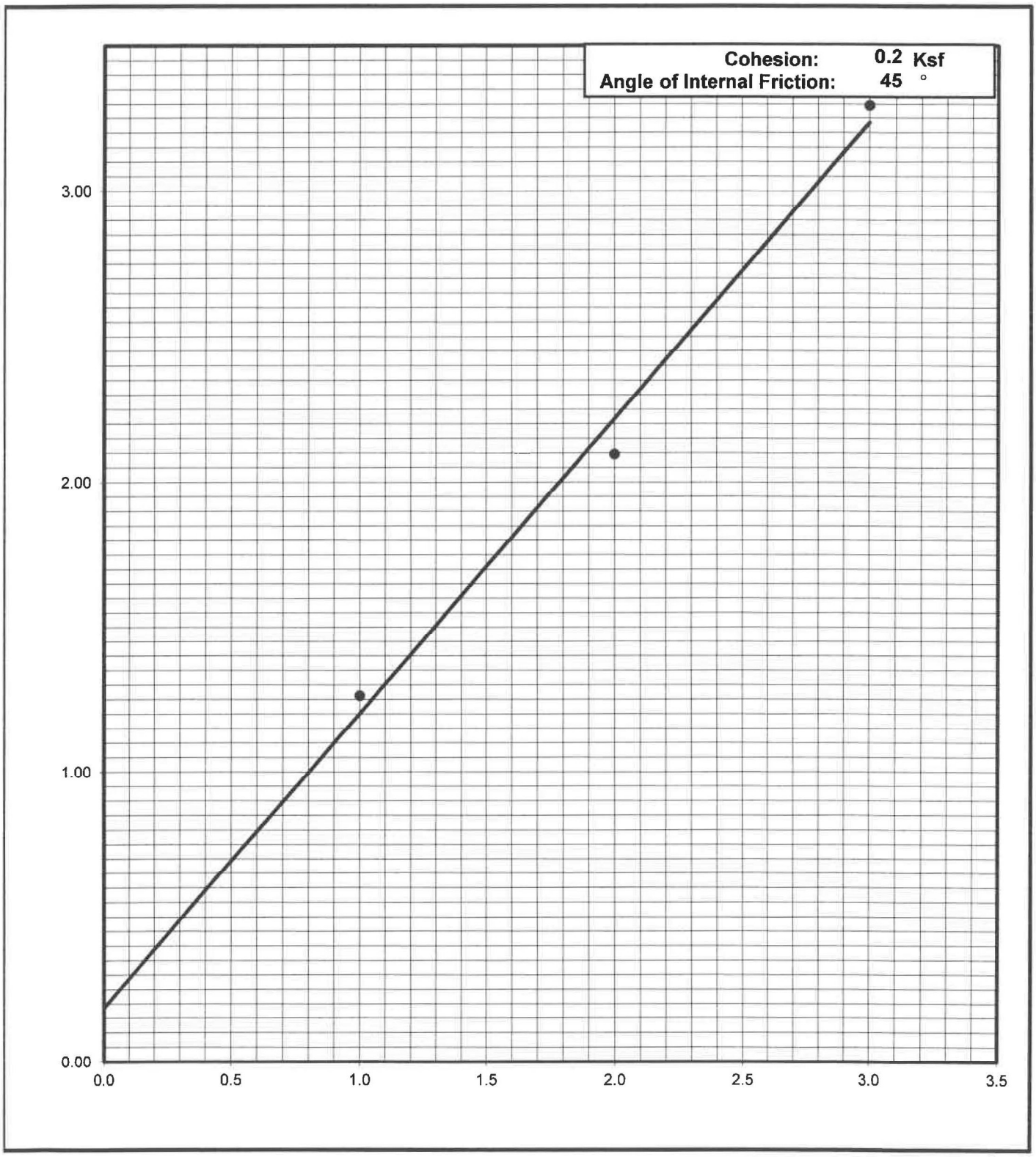
Project Number	Boring No. & Depth	Soil Type	Date
012-19020	B3 @ 2-3'	SM w/ grvl and clay	3/12/2019



Krazan Testing Laboratory

Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

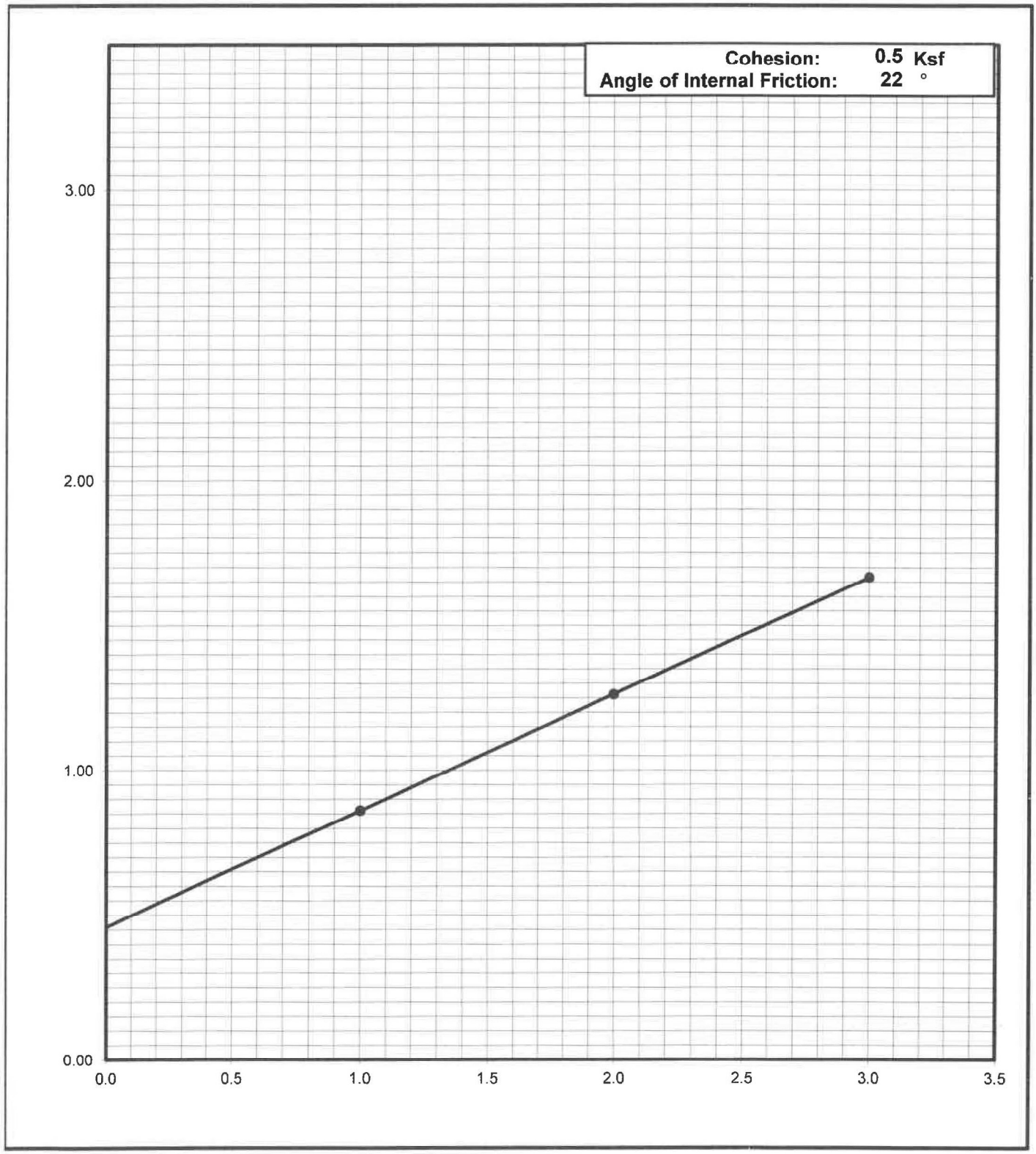
Project Number	Boring No. & Depth	Soil Type	Date
012-19020	B7 @ 5-6'	SP w/ grvl	3/12/2019



Krazan Testing Laboratory

Shear Strength Diagram (Direct Shear)
ASTM D - 3080 / AASHTO T - 236

Project Number	Boring No. & Depth	Soil Type	Date
012-19020	B10 @ 2-3'	CL	3/12/2019



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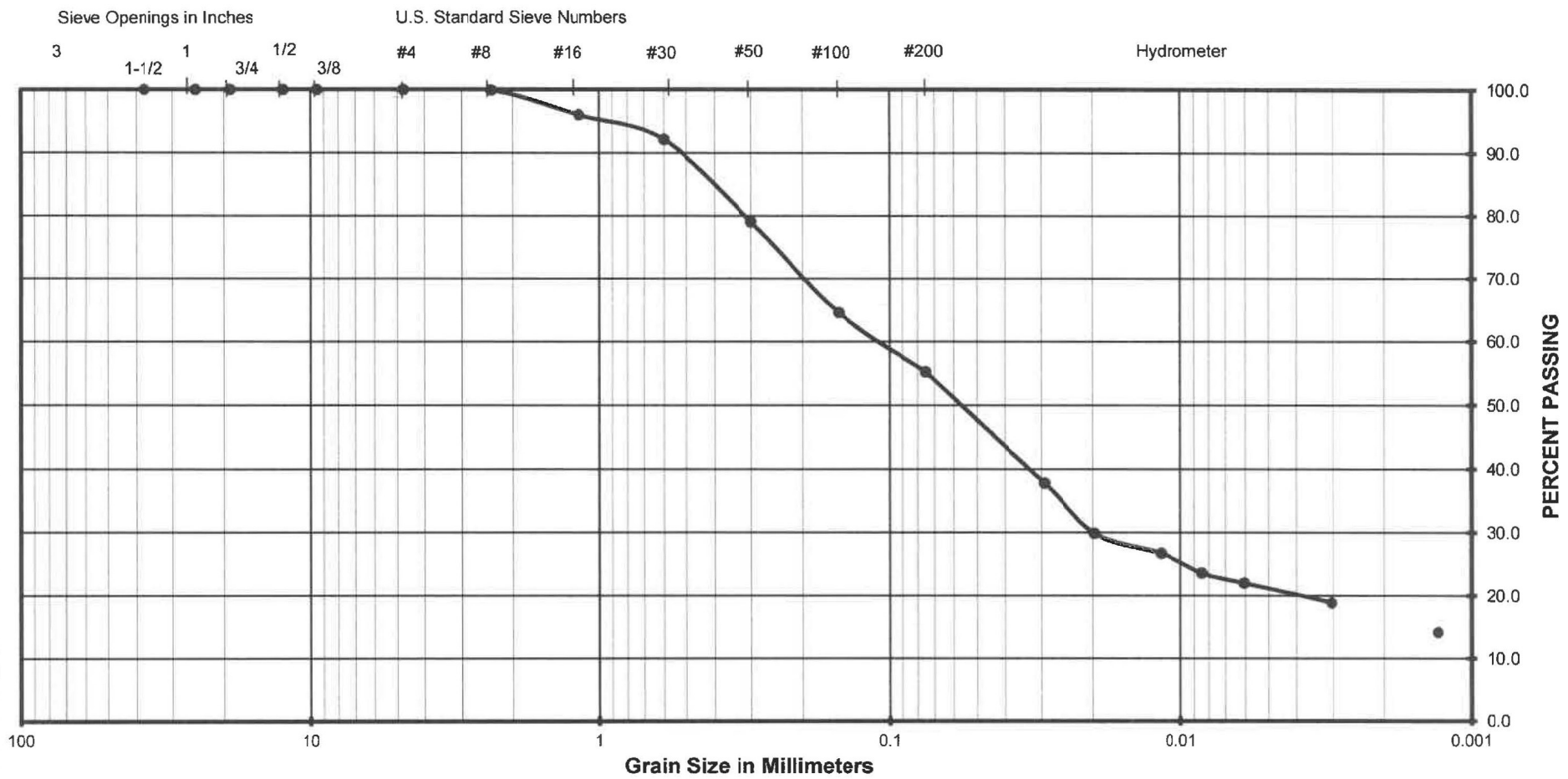
Grain Size Analysis



(Unified Soils Classification)

Project Name	Multi-Family Development
Project Number	012-19020
Soil Classification	ML w/ trc clay
Sample Number	B1 @ 2-3'

Krazan Testing Laboratory

Hydrometer Anaylsis

Project Number	: 012-19020
Project Name	: Multi-Family Development
Date	: 3/12/2019
Sample Location	: B1 @ 2-3'
Soil Classification	: ML w/ trc clay

Dry Weight Used	102.2 g
Temperature	20.0 C
Soil Specific Gravity	2.65
Solution Spec. Grav.	1.003
K Value	0.01365
Correction Factor	0.00000

Elapsed Time (min)	Hydro. Reading	Hydro. Corrected	% Passing	Particle Diameter
2	1.027	1.027	37.8	0.0293
5	1.022	1.022	29.9	0.0198
15	1.02	1.02	26.8	0.0117
30	1.018	1.018	23.6	0.0085
60	1.017	1.017	22.0	0.0061
250	1.015	1.015	18.9	0.0030
1440	1.012	1.012	14.2	0.0013

Particle Diameter	Percent Passing
0.005	20.9
0.002	16.1
0	NA

Krazan Testing Laboratory

Sieve Analysis

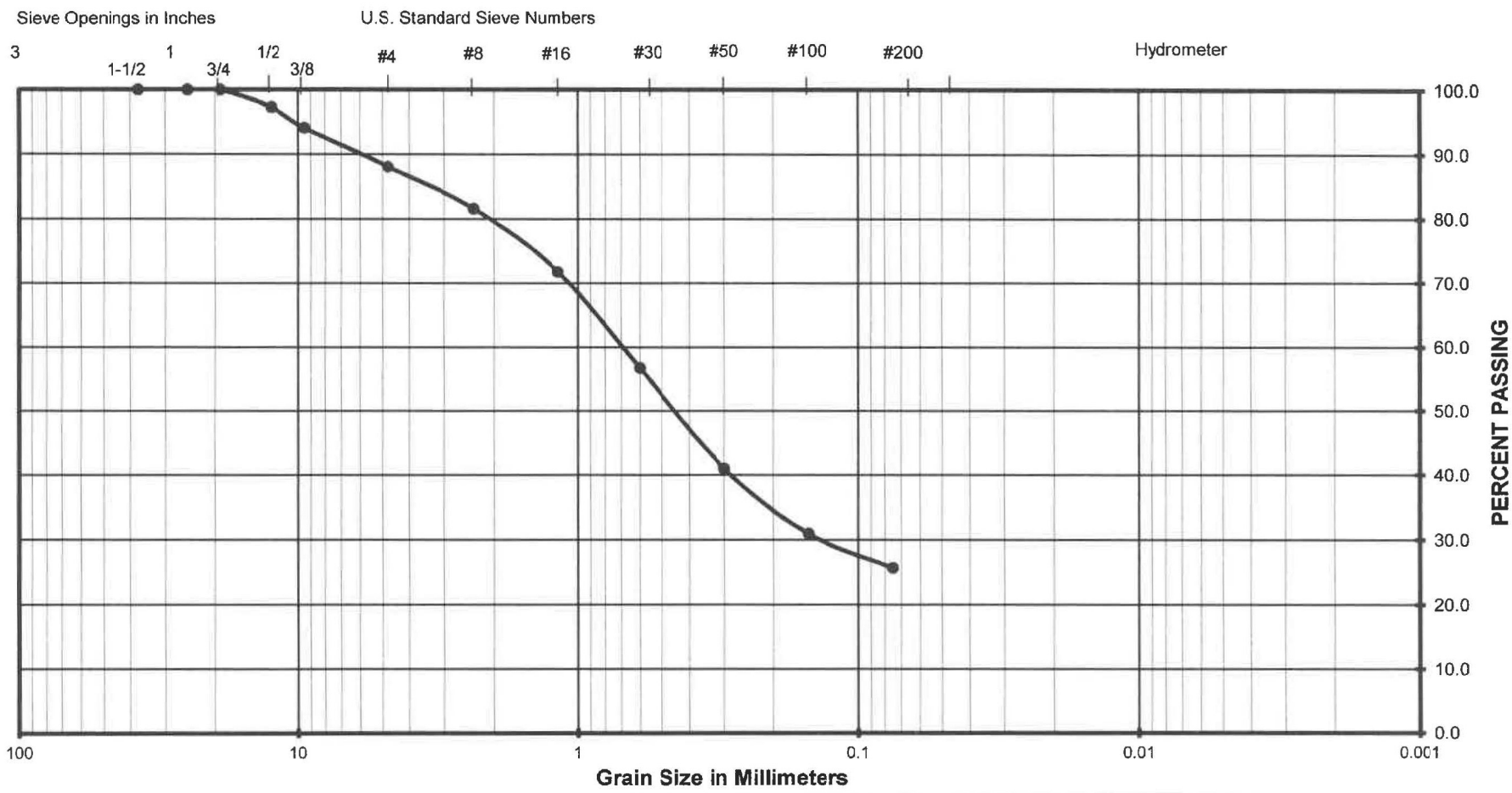
Project Number : 012-19020
Project Name : Multi-Family Development
Date : 3/12/2019
Sample Location : B1 @ 2-3'
Soil Classification : ML w/ trc clay

Wet Weight	:	215.00
Dry Weight	:	200.00
Moisture Content	:	8%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50				100.0
#4	4.75				100.0
#8	2.36	0.2	0.1	0.1	99.9
#16	1.18	7.7	3.9	4.0	96.1
#30	0.60	7.8	3.9	7.9	92.2
#50	0.30	26.2	13.1	21.0	79.1
#100	0.15	28.9	14.5	35.4	64.6
#200	0.08	18.7	9.4	44.8	55.3

Krazan Testing Laboratory

Grain Size Analysis



(Unified Soils Classification)

Project Name	Multi-Family Development
Project Number	012-19020
Soil Classification	SM w/ grvl
Sample Number	B2 @ 2-3'

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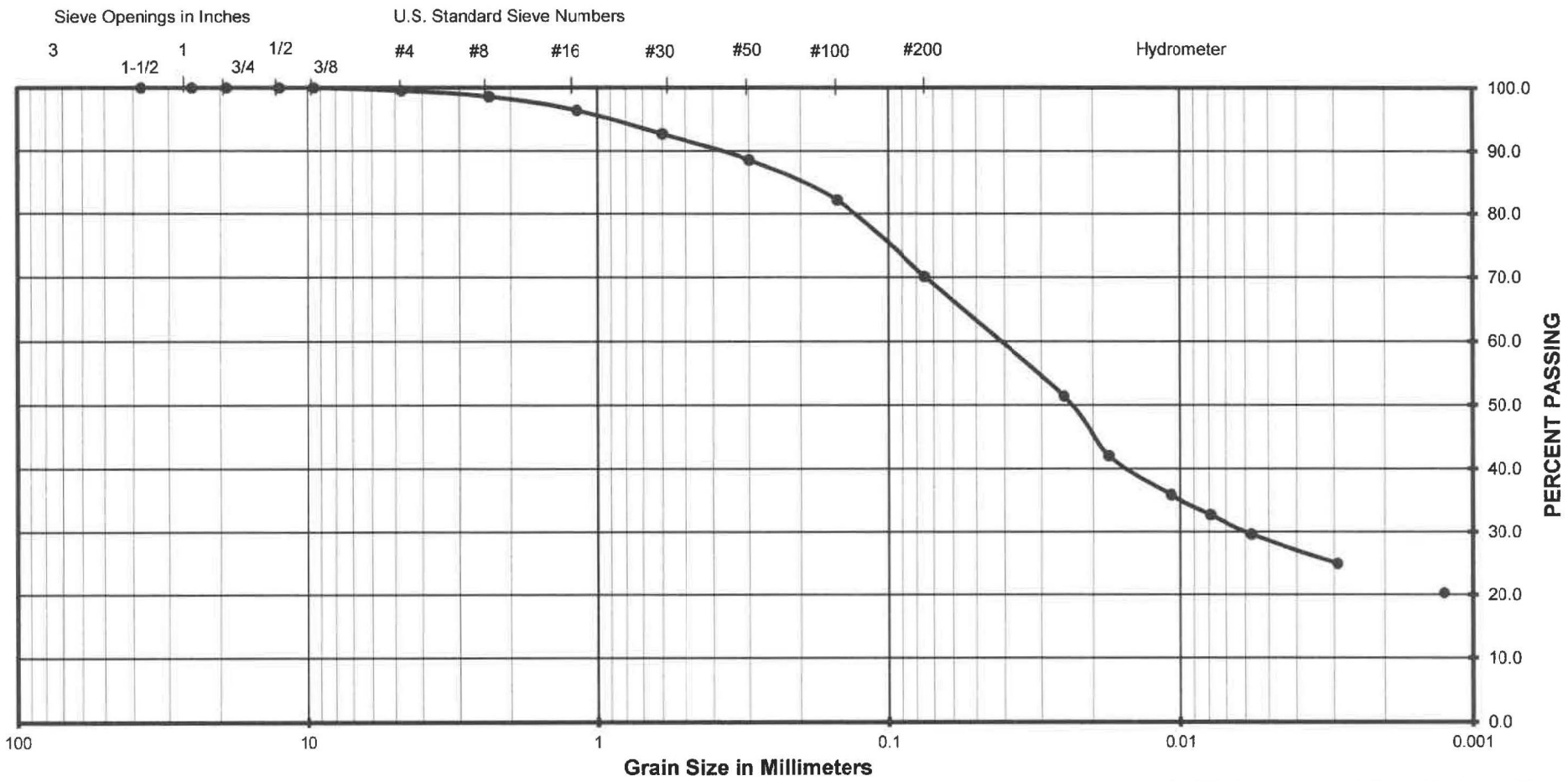
Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Multi-Family Development
Project Number	012-19020
Soil Classification	ML w/ trc clay
Sample Number	B6 @ 2-3'

Krazan Testing Laboratory

Hydrometer Anaylsis

Project Number	: 012-19020
Project Name	: Multi-Family Development
Date	: 3/12/2019
Sample Location	: B6 @ 2-3'
Soil Classification	: ML w/ trc clay

Dry Weight Used	103.2 g
Temperature	20.0 C
Soil Specific Gravity	2.65
Solution Spec. Grav.	1.003
K Value	0.01365
Correction Factor	0.00000

Elapsed Time (min)	Hydro. Reading	Hydro. Corrected	% Passing	Particle Diameter
2	1.036	1.036	51.5	0.0252
5	1.03	1.03	42.1	0.0177
15	1.026	1.026	35.9	0.0108
30	1.024	1.024	32.7	0.0079
60	1.022	1.022	29.6	0.0057
250	1.019	1.019	24.9	0.0029
1440	1.016	1.016	20.3	0.0013

Particle Diameter	Percent Passing
0.005	28.4
0.002	22.4
0	NA

Krazan Testing Laboratory

Sieve Analysis

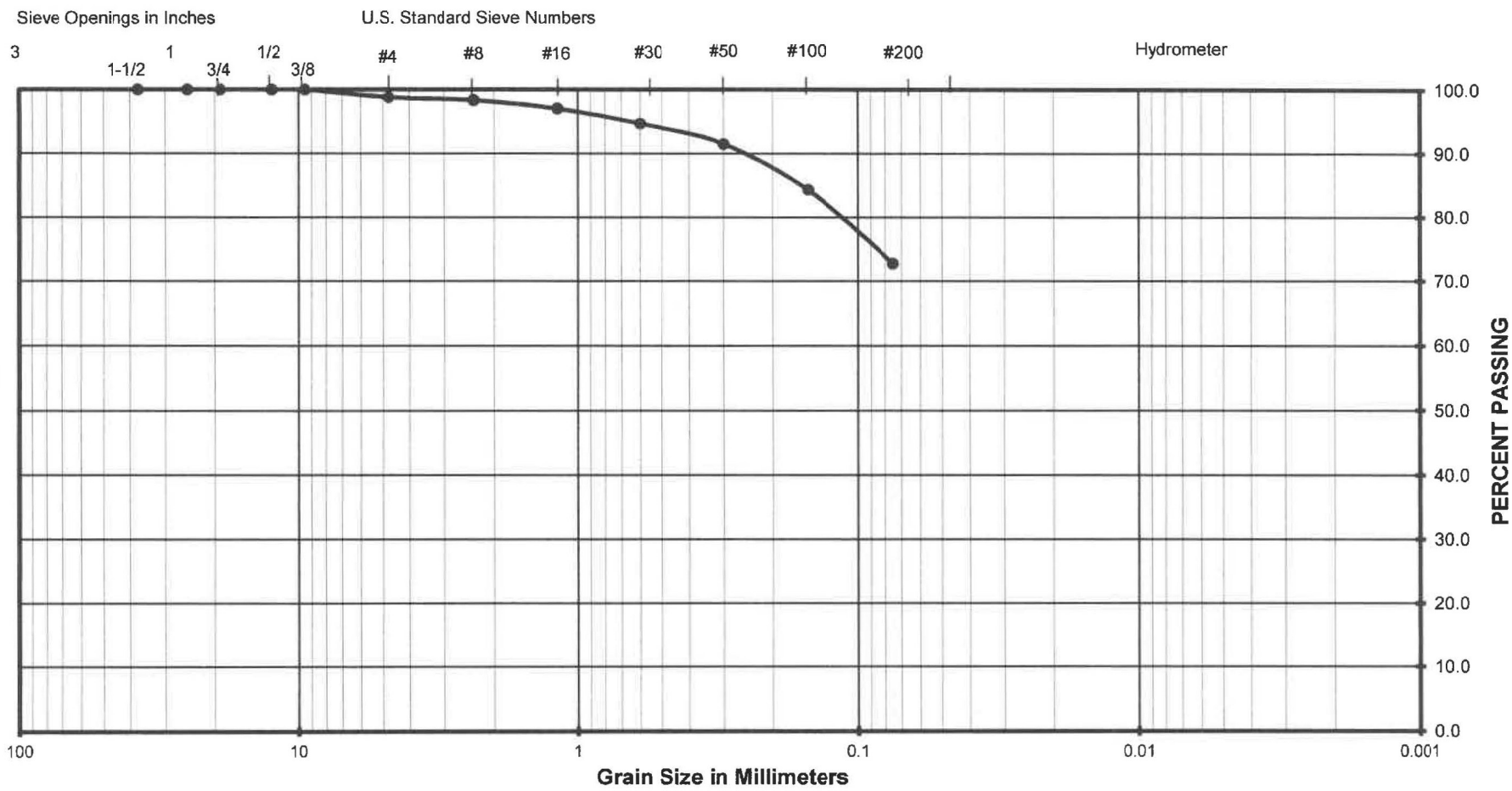
Project Number : 012-19020
Project Name : Multi-Family Development
Date : 3/12/2019
Sample Location : B6 @ 2-3'
Soil Classification : ML w/ trc clay

Wet Weight	:	100.00
Dry Weight	:	85.10
Moisture Content	:	18%

Sieves Size/Number	Sieve Size, mm	Retained Weight	Retained. %	Cum % Retained	Cum. % Passing.
1-1/2"	37.50				100.0
1"	25.00				100.0
3/4"	19.00				100.0
1/2"	12.50				100.0
3/8"	9.50				100.0
#4	4.75	0.4	0.5	0.5	99.5
#8	2.36	0.8	0.9	1.4	98.6
#16	1.18	1.8	2.1	3.5	96.5
#30	0.60	3.2	3.8	7.3	92.7
#50	0.30	3.5	4.1	11.4	88.6
#100	0.15	5.5	6.5	17.9	82.1
#200	0.08	10.2	12.0	29.8	70.2

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Multi-Family Development
Project Number	012-19020
Soil Classification	ML w/ clay
Sample Number	B11 @ 2-3'

Krazan Testing Laboratory

Expansion Index Test

ASTM D - 4829

Project Number	: 012-19020
Project Name	: Multi-Family Development
Date	: 3/12/2019
Sample location/ Depth	: 3-4'
Sample Number	: X1
Soil Classification	: SC-CL

Trial #	**1**	**2**	**3**
Weight of Soil & Mold, gms	777.0		
Weight of Mold, gms	369.8		
Weight of Soil, gms	407.2		
Wet Density, Lbs/cu.ft.	122.8		
Weight of Moisture Sample (Wet), gms	300.0		
Weight of Moisture Sample (Dry), gms	275.7		
Moisture Content, %	8.8		
Dry Density, Lbs/cu.ft.	112.9		
Specific Gravity of Soil	2.7		
Degree of Saturation, %	48.3		

Time	Inital	30 min	1 hr	6hrs	12 hrs	24 hrs
Dial Reading	0	--	--	--	--	0.0184

Expansion Index $_{measured}$ = 18.4

Expansion Index = **18**

Expansion Potential Table	
Exp. Index	Potential Exp.
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
>130	Very High

Krazan Testing Laboratory

Expansion Index Test

ASTM D - 4829

Project Number	: 012-19020
Project Name	: Multi-Family Development
Date	: 3/12/2019
Sample location/ Depth	: 3-4'
Sample Number	: X2
Soil Classification	: SM w/ clay

Trial #	**1**	**2**	**3**
Weight of Soil & Mold, gms	780.2		
Weight of Mold, gms	368.8		
Weight of Soil, gms	411.4		
Wet Density, Lbs/cu.ft.	124.1		
Weight of Moisture Sample (Wet), gms	300.0		
Weight of Moisture Sample (Dry), gms	274.5		
Moisture Content, %	9.3		
Dry Density, Lbs/cu.ft.	113.5		
Specific Gravity of Soil	2.7		
Degree of Saturation, %	51.8		

Time	Inital	30 min	1 hr	6hrs	12 hrs	24 hrs
Dial Reading	0	--	--	--	--	0.0131

Expansion Index $_{measured}$ = 13.1

Expansion Index = 13

Expansion Potential Table	
Exp. Index	Potential Exp.
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
>130	Very High

Krazan Testing Laboratory

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

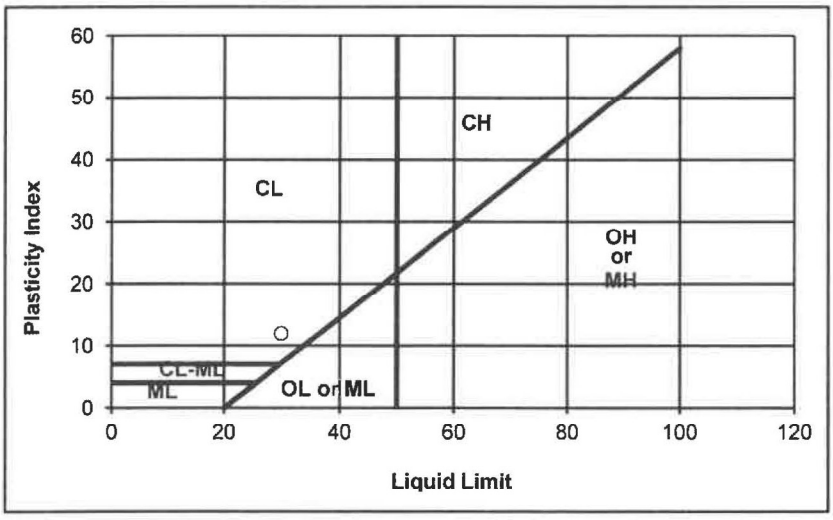
Project: **Multi-Family Development**
Project Number: **012-19020**
Date Sampled: 2/26/2019
Sampled By: DA
Sample Number: X1
Sample Location: 3-4'
Sample Description: SC-CL

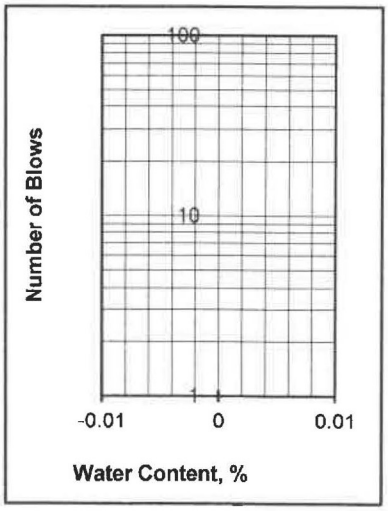
Date Tested: 3/8/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)	27.08	32.24		40.57		
Weight of Dry Soil & Tare (g)	25.15	29.42		35.17		
Weight of Tare (g)	14.16	13.97		17.12		
Weight of water (g)	1.93	2.83		5.40		
Weight of Dry Soil (g)	10.99	15.45		18.05		
Water Content (% of dry wt.)	17.6%	18.3%		29.9%		
Number of Blows				25		

Plastic Limit : 18 **Liquid Limit : 30**

Plasticity Index : 12
Unified Soil Classification : CL **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

Unusual Conditions, Other Notes:

Plasticity Index of Soils

ASTM D4318/AASHTO T89 T90/CT 204

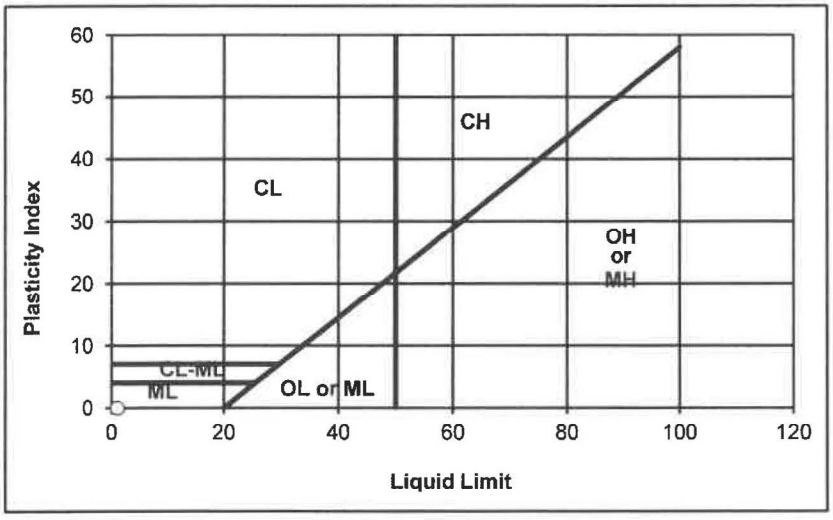
Project: **Multi-Family Development**
Project Number: **012-19020**
Date Sampled: 2/26/2019
Sampled By: DA
Sample Number: X2
Sample Location: 3-4'
Sample Description: SM w/ trace of clay

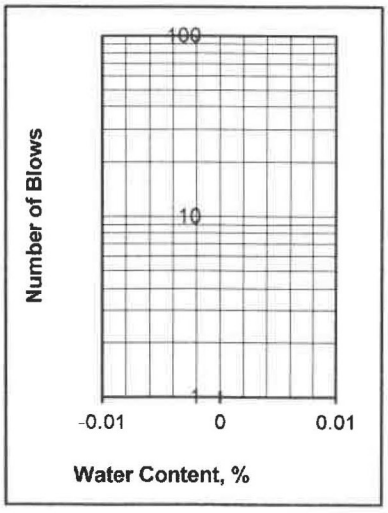
Date Tested: 3/8/2019
Tested By: J Mitchell
Verified By: J Gruszczynski

	Plastic Limit			Liquid Limit		
Trial Number	1	2	3	1	2	3
Weight of Wet Soil & Tare (g)						
Weight of Dry Soil & Tare (g)						
Weight of Tare (g)						
Weight of water (g)						
Weight of Dry Soil (g)						
Water Content (% of dry wt.)						
Number of Blows						

Plastic Limit : N/D **Liquid Limit : N/D**

Plasticity Index : NON-PLASTIC
Unified Soil Classification : NON-PLASTIC **Requirement:**
Approx. % of Material Retained on # 40 Sieve:





Departures from Outlined Procedure:

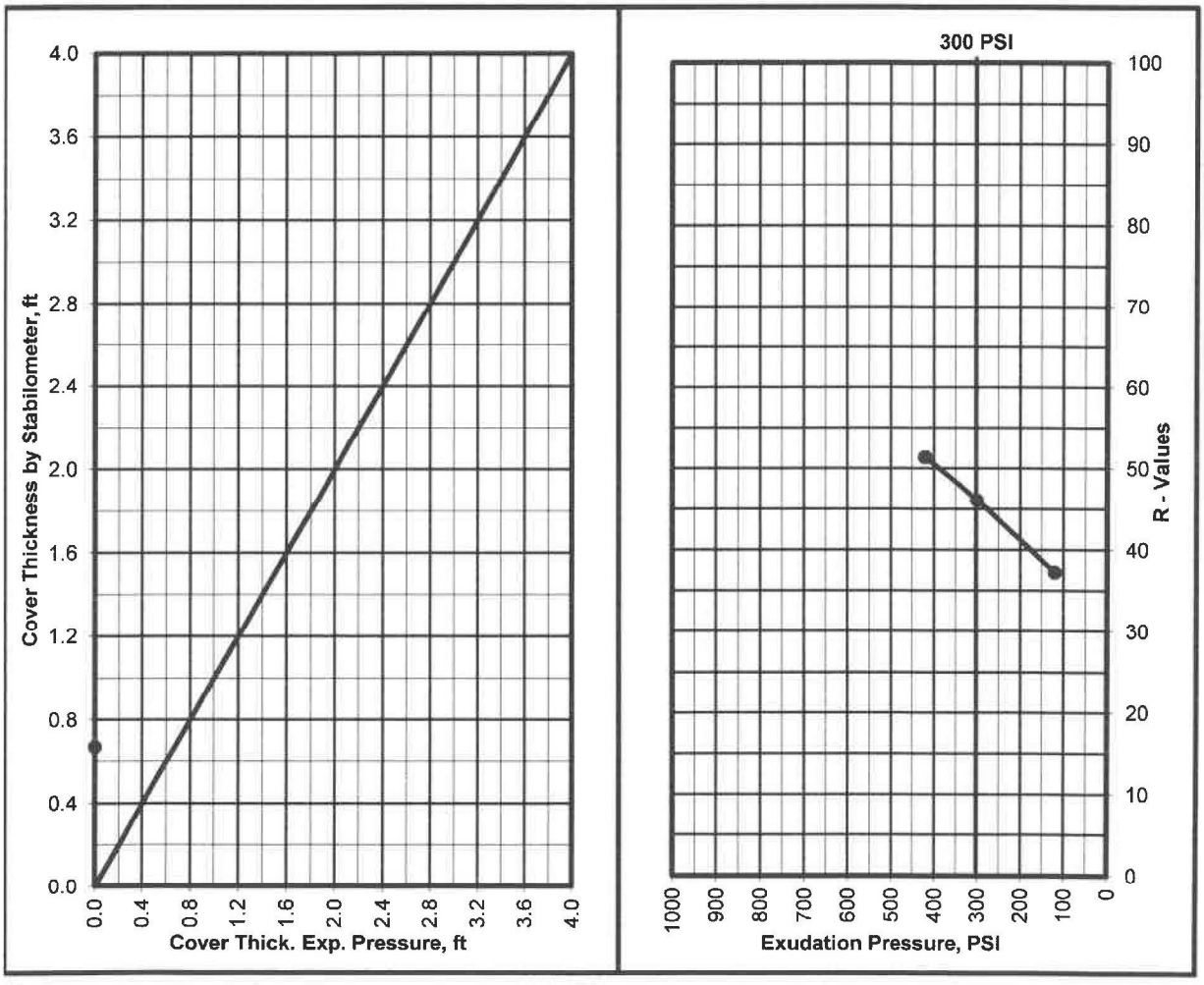
Unusual Conditions, Other Notes:

R - VALUE TEST
ASTM D - 2844 / CAL 301

Project Number	:	012-19020
Project Name	:	Multi-Family Development
Date	:	2/28/2019
Sample Location/Curve Number	:	RV#1
Soil Classification	:	SM

TEST	A	B	C
Percent Moisture @ Compaction, %	11.7	11.2	10.6
Dry Density, lbm/cu.ft.	121.8	121.4	120.9
Exudation Pressure, psi	120	300	420
Expansion Pressure, (Dial Reading)	0	0	0
Expansion Pressure, psf	0	0	0
Resistance Value R	37	46	51

R Value at 300 PSI Exudation Pressure	**46**
R Value by Expansion Pressure (TI =): 5	**Expansion Pressure nil**



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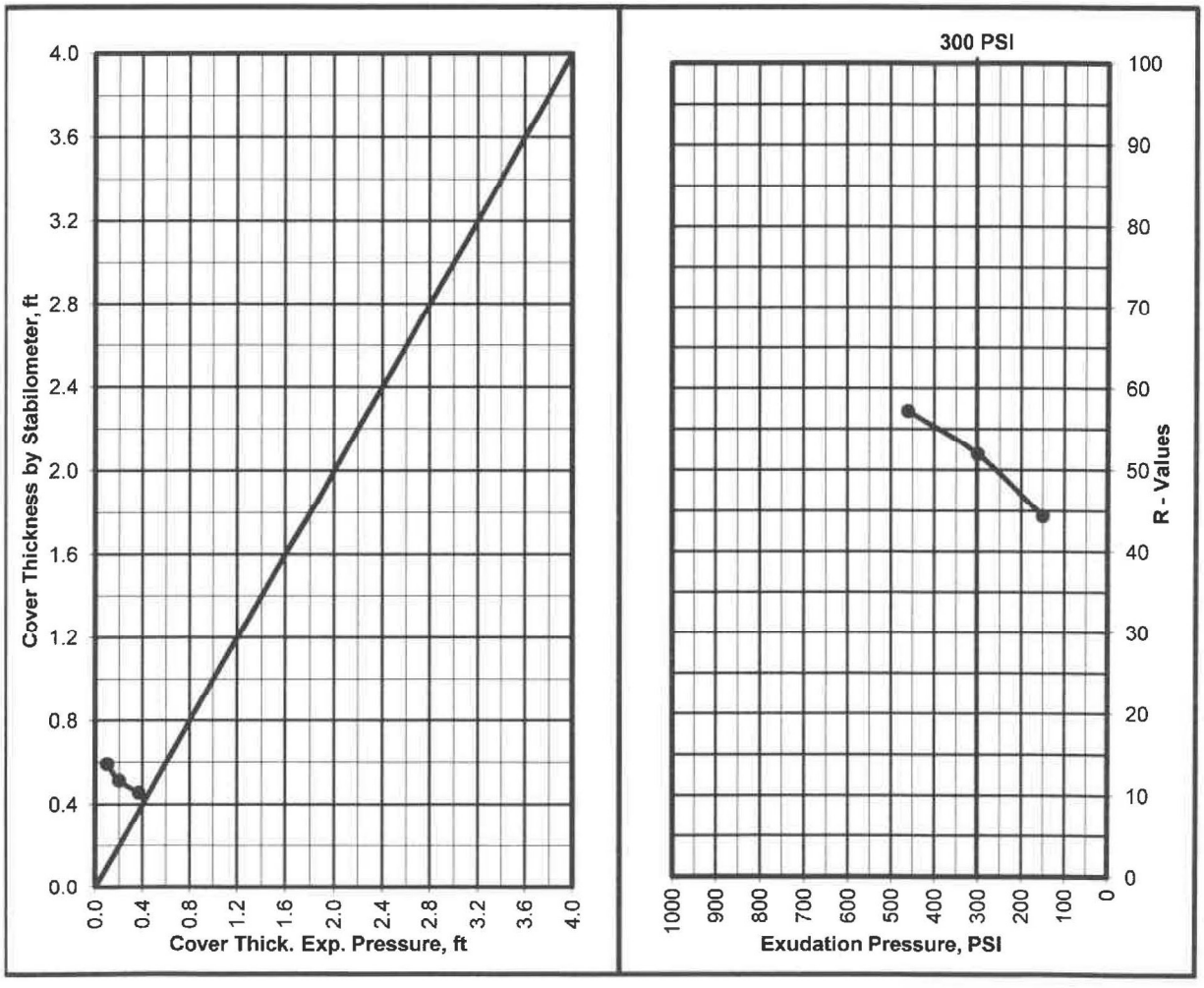
R - VALUE TEST
ASTM D - 2844 / CAL 301

Project Number	:	012-19020
Project Name	:	Multi-Family Development
Date	:	2/28/2019
Sample Location/Curve Number	:	RV#2
Soil Classification	:	SM

TEST	A	B	C
Percent Moisture @ Compaction, %	11.8	11.3	10.7
Dry Density, lbm/cu.ft.	120.7	120.3	119.9
Exudation Pressure, psi	150	300	460
Expansion Pressure, (Dial Reading)	3	6	11
Expansion Pressure, psf	13	26	48
Resistance Value R	44	52	57

R Value at 300 PSI Exudation Pressure	**52**
R Value by Expansion Pressure (TI =): 5	**Expansion Pressure nil**



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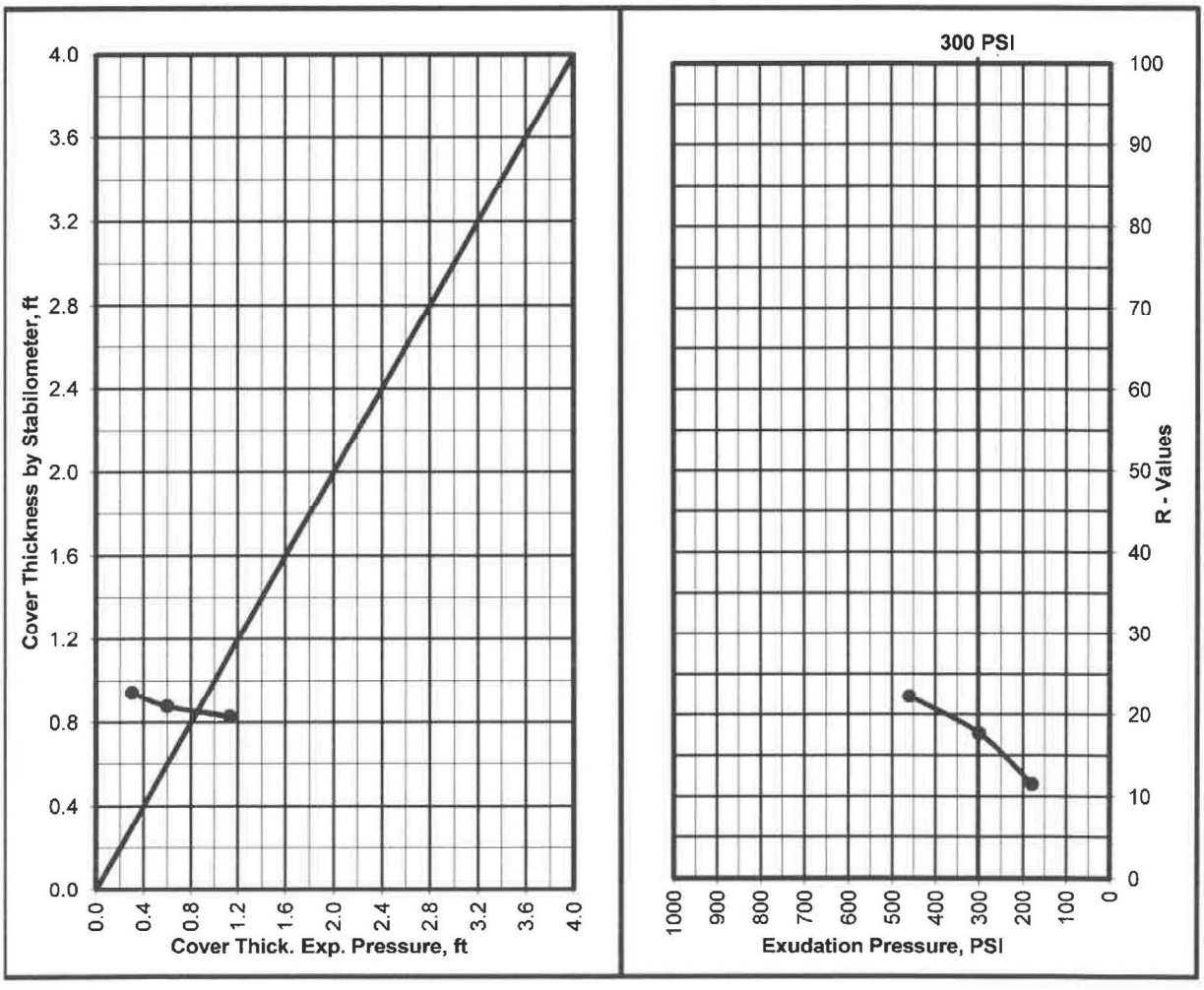
R - VALUE TEST
ASTM D - 2844 / CAL 301

Project Number	:	012-19020
Project Name	:	Multi-Family Development
Date	:	2/28/2019
Sample Location/Curve Number	:	RV#3
Soil Classification	:	SC

TEST	A	B	C
Percent Moisture @ Compaction, %	10.8	11.4	11.9
Dry Density, lbm/cu.ft.	120.0	119.5	118.9
Exudation Pressure, psi	460	300	180
Expansion Pressure, (Dial Reading)	34	18	9
Expansion Pressure, psf	147	78	39
Resistance Value R	22	18	12

R Value at 300 PSI Exudation Pressure	**18**
R Value by Expansion Pressure (TI =): 5	**20**



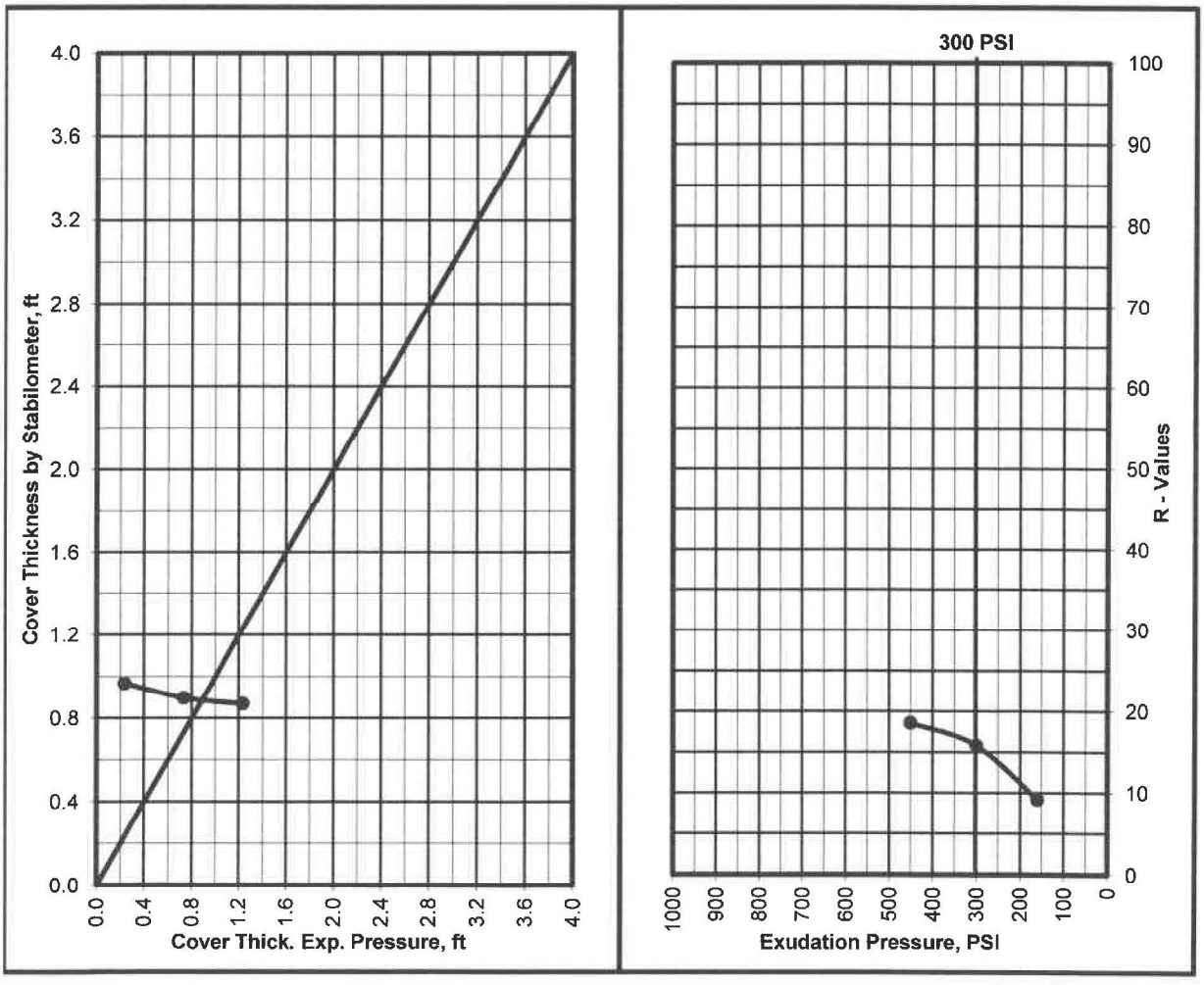
Krazan Testing Laboratory

R - VALUE TEST
ASTM D - 2844 / CAL 301

Project Number	:	012-19020
Project Name	:	Multi-Family Development
Date	:	2/28/2019
Sample Location/Curve Number	:	RV#4
Soil Classification	:	SC

TEST	A	B	C
Percent Moisture @ Compaction, %	11.1	11.6	12.2
Dry Density, lbm/cu.ft.	118.7	118.1	117.6
Exudation Pressure, psi	450	300	160
Expansion Pressure, (Dial Reading)	37	22	7
Expansion Pressure, psf	160	95	30
Resistance Value R	19	16	9

R Value at 300 PSI Exudation Pressure	**16**
R Value by Expansion Pressure (TI =): 5	**18**



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APPENDIX B

EARTHWORK SPECIFICATIONS

GENERAL

When the text of the report conflicts with the general specifications in this appendix, the recommendations in the report have precedence.

SCOPE OF WORK: These specifications and applicable plans pertain to and include all earthwork associated with the site rough grading, including but not limited to the furnishing of all labor, tools, and equipment necessary for site clearing and grubbing, stripping, preparation of foundation materials for receiving fill, excavation, processing, placement and compaction of fill and backfill materials to the lines and grades shown on the project grading plans, and disposal of excess materials.

PERFORMANCE: The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications. This work shall be inspected and tested by a representative of Krazan and Associates, Inc., hereinafter known as the Soils Engineer and/or Testing Agency. Attainment of design grades when achieved shall be certified by the project Civil Engineer. Both the Soils Engineer and the Civil Engineer are the Owner's representatives. If the Contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary readjustments until all work is deemed satisfactory as determined by both the Soils Engineer and the Civil Engineer. No deviation from these specifications shall be made except upon written approval of the Soils Engineer, Civil Engineer or project Architect.

No earthwork shall be performed without the physical presence or approval of the Soils Engineer. The Contractor shall notify the Soils Engineer at least 2 working days prior to the commencement of any aspect of the site earthwork.

The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify and hold the Owner and the Engineers harmless from any and all liability, real or alleged, in connection with the performance of work on this project, except for liability arising from the sole negligence of the Owner or the Engineers.

TECHNICAL REQUIREMENTS: All compacted materials shall be densified to a density not less than 90 percent relative compaction based on ASTM Test Method D1557 or CAL-216, as specified in the technical portion of the Soil Engineer's report. The location and frequency of field density tests shall be as determined by the Soils Engineer. The results of these tests and compliance with these specifications shall be the basis upon which satisfactory completion of work will be judged by the Soils Engineer.

SOILS AND FOUNDATION CONDITIONS: The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the contents of the data presented in the soil report.

The Contractor shall make his own interpretation of the data contained in said report, and the Contractor shall not be relieved of liability under the Contract documents for any loss sustained as a result of any variance between conditions indicated by or deduced from said report and the actual conditions encountered during the progress of the work.

DUST CONTROL: The work includes dust control as required for the alleviation or prevention of any dust nuisance on or about the site or the borrow area, or off-site if caused by the Contractor's operation either during the performance of the earthwork or resulting from the conditions in which the Contractor leaves the site. The Contractor shall assume all liability, including court costs of codefendants, for all claims related to dust or windblown materials attributable to his work.

SITE PREPARATION

Site preparation shall consist of site clearing and grubbing and the preparations of foundation materials for receiving fill.

CLEARING AND GRUBBING: The Contractor shall accept the site in this present condition and shall demolish and/or remove from the area of designated project earthwork all structures, both surface and subsurface, trees, brush, roots, debris, organic matter, and all other matter determined by the Soils Engineer to be deleterious or otherwise unsuitable. Such materials shall become the property of the Contractor and shall be removed from the site.

Tree root systems in proposed building areas should be removed to a minimum depth of 3 feet and to such an extent which would permit removal of all roots larger than 1 inch. Tree roots removed in parking areas may be limited to the upper 1½ feet of the ground surface. Backfill of tree root excavations should not be permitted until all exposed surfaces have been inspected and the Soils Engineer is present for the proper control of backfill placement and compaction. Burning in areas which are to receive fill materials shall not be permitted.

SUBGRADE PREPARATION: Surfaces to receive Engineered Fill, building or slab loads shall be prepared as outlined above, excavated/scarified to a depth of 12 inches, moisture-conditioned as necessary, and compacted to 90 percent relative compaction.

Loose soil areas, areas of uncertified fill, and/or areas of disturbed soils shall be moisture-conditioned as necessary and recompacted to 90 percent relative compaction. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials. All areas which are to receive fill materials shall be approved by the Soils Engineer prior to the placement of any of the fill material.

EXCAVATION: All excavation shall be accomplished to the tolerance normally defined by the Civil Engineer as shown on the project grading plans. All over-excavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with the applicable technical requirements.

FILL AND BACKFILL MATERIAL: No material shall be moved or compacted without the presence of the Soils Engineer. Material from the required site excavation may be utilized for construction site fills provided prior approval is given by the Soils Engineer. All materials utilized for constructing site fills shall be free from vegetation or other deleterious matter as determined by the Soils Engineer.

PLACEMENT, SPREADING AND COMPACTION: The placement and spreading of approved fill materials and the processing and compaction of approved fill and native materials shall be the responsibility of the Contractor. However, compaction of fill materials by flooding, ponding, or jetting shall not be permitted unless specifically approved by local code, as well as the Soils Engineer.

Both cut and fill areas shall be surface-compacted to the satisfaction of the Soils Engineer prior to final acceptance.

SEASONAL LIMITS: No fill material shall be placed, spread, or rolled while it is frozen or thawing or during unfavorable wet weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until the Soils Engineer indicates that the moisture content and density of previously placed fill are as specified.

APPENDIX C

PAVEMENT SPECIFICATIONS

1. DEFINITIONS - The term "pavement" shall include asphaltic concrete surfacing, untreated aggregate base, and aggregate subbase. The term "subgrade" is that portion of the area on which surfacing, base, or subbase is to be placed.

The term "Standard Specifications": hereinafter referred to is the 2018 Standard Specifications of the State of California, Department of Transportation, and the "Materials Manual" is the Materials Manual of Testing and Control Procedures, State of California, Department of Public Works, Division of Highways. The term "relative compaction" refers to the field density expressed as a percentage of the maximum laboratory density as defined in the applicable tests outlined in the Materials Manual.

2. SCOPE OF WORK - This portion of the work shall include all labor, materials, tools, and equipment necessary for, and reasonably incidental to the completion of the pavement shown on the plans and as herein specified, except work specifically noted as "Work Not Included."

3. PREPARATION OF THE SUBGRADE - The Contractor shall prepare the surface of the various subgrades receiving subsequent pavement courses to the lines, grades, and dimensions given on the plans. The upper 12 inches of the soil subgrade beneath the pavement section shall be compacted to a minimum relative compaction of 90 percent. The finished subgrades shall be tested and approved by the Soils Engineer prior to the placement of additional pavement courses.

4. UNTREATED AGGREGATE BASE - The aggregate base material shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate base material shall conform to the requirements of Section 26 of the Standard Specifications for Class 2 material, 1½ inches maximum size. The aggregate base material shall be spread and compacted in accordance with Section 26 of the Standard Specifications. The aggregate base material shall be spread in layers not exceeding 6 inches and each layer of aggregate material course shall be tested and approved by the Soils Engineer prior to the placement of successive layers. The aggregate base material shall be compacted to a minimum relative compaction of 95 percent.

5. AGGREGATE SUBBASE - The aggregate subbase shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate subbase material shall conform to the requirements of Section 25 of the Standard Specifications for Class 2 material. The aggregate subbase material shall be compacted to a minimum relative compaction of 95 percent, and it shall be spread and compacted in accordance with Section 25 of the Standard Specifications. Each layer of aggregate subbase shall be tested and approved by the Soils Engineer prior to the placement of successive layers.

6. ASPHALTIC CONCRETE SURFACING - Asphaltic concrete surfacing shall consist of a mixture of mineral aggregate and paving grade asphalt, mixed at a central mixing plant and spread and compacted on a prepared base in conformity with the lines, grades and dimensions shown on the plans. The viscosity grade of the asphalt shall be PG 64-10. The mineral aggregate shall be Type B, ½ inch maximum size, medium grading and shall conform to the requirements set forth in Section 39. The drying, proportioning and mixing of the materials shall conform to Section 39.

The prime coat, spreading and compacting equipment and spreading and compacting mixture shall conform to the applicable chapters of Section 39, with the exception that no surface course shall be placed when the atmospheric temperature is below 50° F. The surfacing shall be rolled with a combination of steel wheel and pneumatic rollers, as described in Section 39-6. The surface course shall be placed with an approved self-propelled mechanical spreading and finishing machine.

7. FOG SEAL COAT - The fog seal (mixing type asphaltic emulsion) shall conform to and be applied in accordance with the requirements of Section 37.

APPENDIX E – PHASE I ENVIRONMENTAL SITE ASSESSMENT

May 19, 2020 Project No. 034-18104-2020

Mr. Welton Jordan
EAH Housing
18525 Sutter Boulevard, Suite 140
Morgan Hill, California 95037
welton.jordan@eahhousing.org

RE: Phase I Environmental Site Assessment
Proposed Residential Development Property
41206 Walnut Avenue
APN 109-082-012
Greenfield, California 93827

Dear Mr. Jordan:

Krazan & Associates, Inc., (Krazan) completed a Phase I Environmental Site Assessment at the referenced site summarized in a report dated May 19, 2020. We appreciate the opportunity to serve your environmental due diligence needs. During the course of this assessment, Krazan identified no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in conjunction with the subject site as defined by ASTM E 1527-13. Former potential areas of concern (PAOCs) previously identified in Krazan's September 7, 2018 Phase I ESA report for the subject site which have been addressed in Krazan's February 14, 2019 Limited Geophysical Survey and On-site Shallow Soil Sampling and Analysis report are discussed in Section 6.1 of this report. Additionally, the following site development issues were identified in connection with the subject site:

Site Development Issues

- According to Mr. James McNulty, a representative of the previous owner of the subject site who has been familiar with the subject site for 61 years, no water wells are located on the subject site. However, Krazan's review of historical aerial photographs indicates that a structure was located within the northwestern portion of the subject site circa 1937. A domestic water well was possibly associated with the former on-site structure. If a water well is identified during the planned redevelopment of the subject site, it should be properly destroyed in accordance with State and local guidelines.

- According to Mr. McNulty, a septic system which has not been in use for 50+ years is located on the subject site. The presence of the septic system is not anticipated to have adversely impacted the subject site due to its presumed use for domestic purposes only. If the septic system is not to be utilized in the planned redevelopment of the subject site, it should be properly abandoned/closed or destroyed in accordance with State and local guidelines. Mr. McNulty has

reportedly provided Krazan's client with a parcel map showing the approximate location of the reported septic system.

If you have any questions regarding the information presented in this report, please call me at (559) 348-2200.

Respectfully Submitted,
KRAZAN & ASSOCIATES, INC.

Arthur C. Farkas, REA No. 07818
Environmental Professional

ACF/mlt

PHASE I ENVIRONMENTAL SITE ASSESSMENT PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY 41206 WALNUT AVENUE APN 109-082-012 GREENFIELD, CALIFORNIA 93927

Pursuant to ASTM E 1527-13

Project No. 034-18104-2020
May 19, 2020

Prepared for:
Mr. Weldon Jordan
EAH Housing
18525 Sutter Boulevard, Suite 140
Morgan Hill, California 95037
(408) 766-3414

Prepared by:
Krazan & Associates, Inc.
215 West Dakota Avenue
Clovis, California 93612
(559) 348-2200

Krazan & ASSOCIATES, INC.
SITE DEVELOPMENT ENGINEERS

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May 19, 2020 Project No. 034-18104-2020

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY
41206 WALNUT AVENUE
APN 109-082-012
GREENFIELD, CALIFORNIA 93927

1.0 EXECUTIVE SUMMARY

Krazan & Associates, Inc. (Krazan) has conducted a Phase I Environmental Site Assessment (ESA) of the Proposed Residential Development Property associated with Monterey County Assessor's Parcel Number (APN) 109-082-012 located at 41206 Walnut Avenue in Greenfield, California 93927 (subject site). It is incumbent upon the user to read this Phase I ESA report in its entirety. If not otherwise defined within the text of this report, please refer to the Glossary of Terms Section following the References Section for definitions of terms and acronyms utilized within this Phase I ESA report. Krazan conducted the Phase I ESA of the subject site in conformance with the American Society for Testing and Materials (ASTM) E 1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* This Phase I ESA constitutes all appropriate inquiry (AAI) designed to identify recognized environmental conditions (RECs) in connection with the previous ownership and uses of the subject site as defined by ASTM E 1527-13.

ASTM E 1527-13 Section 1.1.1 *Recognized Environmental Conditions* – In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a parcel of property, the goal of the processes established by this practice is to identify recognized environmental conditions. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.

Krazan's findings of this Phase I ESA revealed no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in conjunction with the subject site as defined by ASTM E 1527-13. Former potential areas of concern (PAOCs) previously identified in Krazan's September 7, 2018 Phase I ESA report for the subject site which have been addressed in

Krazan's February 14, 2019 Limited Geophysical Survey and On-site Shallow Soil Sampling and Analysis report are discussed in Section 6.1 of this report. Additionally, the following site development issues were identified in connection with the subject site:

Site Development Issues

- The potential presence of water wells and the reported presence of a septic system on site were identified which should be removed/abandoned/destroyed if identified and not utilized in the planned redevelopment of the subject site.

Please refer to Section 8.0 Conclusions/Opinions for a discussion of the findings included in this summary.

2.0 PURPOSE AND SCOPE OF ASSESSMENT

2.1 Purpose

According to ASTM E 1527-13, the purpose of this practice is to define good commercial and customary practice in the United States of America for conducting an *environmental site assessment* of a parcel of *commercial real estate* with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) and *petroleum products.* As such, this practice is intended to permit a *user* to satisfy one of the requirements to qualify for the *innocent landowner, contiguous property owner,* or *bona fide prospective purchaser* limitation on CERCLA liability (hereinafter, the *landowner liability protections,* or *LLPs*): that is, the practice that constitutes *all appropriate inquiries* into the previous ownership and uses of the *property* consistent with good commercial and customary practice as defined at 42 U.S.C. §9601(35)(B).

2.2 Scope of Work

The Phase I ESA includes the following scope of work: a) a site reconnaissance of existing on-site conditions and observations of adjacent property uses, b) a review of user-provided documents and search of available current land title records compiled by AFX Corp., Inc., c) a review of historical aerial photographs, a review of pertinent building permit records, cross-reference directories, historical Sanborn Fire Insurance Maps (SFIMs), and interview(s) with person(s) knowledgeable of the previous and current ownership and uses of the subject site, d) a review of local regulatory agency records, and e) a review of local, state, and federal regulatory agency lists compiled by Environmental Data Resources, Inc. (EDR). The scope of work for this Phase I ESA conforms to ASTM E 1527-13. Krazan was provided written

authorization to conduct the Phase I ESA by Mr. Welton Jordan with EAH Housing on April 11, 2020, in April 8, 2020 Proposal/Cost Estimate No. P20-090.

3.0 SITE DESCRIPTION

The subject site is located south of Walnut Avenue and east of 3rd Street within the City of Greenfield, Monterey County, California. The subject site consists of one irregular-shaped parcel measuring approximately 11 acres with the associated Monterey County Assessor's Parcel Number of 109-082-012. The subject site is currently vacant/undeveloped former agricultural land which has the associated subject site address of 41206 Walnut Avenue. The subject site appears to have been utilized for agricultural purposes from at least 1937 to the mid-2010s, and the northwestern portion of the subject site appears to have been developed with a rural residence and/or barn-type structure circa 1937 to 1960.

General property information and property use are summarized in the following Table I. Refer to Figures No. 1 – 3 following the Reference Section.

TABLE I
Subject Site Information Summary

Current Owner:	Greenfield Commons EAH LLC
Assessor's Parcel Number:	109-082-012
Address:	41206 Walnut Avenue Greenfield, California 93927
Historical Address:	None Identified
General Location:	South of Walnut Avenue and east of 3rd Street
Acreage:	11 acres (approximately)
Existing Use:	Vacant Land
Number of Buildings:	None
Original Construction Date:	N/A
Proposed Use:	Multi-family Residential
Topographic Map:	U.S. Geological Survey, 7.5-minute Greenfield, California topographic quadrangle map, dated 1956
Topographic Map Location:	Southwestern quarter of Section 29, Township 18 South, Range 07 East, Mount Diablo Baseline and Meridian
Latitude/Longitude:	36.33251° / –121.23661°
Topography:	Relatively flat, approximately 265 feet above mean sea level
Approximate Depth to Groundwater:	60 to 70 feet below ground surface (bgs), City of Soledad Urban Water Management Plan (December 2005)
Regional Groundwater Flow Direction:	Easterly (northeast to southeast), inferred from surface topography

3.1 Geology and Hydrogeology

The subject site is located within the Salinas Valley, which is located within the Salinian Block portion of the California Coast Ranges. This is a tectonic subprovince defined as a northwest trending, elongated portion of the Coast Ranges, characterized by a basement of granitic and high-grade metamorphic rocks. The basement is overlain by Tertiary and Quaternary sedimentary rocks. The material underlying the subject site consists of Quaternary, Pleistocene-Holocene consolidated and semi-consolidated alluvium, lake, playa, and terrace deposits. The near-surface sediments are dominated by sands and silty sands with lesser silts, minor clays, and gravel. According to information obtained from the City of Soledad Urban Water Management Plan (December 2005), groundwater in the Greenfield area is anticipated to be first encountered at a depth of approximately 60 to 70 feet bgs. Based upon surface topography, the groundwater flow direction in the vicinity of the subject site is inferred to be easterly (northeast to southeast) and toward the Salinas River.

4.0 SITE RECONNAISSANCE

A site reconnaissance, which included a visual observation of the subject site and surrounding properties, was conducted by Mr. Bill Vick, Krazan's Environmental Professional, on April 21, 2020. Krazan's Environmental Professional was unaccompanied during the site reconnaissance. The objective of the site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental conditions, including hazardous substances and petroleum products, in connection with the property (including soils, surface waters, and groundwater).

4.1 Observations

The following Table II summarizes conditions encountered during our site reconnaissance. A discussion of visual observations is presented in the following table. Refer to the Site Map (Figure No. 2) and color photographs following the text for the locations of items discussed in this section of the report.

TABLE II
Summary of Site Reconnaissance

Feature	Observed	Not Observed
Structures (existing)		X
Evidence of Past Uses (foundations, debris)		X
Hazardous Substances and/or Petroleum Products (including containers)		X
Aboveground Storage Tanks (ASTs)		X
Underground Storage Tanks (USTs) or Evidence of USTs		X
Evidence of Underground Pipelines		X
Strong, Pungent, or Noxious Odors		X

TABLE II (continued)
Summary of Site Reconnaissance

Feature	Observed	Not Observed
Pools of Liquid Likely to be Hazardous Materials or Petroleum Products		X
Drums		X
Unidentified Substance Containers		X
Potential Polychlorinated Biphenyl (PCB)-Containing Equipment		X
Subsurface Hydraulic Equipment		X
Heating/Ventilation/Air conditioning (HVAC)		X
Stains or Corrosion on Floors, Walls, or Ceilings		X
Floor Drains, Sumps, or Oil/Water Clarifiers		X
Storm Drains		X
Pits, Ponds, or Lagoons		X
Stained Soil and/or Pavement		X
Soil Piles		X
Stressed Vegetation		X
Waste or Wastewater (including stormwater) Discharges to Surface/ Surface Waters		X
Wells (irrigation, domestic, dry, injection, abandoned, monitoring wells)		X
Septic Systems		X

The subject site comprises approximately 11 acres of vacant/undeveloped former agricultural land with the associated Monterey County APN of 109-082-012. Refer to Figure No. 2, Site Map, for locations of the following referenced on-site features:

- The subject site was observed to be relatively flat vacant/undeveloped former agricultural land (See Photographs No. 1 - No. 10). No structures were observed on the subject site.

- Housekeeping conditions were observed to be good throughout the subject site. No obvious evidence of illegal dumping or surface waste disposal was observed on the subject site.

- A stormwater drain inlet was observed adjacent to 3rd Street near the northwestern boundary of the subject site. No odors, surface staining, or other evidence of the disposal of hazardous materials or hazardous waste was observed within or adjacent to the stormwater drain inlet.

- During the visual observations of the subject site, no hazardous materials or hazardous waste were observed. Exposed surface soils did not exhibit obvious signs of discoloration. No obvious evidence (vent pipes, fill pipes, dispensers, etc.) of USTs was noted within the areas observed. No standing water or major depressions were observed on the subject site. No indications of former structures, such as foundations, were observed on the subject site.

- No pole- or pad-mounted electrical transformers were observed on the subject site.

- No high-voltage, tower-mounted electrical transmission lines were observed on or within 100 feet of the subject site.

4.2 Utilities

Based on Krazan's research, the following Table III summarizes companies/municipalities currently provide utility services to the subject site:

TABLE III
Municipal Service / Utility Providers

Service / Utility	Provider
Electricity	Pacific Gas & Electric (PG&E)
Natural Gas	PG&E
Potable Water	None currently, domestic water well presumed to have been present historically
Sanitary Sewer	None currently, septic system was utilized historically

Water / Wells

According to Mr. James McNulty, a representative of the previous owner of the subject site who has been familiar with the subject site for the past 61 years, no water wells are located on the subject site. However, Krazan's review of historical aerial photographs indicates that a structure was located within the northwestern portion of the subject site circa 1937. A domestic water well was possibly associated with the former on-site structure. It is unknown if a domestic water well is currently located in the vicinity of the former on-site structure. A water well was not observed in the on-site location of the former structure during Krazan's site reconnaissance. If a water well is identified during the planned redevelopment of the subject site, it should be properly destroyed in accordance with State and local guidelines.

Sewer / Septic Systems

According to Mr. McNulty, a septic system which has not been in use for 50+ years is located on the subject site. The presence of the septic system is not anticipated to have adversely impacted the subject site due to its presumed use for domestic purposes only. If the septic system is not to be utilized in the planned redevelopment of the subject site, it should be properly abandoned/closed or destroyed in accordance with State and local guidelines. Mr. McNulty has reportedly provided Krazan's client with a parcel map showing the location of the reported septic system.

4.3 Adjacent Streets and Property Usage

The following Table IV summarizes the current adjacent roads and adjacent property uses observed during the site reconnaissance.

TABLE IV
Adjacent Streets and Property Use

Direction	Adjacent Street	Adjacent Property Use
Northeast	None	Single-family homes (residential subdivision)
Northwest	Walnut Avenue	Agricultural land
Southeast	None	Public school facilities (recreational areas, beyond which are classrooms)
Southwest	3rd Street	Rural residences, pasture and vacant land / agricultural land

Based on the observed uses of the properties located immediately adjacent to the subject site, it is unlikely that significant quantities of hazardous materials are stored at the adjacent properties.

4.4 ASTM Non-Scope Considerations

According to ASTM E 1527-13, there may be environmental issues or conditions at the subject site that are outside the scope of the Phase I ESA practice (non-scope considerations). Some substances may be present at the subject site in quantities and under conditions that may lead to contamination of the subject site or of nearby properties but are not included in CERCLA's definition of hazardous substances (42 U.S.C. §9601[14]). ASTM non-scope considerations are discussed below.

Asbestos-Containing Materials

Asbestos is a group of naturally occurring mineral fibers that have been used commonly in a variety of building construction materials for insulation and as a fire-retardant. Because of its fiber strength and heat resistant properties, asbestos has been used for a wide range of manufactured goods, mostly in building materials, vehicle brakes, and heat-resistant fabrics, packaging, gaskets, and coatings. When asbestos-containing materials (ACMs) are damaged or disturbed by repair, remodeling, or demolition activities, microscopic asbestos fibers may become airborne and can be inhaled into the lungs, where they can cause significant health problems.

No structures are located on the subject site. Therefore, ACMs are not considered an on-site environmental concern at this time.

Lead-Based Paint

Although lead-based paint (LBP) was banned in 1978, many building constructed prior to 1978 have paint that contains lead. Lead from paint, chips, and dust can pose serious health hazards if not addressed properly.

No structures are located on the subject site. Therefore, lead-based paint is not considered an on-site environmental concern at this time.

Mold and Moisture Intrusion

A class of fungi, molds have been found to cause a variety of health problems in humans, including allergic, toxicological, and infectious responses. Molds are decomposers of organic materials, and thrive in humid environments, and produce spores to reproduce, just as plants produce seeds. When mold spores land on a damp spot indoors, they may begin growing and digesting whatever they are growing on in order to survive. When excessive moisture or water accumulates indoors, mold growth will often occur, particularly if the moisture problem remains undiscovered or unaddressed. As such, interior areas of buildings characterized by poor ventilation and high humidity are the most common locations of mold growth. Building materials including drywall, wallpaper, baseboards, wood framing, insulation and carpeting often play host to such growth. Moisture control is the key to mold control. Molds need both food and water to survive; since molds can digest most things, water is the factor that limits mold growth. The EPA recommends the following action to prevent the amplification of mold growth in buildings:

- Fix leaky plumbing and leaks in the building envelope as soon as possible.
- Watch for condensation and wet spots. Fix source(s) of moisture problem(s) as soon as possible.
- Prevent moisture due to condensation by increasing surface temperature or reducing the moisture level in air (humidity). To increase surface temperature, insulate or increase air circulation. To reduce the moisture level in air, repair leaks, increase ventilation (if outside air is cold and dry), or dehumidify (if outdoor air is warm and humid).
- Keep heating, ventilation, and air conditioning (HVAC) drip pans clean, flowing properly, and unobstructed.
- Vent moisture-generating appliances, such as dryers, to the outside where possible.
- Maintain low indoor humidity, below 60% relative humidity (RH), ideally 30-50%, if possible.
- Perform regular building/HVAC inspections and maintenance as scheduled.
- Clean and dry wet or damp spots within 48 hours.
- Do not let foundations stay wet. Provide drainage and slope the ground away from the foundation.

No structures are currently located on the subject site. Therefore, microbial growth and moisture intrusion are not considered an on-site environmental concern at this time.

Radon

Radon is a radioactive gas that is found in certain geologic environments and is formed by the natural breakdown of radium, which is found in the earth's crust. A radon survey was not included within the scope of this investigation; however, the State of California Department of Public Health (CDPH) maintains a statewide database of radon results in designated geographic areas. Radon detection devices are placed in homes throughout the study region to determine geographic regions with elevated radon concentrations. The U.S. EPA has set the safety standard for radon gas in homes to be 4.0 pico Curies per liter (pCi/L).

The US EPA has prepared a map to assist National, State and local organizations to target their resources and to implement radon-resistant building codes. The map divides the country into three Radon Zones, Zone 1 being those areas with the average predicted indoor radon concentration in residential dwellings exceeding the EPA Action Limit of 4.0 pCi/L. It is important to note that the EPA has found homes with elevated levels of radon in all three zones, and the EPA recommends site specific testing in order to determine radon levels at a specific location. However, the map does give a valuable indication of the propensity of radon gas accumulation in structures. Review of the EPA Map of Radon Zones places the Property in Zone 2, where average predicted radon levels are between 2.0 and 4.0 pCi/L. Therefore, the available data suggests that the potential for radon to adversely impact the subject site appears to be low.

Environmental Non-Compliance Issues

No obvious material non-compliance issues were identified in connection with the subject site in the process of preparing this report.

Activity and Use Limitations

No activity and use limitations were identified in connection with the subject site in the process of preparing this report.

Wetlands

As defined by the U.S. EPA and the Department of Army, Corps of Engineers, wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Jurisdictional wetlands are regulated under Section 404 of the Clean Water Act (1972, 1977, and 1987, and also the 1985 and 1990 Farm Bills), and are important for protection of aquatic waterfowl and species, water purification, and flood control. According to current Corps of Engineers information, three basic criteria are currently used to define wetlands:

- Wetland hydrology - areas exhibiting surface or near-surface saturation or inundation at some point in time (greater than 12.5 percent of growing season defined on basis of frost-free days) during an average rainfall year.

- Hydrophilic vegetation - frequency of occurrence of wetland indicator plants (plant life growing in water, soil, or substrate that is periodically deficient in oxygen as a result of excessive water content).

- Hydric soil - landscape patterns identified by saturation, flooding, or ponding long enough during the growing season (generally seven days) which develop characteristic color changes in the upper part of the soil as a result of anaerobic conditions.

Based on Krazan's reconnaissance of the subject site, evidence was not apparent to suggest that the site contained a wetland. Furthermore, according to the U. S. Fish & Wildlife Service (USFWS) National Wetlands Inventory available via the USFWS Internet website, the subject site does not contain a designated wetland. Therefore, at this time, regulations pertaining to wetlands do not appear to impact the subject site.

5.0 USER-PROVIDED INFORMATION

A review of user-provided information was conducted in order to help identify pertinent information regarding potential environmental impacts associated with the subject site.

5.1 Environmental Liens/Activity and Use Limitations Report

An Environmental Lien/Activity and Use Limitations (EL/AUL) Report was completed by AFX Corp. Inc. (AFX) for the subject site on April 15, 2020. The AFX EL/AUL Report provides results from a search of available land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls. The subject site EL/AUL Report was reviewed to identify potential environmental liens, institutional controls (ICs), land use controls (LUCs), activity and use limitations (AULs), or declaration of environmental use restrictions (DEULs) which may have been filed against the subject site or exist in connection with the subject site as indicated by the subject site EL/AUL Report. Krazan's review of the EL/AUL Report indicated no liens, judgments, ICs, LUCs, AULs, or DEULs were found for the subject site according to the scope of work and limitations. Please refer to Appendix A for a copy of the AFX EL/AUL report.

5.2 Title Report

A Preliminary Title Report (PTR) dated February 10, 2020, prepared for the subject site by Chicago Title Company, was provided to Krazan by EAH, Inc., Krazan's client and the Phase I ESA user. The subject site PTR was reviewed to identify potential environmental deed restrictions, environmental liens, or environmental activity and use limitations (AULs) which may have occurred on or exist in connection with the subject site. Krazan's review of the PTR indicated no environmental deed restrictions, environmental liens or environmental AULs for the subject site. However, as quoted from the subject site PTR, "It is important to note that this Preliminary Title Report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land." Please refer to Appendix B for a copy of the Title Company Preliminary Title report.

5.3 Phase I Environmental Site Assessment User Questionnaire

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *Brownfields Amendments*), the *user* must provide the following information (if available) to the *environmental professional*. Failure to provide this information could result in a determination that *all appropriate inquiry* is not complete. The user is asked to provide information or knowledge of the following:

1. Environmental cleanup liens that are filed or recorded against the site.
2. Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry.
3. Specialized knowledge or experience of the person seeking to qualify for the LLPs.
4. Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.
5. Commonly known or *reasonably ascertainable* information about the *property*.
6. The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.
7. The reason for preparation of this Phase I ESA.

On April 13, 2020, a completed Phase I ESA user questionnaire was received from Mr. Michael Schaier with EAH Housing, Krazan's client and the Phase I ESA user. Please refer to Appendix C for a copy of the completed Phase I ESA user questionnaire.

According to the questionnaire responses, Mr. Schaier, to the best of his knowledge as the user of this Phase I ESA, was not aware of any environmental cleanup liens and activity or land use limitations which have been filed or recorded against the subject site; and Mr. Schaier has no specialized knowledge or experience of the prior nature of the business or chemical utilization on the subject site. Mr. Schaier indicated that he has no knowledge of the historical uses of the subject site. Mr. Schaier indicated that he did not have knowledge of the past or current presence of specific chemicals or hazardous materials, unauthorized spills or chemical releases or of any environmental cleanups in connection with the subject site. Mr. Schaier indicated that he is not aware of any obvious indications pointing to the presence or likely presence of contamination of the subject property. Mr. Schaier indicated that the reason for preparation of this Phase I ESA is related to the need to update a previous Phase I ESA. Mr. Schaier indicated that the purchase price of the subject site reasonable reflects fair market value.

6.0 SITE USAGE SURVEY

The property usage survey included assessing property history, and reviewing local, state, and federal regulatory agency records.

6.1 Site History

A review of historical aerial photographs, a USGS topographic quadrangle map, City of Greenfield Community Development Department records, Monterey County Resource Management – Building Services records, and reasonably ascertainable cross-reference directories, a search for historical Sanborn fire insurance maps (SFIMs), and Phase I ESA interviews were utilized to assess the history of the subject site.

Previous Environmental Assessment

Krazan conducted a previous environmental assessment of the subject site entitled *Phase I Environmental Site Assessment, Proposed Residential Development Property, 41206 Walnut Avenue, APN 109-082-012, Greenfield, California 93827* (Krazan Project No. 034-18104) prepared for EAH Housing, dated September 7, 2018. Field work for this report was conducted on August 18, 2018 at which time the subject site was vacant land. No hazardous materials or hazardous waste were observed in association with the subject site, and no evidence of environmental concerns were identified in connection with the adjacent properties. The subject site was determined to have been utilized for agricultural purposes from at least 1937 to at least the early-2010s, and to have been fallow land/vacant land from the early-2010s until the time of the August 2018 site reconnaissance. No recognized environmental conditions were

identified in connection with the subject site during Krazan's September 7, 2018 Phase I ESA. However, the following potential area of concern (PAOC) and site development issues were identified in connection with the subject site:

PAOCs

- Krazan's review of historical aerial photographs indicates that a rural residential area was present in the northwestern portion of the subject site from at least 1937 until at least 1960, and a barn-type structure was visible in the northwestern portion of the subject site circa 1937. Additionally, historical aerial photographs of the subject site vicinity taken between 1937 and 2017 suggest that the subject site and the surrounding properties have been associated with agricultural uses throughout most of the 1937 to 2017 time interval. Historical uses of the subject site prior to 1937 were not reasonably ascertainable utilizing the standard historical references consulted during this assessment, and it is therefore unknown how long structures were located on the subject site prior to 1937. Mr. James McNulty, a representative of the owner of the subject site familiar with the subject site for the past 61 years, indicated that he was unaware of underground storage tanks (USTs) being located at the subject site and no records of USTs for the subject site are on file with the local regulatory agencies. However, USTs on rural or agricultural properties historically have been exempt from requirements for registration with regulatory agencies. Krazan's experience with such properties has shown that it is not uncommon for property owners/operators to install USTs for their convenience, especially in the vicinity of structures, which are undocumented and whose presence would remain unknown in spite of the standard data research conducted in the course of this Phase I ESA. It is therefore possible that subsurface features such as unregistered USTs may exist in the vicinity of the former on-site structures which remain unknown based upon the absence of any regulatory, municipality, interview data, or other evidence indicating their presence or location. Consequently, despite an absence of data suggesting their presence, the presence or absence of USTs associated with the northwestern portion of the subject site prior to the current owner of the subject site is unknown.

  For a higher level of due diligence, Krazan recommended conducting a limited geophysical survey in the inferred area of the vicinity of the former on-site structures previously located in the northwestern portion of the subject site to assess the presence or absence of subsurface metallic anomalies characteristic of underground storage tanks. If a UST is identified, it should be removed in accordance with State and local guidelines.

- Krazan's historical research indicated that the subject site was utilized for agricultural purposes from at least 1937 until at least the early-2010s, with an orchard partially occupying the subject site in 1937 and possibly before. Given the time frame in which the subject site was partially occupied by an orchard and the use of the subject site for the cultivation of row crops/orchards for at least 80 years, there was considered to be a heightened potential that environmentally persistent pesticides/herbicides historically may have been applied to the crops located on the subject site. Additionally, the subject site owner representative indicated in a questionnaire response that soil imported from the adjoining school is located on the subject site, although he did not indicate the location of the imported soil. Therefore, given the potential use of environmentally persistent pesticides and/or herbicides on site, the agricultural use of the subject site for an extended period of time (at least 80 years), the report that vicinity agricultural property soil was imported to the subject site, and the planned redevelopment of the subject site for residential purposes, the current condition of the subject site soils was considered to be

unknown and an assessment of shallow soils for the residues of such materials was considered to be prudent in consultation with the client.

A limited soil assessment was recommended to assess the presence or absence of significant concentrations of environmentally persistent pesticides/herbicides related to the historical agricultural use of the subject site.

Site Development Issues

- According to Mr. James McNulty, a representative of the owner of the subject site who had been familiar with the subject site for the past 61 years, no water wells were located on the subject site. However, Krazan's review of historical aerial photographs indicated that a structure was located within the northwestern portion of the subject site circa 1937. A domestic water well was possibly associated with the former on-site structure. If a water well is identified during the planned redevelopment of the subject site, it should be properly destroyed in accordance with State and local guidelines.

- According to Mr. McNulty, a septic system which has not been in use for 50+ years is located on the subject site. The presence of the septic system is not anticipated to have adversely impacted the subject site due to its presumed use for domestic purposes only. If the septic system is not to be utilized in the planned redevelopment of the subject site, it should be properly abandoned/closed or destroyed in accordance with State and local guidelines. Mr. McNulty has reportedly provided Krazan's client with a parcel map showing the approximate location of the reported septic system.

Based upon the presence of the above-referenced PAOCs, a Phase II Limited Geophysical Survey and Shallow Soil Assessment was conducted at the request of Krazan's client to assess the potential that the historic agricultural use of the property had adversely impacted on-site surficial soils and to assess the potential presence of an unregistered UST, the results of which are presented in a report entitled *Limited Geophysical Survey and On-site Shallow Soil Sampling and Analysis, Proposed Residential Development Property, 41206 Walnut Avenue, APN 109-082-012, Greenfield, California 93827* dated February 14, 2019. Excerpts from Krazan's February 14, 2019 report are presented below.

The purpose of this investigation was to assess the presence or absence of potential current or former unregistered USTs on the subject site and the presence or absence of potential concentrations of organochlorine pesticides (OCPs)/chlorinated herbicides (CHs) and arsenic in shallow soils located on the subject site property. The Site Development Issues were not addressed in this Report of Findings.

SCOPE OF WORK

- A shovel was utilized to excavate to approximately six (6) inches below ground surface (bgs). Soil samples were collected utilizing a shovel and were placed in laboratory-supplied glass jars. The soil samples were collected in the interval from approximately six (6) inches to one (1) foot bgs.

- Subsequent to sample collection, the soil samples were immediately placed in an iced chest, labeled on a chain-of-custody form and transferred to SunStar Laboratories of Lake Forest, California under chain-of-custody protocol.

- Constituents of concern (COCs) investigated during the course of this assessment and their respective analytical methods included the following:

    - OCPs by EPA Method 8081A;
    - CHs by EPA Method 8151; and,
    - Arsenic by EPA Method 6010B.

- On January 29, 2019, 21 discrete soil samples were collected from the subject site. The discrete samples were composted in the laboratory into three (3), three(3)-part composite samples (COMP C1A,C1B,C1C; COMP C2A, C2B,C2C, and COMP 3A,C3B,C3C) and three (3), four (4)-part composite samples (COMP C4A,C4B,C4C;4D, COMP C5A, C5B,C5C, C5D, and COMP 6CA,C6B,C6C,C6D) Each of the six (6) composite soil samples was analyzed for OCPs and CHs.

- One (1) discrete sample from each of the six (6) composite sampling areas was submitted for laboratory analysis for arsenic.

APPLICABLE REGULATORY AGENCY REFERENCE

Krazan's evaluation of the results and findings associated with the soil sampling included referencing the January 2019 San Francisco Regional Water Quality Control Board's (SFRWQCB) environmental screening levels (ESLs) referenced in the technical document titled, *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*. According to the RWQCB's 2019 document, ESLs are considered to be conservative. Under most circumstances and within limits described by the RWQCB, the presence of a chemical in soil, soil vapor or groundwater at concentrations below the corresponding ESL (Residential, Any Land Use/Construction Worker or Commercial/Industrial) for the respective constituent can be assumed not to pose a significant, long-term (chronic) threat to human health and the environment. Additional evaluation will generally be necessary at sites where a chemical is present at concentrations above the corresponding ESL. Active remediation may or may not be required, however, depending on site-specific conditions and considerations. As stated by the RWQCB, the ESL document may be especially beneficial for use at sites with limited impacts, where the preparation of a formal environmental assessment may not be warranted or feasible due to time and cost constraints.

REPORT AND DISCUSSION OF FINDINGS

Soil Sampling Results

- Analytical results for the soil samples submitted for laboratory analysis for OCPs and CHs were reported as not detected (ND) above laboratory reporting limits (RLs), as shown on Table I.

- Arsenic was ND above the laboratory RL of 5.0 mg/kg. The laboratory RL for arsenic is above the Residential ESL for arsenic, however, the laboratory RL is within the background level of 12 mg/kg that researchers with the DTSC have reported[1].

Limited Geophysical Survey (LGS)

- The results of the LGS indicated the presence of randomly scattered, shallow metal debris detect in the locations shown on the LGS report. According to the LGS, no anomalies possibly indicative of large structural objects such as USTs or items of significant debris were detected with the area of the LGS.

CONCLUSIONS

Based on the findings in the field and the laboratory analytical reports for the soil samples collected and analyzed from the subject site during this investigation, no evidence of a known significant impact (based on a comparison with established regulatory screening levels) was identified in the areas assessed with respect to the reported concentrations of OCPs and CHs.

In the area assessed, the LGS did not detect any metallic or other anomalies consistent with a UST or former UST excavation.

No additional previous assessments were provided to Krazan for review during the course of this assessment. Please refer to Appendix D for copies of Krazan's previous Phase I ESA and Phase II Limited Geophysical Survey and On-site Shallow Soil Sampling and Analysis reports.

Aerial Photograph Interpretation

Historical aerial photographs dated 1937, 1949, 1956, 1960, 1967, 1971, 1981, 1989, 1994, 2004, 2011, and 2018 were reviewed to assess the history of the subject site. These photographs were obtained from Environmental Data Resources, Inc. (EDR) and via the internet at Microsoft® Research Maps and Google Earth™. The aerial photograph summary is provided in the following Table V. Please refer to Appendix D for a copy of the Historical Aerial Photographs.

[1] Chernoff, G. et. Al., *Determination of a South California Regional Background Arsenic Concentration in Soil*, undated.

TABLE V
Summary of Aerial Photograph Review

Year/Scale	Site Use	Site and Adjacent Property Observation
1937 1" = 500'	Residential/ Agricultural	The northwestern portion of the subject site appears to be occupied by a barn-type structure and a smaller structure which may be small dwelling. The remainder of the subject site appears to be utilized for agricultural purposes, including an orchard in the eastern portion of the subject site. The northwestern and southwestern adjacent properties appear to be utilized for agricultural purposes. The southeastern adjacent property appears to be occupied by a rural residence and utilized for agricultural purposes. The northeastern adjacent property is not covered in the 1937 aerials photograph.
1949 1" = 500'	Residential/ Agricultural	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1937 aerial photograph except: 1) the barn-type structure previously noted in the northwestern portion of the subject site is no longer visible, 2) the presence of a dwelling and a small outbuilding in the northwestern portion of the subject site is more prominent in the 1949 aerial photograph, and 3) the northeastern adjacent property, visible in the 1949 aerial photograph, appears to be occupied by a rural residence and utilized for agricultural purposes.
1956 1" = 500'	Residential/ Agricultural	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1949 aerial photograph.
1960 1" = 500'	Residential/ Agricultural	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1956 aerial photograph.
1967 1" = 500'	Agricultural/ Vacant Land	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1960 aerial photograph except the structures previously noted in the northwestern portion of the subject site do not appear to be present. The northwestern portion of the subject site appears to be vacant land. However, the quality and resolution of the 1967 aerial photograph area poor.
1971 1" = 500'	Agricultural/ Vacant Land	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1967 aerial photograph.
1981 1" = 500'	Agricultural/ Vacant Land	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1971 aerial photograph.
1989 1" = 500'	Agricultural/ Exterior Storage Area	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1981 aerial photograph except the northwestern portion of the subject site appears to be utilized as an exterior equipment/materials storage area.
1994 1" = 500'	Agricultural/ Vacant Land	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1989 aerial photograph except the exterior storage use of the northwestern portion of the subject site is no longer visible. The northwestern portion of the subject site appears to be vacant land.
2004 1" = 500'	Agricultural (Fallow)	The subject site appears to be fallow agricultural land. No structures are visible on the subject site. Conditions on the adjacent properties appear relatively similar to those noted in the 1994 aerial photograph.

TABLE V (continued)
Summary of Aerial Photograph Review

Year/Scale	Site Use	Site and Adjacent Property Observation
2011 1" = 500'	Agricultural (Fallow)	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 2004 aerial photograph except: 1) the property located adjacent to the southeast of the eastern portion of the subject site has been developed with a public school, 2) the property located adjacent to the northeast of the subject site has been developed with a residential subdivision, and 3) the property located to the south of the central portion of the subject site is being developed with a residential subdivision.
2018 1" = 500'	Agricultural (Fallow)	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 2011 aerial photograph.

USGS Topographic Quadrangle Map

Krazan's review of the USGS, 7.5-minute, Greenfield, California topographic quadrangle map dated 1956 indicates that the northwestern portion of the subject site was occupied by a residential-type structure in 1956. The remainder of the subject site is depicted as vacant land. The northeastern and southeastern adjacent properties are depicted as being occupied by residential-type structures and orchards. The northwestern adjacent property is depicted as vacant land. The southwestern adjacent property is depicted as vacant land and an orchard. Refer to Figure No. 3, Topographic Map, for reference.

City of Greenfield Community Development Department Records

On August 15, 2018, during Krazan's previous Phase I ESA of the subject site, the City of Greenfield Community Development Department (CGCDD) was contacted to obtain potential building permits for the subject site address of 41206 Walnut Avenue. According to a representative of the City of Greenfield Community Development Department, no building permits are on file with the CGCDD for subject site address of 41206 Walnut Avenue. Therefore, no permits for underground storage tanks, complete building demolition, or previous structures/features are on file with the City of Greenfield Community Development Department for the subject site.

Additionally, the City of Greenfield was contacted on April 13, 2020 to determine if any building permits had been issued for the referenced subject site address/APN since Krazan's September 7, 2018 Phase I ESA was completed. According to Ms. Raquel Mays with the City of Greenfield, no building permits are on file with the City of Greenfield for the subject site address or APN.

Monterey County Resource Management Agency - Building Services

On August 8, 2018, during Krazan's previous Phase I ESA of the subject site, Krazan reviewed the Monterey County Resource Management – Building Services (MCBS) Online Portal database available

via the Monterey County website to obtain potential building permit records for the subject site address of 41206 Walnut Avenue and/or for the subject site APN of 109-082-012. Krazan's review of the Online Portal database revealed no building permits are on file with Monterey County Resource Management – Building Services the for the subject site APN of 109-082-012 and/or address of 41206 Walnut Avenue. Therefore, no permits for items such as underground storage tanks, septic systems, previous structures/features, or other subsurface features of potential environmental concern are included in the MCBS Online Portal database for the subject site.

City Directories

Reasonably ascertainable Haines Criss-Cross Directories (HCCDs) dated 1975 through 2017 were reviewed utilizing approximately five-year intervals at the City of Watsonville Public Library, Central Branch, located in Watsonville, California for the subject site address of 41206 Walnut Avenue and for the southern and western adjacent properties with historical structural development. A summary of Haines Criss-Cross Directory information is presented in the following Table VI.

TABLE VI
Haines Criss-Cross Directory Summary

Address	Owner/Occupant	Years
Subject Site		
41206 Walnut Avenue		
	Address Not Listed	1975 to 2005
	No Return	2010
	Address Not Listed	2015, 2017
Adjacent Properties with Historical Structural Development		
South & West – 450 3rd Street		
	Address Not Listed	1975 to 2005
	Residential Listing	2010, 2015, 2017
South & West – 470 3rd Street		
	Address Not Listed	1975 to 2005
	Residential Listing	2010, 2015, 2017

Krazan's review of cross-reference directories indicates that the subject site address of 41206 Walnut Avenue was not listed or was listed as "No Return" in all of the directories reviewed between 1975 and 2017 suggesting that the subject site has not been developed with any structures since at least 1975. Information obtained from review of cross-reference directories is consistent with that obtained from other sources during the course of this assessment.

Sanborn Fire Insurance Maps

Krazan reviews SFIMs to evaluate prior land use of the subject site and the adjacent properties. SFIMs typically exist for cities with populations of 2,000 or more, the coverage dependent on the location of the subject site within the city limits. Krazan contracted with EDR to provide copies of available SFIMs for the subject site and the adjacent properties as far back as 1867. EDR's search of SFIMs revealed no coverage for the subject site and the adjacent properties. Please refer to Appendix F for a copy of the EDR SFIM *No Maps Available* report.

6.2 Interviews

Krazan conducted an interview with a representative of the owner of the subject site. The interview is designed to provide pertinent information regarding potential environmental impacts associated with the subject site.

Subject Site Owner's Representative – An interview was conducted with Mr. Michael Schaier, a representative of Greenfield Commons EAH, LLC, the owner of the subject site, via his completion of an environmental questionnaire. According to questionnaire responses, Mr. Schaier indicated that he has been familiar with the subject site for the past 1.5 years. Mr. Schaier indicated that the subject site is currently vacant land and he indicated that he is not aware of any structures which were located on the subject site previously. Mr. Schaier indicated that he has no knowledge of the historical uses of the subject site. Mr. Schaier indicated that one septic system is located on the subject site.

According to Mr. Schaier, to the best of his knowledge, no use, storage, or disposal of hazardous materials; no existing or former ASTs or USTs; no hazardous materials spills, no environmental cleanups, no on-site treatment and/or discharge of waste; no environmental liens, AULs, engineering or institutional controls, no on-site leach fields, dry wells, sumps, or disposal ponds; no buried materials; no monitoring, domestic, or irrigation wells; or any items of environmental concern are associated with the subject site. Mr. Schaier indicated that he is not aware of any obvious indications pointing to the presence or likely presence of contamination of the subject property. Please refer to Appendix C for a copy of the environmental questionnaire completed by Mr. Schaier.

Previous Subject Site Owners/Occupants – During Krazan's previous Phase I ESA of the subject site, an interview was conducted with Mr. James McNulty, a representative of the previous owner of the subject site, via his completion of an environmental questionnaire. According to questionnaire responses, Mr. McNulty indicated that he had been familiar with the subject site for the past 61 years. Mr. McNulty indicated that the subject site was vacant former farmland. Mr. McNulty indicated that he was not aware

of any structures being previously located on the subject site. Mr. McNulty indicated that the subject site was historically utilized as a dairy and farmland. Mr. McNulty indicated that a septic tank which has not been used in 50 years was located on the subject site. Mr. McNulty indicated that soil imported from the adjoining school was located on the subject site, although he did not indicate where on the subject site the imported soil was located. During Krazan's site reconnaissance, the subject site was observed to be uniformly disced and no obvious evidence of imported soil was noted. Additionally, as was discussed in the previous ESA report, it was recommended that shallow soil samples be collected from the subject site for assessment of potential impact from environmentally persistent pesticides/herbicides. Consequently, any such contamination potentially derived from imported soils likely would be addressed via the proposed limited soil assessment.

According to Mr. McNulty, to the best of his knowledge, no use, storage, or disposal of hazardous materials, including environmentally persistent pesticides/herbicides; no existing or former ASTs or USTs; no hazardous materials spills, no environmental cleanups, no on-site treatment and/or discharge of waste (other than domestic waste); no environmental liens, AULs, engineering or institutional controls, no on-site dry wells, sumps, or disposal ponds; no buried materials; no monitoring, domestic, or irrigation wells; or any items of environmental concern were associated with the subject site. Mr. McNulty indicated that he was not aware of any obvious indications pointing to the presence or likely presence of contamination of the subject property. Mr. McNulty indicated that the reason for preparation of the Phase I ESA was related to a proposed property development. Mr. McNulty indicated that the purchase price of the subject site reasonably reflected fair market value.

6.3 Agricultural Chemicals

During Krazan's previous Phase I ESA of the subject site, historical research indicated that the subject site was utilized for agricultural purposes from at least 1937 until at least the early-2010s, with an orchard partially occupying the subject site in 1937 and possibly before. Given the time frame in which the subject site was partially occupied by an orchard and the use of the subject site for the cultivation of row crops/orchards for at least 80 years, there was considered to be a heightened potential that environmentally persistent pesticides/herbicides historically may have been applied to the crops grown on the subject site. Additionally, the subject site owner representative indicated in a questionnaire response that soil imported from the adjoining school is located on the subject site, although he did not indicate the location of the imported soil. Therefore, given the potential use of environmentally persistent pesticides and/or herbicides on site, an assessment of residues of these materials in surficial soils was recommended. Based on the findings in the field and the laboratory analytical reports for the soil samples collected and analyzed from the subject site during a subsequent investigation, no evidence of a known significant

impact (based on a comparison with established regulatory screening levels) was identified in the areas assessed with respect to the reported concentrations of the environmentally persistent pesticides and herbicides assessed. Please refer to Section 6.1 of this report for additional discussion of Krazan's assessment of environmentally persistent pesticides and herbicides.

6.4 Regulatory Agency Interface

A review of regulatory agency records was conducted to help determine if hazardous materials have been handled, stored, or generated on the subject site and/or the adjacent properties and businesses.

Regulatory records are reviewed based on the following criteria: 1) properties with known soils and/or groundwater releases considered to represent the potential for impact to the subject site that are located within 1,760 feet of the subject site for constituents of concern impacts or 528 feet of the subject site for petroleum hydrocarbon impacts; 2) properties that are adjacent or in proximity to the subject site included within the EDR regulatory database report or noted during the site reconnaissance to possibly handle, store, or generate hazardous materials.

Monterey County Health Department – Environmental Health Division

The Monterey County Health Department, Environmental Health Division (MCEHD) is the lead regulatory agency or Certified Unified Program Agency (CUPA) for hazardous materials handling facilities located in Monterey County. On April 8, 2020, the MCEHD was contacted regarding potential records associated with USTs, leaking underground storage tanks (LUSTs), hazardous materials business plans (HMBPs), hazardous waste generation, hazardous materials release/spill incidents, and environmental cleanups for the subject site address of 41206 Walnut Avenue and for the two proximate properties addresses as 450 and 470 3st Street. According to a representative of the MCEHD, no hazardous materials records are on file with the MCEHD for the subject site address of 41206 Walnut Avenue or for the two referenced proximate addresses.

State of California Regional Water Quality Control Board - Geotracker

Krazan's April 14, 2020 review of the State of California Regional Water Quality Control Board (RWQCB) Geotracker database available via the RWQCB Internet Website indicated that no cleanup sites including LUST sites, cleanup program sites, land disposal sites, or military sites are listed for the subject site, the adjacent properties, or properties located within the subject site vicinity. Additionally, no permitted UST sites were determined to be located on or adjacent to the subject site.

State of California Department of Toxic Substances Control - Envirostor

Krazan's April 14, 2020 review of the State of California Department of Toxic Substances Control (DTSC) Envirostor database available via the DTSC's Internet Website indicated that no records of cleanup sites including State response sites, voluntary cleanup sites, school cleanup sites, or military or school evaluation sites are listed for the subject site, the adjacent properties, or properties located within 500 feet of the subject site. However, a school evaluation site which has been assessed under DTSC oversight, Apple Avenue Elementary School Site (Apple Avenue/2nd Street/3rd Street) is located within the subject site vicinity. A Phase I ESA conducted at this property resulted in the identification of potential surficial soil impacts from the potential historical use of environmentally persistent pesticides/herbicides associated with historical agricultural use of the subject site and the potential presence of naturally occurring asbestos (NOA) in site soils. In response to the Phase I ESA findings, environmental samples were collected and analyzed via a Preliminary Endangerment Assessment (PEA), and no environmentally persistent pesticide/herbicide contaminants and no naturally occurring asbestos were identified during this site investigation work. The proposed school site was granted a "No Action Required" status as of August 29, 2006, indicating that the concentrations of the chemicals of concern were below respective detection limits and/or regulatory action limits and that this property was considered to be acceptable for unrestricted land use. The property has since been developed for public school use. Consequently, there is no evidence to suggest that the above-referenced school site represents an environmental concern in connection with the subject site. Additionally, no Federal Superfund – National Priorities List (NPL) sites were determined to be located within a one-mile radius of the subject site.

Greenfield Fire Protection District

The Greenfield Fire Protection District (GFPD) has jurisdiction for fire protection for the subject site and the immediate vicinity. During the course of several previous Phase I ESAs conducted by Krazan in Greenfield, the GFPD Greenfield Fire Protection District has been contacted regarding potential records of hazardous materials storage and hazardous materials release incidents. According to representatives of the Greenfield Fire Protection District, hazardous materials storage and spill incident records are maintained by the Monterey County Environmental Health Division. Additionally, hazardous materials release incident records have historically been filed according to the date of occurrence and not by the location of occurrence with the Greenfield Fire Protection District.

California Department of Conservation, Division of Oil, Gas and Geothermal Resources - DOMS

Krazan's April 14, 2020 review of the State of California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) Online Mapping System (DOMS) indicated that no plugged and abandoned or producing oil wells are located on or adjacent to the subject site.

Local Area Tribal Records

No Indian reservations, USTs on Indian land, or LUSTs on Indian land were reported on the subject site, adjacent properties, or vicinity properties in the EDR-provided government database report.

6.5 Regulatory Agency Lists Review

Several agencies have published documents that list businesses or properties which have handled hazardous materials or waste or may have experienced site contamination. The lists consulted in the course of our assessment were compiled by EDR and Krazan and represent reasonably ascertainable current listings. Krazan did not verify the locations and distances of every property listed by EDR. Krazan verified the location and distances of the properties Krazan deemed as having the potential to adversely impact the subject site. The actual location of the listed properties may differ from the EDR listing. Refer to the following Table VII for a summary of the listed properties considered to have the potential to impact the subject site located within the specified ASTM Search Radii. The actual distances of the listed properties (which are summarized below) are based on observations during Krazan's site reconnaissance. No EDR-listed unmapped (non-geocoded) sites were determined to be located on or adjacent to the subject site. Please refer to Appendix G for a copy of the EDR Radius Map report.

TABLE VII
Listed Properties

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	1	1	NR	2
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

TABLE VII (continued)
Listed Properties

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

TABLE VII (continued)
Listed Properties

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

TABLE VII (continued)
Listed Properties

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001	1	0	NR	NR	NR	NR	1
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		1	0	0	1	1	0	3

TABLE VII (continued)
Listed Properties

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:
TP = Target Property
NR = Not Requested at this Search Distance
Sites may be listed in more than one database

The following listing is contained in the EDR report for the subject site address:

Walnut Avenue Widening Project — subject site
41206 Walnut Avenue
According to EDR, the subject site address of 41206 Walnut Avenue is listed as a CIWQS site. The CIWQS listing is associated with the processing and issuance of a permit for the control of stormwater runoff associated with construction activities related to the widening of Walnut Avenue in the vicinity of the subject site. This NPDES permit was reportedly effective on July 22, 2011 and was terminated on September 1, 2012 following completion of construction activities. No violations or indications of an unauthorized release of hazardous materials are noted in the EDR report. The issuance of a CIWQS permit for an active or proposed construction site without evidence of violations associated with the permit does not constitute an environmental concern in connection with the subject site.

Hazardous Materials Migration in Soils and/or Groundwater

No sites with confirmed releases of hazardous materials to the subsurface were reported within a 3,000-foot radius of the subject site. In general, potentially hazardous materials or petroleum products released from facilities located approximately hydraulically upgradient within the subject site vicinity, or in a hydraulically cross-gradient direction in proximity to the site, may have a reasonable potential of migrating to the subject site via groundwater flow. This opinion is based on the assumption that non-vaporous hazardous materials generally do not migrate large distances laterally within the soil, but rather tend to migrate with groundwater in the general direction of groundwater flow. However, the potential for migration of volatile hazardous materials may include movement within soils, groundwater flow or potentially omni-directionally if present in a vaporous state.

Hazardous Materials Migration in Vapor

Hazardous materials or petroleum product vapors which may have the potential to migrate into the subsurface of the subject site may be caused by the release of vapors from contaminated soil or groundwater either on or in the vicinity of the subject site from current or historical uses of the subject site and/or adjacent or vicinity properties. Current or past land uses such as gasoline stations (using petroleum hydrocarbons), dry cleaning establishments (using chlorinated volatile organic compounds), former manufactured gas plant sites (using volatile and semi-volatile organic compounds), and former industrial sites such as those that had vapor degreasing or other parts-cleaning operations (using chlorinated volatile organic compounds) are of particular concern. Constituent of concern vapors are capable of migrating great distances omni-directionally along subsurface conduits such as pipelines, utility lines, sewer and stormwater lines, and building foundations.

Based on Krazan's observations and review of State and local regulatory agency records and the EDR regulatory database report, no listings of concern related to potential vapor migration were determined to be associated with the subject site, adjacent properties, or properties located within the subject site vicinity. Review of vicinity properties listed by EDR as release sites within the applicable search radii suggests that these properties do not represent a significant potential for vapor migration in conjunction with the subject site. The rationale supporting this opinion includes the following:

- None of the reported sites were in close proximity to the subject site.
- Relevant sites had undergone investigation and remediation sufficient to receive regulatory agency closure.
- Sites with reported releases of minor quantities of COCs or COCs of limited volatility impacting soil only were considered of minimal concern.
- The lateral migration of the COCs in groundwater is reported to be limited and COCs were not detected in groundwater samples collected downgradient of the release and several hundred feet upgradient of the subject site.
- Sites with reported releases of COCs including volatile organic compounds (VOCs) were either of sufficient distance or hydraulically down- or cross-gradient from the subject site such that they do not appear to represent a significant potential for vapor migration on the subject site.
- Sites with reported releases of COCs including volatile organic compounds (VOCs) were investigated via the collection and analysis of shallow soil gas samples and found to contain COCs concentrations below laboratory reporting limits, below regulatory action levels and/or below levels of potential concern relative to indoor air quality impacts.

No engineering control sites, sites with institutional controls, or sites with deed restrictions were listed for the subject site, adjacent sites or vicinity properties in the EDR Report.

7.0 DISCUSSION OF FINDINGS

TABLE VIII
Summary of Conclusions

Apparent Evidence of RECs or PAOCs From:	Not Noted	Noted
Historical Uses	X	
Current Uses	X	
Adjacent or Vicinity Property Uses	X	

Historical Uses

Based on Krazan's review of historical aerial photographs, a site reconnaissance, contacts with the local regulatory agencies, and interviews with representatives of the previous and current owners of the subject site, there is no evidence that recognized environmental conditions exist in connection with the historical uses of the subject site.

Current Uses

Based on Krazan's site reconnaissance, contacts with local regulatory agencies, and an interview with a representative of the owner of the subject site, there is no evidence that recognized environmental conditions exist in connection with the current uses of the subject site. However, site development issues were identified in connection with the subject site which are discussed in the Conclusions/Opinions section of this report.

Adjacent or Vicinity Property Uses

Based on Krazan's field observations, review of the EDR government database report, and consultation with local regulatory agencies, there is no evidence that recognized environmental conditions exist in connection with the subject site from adjacent property uses.

7.1 Evaluation of Data Gaps/Data Failure

In accordance with ASTM E 1527-13 guidance, data gaps represent a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice. Data failure represents the failure to achieve the historical research objectives of this practice even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

The following is a summary of data gaps encountered in the process of preparing this report including an observation as to the presumed significance of that data gap to the conclusions of this assessment.

- Unknown Date of First Development (Section 6.1)

  Site history prior to 1937 was not reasonably ascertainable based upon review of standard historical sources. Consequently, data failure was encountered relative to date of first development of the subject site. Taken in consideration with the available information obtained in the course of preparing this report in conjunction with professional experience, there is no evidence to suggest that this data gap might alter the conclusions of this assessment. However, the date of first development of the subject site is unknown.

8.0 CONCLUSIONS/OPINIONS

We have conducted a Phase I ESA of the subject site in conformance with the scope and limitations of the ASTM E 1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* guidance documents. Any deviations from this practice were previously described in this report. During the course of this assessment, Krazan identified no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in conjunction with the subject site as defined by ASTM E 1527-13. Former potential areas of concern (PAOCs) previously identified in Krazan's September 7, 2018 Phase I ESA report for the subject site which have been addressed in Krazan's February 14, 2019 Limited Geophysical Survey and On-site Shallow Soil Sampling and Analysis report are discussed in Section 6.1 of this report. Additionally, the following site development issues were identified in connection with the subject site:

Site Development Issues

- According to Mr. James McNulty, a representative of the previous owner of the subject site who has been familiar with the subject site for 61 years, no water wells are located on the subject site. However, Krazan's review of historical aerial photographs indicates that a structure was located within the northwestern portion of the subject site circa 1937. A domestic water well was possibly associated with the former on-site structure. If a water well is identified during the planned redevelopment of the subject site, it should be properly destroyed in accordance with State and local guidelines.

- According to Mr. McNulty, a septic system which has not been in use for 50+ years is located on the subject site. The presence of the septic system is not anticipated to have adversely impacted the subject site due to its presumed use for domestic purposes only. If the septic system is not to be utilized in the planned redevelopment of the subject site, it should be properly abandoned/closed or destroyed in accordance with State and local guidelines. Mr. McNulty has

reportedly provided Krazan's client with a parcel map showing the approximate location of the reported septic system.

9.0 RELIANCE

This report was prepared solely for use by Client and should not be provided to any other person or entity without Krazan & Associates' prior written consent. No party other than Client may rely on this report without Krazan & Associates' express prior written consent. Reliance rights for third parties will only be in effect once requested by Client and authorized by Krazan & Associates with authorization granted by way of a Reliance Letter. The Reliance Letter will require that the relying party(ies) agree to be bound to the terms and conditions of the agreement between Client and Krazan & Associates as if originally issued to the relying party(ies), or as so stipulated in the Reliance Letter.

10.0 LIMITATIONS

The site reconnaissance and research of the subject site has been limited in scope. This type of assessment is undertaken with the calculated risk that the presence, full nature, and extent of contamination would not be revealed by visual observation alone. Although a thorough site reconnaissance was conducted in accordance with ASTM Guidelines and employing a professional standard of care, no warranty is given, either expressed or implied, that hazardous material contamination or buried structures, which would not have been disclosed through this investigation, do not exist at the subject site. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used.

The findings presented in this report were based upon field observations during a single property visit, review of available data, and discussions with local regulatory and advisory agencies. Observations describe only the conditions present at the time of this investigation. The data reviewed and observations made are limited to accessible areas and currently available records searched. Krazan cannot guarantee the completeness or accuracy of the regulatory agency records reviewed. Additionally, in evaluating the property, Krazan has relied in good faith upon representations and information provided by individuals noted in the report with respect to present operations and existing property conditions, and the historical uses of the property. It must also be understood that changing circumstances in the property usage, proposed property usage, subject site zoning, and changes in the environmental status of the other nearby

properties can alter the validity of conclusions and information contained in this report. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used.

This report is provided for the exclusive use of the client noted on the cover page and shall be subject to the terms and conditions in the applicable contract between the client and Krazan. Any third party use of this report, including use by Client's lender, shall also be subject to the terms and conditions governing the work in the contract between the client and Krazan. The unauthorized use of, reliance on, or release of the information contained in this report without the express written consent of Krazan is strictly prohibited and will be without risk or liability to Krazan.

Conclusions and recommendations contained in this report are based on the evaluation of information made available during the course of this assessment. It is not warranted that such data cannot be superseded by future environmental, legal, geotechnical or technical developments. Consequently, given the possibility for unanticipated hazardous conditions to exist on a subject site which may not have been discovered, this Phase I ESA is not intended as the basis for a buyer or developer of real property to waive their rights of recovery based upon environmental unknowns. Parties that choose to waive rights of recovery prior to site development do so at their own risk.

Parties who seek to rely upon Phase I Environmental Site Assessment reports dated more than 180 days prior to the date of reliance do so at their own risk. This limitation in reliance is based on the potential for physical changes at the site, changes in circumstances, technological and professional advances, and guidance related to the continued viability of Environmental Site Assessment reports, user's responsibilities, and requirements for updating of components of the inquiry as stated in the ASTM Standard E 1527-13.

11.0 QUALIFICATIONS

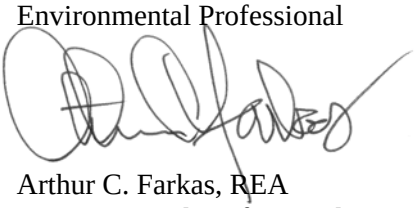
This Phase I ESA was conducted under the supervision or responsible charge of Krazan's undersigned environmental assessor with oversight from the undersigned environmental professional. The work was conducted in accordance with ASTM E 1527-13 guidance, generally accepted industry standards for environmental due diligence in place at the time of the preparation of this report, and Krazan's quality-control policies.

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in §312.10 of 40 CFR 312 and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property.

We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

William Vick, PhD, REA
Environmental Professional



Arthur C. Farkas, REA
Environmental Professional

WHV/ACF/mlt

REFERENCES

Aerial photographs obtained from Environmental Data Resources, Inc. (EDR), Microsoft® Research Maps, and Google Earth™.

AFX Corp, Inc., Environmental Lien/Activity Use Limitations Report.

American Society for Testing and Materials (ASTM), *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment (ESA) Process*, ASTM Designation: E 1527-13.

ASTM, *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions,* ASTM Designation E 2600-10.

City of Greenfield Community Development Department.

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EDR, Sanborn Fire Insurance Map *No Maps Available* Report.

EDR, Regulatory Database Report.

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Krazan & Associates, *Phase I Environmental Site Assessment, Proposed Residential Development Property, 41206 Walnut Avenue, APN 109-082-012, Greenfield, California 93827*, September 7, 2018.

Krazan & Associates, *Limited Geophysical Survey and On-site Shallow Soil Sampling and Analysis, Proposed Residential Development Property, 41206 Walnut Avenue, APN 109-082-012, Greenfield, California 93827*, February 14, 2019.

McNulty, Mr. James, Representative of the Previous Owner of the Subject Site, Phase I ESA Property Owner Questionnaire.

Monterey County Health Department, Environmental Health Division.

Monterey County Resource Management – Building Services.

Schaier, Mr. Michael, EAH Housing, Inc., Phase I ESA User Questionnaire.

Schaier, Mr. Michael, Representative of Greenfield Commons EAH, LLC, Owner of the Subject Site, Phase I ESA Property Owner Questionnaire.

State of California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) Maps Website: http://www.conservation.ca.gov/dog/maps/Pages/index_map.aspx

State of California Department of Toxic Substances Control, Envirostor Website: http://www.envirostor.dtsc.ca.gov/public

REFERENCES (continued)

State of California Regional Water Quality Control Board, Geotracker Website:
http://geotracker.swrcb.ca.gov

U.S. Environmental Protection Agency (EPA) *Map of Radon Zones*.

U.S. Fish & Wildlife Service National Wetland Inventory *Wetlands Mapper:*
http://www.fws.gov/wetlands/Data/Mapper.html

U.S. Geological Survey, 7.5-minute Greenfield, California topographic quadrangle map, dated 1956.

GLOSSARY OF TERMS

Subject Site: The real property being investigated under this Phase I ESA.

Adjacent Properties: Properties which are contiguous with the subject site, or would be contiguous except for a street, road, or other public thoroughfare.

Subject Site Vicinity: Properties located within a 500-foot radius of the subject site.

Environmental Professional: A person meeting the education, training, and experience requirements as set forth in 40 CFR §312.10(b). The EP may be an independent contractor or an employee of the user.

User: The party seeking to use Practice E 1527 to complete an environmental site assessment of the subject site. A user may include, without limitation, a potential purchaser of the subject site, a potential tenant of the subject site, an owner of the subject site, a lender, or a property manager.

Recognized Environmental Condition (REC): In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a parcel of property, the goal of the processes established by this practice is to identify recognized environmental conditions. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.

Controlled Recognized Environmental Condition (CREC): A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). For example, if a leaking underground storage tank has been cleaned up to a commercial use standard, but does not meet unrestricted residential cleanup criteria, this would be considered a CREC. The "control" is represented by the restriction that the property use remain commercial. A condition considered by the environmental professional to be a CREC shall be listed in the findings section of the Phase I ESA report and as an REC in the conclusions section. A condition identified as a CREC does not imply that the environmental professional has evaluated or confirmed the adequacy, implementation, or continued effectiveness of the required control that has been, or is intended to be, implemented.

Historical Recognized Environmental Condition (HREC): A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release an HREC, the environmental professional must determine whether the past release is an REC at the time the Phase I ESA is conducted (for example, if there has been change in the regulatory criteria). If the EP considers the past release to be an REC at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as an REC.

GLOSSARY OF TERMS (continued)

Potential Area of Concern (PAOC): A term adopted to provide an alternative designation to the REC and HREC for a range of environmental issues related to current subject site uses, historical subject site uses, or from adjacent and/or vicinity property uses. The PAOC is utilized to emphasize full disclosure and provide the User with conclusions and recommendations related to potential environmental issues in connection with the subject site based on Krazan's professional experience in cases where official documentation or other evidence may be absent in order to identify an REC or HREC, thereby aiding the User's considerations of environmental due diligence risk tolerance.

Migrate/migration: For the purposes of this practice, "migrate" and "migration" refer to the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface. Vapor migration in the subsurface is described in ASTM E 2600-10 guidance; however, nothing in the E 1527-13 practice should be construed to require application of the E 2600-10 standard to achieve compliance with AAI.

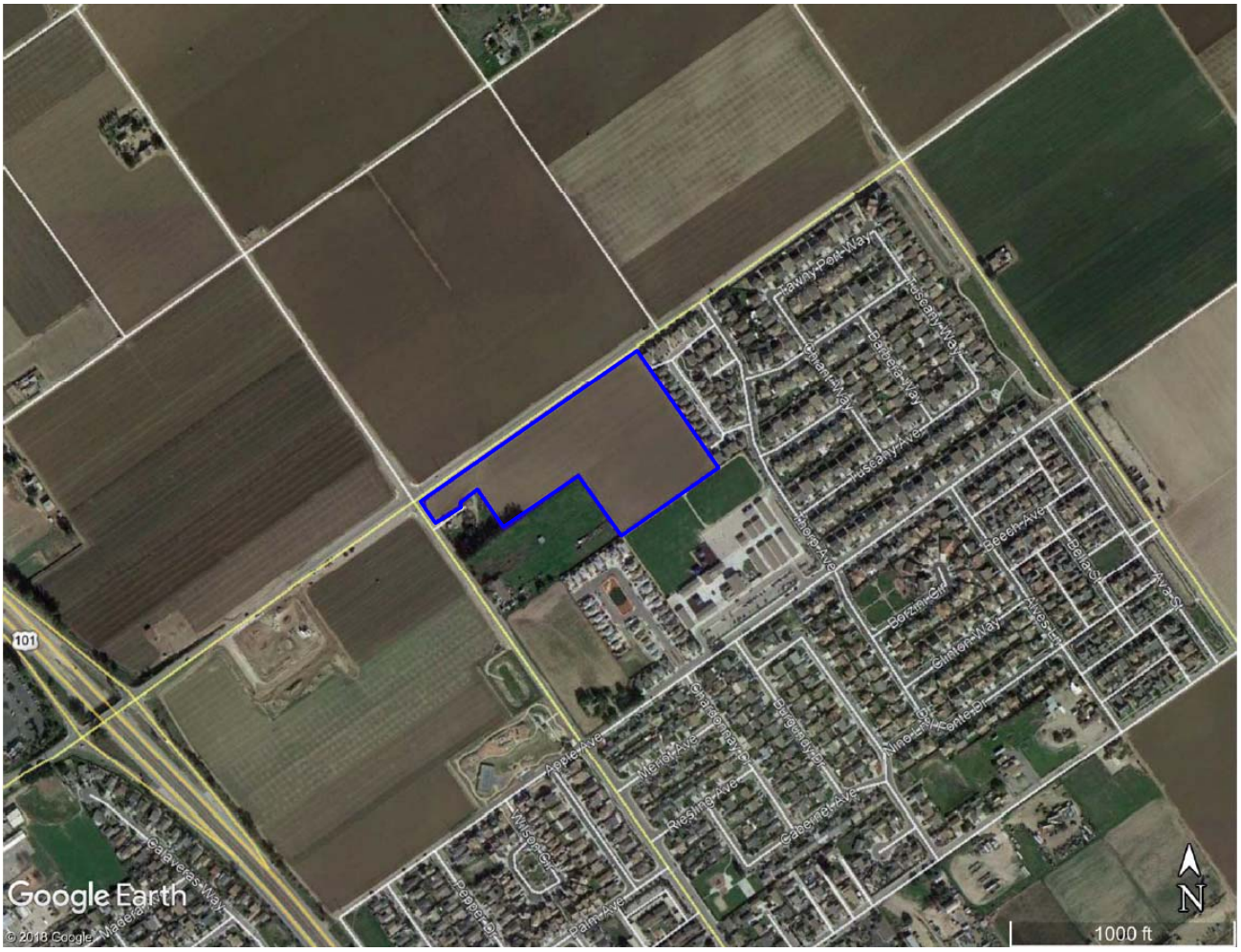
De minimis condition: A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Condition determined to be *de minimis conditions* are not RECS or CRECs.

Data Gap: A lack of or inability to obtain information required by this practice despite good faith efforts by the Environmental Professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to the site reconnaissance and interviews.

Data Failure: A failure to achieve the historical research objectives even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

GLOSSARY OF TERMS (continued)

AAI	All Appropriate Inquiries
AC	Asphalt Concrete
ACM	Asbestos-Containing Materials
AOC	Area of Concern
APN	Assessor's Parcel Number
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
AS	Air Sparging
AUL	Activity & Use Limitations
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CESQG	Conditionally Exempt Small Quantity Generator
CFR	Code of Federal Regulations
CMU	Concrete Masonry Unit
COCs	Constituents of Concern
DEULs	Declaration of Environmental Use Restrictions
DOGGR	Division of Oil, Gas & Geothermal Resources (CA)
DTSC	Department of Toxic Substances Control (CA)
EC	Engineering Control
EDR	Environmental Data Resources, Inc.
EP	Environmental Professional
EPA	United States Environmental Protection Agency
ERP	Emergency Response Plan
ESA	Environmental Site Assessment
ESL	Environmental Screening Level
FOIA	Freedom of Information Act
GPR	Ground Penetrating Radar
HCCD	Haines Criss-Cross Directory
HFIM	Historical Fire Insurance Map
HMBP	Hazardous Materials Business Plan
HREC	Historical Recognized Environmental Condition
HVAC	Heating, Ventilation, Air Conditioning
IC	Institutional Control
LBP	Lead-Based Paint
LLP	Landowner Liability Protection
LQG	Large Quantity Generator
LUC	Land Use Control
LUST	Leaking Underground Storage Tank
MCL	Maximum Contaminant Level
µg/L	Micrograms Per Liter
mg/kg	Milligrams Per Kilogram
mg/L	Milligrams Per Liter
MSDS	Material Safety Data Sheet
MTBE	Methyl Tertiary Butyl Ether
MFR	Multi-Family Residential
ND	Nondetectable
NFA	No Further Action (letter)
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
O&M	Operations & Maintenance Plan
PAOC	Potential Area of Concern
PCB	Polychlorinated Biphenyl
PCC	Portland Cement Concrete
PCE	Perchloroethylene
PEC	Potential Environmental Concern (TS)
PGD	Polk Guide Directory
PG&E	Pacific Gas & Electric
PHCs	Petroleum Hydrocarbon Constituents
PID	Photoionization Detector
ppb	Parts Per Billion
ppm	Parts Per Million
PRG	Preliminary Remediation Goal
PRP	Potentially Responsible Party
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RP	Responsible Party
RWQCB	Regional Water Quality Control Board (CA)
SBA	Small Business Administration
SFR	Single-Family Residential
SPCC	Spill Prevention Control and Countermeasure Plan
SQG	Small Quantity Generator
SCE	Southern California Edison
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compound
SWRCB	State Water Resources Control Board
TCE	Trichloroethylene
TPH	Total Petroleum Hydrocarbons
TPH-D	Total Petroleum Hydrocarbons as Diesel
TPH-G	Total Petroleum Hydrocarbons as Gasoline
TPH-MO	Total Petroleum Hydrocarbons as Motor Oil
TS	Transaction Screen
USGS	United States Geological Survey
USFWS	United States Fish & Wildlife Service
UST	Underground Storage Tank
VEC	Vapor Encroachment Condition
VES	Vapor Encroachment Screening
VOCs	Volatile Organic Compounds



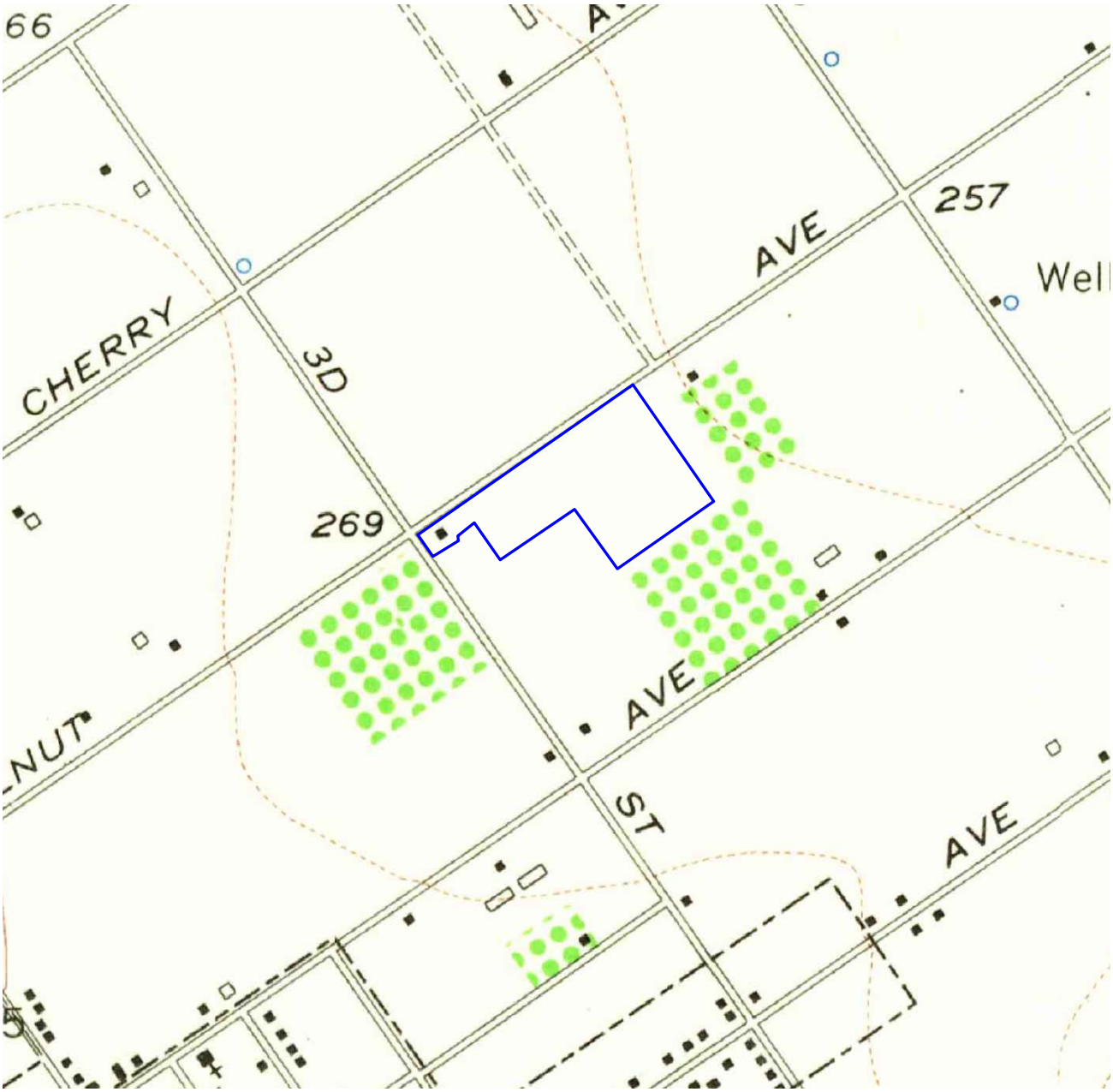
= SUBJECT SITE BOUNDARY

VICINITY MAP **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** NTS	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***With Offices Serving the Western U. S.***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-18104	**Figure No.** 1	

= SUBJECT SITE BOUNDARY (APPROXIMATE)

= HISTORICAL RURAL RESIDENTIAL AREA (APPROXIMATE – FROM HISTORICAL AERIAL PHOTOS)
= APPROXIMATE LOCATION OF BARN-TYPE STRUCTURE (1937 AERIAL PHOTOGRAPH)
= STORMWATER DRAIN INLET

SITE MAP **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** NTS	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***With Offices Serving the Western U. S.***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-18104	**Figure No.** 2	



7.5-MINUTE SERIES
USGS TOPOGRAPHIC MAP
GREENFIELD, CALIFORNIA
DATED 1956

= SUBJECT SITE BOUNDARY

TOPOGRAPHIC MAP **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** NTS	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***With Offices Serving the Western U. S.***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-18104	**Figure No.** 3	

Photo 1: Southwestern-facing view of the northwestern portion of the subject site historically occupied by a rural residence.

Photo 2: Northeastern-facing view of the central part of the northwestern portion of the subject site adjacent to Walnut Avenue.

Photo 3: Northeastern-facing view of the eastern part of the northwestern portion of the subject site adjacent to Walnut Avenue.

Photo 4: Southeastern-facing view of the northeastern portion of the subject site.

Photo 5: Southwestern-facing view of the central portion of the subject site.

Photo 6: Southwestern-facing view of the southeastern portion of the subject site.

Photo 7: Southwestern-facing view of the central-southern portion of the subject site.

Photo 8: Northwestern-facing view of the central portion of the subject site.

Photo 9: Northeastern-facing view of the central portion of the subject site.

Photo 10: Northeastern-facing view of the northwestern portion of the subject site historically occupied by a rural residence.

Photo 11: Northwestern-facing view of the agricultural land located adjacent to the northwest of the subject site.

Photo 12: Western-facing view of the single-family homes located adjacent to the northeast of the subject site.

Photo 13: Southeastern-facing view of the public school located adjacent to the southeast of the eastern portion of the subject site.

Photo 14: Southwestern-facing view of the rural residence located adjacent to the south and west of the central portion of the subject site.

Photo 15: Eastern-facing view of the single-family home located adjacent to the south and west of the subject site.

Photo 16: Southwestern-facing view of the agricultural land located adjacent to the southwest of the subject site.

Appendix A

ENVIRONMENTAL LIEN AND AUL REPORT

Order Number:
03418104-BV

AFX Reference Number:
79-131109-47

Subject Property:
41206 WALNUT AVENUE
GREENFIELD, CA 93927

Completed:
04/15/2020

AFX RESEARCH, LLC

A Quarter-Century of Title Document Research Expertise

999 Monterey St. Suite 380, San Luis Obispo, CA 93401

(877) 848-5337 / www.afxllc.com

ENVIRONMENTAL LIEN AND AUL REPORT

Order #: 03418104-BV | Reference #: 79-131109-47 | Completed: 04/15/2020

SOURCES SEARCHED

Source 1: MONTEREY COUNTY RECORDER'S OFFICE
Source 2: CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
Source 3: UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

TARGET PROPERTY

Current Owner(s): GREENFIELD COMMONS EAH LLC
Street Address: 41206 WALNUT AVENUE
City, State Zip Code: GREENFIELD, CA 93927
APN/Parcel/PIN: 109-082-012-000 County: MONTEREY
Legal Description: VOL 13 PAR MAPS PG 153 PAR 2 11.0 AC

PROPERTY OWNERSHIP

Instrument: **GRANT DEED**

Date Recorded: 04/30/2019 Instrument: 2019016901
Dated: 03/08/2019
Grantor(s): JAKE'S DREAM INVESTORS LIMITED PARTNERSHIP; JAMES RV MCNULTY, TRUSTEE OF THE JAMES RV MCNULTY LIVING TRUST
Grantee(s): GREENFIELD COMMONS EAH LLC

ENVIRONMENTAL LIENS

NO ENVIRONMENTAL LIENS FOUND FOR SUBJECT PROPERTY.

ACTIVITY AND USE LIMITATIONS (AUL)

NO AUL FOUND FOR SUBJECT PROPERTY.

LEASES AND MISCELLANEOUS INSTRUMENTS

NO LEASES OR MISCELLANEOUS INSTRUMENTS FOUND FOR SUBJECT PROPERTY.

THANK YOU FOR YOUR ORDER

For questions, please contact our office at 1-877-848-5337.

Order Number:
03418104-BV

AFX Reference Number:
79-131109-47

Our Environmental Lien and AUL report provides a summary of recorded information on a specific property from the time the current owner purchased the property, to present time. The report is intended to assist in the search for environmental liens filed in land title records. The report will verify property ownership and provide information on recorded environmental liens and/or Activity and Use Limitations that have been recorded from the time the current owner purchased the property, forward.

Our professional network of trained researchers follow established industry protocols and use client-supplied property information to complete this Environmental Lien and AUL report. The research is conducted at all appropriate government offices based on the location of the subject property. This would include City, County, State, Federal and Tribal offices as needed. The report includes:

- Current deed information (i.e. grantor, grantee, recording dates)
- Legal Description
- Environmental Lien information
- Activity and Use Limitation information
- Any Environmental Liens and/or documents referencing AULs that are listed within our summary report

DISCLAIMER

This report was prepared for the intended use of AFX Research, LLC (AFX) and client, exclusively. This report is not a guarantee of title, nor a commitment to insure, nor a policy of title insurance. No warranty, expressed or implied, is made whatsoever in connection with this report. AFX Research, LLC specifically disclaims the making of any such warranties, including without limitation, merchantability or fitness for a particular use or purpose. The information contained in this report is retrieved as it is recorded from the various agencies that make it available. The total liability is limited to the fee paid for this report.

Appendix B

CHICAGO TITLE COMPANY

PRELIMINARY REPORT

In response to the application for a policy of title insurance referenced herein, ***Chicago Title Company*** *hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.*

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

The policy(ies) of title insurance to be issued hereunder will be policy(ies) of Chicago Title Insurance Company, a Florida corporation.

Please read the exceptions shown or referred to herein and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

Chicago Title Insurance Company

By:

President

Countersigned By:

Authorized Officer or Agent

CHICAGO TITLE INSURANCE COMPANY CORPORATE SEAL

Attest:

Secretary

Visit Us on our Website: www.ctic.com

CHICAGO TITLE COMPANY

ISSUING OFFICE: 50 Winham Street, Salinas, CA 93901

FOR SETTLEMENT INQUIRIES, CONTACT:
Chicago Title Company
250 Bonifacio Place • Monterey, CA 93940
(831)375-2262 • FAX (831)646-8544

Another Prompt Delivery From Chicago Title Company Title Department
Where Local Experience And Expertise Make A Difference

PRELIMINARY REPORT

Update C

Title Officer: Maryrose Mancha
Email: mancham@ctt.com
Title No.: FWMN-5251900339-MM

Escrow Officer: Kimberly Verania
Email: Kim.Verania@ctt.com
Escrow No.: FWMN-5251900339

TO: Greenfield Commons EAH, LLC ,
c/o EAH Housing, 22 Pelican Way
San Rafael, CA 94901
Attn: Michael Schaier

PROPERTY ADDRESS(ES): 41206 Walnut Avenue, Greenfield, CA

EFFECTIVE DATE: February 10, 2020 at 07:30 AM

The form of policy or policies of title insurance contemplated by this report is:

CLTA Standard Coverage Policy 1990 (04-08-14)

1. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A Fee

2. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   Greenfield Commons EAH, LLC, a California Limited Liability Company

3. THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:

   SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

EXHIBIT "A"

Legal Description

For APN/Parcel ID(s): 109-082-012

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF GREENFIELD, COUNTY OF MONTEREY, STATE OF CALIFORNIA AND IS DESCRIBED AS FOLLOWS:

Parcel 2, as said parcel is shown and designated on the Parcel Map filed November 1, 1979, in Volume 13 of Parcel Maps, at Page 153, in the Office of the County Recorder of the County of Monterey, State of California.

AT THE DATE HEREOF, EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID POLICY FORM WOULD BE AS FOLLOWS:

1. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes to be levied for the fiscal year 2020-2021.

2. Property taxes, including any personal property taxes and any assessments collected with taxes are as follows:

Code Area:	008-029
Tax Identification No.:	109-082-012
Fiscal Year:	2019-2020
1st Installment:	$2,419.77 PAID
2nd Installment:	$2,419.77 Open
Exemption:	$0.00
Land:	$375,617.00
Improvements:	$0.00
Personal Property:	$0.00

3. Supplemental assessment for 2018-2019:

1st Installment	$3,554.95 PAID
2nd Installment:	$3,554.95, Open
Must be Paid By:	April 10, 2020
Bill No.:	990-303-511-000

4. Supplemental assessment for 2019-2020:

1st Installment	$21,022.71 PAID
2nd Installment:	$21,022.71, Open
Must be Paid By:	April 10, 2020
Bill No.:	991-303-511-000

5. The lien of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation Code as a result of the transfer of title to the vestee named in Schedule A.

6. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Clark Colony Water Co.
Purpose:	Water rights and rights of way
Recording Date:	July 28, 1905
Recording No.:	in Volume 87, Page 121, of Deeds

The exact location and extent of said easement is not disclosed of record.

EXCEPTIONS
(continued)

7. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

   Recording Date: December 9, 1909
   Recording No.: in Volume 106, Page 517, of Deeds

   Said covenants, conditions and restrictions do provide for reversion of title in the event of a breach thereof.

8. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

   Recording Date: April 10, 1913
   Recording No.: in Volume 129, Page 236, of Deeds

   Said covenants, conditions and restrictions do provide for reversion of title in the event of a breach thereof.

9. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

   Granted to: City of Greenfield
   Purpose: Public streets and public utilities
   Recording Date: December 11, 2013
   Recording No.: 2013074646, of Official Records
   Affects: As therein provided

10. Any rights, interests, or claims which may exist or arise by reason of the following matters disclosed by survey,

    Job No.: 3907.00
    Dated: To Follow
    Prepared by: Whitson Engineers

    (A) The fact a wire fence encroaches along the Southerly boundary by 1.5' to 2.7'

    (B) The fact that a chain link fence encroaches over the Easterly boundary by 0.1' to 0.8'.

EXCEPTIONS
(continued)

11. DEED OF TRUST, ABSOLUTE ASSIGNMENT OF RENTS AND AGREEMENTS, SECURITY AGREEMENT AND FIXTURE FILING

Amount:	$3,800,000.00
Dated:	April 26, 2019
Trustor/Grantor:	Greenfield Commons EAH, LLC, a California limited liability company
Trustee:	Chicago Title Company
Beneficiary:	Local Initiatives Support Corporation, a New York not-for-profit corporation
Loan No.:	LISC P.A. No. 40313-0013
Recording Date:	April 30, 2019
Recording No:	2019016902, Official Records

12. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

Recording Date:	April 30, 2019
Recording No.:	2019016903, Official Records

13. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

    The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

    The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

14. Any claims for construction liens that may be recorded by reason of a recent work of improvement under construction and/or completed at the date hereof.

EXCEPTIONS
(continued)

15. The Company will require the following documents for review prior to the issuance of any title insurance predicated upon a conveyance or encumbrance from the entity named below.

    Limited Liability Company: Greenfield Commons EAH, LLC, a California limited liability company

    a. A copy of its operating agreement, if any, and any and all amendments, supplements and/or modifications thereto, certified by the appropriate manager or member.

    b. If a domestic Limited Liability Company, a copy of its Articles of Organization and all amendment thereto with the appropriate filing stamps.

    c. If the Limited Liability Company is member-managed a full and complete current list of members certified by the appropriate manager or member.

    d. A current dated certificate of good standing from the proper governmental authority of the state in which the entity was created

    e. If less than all members, or managers, as appropriate, will be executing the closing documents, furnish evidence of the authority of those signing.

    f) If Limited Liability Company is a Single Member Entity, a Statement of Information for the Single Member will be required.

    g) Each member and manager of the LLC without an Operating Agreement must execute in the presence of a notary public the Certificate of California LLC (Without an Operating Agreement) Status and Authority form

16. The Company will require that an Owner's Affidavit be completed by the party(s) named below before the issuance of any policy of title insurance.

    Party(ies): Greenfield Commons EAH, LLC, a California limited liability company

    The Company reserves the right to add additional items or make further requirements after review of the requested Affidavit.

17. The transaction contemplated in connection with this Report is subject to the review and approval of the Company's Corporate Underwriting Department. The Company reserves the right to add additional items or make further requirements after such review.

END OF EXCEPTIONS

NOTES

Note 1. Note: The policy of title insurance will include an arbitration provision. The Company or the insured may demand arbitration. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Please ask your escrow or title officer for a sample copy of the policy to be issued if you wish to review the arbitration provisions and any other provisions pertaining to your Title Insurance coverage.

Note 2. Note: None of the items shown in this report will cause the Company to decline to attach CLTA Endorsement Form 100 to an Extended Coverage Loan Policy, when issued.

Note 3. Note: The only conveyance(s) affecting said Land, which recorded within 24 months of the date of this report, are as follows:

Grantor: Jake's Dream Investors Limited Partnership
Grantee: Jake's Dream Investors Limited Partnership as to an undivided 62.875 interest and James R. V. McNulty, as Trustee of James R. V. McNulty Living Trust u/d/t January 21, 2019 as to an undivided 37.125 interest
Recording Date: February 8, 2019
Recording No.: 2019005207 of Official Records

Grantor: Jake's Dream Investors Limited Partnership; and James R. V. McNulty, as Trustee of James R. V. McNulty Living Trust u/d/t January 21, 2019
Grantee: Greenfield Commons EAH, LLC, a California Limited Liability Company
Recording Date: April 30, 2019
Recording No.: 2019016901, of Official Records

Note 4. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

Note 5. Your application for title insurance was placed by reference to only a street address or tax identification number. Based on our records, we believe that the legal description in this report covers the parcel(s) of Land that you requested. If the legal description is incorrect, the seller/borrower must notify the Company and/or the settlement company in order to prevent errors and to be certain that the correct parcel(s) of Land will appear on any documents to be recorded in connection with this transaction and on the policy of title insurance.

Note 6. Note: If a county recorder, title insurance company, escrow company, real estate broker, real estate agent or association provides a copy of a declaration, governing document or deed to any person, California law requires that the document provided shall include a statement regarding any unlawful restrictions. Said statement is to be in at least 14-point bold face type and may be stamped on the first page of any document provided or included as a cover page attached to the requested document. Should a party to this transaction request a copy of any document reported herein that fits this category, the statement is to be included in the manner described.

Note 7. Note: Any documents being executed in conjunction with this transaction must be signed in the presence of an authorized Company employee, an authorized employee of an agent, an authorized employee of the insured lender, or by using Bancserv or other approved third-party service. If the above requirement cannot be met, please call the Company at the number provided in this report.

NOTES
(continued)

Note 8. Due to the special requirements of SB 50 (California Public Resources Code Section 8560 et seq.), any transaction that includes the conveyance of title by an agency of the United States must be approved in advance by the Company's State Counsel, Regional Counsel, or one of their designees.

END OF NOTES

WIRE SAFE™ | Inquire before you wire!

WIRE FRAUD ALERT

This Notice is not intended to provide legal or professional advice.
If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the number of relevant parties to the transaction as soon as an escrow account is opened.** DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complaint Center:
http://www.ic3.gov

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FIDELITY NATIONAL FINANCIAL
CALIFORNIA PRIVACY NOTICE

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF," "our," or "we") respect and are committed to protecting your privacy. This California Privacy Notice explains how we collect, use, and disclose Personal Information, when and to whom we disclose such information, and the rights you, as a California resident ("Consumer"), have regarding your Personal Information ("California Privacy Rights"). Some subsidiaries maintain separate California Privacy Notices or privacy statements. If a subsidiary has a separate California Privacy Notice, it will be available on the subsidiary's website, and this California Privacy Notice does not apply.

Collection of categories of Personal Information:

In the preceding twelve (12) months FNF has collected, and will continue to collect, the following categories of Personal Information from you:

- Identifiers such as name, address, telephone number, IP address, email address, account name, social security number, driver's license number, state identification card, financial information, date of birth, or other similar identifiers;
- Characteristics of protected classifications under California or Federal law;
- Commercial information, including records of personal property, products or services purchased, or other purchasing or consuming histories;
- Internet or other electronic network activity information including, but not limited to browsing history, search history, and information regarding a Consumer's interaction with an Internet website;
- Geolocation data;
- Professional or employment information;
- Education Information.

This Personal Information is collected from the following sources:

- Information we receive from you on applications or other forms;
- Information about your transactions with FNF, our affiliates, or others;
- Information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others;
- Information from the use of our websites and mobile applications.

This Personal Information is collected for the following business purposes:

- To provide products and services to you or in connection with a transaction involving you;
- To perform a contract between FNF and the Consumer;
- To improve our products and services;
- To comply with legal obligations;
- To protect against fraudulent or illegal activity;
- To communicate with you about FNF or our affiliates;
- To maintain an account with FNF or our affiliates;
- To provide, support, personalize, and develop our websites, products, and services;
- As described to you when collecting your personal information or as otherwise set forth in the California Consumer Privacy Act.

Disclosures of Personal Information for a business purpose:

In the preceding twelve (12) months FNF has disclosed, and will continue to disclose, the categories of Personal Information listed above for a business purpose. We may disclose Personal Information for a business purpose to the following categories of third parties:

- FNF affiliates and subsidiaries;
- Businesses in connection with the sale or other disposition of all or part of the FNF business and/or assets;
- Service Providers;
- Law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order.

Sale of Personal Information:

In the preceding twelve (12) months, FNF has not sold Personal Information. FNF does not sell Personal Information.

Personal Information of minors:

FNF does not knowingly collect the Personal Information of minors.

Right to know:

Consumers have a right to know about Personal Information collected, used, disclosed, or sold. Consumers have the right to request FNF disclose what personal information it collected, used, and disclosed in the past twelve (12) months.

Right to request deletion:

Consumers have a right to request the deletion of their personal information.

Right to non-discrimination:

Consumers have a right not to be discriminated against by exercising their consumer privacy rights. We will not discriminate against Consumers for exercising any of their California Privacy Rights.

Right to use an Authorized Agent:

A Consumer may use an Authorized Agent to submit a request to know or a request to delete his or her information. Should a Consumer utilize an Authorized Agent, FNF will require the Consumer provide the agent written permission to make the request and verify his or her identity with FNF.

To exercise any of your California Privacy Rights, please follow the link "California Privacy Request" or call Toll Free 888-413-1748.

Upon making a California Privacy Request, Consumers will be prompted to verify their identity through a third-party ID validation or by utilizing an existing login if applicable.

The above rights are subject to any applicable rights and obligations including both Federal and California exemptions rendering FNF, or Personal Information collected by FNF, exempt from certain CCPA requirements.

FNF website services for mortgage loans:

Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice describing the categories, sources, and uses of your Personal Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Information. FNF does not share Information collected through the Service Websites, except (1) as required or authorized by contract with the mortgage loan servicer or lender, or (2) as required by law or in the good faith belief that such disclosure is necessary to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

California Privacy Notice - Effective Date:

This California Privacy Notice was last updated on January 1, 2020.

Contact for more information:

For questions or concerns about FNF's California Privacy Notice and privacy practices, or to exercise any of your California Privacy Rights, please follow the link "***California Privacy***," call Toll Free 888-413-1748, or by mail to the below address.

We may use your Personal Information for our affiliates (companies owned by FNF) to directly market to you. If you do not want FNF affiliates to directly market to you, you may send an "opt out" request to privacy@fnf.com, by phone to (888) 934-3354, or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

ATTACHMENT ONE

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY - 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.

3. Defects, liens, encumbrances, adverse claims or other matters:

   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;

   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;

   (c) resulting in no loss or damage to the insured claimant;

   (d) attaching or created subsequent to Date of Policy; or

   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.

4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.

5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.

6. Any claim, which arises out of the transaction vesting in the insured the estate or interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.

   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.

3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.

4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

ATTACHMENT ONE
(CONTINUED)

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division; and
   f. environmental protection.

   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   c. that result in no loss to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.
5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.

   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19 and 21, Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

ATTACHMENT ONE
(CONTINUED)

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

[Except as provided in Schedule B - Part II,[t[or T]his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees, or expenses that arise by reason of:

[PART I

[The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.]

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:]

ATTACHMENT ONE
(CONTINUED)

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees, or expenses that arise by reason of:

[The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.]
7. [Variable exceptions such as taxes, easements, CC&R's, etc., shown here.]

ATTACHMENT ONE
(CONTINUED)

ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY - ASSESSMENTS PRIORITY (04-02-15)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the filed rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for such discount. These discounts only apply to transactions involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

Not all discounts are offered by every FNF Company. The discount will only be applicable to the FNF Company as indicated by the named discount.

FNF Underwritten Title Companies	**Underwritten by FNF Underwriters**
CTC – Chicago Title Company	CTIC – Chicago Title Insurance Company
CLTC – Commonwealth Land Title Company	CLTIC – Commonwealth Land Title Insurance Company
FNTC – Fidelity National Title Company	FNTIC – Fidelity National Title Insurance Company
FNTCCA – Fidelity National Title Company of California	FNTIC – Fidelity National Title Insurance Company
TICOR – Ticor Title Company of California	CTIC – Chicago Title Insurance Company
LTC – Lawyer's Title Company	CLTIC – Commonwealth Land Title Insurance Company

Available Discounts

CREDIT FOR PRELIMINARY TITLE REPORTS AND/OR COMMITMENTS ON SUBSEQUENT POLICIES (CTIC, FNTIC)

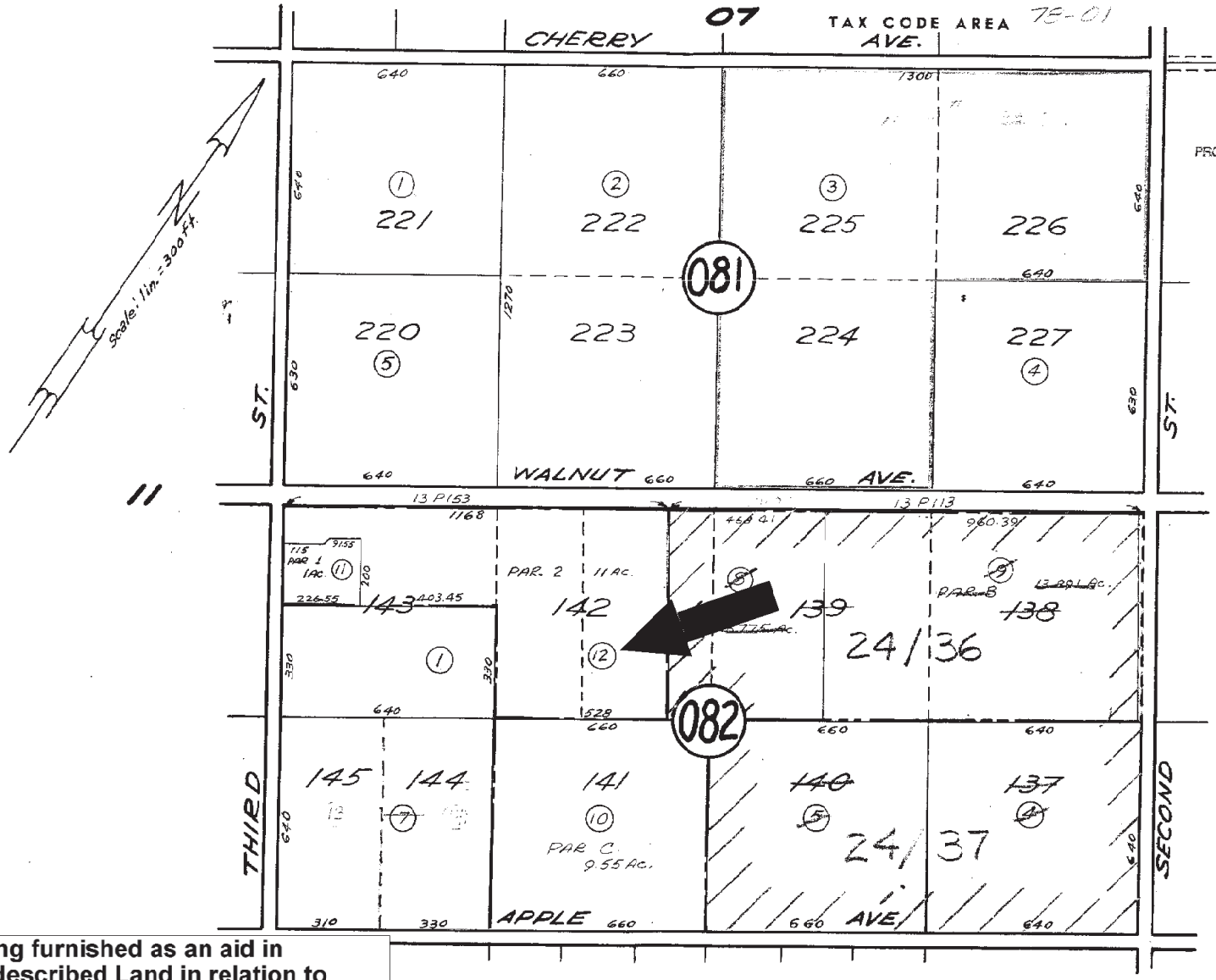
Where no major change in the title has occurred since the issuance of the original report or commitment, the order may be reopened within twelve (12) to thirty-six (36) months and all or a portion of the charge previously paid for the report or commitment may be credited on a subsequent policy charge.

DISASTER LOANS (CTIC, CLTIC, FNTIC)

The charge for a Lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within twenty-four (24) months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be fifty percent (50%) of the appropriate title insurance rate.

CHURCHES OR CHARITABLE NON-PROFIT ORGANIZATIONS (CTIC, FNTIC)

On properties used as a church or for charitable purposes within the scope of the normal activities of such entities, provided said charge is normally the church's obligation the charge for an owner's policy shall be fifty percent (50%) to seventy percent (70%) of the appropriate title insurance rate, depending on the type of coverage selected. The charge for a lender's policy shall be thirty-two percent (32%) to fifty percent (50%) of the appropriate title insurance rate, depending on the type of coverage selected.



This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.

ASSR'S MAP #4 CLARK COLONY
LOTS 137 Thru 145 & 220 Thru 227

Appendix C

Krazan & ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

KRAZAN & ASSOCIATES, INC.
PHASE I ESA OWNER AND USER INTERVIEW QUESTIONNAIRE

Date: April 13, 2020 Krazan Project Mgr: Bill Vick

Project No: 034-20016 Project Name: Proposed Residential Development Property

Site Address: 41206 Walnut Avenue, Greenfield, California 93827; APN 109-082-012

Interview With: Michael Schaier

Telephone No: 415.295.8854 Fax No:

Knowledge of Previous Owner(s) and Phone Number? James McNulty

How are you associated with the subject site? Property Owner / Property Owner's Representative

How long have you been associated with or familiar with the subject site? 1.5 years

What is the subject site currently used for? The Site is vacant and is not being used.

Are there structures on the subject site? no How Many? 1

Do you know of any previous structures on the subject site? no

Do you have knowledge of the presence of underground storage tanks being located on the subject property either historically or currently? underground septic tank

Do you have knowledge of the presence of aboveground storage tanks being located on the subject property either historically or currently? no

Do you have knowledge of the presence of imported soil on the subject property? If so, please indicate the origin/location of the imported soil. no

Do you know of any chemicals, hazardous materials, and/or environmentally persistent pesticides/herbicides being used, stored or discharged on the subject property? no

Do you know of any buried materials such as garbage dumps or burn pits located on the subject property?
no

Do you know of any septic systems located on the subject property (current or historical)? **Yes** **No**
If yes, how many? YES 1

Do you know of any water wells located on the subject property (current or historical)? **Yes** **No**
If yes, how many? No

Do you know of any dry wells located on the subject property (current or historical)? **Yes** **No**

Do you know of any environmental monitoring wells located on the subject property (current or historical)? **Yes** **No**

Do you know of any drainage or disposal ponds located on the subject property? no

Is the subject property connected to municipal water and sewer systems? no

Do you have obvious indications pointing to the presence of or likely presence of contamination of the subject site? no

Do you have any concerns about adjacent property usage such as gasoline stations, industrial uses, leaking USTs, or environmental cleanups? no

AAI – USER Questions

"In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfield Revitalization Act of 2001 (the 'Brownfields Amendments'), the user must provide the following information (if available) to the environmental professional. Failure to provide this information could result in a determination that 'all appropriate inquiry' is not completed"- American Society for Testing and Materials (ASTM) E1527-05 Appendix X3: User Questionnaire

1. Are you aware of any environmental cleanup liens against the subject site that are filed or recorded under federal, tribal, state, or local law?

no

2. Are you aware of any activity use limitations (AULs) such as engineering controls, land use restrictions, or institutional controls that are in place at the subject site and/or have been filed or recorded in a registry under federal, tribal, state, or local law?

no

3. As the user of the Phase I Environmental Site Assessment (ESA), do you have any specialized knowledge or experience related to the subject site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the subject site or an adjacent property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

no

4. Does the purchase price being paid for the subject site reasonably reflect the fair market value of the subject site?

Yes **No**

A. If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the subject site?

N/A

5. Are you aware of commonly known or reasonably ascertainable information about the subject site that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example:

A. Do you know the past uses of the subject site? If so, briefly explain.
no

B. Do you know of specific chemicals that are present or once were present at the subject site? If so, briefly explain.
no

C. Do you know of spills or other chemical releases that have taken place at the subject site? If so, briefly explain.
no

D. Do you know of any environmental cleanups that have taken place at the subject site? If so, briefly explain.
no

6. As the user of the Phase I ESA, based on your knowledge and experience related to the subject site, are there any obvious indicators that point to the presence or likely presence of contamination at the subject site?
no

7. What is the reason for preparation of this Phase I ESA? (Property purchase/sale; bank loan; proposed development; etc.)
Update existing Phase I ESA

Name: Michael Schaier (Please Print)

Date: 2020-04-13

Signature:

Appendix D

September 7, 2018 Project No. 034-18104

Mr. Welton Jordan
EAH Housing
18525 Sutter Boulevard, Suite 140
Morgan Hill, California 95037
Welton.jordan@eahhousing.org

RE: Phase I Environmental Site Assessment
Proposed Residential Development Property
41206 Walnut Avenue
APN 109-082-012
Greenfield, California 93827

Dear Mr. Jordan:

Krazan & Associates, Inc., (Krazan) completed a Phase I Environmental Site Assessment at the referenced site summarized in a report dated September 7, 2018. We appreciate the opportunity to serve your environmental due diligence needs. During the course of this assessment, Krazan identified no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in conjunction with the subject site as defined by ASTM E 1527-13. However, the following potential areas of concern (PAOCs) and site development issues were identified in connection with the subject site:

PAOCs

- Krazan's review of historical aerial photographs indicates that a rural residential area was present in the northwestern portion of the subject site from at least 1937 until at least 1960, and a barn-type structure was visible in the northwestern portion of the subject site circa 1937. Additionally, historical aerial photographs of the subject site vicinity taken between 1937 and 2017 suggest that the subject site and the surrounding properties have been associated with agricultural uses throughout most of the 1937 to 2017 time interval. Historical uses of the subject site prior to 1937 were not reasonably ascertainable utilizing the standard historical references consulted during this assessment, and it is therefore unknown how long structures were located on the subject site prior to 1937. Mr. James McNulty, a representative of the owner of the subject site familiar with the subject site for the past 61 years, indicated that he was unaware of underground storage tanks (USTs) being located at the subject site and no records of USTs for the subject site are on file with the local regulatory agencies. However, USTs on rural or agricultural properties historically have been exempt from requirements for registration with regulatory agencies. Krazan's experience with such properties has shown that it is not uncommon for property owners/operators to install USTs for their convenience, especially in the vicinity of structures, which are undocumented and whose presence would remain unknown in spite of the standard data research conducted in the course of this Phase I ESA. It is therefore

possible that subsurface features such as unregistered USTs may exist in the vicinity of the former on-site structures which remain unknown based upon the absence of any regulatory, municipality, interview data, or other evidence indicating their presence or location. Consequently, despite an absence of data suggesting their presence, the presence or absence of USTs associated with the northwestern portion of the subject site prior to the current owner of the subject site is unknown.

For a higher level of due diligence, Krazan recommends conducting a limited geophysical survey in the inferred area of the vicinity of the former on-site structures previously located in the northwestern portion of the subject site to assess the presence or absence of subsurface metallic anomalies characteristic of underground storage tanks. If a UST is identified, it should be removed in accordance with State and local guidelines.

- Krazan's historical research indicates that the subject site was utilized for agricultural purposes from at least 1937 until at least the early-2010s, with an orchard partially occupying the subject site in 1937 and possibly before. Given the time frame in which the subject site was partially occupied by an orchard and the use of the subject site for the cultivation of row crops/orchards for at least 80 years, there is a heightened potential that environmentally persistent pesticides/herbicides historically may have been applied to the crops located on the subject site. Additionally, the subject site owner representative indicated in a questionnaire response that soil imported from the adjoining school is located on the subject site, although he did not indicate the location of the imported soil. Therefore, given the potential use of environmentally persistent pesticides and/or herbicides on site, the agricultural use of the subject site for an extended period of time (at least 80 years), the report that vicinity agricultural property soil was imported to the subject site, and the planned redevelopment of the subject site for residential purposes, the current condition of the subject site soils is unknown and an assessment of shallow soils for the residues of such materials is considered to be prudent in consultation with the client.

A limited soil assessment is recommended to assess the presence or absence of significant concentrations of environmentally persistent pesticides/herbicides related to the historical agricultural use of the subject site.

Site Development Issues

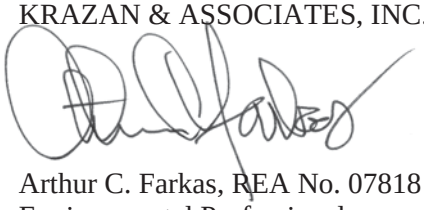
- According to Mr. James McNulty, a representative of the owner of the subject site who has been familiar with the subject site for the past 61 years, no water wells are located on the subject site. However, Krazan's review of historical aerial photographs indicates that a structure was located within the northwestern portion of the subject site circa 1937. A domestic water well was possibly associated with the former on-site structure. If a water well is identified during the planned redevelopment of the subject site, it should be properly destroyed in accordance with State and local guidelines.

- According to Mr. McNulty, a septic system which has not been in use for 50+ years is located on the subject site. The presence of the septic system is not anticipated to have adversely impacted the subject site due to its presumed use for domestic purposes only. If the septic system is not to be utilized in the planned redevelopment of the subject site, it should be properly abandoned/closed or destroyed in accordance with State and local guidelines. Mr. McNulty has reportedly provided Krazan's client with a parcel map showing the approximate location of the reported septic system.

Our firm specializes in full-service Site Development Engineering with considerable project management experience. When you are interested in proceeding with the recommended work, Krazan can evaluate your unique circumstances and prepare a Phase II Proposal/Cost Estimate for the additional assessment including the proposed scope of work, budget, and anticipated project schedule.

If you have any questions regarding the information presented in this report, please call me at (559) 348-2200.

Respectfully Submitted,
KRAZAN & ASSOCIATES, INC.



Arthur C. Farkas, REA No. 07818
Environmental Professional

ACF/mlt

PHASE I ENVIRONMENTAL SITE ASSESSMENT PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY 41206 WALNUT AVENUE APN 109-082-012 GREENFIELD, CALIFORNIA 93927

Pursuant to ASTM E 1527-13

Project No. 034-18104
September 7, 2018

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SITE DEVELOPMENT ENGINEERS

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September 7, 2018 Project No. 034-18104

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY
41206 WALNUT AVENUE
APN 109-082-012
GREENFIELD, CALIFORNIA 93927

1.0 EXECUTIVE SUMMARY

Krazan & Associates, Inc. (Krazan) has conducted a Phase I Environmental Site Assessment (ESA) of the Proposed Residential Development Property associated with Monterey County Assessor's Parcel Number (APN) 109-082-012 located at 41206 Walnut Avenue in Greenfield, California 93927 (subject site). It is incumbent upon the user to read this Phase I ESA report in its entirety. If not otherwise defined within the text of this report, please refer to the Glossary of Terms Section following the References Section for definitions of terms and acronyms utilized within this Phase I ESA report. Krazan conducted the Phase I ESA of the subject site in conformance with the American Society for Testing and Materials (ASTM) E 1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* This Phase I ESA constitutes all appropriate inquiry (AAI) designed to identify recognized environmental conditions (RECs) in connection with the previous ownership and uses of the subject site as defined by ASTM E 1527-13.

ASTM E 1527-13 Section 1.1.1 *Recognized Environmental Conditions* – In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a parcel of property, the goal of the processes established by this practice is to identify recognized environmental conditions. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.

Krazan's findings of this Phase I ESA revealed no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in conjunction with the subject site as defined by ASTM E 1527-13. However, the following potential areas of concern (PAOCs) and site development issues were identified in connection with the subject site:

PAOCs

- According to review of historical aerial photographs, the subject site and immediate vicinity was utilized for agricultural purposes from at least 1937 to at least the early-2010s. The northwestern portion of the subject site was historically occupied by what appears to have been a residence and/or out-buildings, including what may have been a barn, from at least 1937 to at least 1960. During Krazan's preliminary research of the subject site, no records of underground storage tanks (USTs) for the subject site were identified and none were reported by a representative of the owner of the subject site. USTs on rural or agricultural properties historically have been exempt from requirements for registration with regulatory agencies. Krazan's experience with such properties has shown that it was not uncommon for agricultural property owners/operators to install USTs for their convenience, especially in the vicinity of structures, which are undocumented and whose presence would remain unknown in spite of the standard data research conducted in the course of this Phase I ESA. Consequently, despite an absence of data suggesting their presence, the presence or absence of USTs associated with the former on-site structures in a historical agricultural setting is unknown.

- Krazan's historical research indicates that the subject site was utilized for agricultural purposes from at least 1937 until at least the early-2010s, with an orchard partially occupying the subject site in 1937 and possibly before. Given the time frame in which the subject site was partially occupied by an orchard and the use of the subject site for the cultivation of row crops/orchards for at least 80 years, there is a heightened potential that environmentally persistent pesticides/herbicides historically may have been applied to the crops located on the subject site. Given the potential use of environmentally persistent pesticides and/or herbicides on site, the agricultural use of the subject site for an extended period of time (at least 80 years), and the planned redevelopment of the subject site for residential purposes, the current condition of the subject site soils is unknown and an assessment of shallow soils for the residues of such materials is considered to be prudent in consultation with the client.

Site Development Issues

- The potential presence of water wells and the reported presence of a septic system on site were identified which should be removed/abandoned/destroyed if identified and not utilized in the planned redevelopment of the subject site.

Please refer to Section 8.0 Conclusions/Opinions for a discussion of the findings included in this summary.

2.0 PURPOSE AND SCOPE OF ASSESSMENT

2.1 Purpose

According to ASTM E 1527-13, the purpose of this practice is to define good commercial and customary practice in the United States of America for conducting an *environmental site assessment* of a parcel of *commercial real estate* with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) and *petroleum*

products. As such, this practice is intended to permit a *user* to satisfy one of the requirements to qualify for the *innocent landowner, contiguous property owner,* or *bona fide prospective purchaser* limitation on CERCLA liability (hereinafter, the *landowner liability protections,* or *LLPs*): that is, the practice that constitutes *all appropriate inquiries* into the previous ownership and uses of the *property* consistent with good commercial and customary practice as defined at 42 U.S.C. §9601(35)(B).

2.2 Scope of Work

The Phase I ESA includes the following scope of work: a) a site reconnaissance of existing on-site conditions and observations of adjacent property uses, b) a review of user-provided documents and search of available current land title records compiled by AFX Corp., Inc., c) a review of historical aerial photographs, a review of pertinent building permit records, cross-reference directories, historical Sanborn Fire Insurance Maps (SFIMs), and interview(s) with person(s) knowledgeable of the previous and current ownership and uses of the subject site, d) a review of local regulatory agency records, and e) a review of local, state, and federal regulatory agency lists compiled by Environmental Data Resources, Inc. (EDR). The scope of work for this Phase I ESA conforms to ASTM E 1527-13. Krazan was provided written authorization to conduct the Phase I ESA by Ms. Dixie Baus with EAH Housing on August 6, 2018, in Krazan's July 27, 2018 Proposal/Cost Estimate No. P18-262.

3.0 SITE DESCRIPTION

The subject site is located south of Walnut Avenue and east of 3rd Street within the City of Greenfield, Monterey County, California. The subject site consists of one irregular-shaped parcel measuring approximately 11 acres with the associated Monterey County Assessor's Parcel Number of 109-082-012. The subject site is currently vacant/fallow former agricultural land which has the associated subject site address of 41206 Walnut Avenue. The subject site appears to have been utilized for agricultural purposes circa 1937 to the mid-2010s, and the northwestern portion of the subject site appears to have been developed with a rural residence and/or barn-type structure circa 1937 to 1960.

General property information and property use are summarized in the following Table I. Refer to Figures No. 1 – 3 following the Reference Section.

TABLE I
Subject Site Information Summary

Current Owner:	Jake's Dream Investors, LP
Assessor's Parcel Number:	109-082-012
Address:	41206 Walnut Avenue Greenfield, California 93927
Historical Address*:	None Identified
General Location:	South of Walnut Avenue and east of 3rd Street
Acreage:	11 acres (approximately)
Existing Use:	Vacant/Fallow Land
Number of Buildings:	None
Original Construction Date:	N/A
Proposed Use:	Multi-family Residential
Topographic Map:	U.S. Geological Survey, 7.5-minute Greenfield, California topographic quadrangle map, dated 1956
Topographic Map Location:	Southwestern quarter of Section 29, Township 18 South, Range 07 East, Mount Diablo Baseline and Meridian
Latitude/Longitude:	36.33250° / –121.23659°
Topography:	Relatively flat, approximately 265 feet above mean sea level
Approximate Depth to Groundwater:	60 to 70 feet below ground surface (bgs), City of Soledad Urban Water Management Plan (December 2005)
Regional Groundwater Flow Direction:	Easterly (northeast to southeast), inferred from surface topography

3.1 Geology and Hydrogeology

The subject site is located within the Salinas Valley, which is located within the Salinian Block portion of the California Coast Ranges. This is a tectonic subprovince defined as a northwest trending, elongated portion of the Coast Ranges, characterized by a basement of granitic and high-grade metamorphic rocks. The basement is overlain by Tertiary and Quaternary sedimentary rocks. The material underlying the subject site consists of Quaternary, Pleistocene-Holocene consolidated and semi-consolidated alluvium, lake, playa, and terrace deposits. The near-surface sediments are dominated by sands and silty sands with lesser silts, minor clays, and gravel. According to information obtained from the City of Soledad Urban Water Management Plan (December 2005), groundwater in the Greenfield area is anticipated to be first encountered at a depth of approximately 60 to 70 feet bgs. Based upon surface topography, the groundwater flow direction in the vicinity of the subject site is inferred to be easterly (northeast to southeast) and toward the Salinas River.

4.0 SITE RECONNAISSANCE

A site reconnaissance, which included a visual observation of the subject site and surrounding properties, was conducted by Mr. Bill Vick, Krazan's Environmental Professional, on August 18, 2018. Krazan's

Environmental Professional was unaccompanied during the site reconnaissance. The objective of the site reconnaissance is to obtain information indicating the likelihood of identifying recognized environmental conditions, including hazardous substances and petroleum products, in connection with the property (including soils, surface waters, and groundwater).

4.1 Observations

The following Table II summarizes conditions encountered during our site reconnaissance. A discussion of visual observations is presented in the following table. Refer to the Site Map (Figure No. 2) and color photographs following the text for the locations of items discussed in this section of the report.

TABLE II
Summary of Site Reconnaissance

Feature	Observed	Not Observed
Structures (existing)		X
Evidence of Past Uses (foundations, debris)		X
Hazardous Substances and/or Petroleum Products (including containers)		X
Aboveground Storage Tanks (ASTs)		X
Underground Storage Tanks (USTs) or Evidence of USTs		X
Evidence of Underground Pipelines		X
Strong, Pungent, or Noxious Odors		X
Pools of Liquid Likely to be Hazardous Materials or Petroleum Products		X
Drums		X
Unidentified Substance Containers		X
Potential Polychlorinated Biphenyl (PCB)-Containing Equipment		X
Subsurface Hydraulic Equipment		X
Heating/Ventilation/Air conditioning (HVAC)		X
Stains or Corrosion on Floors, Walls, or Ceilings		X
Floor Drains, Sumps, or Oil/Water Clarifiers		X
Storm Drains		X
Pits, Ponds, or Lagoons		X
Stained Soil and/or Pavement		X
Soil Piles		X
Stressed Vegetation		X
Waste or Wastewater (including stormwater) Discharges to Surface/ Surface Waters		X
Wells (irrigation, domestic, dry, injection, abandoned, monitoring wells)		X
Septic Systems		X

The subject site comprises approximately 11 acres of vacant/fallow former agricultural land with the associated Monterey County APN of 109-082-012. Refer to Figure No. 2, Site Map, for locations of the following referenced on-site features:

- The subject site was observed to be relatively flat vacant/fallow former agricultural land (See Photographs No. 1 - No. 10). No structures were observed on the subject site;

- Housekeeping conditions were observed to be good throughout the subject site. No obvious evidence of illegal dumping or surface waste disposal was observed on the subject site;

- A stormwater drain inlet was observed adjacent to 3rd Street near the northwestern boundary of the subject site. No odors, surface staining, or other evidence of the disposal of hazardous materials or hazardous waste was observed within or adjacent to the stormwater drain inlet;

- During the visual observations of the subject site, no hazardous materials or hazardous waste were observed. Exposed surface soils did not exhibit obvious signs of discoloration. No obvious evidence (vent pipes, fill pipes, dispensers, etc.) of USTs was noted within the areas observed. No standing water or major depressions were observed on the subject site. No indications of former structures, such as foundations, were observed on the subject site;

- No pole- or pad-mounted electrical transformers were observed on the subject site; and,

- No high-voltage, tower-mounted electrical transmission lines were observed on or within 100 feet of the subject site.

4.2 Utilities

Based on Krazan's research, the following Table III summarizes companies/municipalities currently provide utility services to the subject site:

TABLE III
Municipal Service / Utility Providers

Service / Utility	Provider
Electricity	Pacific Gas & Electric (PG&E)
Natural Gas	PG&E
Potable Water	None currently, domestic water well presumed to have been present historically
Sanitary Sewer	None currently, septic system was utilized historically

Water / Wells

According to Mr. James McNulty, a representative of the owner of the subject site who has been familiar with the subject site for the past 61 years, no water wells are located on the subject site. However, Krazan's review of historical aerial photographs indicates that a structure was located within the northwestern portion of the subject site circa 1937. A domestic water well was possibly associated with the former on-site structure. It is unknown if a domestic water well is currently located in the vicinity of the former on-site structure. A water well was not observed in the on-site location of the former structure during Krazan's site reconnaissance. If a water well is identified during the planned redevelopment of the subject site, it should be properly destroyed in accordance with State and local guidelines.

Sewer / Septic Systems

According to Mr. McNulty, a septic system which has not been in use for 50+ years is located on the subject site. The presence of the septic system is not anticipated to have adversely impacted the subject

site due to its presumed use for domestic purposes only. If the septic system is not to be utilized in the planned redevelopment of the subject site, it should be properly abandoned/closed or destroyed in accordance with State and local guidelines. Mr. McNulty has reportedly provided Krazan's client with a parcel map showing the location of the reported septic system.

4.3 Adjacent Streets and Property Usage

The following Table IV summarizes the current adjacent roads and adjacent property uses observed during the site reconnaissance.

TABLE IV
Adjacent Streets and Property Use

Direction	Adjacent Street	Adjacent Property Use
Northeast		Single-family homes (residential subdivision)
Northwest		Agricultural land
Southeast	None	Public school facilities (recreational areas, beyond which are classrooms)
Southwest	3rd Street	Rural residences, pasture and vacant land / agricultural land

Based on the observed uses of the properties located immediately adjacent to the subject site, it is unlikely that significant quantities of hazardous materials are stored at the adjacent properties.

4.4 ASTM Non-Scope Considerations

According to ASTM E 1527-13, there may be environmental issues or conditions at the subject site that are outside the scope of the Phase I ESA practice (non-scope considerations). Some substances may be present at the subject site in quantities and under conditions that may lead to contamination of the subject site or of nearby properties but are not included in CERCLA's definition of hazardous substances (42 U.S.C. §9601[14]). ASTM non-scope considerations are discussed below.

Asbestos-Containing Materials

Asbestos is a group of naturally occurring mineral fibers that have been used commonly in a variety of building construction materials for insulation and as a fire-retardant. Because of its fiber strength and heat resistant properties, asbestos has been used for a wide range of manufactured goods, mostly in building materials, vehicle brakes, and heat-resistant fabrics, packaging, gaskets, and coatings. When asbestos-containing materials (ACMs) are damaged or disturbed by repair, remodeling, or demolition activities, microscopic asbestos fibers may become airborne and can be inhaled into the lungs, where they can cause significant health problems.

No structures are located on the subject site. Therefore, ACMs are not considered an on-site environmental concern at this time.

Lead-Based Paint

Although lead-based paint (LBP) was banned in 1978, many building constructed prior to 1978 have paint that contains lead. Lead from paint, chips, and dust can pose serious health hazards if not addressed properly.

No structures are located on the subject site. Therefore, lead-based paint is not considered an on-site environmental concern at this time.

Mold and Moisture Intrusion

A class of fungi, molds have been found to cause a variety of health problems in humans, including allergic, toxicological, and infectious responses. Molds are decomposers of organic materials, and thrive in humid environments, and produce spores to reproduce, just as plants produce seeds. When mold spores land on a damp spot indoors, they may begin growing and digesting whatever they are growing on in order to survive. When excessive moisture or water accumulates indoors, mold growth will often occur, particularly if the moisture problem remains undiscovered or unaddressed. As such, interior areas of buildings characterized by poor ventilation and high humidity are the most common locations of mold growth. Building materials including drywall, wallpaper, baseboards, wood framing, insulation and carpeting often play host to such growth. Moisture control is the key to mold control. Molds need both food and water to survive; since molds can digest most things, water is the factor that limits mold growth. The EPA recommends the following action to prevent the amplification of mold growth in buildings:

- Fix leaky plumbing and leaks in the building envelope as soon as possible;
- Watch for condensation and wet spots. Fix source(s) of moisture problem(s) as soon as possible;
- Prevent moisture due to condensation by increasing surface temperature or reducing the moisture level in air (humidity). To increase surface temperature, insulate or increase air circulation. To reduce the moisture level in air, repair leaks, increase ventilation (if outside air is cold and dry), or dehumidify (if outdoor air is warm and humid);
- Keep heating, ventilation, and air conditioning (HVAC) drip pans clean, flowing properly, and unobstructed;
- Vent moisture-generating appliances, such as dryers, to the outside where possible;
- Maintain low indoor humidity, below 60% relative humidity (RH), ideally 30-50%, if possible;
- Perform regular building/HVAC inspections and maintenance as scheduled;

- Clean and dry wet or damp spots within 48 hours; and,
- Do not let foundations stay wet. Provide drainage and slope the ground away from the foundation.

No structures are currently located on the subject site. Therefore, microbial growth and moisture intrusion are not considered an on-site environmental concern at this time.

Radon

Radon is a radioactive gas that is found in certain geologic environments and is formed by the natural breakdown of radium, which is found in the earth's crust. A radon survey was not included within the scope of this investigation; however, the State of California Department of Public Health (CDPH) maintains a statewide database of radon results in designated geographic areas. Radon detection devices are placed in homes throughout the study region to determine geographic regions with elevated radon concentrations. The U.S. EPA has set the safety standard for radon gas in homes to be 4.0 pico Curies per liter (pCi/L).

The US EPA has prepared a map to assist National, State and local organizations to target their resources and to implement radon-resistant building codes. The map divides the country into three Radon Zones, Zone 1 being those areas with the average predicted indoor radon concentration in residential dwellings exceeding the EPA Action Limit of 4.0 pCi/L. It is important to note that the EPA has found homes with elevated levels of radon in all three zones, and the EPA recommends site specific testing in order to determine radon levels at a specific location. However, the map does give a valuable indication of the propensity of radon gas accumulation in structures. Review of the EPA Map of Radon Zones places the Property in Zone 2, where average predicted radon levels are between 2.0 and 4.0 pCi/L. Therefore, the available data suggests that the potential for radon to adversely impact the subject site appears to be low.

Environmental Non-Compliance Issues

No obvious material non-compliance issues were identified in connection with the subject site in the process of preparing this report.

Activity and Use Limitations

No activity and use limitations were identified in connection with the subject site in the process of preparing this report.

Wetlands

As defined by the U.S. EPA and the Department of Army, Corps of Engineers, wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Jurisdictional wetlands are regulated under Section 404 of the Clean Water Act (1972, 1977, and 1987, and also the 1985 and 1990 Farm Bills), and are important for protection of aquatic waterfowl and species, water purification, and flood control. According to current Corps of Engineers information, three basic criteria are currently used to define wetlands:

- Wetland hydrology - areas exhibiting surface or near-surface saturation or inundation at some point in time (greater than 12.5 percent of growing season defined on basis of frost-free days) during an average rainfall year;

- Hydrophilic vegetation - frequency of occurrence of wetland indicator plants (plant life growing in water, soil, or substrate that is periodically deficient in oxygen as a result of excessive water content); and,

- Hydric soil - landscape patterns identified by saturation, flooding, or ponding long enough during the growing season (generally seven days) which develop characteristic color changes in the upper part of the soil as a result of anaerobic conditions.

Based on Krazan's reconnaissance of the subject site, evidence was not apparent to suggest that the site contained a wetland. Furthermore, according to the U. S. Fish & Wildlife Service (USFWS) National Wetlands Inventory available via the USFWS Internet website, the subject site does not contain a designated wetland. Therefore, at this time, regulations pertaining to wetlands do not appear to impact the subject site.

5.0 USER-PROVIDED INFORMATION

A review of user-provided information was conducted in order to help identify pertinent information regarding potential environmental impacts associated with the subject site.

5.1 Environmental Liens/Activity and Use Limitations Report

On August 10, 2018 an Environmental Lien/Activity and Use Limitations (EL/AUL) Report was prepared by AFX Corp. Inc. (AFX), for the subject site. The AFX EL/AUL Report provides results from a search of available land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls. The subject site EL/AUL Report was reviewed to identify potential environmental liens, institutional controls (ICs), land use controls (LUCs), activity and

use limitations (AULs), or declaration of environmental use restrictions (DEULs) which may have been filed against the subject site or exist in connection with the subject site as indicated by the subject site EL/AUL Report. Krazan's review of the EL/AUL Report indicated no liens, judgments, ICs, LUCs, AULs, or DEULs were found for the subject site according to the scope of work and limitations. Please refer to Appendix A in the Table of Contents for a copy of the AFX EL/AUL Report.

5.2 Title Report

A Preliminary Title Report (PTR) dated July 17, 2018, prepared for the subject site by Chicago Title Company, was provided to Krazan by EAH, Inc., Krazan's client and the Phase I ESA user. The subject site PTR was reviewed to identify potential environmental deed restrictions, environmental liens, or environmental activity and use limitations (AULs) which may have occurred on or exist in connection with the subject site. Krazan's review of the PTR indicated no environmental deed restrictions, environmental liens or environmental AULs for the subject site. However, as quoted from the subject site PTR, "It is important to note that this Preliminary Title Report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land." Please refer to Appendix B in the Table of Contents for a copy of the Title Company Preliminary Title Report.

5.3 Phase I Environmental Site Assessment User Questionnaire

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *Brownfields Amendments*), the *user* must provide the following information (if available) to the *environmental professional*. Failure to provide this information could result in a determination that *all appropriate inquiry* is not complete. The user is asked to provide information or knowledge of the following:

1. Environmental cleanup liens that are filed or recorded against the site.
2. Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry.
3. Specialized knowledge or experience of the person seeking to qualify for the LLPs.
4. Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.
5. Commonly known or *reasonably ascertainable* information about the *property*.
6. The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.
7. The reason for preparation of this Phase I ESA.

On August 6, 2018, a completed Phase I ESA user questionnaire was received from Ms. Dixie Baus with EAH, Inc., Krazan's client and the Phase I ESA user. Please refer to Appendix C in the Table of Contents for a copy of the completed Phase I ESA User Questionnaire.

According to the questionnaire responses, Ms. Baus, to the best of her knowledge as the user of this Phase I ESA, was not aware of any environmental cleanup liens and activity or land use limitations which have been filed or recorded against the subject site; and Ms. Baus has no specialized knowledge or experience of the prior nature of the business or chemical utilization on the subject site. Ms. Baus indicated that the subject site was historically utilized for agricultural purposes; most recently for the cultivation of organic sugar beets. Ms. Baus indicated that she did not have knowledge of the past or current presence of specific chemicals or hazardous materials, unauthorized spills or chemical releases or of any environmental cleanups in connection with the subject site. Ms. Baus indicated that she is not aware of any obvious indications pointing to the presence or likely presence of contamination of the subject property. Ms. Baus indicated that a septic system is reportedly located in the northwestern portion of the subject site and a parcel map attached to her questionnaire provides the reported approximate location of the septic system. Ms. Baus stated that the purchase price of the subject site reasonably reflects fair market value. Additionally, Ms. Baus indicated that the reason for preparation of this Phase I ESA is related to a proposed property purchase and development with rental apartments.

6.0 SITE USAGE SURVEY

The property usage survey included assessing property history, and reviewing local, state, and federal regulatory agency records.

6.1 Site History

A review of historical aerial photographs, a USGS topographic quadrangle map, City of Greenfield Community Development Department records, Monterey County Resource Management – Building Services records, and reasonably ascertainable cross-reference directories, a search for historical fire insurance maps (HFIMs), and a Phase I ESA interview were utilized to assess the history of the subject site.

Previous Environmental Assessment

No previous environmental assessments of the subject site were provided to Krazan for review during the course of this assessment.

Aerial Photograph Interpretation

Historical aerial photographs dated 1937, 1949, 1956, 1960, 1967, 1971, 1981, 1989, 1994, 2004, 2011, and 2018 were reviewed to assess the history of the subject site. These photographs were obtained from Environmental Data Resources, Inc. (EDR) and via the internet at Microsoft® Research Maps and Google Earth™. The aerial photograph summary is provided in the following Table V. Please refer to Appendix D in the Table of Contents for a copy of the Historical Aerial Photographs.

TABLE V
Summary of Aerial Photograph Review

Year/Scale	Site Use	Site and Adjacent Property Observation
1937 1" = 500'	Residential/ Agricultural	The northwestern portion of the subject site appears to be occupied by a barn-type structure and a smaller structure which may be small dwelling. The remainder of the subject site appears to be utilized for agricultural purposes, including an orchard in the eastern portion of the subject site. The northwestern and southwestern adjacent properties appear to be utilized for agricultural purposes. The southeastern adjacent property appears to be occupied by a rural residence and utilized for agricultural purposes. The northeastern adjacent property is not covered in the 1937 aerials photograph.
1949 1" = 500'	Residential/ Agricultural	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1937 aerial photograph except: 1) the barn-type structure previously noted in the northwestern portion of the subject site is no longer visible, 2) the presence of a dwelling and a small outbuilding in the northwestern portion of the subject site is more prominent in the 1949 aerial photograph, and 3) the northeastern adjacent property, visible in the 1949 aerial photograph, appears to be occupied by a rural residence and utilized for agricultural purposes.
1956 1" = 500'	Residential/ Agricultural	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1949 aerial photograph.
1960 1" = 500'	Residential/ Agricultural	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1956 aerial photograph.
1967 1" = 500'	Agricultural/ Vacant Land	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1960 aerial photograph except the structures previously noted in the northwestern portion of the subject site do not appear to be present. The northwestern portion of the subject site appears to be vacant land. However, the quality and resolution of the 1967 aerial photograph area poor.
1971 1" = 500'	Agricultural/ Vacant Land	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1967 aerial photograph.
1981 1" = 500'	Agricultural/ Vacant Land	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1971 aerial photograph.
1989 1" = 500'	Agricultural/ Exterior Storage Area	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1981 aerial photograph except the northwestern portion of the subject site appears to be utilized as an exterior equipment/materials storage area.

TABLE V (continued)
Summary of Aerial Photograph Review

Year/Scale	Site Use	Site and Adjacent Property Observation
1994 1" = 500'	Agricultural/ Vacant Land	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 1989 aerial photograph except the exterior storage use of the northwestern portion of the subject site is no longer visible. The northwestern portion of the subject site appears to be vacant land.
2004 1" = 500'	Agricultural (Fallow)	The subject site appears to be fallow agricultural land. No structures are visible on the subject site. Conditions on the adjacent properties appear relatively similar to those noted in the 1994 aerial photograph.
2011 1" = 500'	Agricultural (Fallow)	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 2004 aerial photograph except: 1) the property located adjacent to the southeast of the eastern portion of the subject site has been developed with a public school, 2) the property located adjacent to the northeast of the subject site has been developed with a residential subdivision, and 3) the property located to the south of the central portion of the subject site is being developed with a residential subdivision.
2018 1" = 500'	Agricultural (Fallow)	Conditions on the subject site and the adjacent properties appear relatively similar to those noted in the 2011 aerial photograph.

USGS Topographic Quadrangle Map

Krazan's review of the USGS, 7.5-minute, Greenfield, California topographic quadrangle map dated 1956 indicates that the northwestern portion of the subject site was occupied by a residential-type structure in 1956. The remainder of the subject site is depicted as vacant land. The northeastern and southeastern adjacent properties are depicted as being occupied by residential-type structures and orchards. The northwestern adjacent property is depicted as vacant land. The southwestern adjacent property is depicted as vacant land and an orchard. Refer to Figure No. 3, Topographic Map, for reference.

City of Greenfield Community Development Department Records

On August 15, 2018, the City of Greenfield Community Development Department (CGCDD) was contacted to obtain potential building permits for the subject site address of 41206 Walnut Avenue. According to a representative of the City of Greenfield Community Development Department, no building permits are on file with the CGCDD for subject site address of 41206 Walnut Avenue. Therefore, no permits for underground storage tanks, complete building demolition, or previous structures/features are on file with the City of Greenfield Community Development Department for the subject site.

Monterey County Resource Management Agency - Building Services

On August 8, 2018, Krazan reviewed the Monterey County Resource Management – Building Services (MCBS) Online Portal database available via the Monterey County website to obtain potential building

permit records for the subject site address of 41206 Walnut Avenue and/or for the subject site APN of 109-082-012. Krazan's review of the Online Portal database revealed no building permits are on file with Monterey County Resource Management – Building Services the for the subject site APN of 109-082-012 and/or address of 41206 Walnut Avenue. Therefore, no permits for items such as underground storage tanks, septic systems, previous structures/features, or other subsurface features of potential environmental concern are included in the MCBS Online Portal database for the subject site.

City Directories

Reasonably ascertainable Haines Criss-Cross Directories (HCCDs) dated 1975 through 2017 were reviewed utilizing approximately five-year intervals at the City of Watsonville Public Library, Central Branch, located in Watsonville, California for the subject site address of 41206 Walnut Avenue and for the southern and western adjacent properties with historical structural development. A summary of Haines Criss-Cross Directory information is presented in the following Table VI.

TABLE VI
Haines Criss-Cross Directory Summary

Address	Owner/Occupant	Years
Subject Site		
41206 Walnut Avenue		
	Address Not Listed	1975 to 2005
	No Return	2010
	Address Not Listed	2015, 2017
Adjacent Properties with Historical Structural Development		
South & West – 450 3rd Street		
	Address Not Listed	1975 to 2005
	Residential Listing	2010, 2015, 2017
South & West – 470 3rd Street		
	Address Not Listed	1975 to 2005
	Residential Listing	2010, 2015, 2017

Krazan's review of cross-reference directories indicates that the subject site address of 41206 Walnut Avenue was not listed or was listed as "No Return" in all of the directories reviewed between 1975 and 2017 suggesting that the subject site has not been developed with any structures since at least 1975. Information obtained from review of cross-reference directories is consistent with that obtained from other sources during the course of this assessment.

Historical Fire Insurance Maps

Krazan reviews HFIMs to evaluate prior land use of the subject site and the adjacent properties. HFIMs typically exist for cities with populations of 2,000 or more, the coverage dependent on the location of the

subject site within the city limits. Krazan contracted with EDR to provide copies of available HFIMs for the subject site and the adjacent properties as far back as 1867. EDR's search of HFIMs revealed no coverage for the subject site and the adjacent properties. Please refer to Appendix E in the Table of Contents for a copy of the EDR HFIM *No Maps Available* Report.

6.2 Interviews

Krazan conducted an interview with a representative of the owner of the subject site. The interview is designed to provide pertinent information regarding potential environmental impacts associated with the subject site.

Subject Site Owner's Representative – An interview was conducted with Mr. James McNulty, a representative of the owner of the subject site, via his completion of an environmental questionnaire. According to questionnaire responses, Mr. McNulty indicated that he has been familiar with the subject site for the past 61 years. Mr. McNulty indicated that the subject site is currently vacant former farmland. Mr. McNulty indicated that he is not aware of any structures being previously located on the subject site. Mr. McNulty indicated that the subject site was historically utilized as dairy and farmland. Mr. McNulty indicated that a septic tank which has not been used in 50 years is located on the subject site. Mr. McNulty indicated that soil imported from the adjoining school is located on the subject site, although he did not indicate where on the subject site the imported soil is located. During Krazan's site reconnaissance, the subject site was observed to be uniformly disced and no obvious evidence of imported soil was noted. Additionally, as discussed in the following section of this report, it is recommended that shallow soil samples will be collected from the subject site for assessment of potential impact from environmentally persistent pesticides/herbicides. Consequently, any such contamination potentially derived from imported soils would be addressed via the proposed limited soil assessment.

According to Mr. McNulty, to the best of his knowledge, no use, storage, or disposal of hazardous materials, including environmentally persistent pesticides/herbicides; no existing or former ASTs or USTs; no hazardous materials spills, no environmental cleanups, no on-site treatment and/or discharge of waste (other than domestic waste); no environmental liens, AULs, engineering or institutional controls, no on-site dry wells, sumps, or disposal ponds; no buried materials; no monitoring, domestic, or irrigation wells; or any items of environmental concern are associated with the subject site. Mr. McNulty indicated that he is not aware of any obvious indications pointing to the presence or likely presence of contamination of the subject property. Mr. McNulty indicated that the reason for preparation of this Phase I ESA is related to a proposed property development. Mr. McNulty indicated that the purchase

price of the subject site reasonably reflects fair market value. Please refer to Appendix F in the Table of Contents for a copy of the Phase I ESA Owner Questionnaire completed by Mr. McNulty.

Previous Subject Site Owners/Occupants – An interview with a previous owner/occupant of the subject site was not reasonably ascertainable. Consequently, information regarding the history and historical uses of the subject site obtained from an interview of a previous owner and/or occupant constitutes a data gap.

6.3 Agricultural Chemicals

Krazan's historical research indicates that the subject site was utilized for agricultural purposes from at least 1937 until at least the early-2010s, with an orchard partially occupying the subject site in 1937 and possibly before. Given the time frame in which the subject site was partially occupied by an orchard and the use of the subject site for the cultivation of row crops/orchards for at least 80 years, there is a heightened potential that environmentally persistent pesticides/herbicides historically may have been applied to the crops located on the subject site. Additionally, the subject site owner representative indicated in a questionnaire response that soil imported from the adjoining school is located on the subject site, although he did not indicate the location of the imported soil. Therefore, given the potential use of environmentally persistent pesticides and/or herbicides on site, the agricultural use of the subject site for an extended period of time (at least 80 years), the report that vicinity agricultural property soil was imported to the subject site, and the planned redevelopment of the subject site for residential purposes, the current condition of the subject site soils is unknown and an assessment of shallow soils for the residues of such materials is considered to be prudent in consultation with the client.

6.4 Regulatory Agency Interface

A review of regulatory agency records was conducted to help determine if hazardous materials have been handled, stored, or generated on the subject site and/or the adjacent properties and businesses.

Regulatory records are reviewed based on the following criteria: 1) properties with known soils and/or groundwater releases considered to represent the potential for impact to the subject site that are located within 1,760 feet of the subject site for constituents of concern impacts or 528 feet of the subject site for petroleum hydrocarbon impacts; 2) properties that are adjacent or in proximity to the subject site included within the EDR regulatory database report or noted during the site reconnaissance to possibly handle, store, or generate hazardous materials.

Monterey County Health Department – Environmental Health Division

The Monterey County Health Department, Environmental Health Division (MCEHD) is the lead regulatory agency or Certified Unified Program Agency (CUPA) for hazardous materials handling facilities located in Monterey County. On August 8, 2018, the MCEHD was contacted regarding potential records associated with USTs, leaking underground storage tanks (LUSTs), hazardous materials business plans (HMBPs), hazardous waste generation, hazardous materials release/spill incidents, and environmental cleanups for the subject site address of 41206 Walnut Avenue and for the two proximate properties addresses as 450 and 470 3st Street. According to a representative of the MCEHD, no hazardous materials records are on file with the MCEHD for the subject site address of 41206 Walnut Avenue or for the two referenced proximate addresses.

State of California Regional Water Quality Control Board - Geotracker

Krazan's September 3, 2018 review of the State of California Regional Water Quality Control Board (RWQCB) Geotracker database available via the RWQCB Internet Website indicated that no cleanup sites including LUST sites, cleanup program sites, land disposal sites, or military sites are listed for the subject site, the adjacent properties, or properties located within the subject site vicinity. Additionally, no permitted UST sites were determined to be located on or adjacent to the subject site.

State of California Department of Toxic Substances Control - Envirostor

Krazan's September 3, 2018 review of the State of California Department of Toxic Substances Control (DTSC) Envirostor database available via the DTSC's Internet Website indicated that no records of cleanup sites including State response sites, voluntary cleanup sites, school cleanup sites, or military or school evaluation sites are listed for the subject site, the adjacent properties, or properties located within 500 feet of the subject site. Additionally, no Federal Superfund – National Priorities List (NPL) sites were determined to be located within a one-mile radius of the subject site.

Greenfield Fire Protection District

The Greenfield Fire Protection District (GFPD) has jurisdiction for fire protection for the subject site and the immediate vicinity. During the course of several previous Phase I ESAs conducted by Krazan in Greenfield, the GFPD Greenfield Fire Protection District has been contacted regarding potential records of hazardous materials storage and hazardous materials release incidents. According to representatives of the Greenfield Fire Protection District, hazardous materials storage and spill incident records are maintained by the Monterey County Environmental Health Division. Additionally, hazardous materials release incident records have historically been filed according to the date of occurrence and not by the location of occurrence with the Greenfield Fire Protection District.

California Department of Conservation, Division of Oil, Gas and Geothermal Resources - DOMS

Krazan's September 3, 2018 review of the State of California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) Online Mapping System (DOMS) indicated that no plugged and abandoned or producing oil wells are located on or adjacent to the subject site.

Local Area Tribal Records

No Indian reservations, USTs on Indian land, or LUSTs on Indian land were reported on the subject site, adjacent properties, or vicinity properties in the EDR-provided government database report.

6.5 Regulatory Agency Lists Review

Several agencies have published documents that list businesses or properties which have handled hazardous materials or waste or may have experienced site contamination. The lists consulted in the course of our assessment were compiled by EDR and Krazan and represent reasonably ascertainable current listings. Krazan did not verify the locations and distances of every property listed by EDR. Krazan verified the location and distances of the properties Krazan deemed as having the potential to adversely impact the subject site. The actual location of the listed properties may differ from the EDR listing. Refer to Table VII for a summary of the listed properties considered to have the potential to impact the subject site located within the specified ASTM Search Radii. The actual distances of the listed properties (which are summarized below) are based on observations during Krazan's site reconnaissance. No EDR-listed unmapped (non-geocoded) sites were determined to be located on or adjacent to the subject site. Please refer to Appendix G in the Table of Contents for a copy of the EDR Radius Map Report.

TABLE VII
Listed Properties

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	1	1	NR	2
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

TABLE VII (continued)
Listed Properties

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0

TABLE VII (continued)
Listed Properties

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.001		0	NR	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0

TABLE VII (continued)
Listed Properties

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
CERS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001	1	0	NR	NR	NR	NR	1
PROJECT	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		1	0	0	1	1	0	3

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

The following listing is contained in the EDR report for the subject site address:

> Walnut Avenue Widening Project subject site
> 41206 Walnut Avenue
> According to EDR, the subject site address of 41206 Walnut Avenue is listed as a CIWQS site. The CIWQS listing is associated with the processing and issuance of a permit for the control of stormwater runoff associated with construction activities related to the widening of Walnut Avenue in the vicinity of the subject site. This NPDES permit was reportedly effective on July 22, 2011 and was terminated on September 1, 2012 following completion of construction activities. No violations or indications of an unauthorized release of hazardous materials are noted in the EDR report. The issuance of a CIWQS permit for an active or proposed construction site without evidence of violations associated with the permit does not constitute an environmental concern in connection with the subject site.

Hazardous Materials Migration in Soils and/or Groundwater

No sites with reported releases of hazardous materials to the subsurface were actually located with a 2,000-foot radius of the subject site. In general, potentially hazardous materials or petroleum products released from facilities located approximately hydraulically upgradient within the subject site vicinity, or in a hydraulically cross-gradient direction in proximity to the site, may have a reasonable potential of migrating to the subject site via groundwater flow. This opinion is based on the assumption that non-vaporous hazardous materials generally do not migrate large distances laterally within the soil, but rather tend to migrate with groundwater in the general direction of groundwater flow. However, the potential for migration of volatile hazardous materials may include movement within soils, groundwater flow or potentially omni-directionally if present in a vaporous state.

Hazardous Materials Migration in Vapor

Hazardous materials or petroleum product vapors which may have the potential to migrate into the subsurface of the subject site may be caused by the release of vapors from contaminated soil or groundwater either on or in the vicinity of the subject site from current or historical uses of the subject site and/or adjacent or vicinity properties. Current or past land uses such as gasoline stations (using petroleum hydrocarbons), dry cleaning establishments (using chlorinated volatile organic compounds), former manufactured gas plant sites (using volatile and semi-volatile organic compounds), and former industrial sites such as those that had vapor degreasing or other parts-cleaning operations (using chlorinated volatile organic compounds) are of particular concern. Constituent of concern vapors are capable of migrating great distances omni-directionally along subsurface conduits such as pipelines, utility lines, sewer and stormwater lines, and building foundations.

Based on Krazan's observations and review of State and local regulatory agency records and the EDR regulatory database report, the remaining listed properties / OR no listings of concern related to potential vapor migration were determined to be associated with the subject site, adjacent properties, or properties located within the subject site vicinity. Review of vicinity properties listed by EDR as release sites within the applicable search radii suggests that these properties do not represent a significant potential for vapor migration in conjunction with the subject site. The rationale supporting this opinion includes the following:

- None of the reported sites were in close proximity to the subject site;
- Relevant sites had undergone investigation and remediation sufficient to receive regulatory agency closure;
- Sites with reported releases of minor quantities of COCs or COCs of limited volatility impacting soil only were considered of minimal concern;
- The lateral migration of the COCs in groundwater is reported to be limited and COCs were not detected in groundwater samples collected downgradient of the release and several hundred feet upgradient of the subject site;
- Sites with reported releases of COCs including volatile organic compounds (VOCs) were either of sufficient distance or hydraulically down- or cross-gradient from the subject site such that they do not appear to represent a significant potential for vapor migration on the subject site; and,
- Sites with reported releases of COCs including volatile organic compounds (VOCs) were investigated via the collection and analysis of shallow soil gas samples and found to contain COCs concentrations below laboratory reporting limits, below regulatory action levels and/or below levels of potential concern relative to indoor air quality impacts

No engineering control sites, sites with institutional controls, or sites with deed restrictions were listed for the subject site, adjacent sites or vicinity properties in the EDR Report.

7.0 DISCUSSION OF FINDINGS

TABLE VIII
Summary of Conclusions

Apparent Evidence of RECs or PAOCs From:	Not Noted	Noted
Historical Uses		X
Current Uses	X	
Adjacent or Vicinity Property Uses	X	

Historical Uses

Based on Krazan's review of historical aerial photographs, a site reconnaissance, contacts with the local regulatory agencies, and an interview with a representative of the owner of the subject site, there is no evidence that recognized environmental conditions exist in connection with the historical uses of the subject site. However, potential areas of concern (PAOCs) were identified in connection with the historical uses of the subject site which are discussed in the Conclusions/Opinions section of this report.

Current Uses

Based on Krazan's site reconnaissance, contacts with local regulatory agencies, and an interview with a representative of the owner of the subject site, there is no evidence that recognized environmental conditions exist in connection with the current uses of the subject site. However, site development issues were identified in connection with the subject site which are discussed in the Conclusions/Opinions section of this report.

Adjacent or Vicinity Property Uses

Based on Krazan's field observations, review of the EDR government database report, and consultation with local regulatory agencies, there is no evidence that recognized environmental conditions exist in connection with the subject site from adjacent property uses.

7.1 Evaluation of Data Gaps/Data Failure

In accordance with ASTM E 1527-13 guidance, data gaps represent a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice. Data failure represents the failure to achieve the historical research objectives of this practice even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

The following is a summary of data gaps encountered in the process of preparing this report including an observation as to the presumed significance of that data gap to the conclusions of this assessment.

- Unknown Date of First Development (Section 6.1)

  Site history prior to 1937 was not reasonably ascertainable based upon review of standard historical sources. Consequently, data failure was encountered relative to date of first development of the subject site. Taken in consideration with the available information obtained in the course of preparing this report in conjunction with professional experience, there is no

evidence to suggest that this data gap might alter the conclusions of this assessment. However, the date of first development of the subject site is unknown.

- Absence of Interview with Previous Property Owner/Occupant (Section 6.1)

  A Phase I ESA interview with the previous owner/occupant of the subject site was not reasonably ascertainable. Consequently, information regarding the history and historical uses of the subject site obtained from an interview of a previous owner and/or occupant constitutes a data gap. Taken in consideration with the available information obtained in the course of preparing this report in conjunction with professional experience, there is no evidence to suggest that this data gap might alter the conclusions of this assessment. However, the contents of an interview with a previous property owner/occupant are unknown.

8.0 CONCLUSIONS/OPINIONS

We have conducted a Phase I ESA of the subject site in conformance with the scope and limitations of the ASTM E 1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* guidance documents. Any deviations from this practice were previously described in this report. During the course of this assessment, Krazan identified no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in conjunction with the subject site as defined by ASTM E 1527-13. However, the following potential areas of concern (PAOCs) and site development issues were identified in connection with the subject site:

PAOCs

- Krazan's review of historical aerial photographs indicates that a rural residential area was present in the northwestern portion of the subject site from at least 1937 until at least 1960, and a barn-type structure was visible in the northwestern portion of the subject site circa 1937. Additionally, historical aerial photographs of the subject site vicinity taken between 1937 and 2017 suggest that the subject site and the surrounding properties have been associated with agricultural uses throughout most of the 1937 to 2017 time interval. Historical uses of the subject site prior to 1937 were not reasonably ascertainable utilizing the standard historical references consulted during this assessment, and it is therefore unknown how long structures were located on the subject site prior to 1937. Mr. James McNulty, a representative of the owner of the subject site familiar with the subject site for the past 61 years, indicated that he was unaware of underground storage tanks (USTs) being located at the subject site and no records of USTs for the subject site are on file with the local regulatory agencies. However, USTs on rural or agricultural properties historically have been exempt from requirements for registration with regulatory agencies. Krazan's experience with such properties has shown that it is not uncommon for property owners/operators to install USTs for their convenience, especially in the vicinity of structures, which are undocumented and whose presence would remain unknown in

spite of the standard data research conducted in the course of this Phase I ESA. It is therefore possible that subsurface features such as unregistered USTs may exist in the vicinity of the former on-site structures which remain unknown based upon the absence of any regulatory, municipality, interview data, or other evidence indicating their presence or location. Consequently, despite an absence of data suggesting their presence, the presence or absence of USTs associated with the northwestern portion of the subject site prior to the current owner of the subject site is unknown.

- Krazan's historical research indicates that the subject site was utilized for agricultural purposes from at least 1937 until at least the early-2010s, with an orchard partially occupying the subject site in 1937 and possibly before. Given the time frame in which the subject site was partially occupied by an orchard and the use of the subject site for the cultivation of row crops/orchards for at least 80 years, there is a heightened potential that environmentally persistent pesticides/herbicides historically may have been applied to the crops located on the subject site. Additionally, the subject site owner representative indicated in a questionnaire response that soil imported from the adjoining school is located on the subject site, although he did not indicate the location of the imported soil. Therefore, given the potential use of environmentally persistent pesticides and/or herbicides on site, the agricultural use of the subject site for an extended period of time (at least 80 years), the report that vicinity agricultural property soil was imported to the subject site, and the planned redevelopment of the subject site for residential purposes, the current condition of the subject site soils is unknown and an assessment of shallow soils for the residues of such materials is considered to be prudent in consultation with the client.

Site Development Issues

- According to Mr. James McNulty, a representative of the owner of the subject site who has been familiar with the subject site for the past 61 years, no water wells are located on the subject site. However, Krazan's review of historical aerial photographs indicates that a structure was located within the northwestern portion of the subject site circa 1937. A domestic water well was possibly associated with the former on-site structure. If a water well is identified during the planned redevelopment of the subject site, it should be properly destroyed in accordance with State and local guidelines.

- According to Mr. McNulty, a septic system which has not been in use for 50+ years is located on the subject site. The presence of the septic system is not anticipated to have adversely impacted the subject site due to its presumed use for domestic purposes only. If the septic system is not to be utilized in the planned redevelopment of the subject site, it should be properly abandoned/closed or destroyed in accordance with State and local guidelines. Mr. McNulty has reportedly provided Krazan's client with a parcel map showing the approximate location of the reported septic system.

9.0 RELIANCE

This report was prepared solely for use by Client and should not be provided to any other person or entity without Krazan & Associates' prior written consent. No party other than Client may rely on this report

without Krazan & Associates' express prior written consent. Reliance rights for third parties will only be in effect once requested by Client and authorized by Krazan & Associates with authorization granted by way of a Reliance Letter. The Reliance Letter will require that the relying party(ies) agree to be bound to the terms and conditions of the agreement between Client and Krazan & Associates as if originally issued to the relying party(ies), or as so stipulated in the Reliance Letter.

10.0 LIMITATIONS

The site reconnaissance and research of the subject site has been limited in scope. This type of assessment is undertaken with the calculated risk that the presence, full nature, and extent of contamination would not be revealed by visual observation alone. Although a thorough site reconnaissance was conducted in accordance with ASTM Guidelines and employing a professional standard of care, no warranty is given, either expressed or implied, that hazardous material contamination or buried structures, which would not have been disclosed through this investigation, do not exist at the subject site. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used.

The findings presented in this report were based upon field observations during a single property visit, review of available data, and discussions with local regulatory and advisory agencies. Observations describe only the conditions present at the time of this investigation. The data reviewed and observations made are limited to accessible areas and currently available records searched. Krazan cannot guarantee the completeness or accuracy of the regulatory agency records reviewed. Additionally, in evaluating the property, Krazan has relied in good faith upon representations and information provided by individuals noted in the report with respect to present operations and existing property conditions, and the historical uses of the property. It must also be understood that changing circumstances in the property usage, proposed property usage, subject site zoning, and changes in the environmental status of the other nearby properties can alter the validity of conclusions and information contained in this report. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used.

This report is provided for the exclusive use of the client noted on the cover page and shall be subject to the terms and conditions in the applicable contract between the client and Krazan. Any third party use of this report, including use by Client's lender, shall also be subject to the terms and conditions governing the work in the contract between the client and Krazan. The unauthorized use of, reliance on, or release

of the information contained in this report without the express written consent of Krazan is strictly prohibited and will be without risk or liability to Krazan.

Conclusions and recommendations contained in this report are based on the evaluation of information made available during the course of this assessment. It is not warranted that such data cannot be superseded by future environmental, legal, geotechnical or technical developments. Consequently, given the possibility for unanticipated hazardous conditions to exist on a subject site which may not have been discovered, this Phase I ESA is not intended as the basis for a buyer or developer of real property to waive their rights of recovery based upon environmental unknowns. Parties that choose to waive rights of recovery prior to site development do so at their own risk.

Parties who seek to rely upon Phase I Environmental Site Assessment reports dated more than 180 days prior to the date of reliance do so at their own risk. This limitation in reliance is based on the potential for physical changes at the site, changes in circumstances, technological and professional advances, and guidance related to the continued viability of Environmental Site Assessment reports, user's responsibilities, and requirements for updating of components of the inquiry as stated in the ASTM Standard E 1527-13.

11.0 QUALIFICATIONS

This Phase I ESA was conducted under the supervision or responsible charge of Krazan's undersigned environmental assessor with oversight from the undersigned environmental professional. The work was conducted in accordance with ASTM E 1527-13 guidance, generally accepted industry standards for environmental due diligence in place at the time of the preparation of this report, and Krazan's quality-control policies.

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in §312.10 of 40 CFR 312 and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property.

We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

William Vick, PhD, REA
Environmental Professional

Arthur C. Farkas, REA
Environmental Professional

WHV/ACF/mlt

REFERENCES

Aerial photographs obtained from Environmental Data Resources, Inc. (EDR), Microsoft® Research Maps, and Google Earth™.

AFX Corp, Inc., Environmental Lien/Activity Use Limitations Report.

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State of California Department of Toxic Substances Control, Envirostor Website: http://www.envirostor.dtsc.ca.gov/public

State of California Regional Water Quality Control Board, Geotracker Website: http://geotracker.swrcb.ca.gov

U.S. Environmental Protection Agency (EPA) *Map of Radon Zones*.

U.S. Fish & Wildlife Service National Wetland Inventory *Wetlands Mapper:* http://www.fws.gov/wetlands/Data/Mapper.html

U.S. Geological Survey, 7.5-minute Greenfield, California topographic quadrangle map, dated 1956.

GLOSSARY OF TERMS

Subject Site: The real property being investigated under this Phase I ESA.

Adjacent Properties: Properties which are contiguous with the subject site, or would be contiguous except for a street, road, or other public thoroughfare.

Subject Site Vicinity: Properties located within a 500-foot radius of the subject site.

Environmental Professional: A person meeting the education, training, and experience requirements as set forth in 40 CFR §312.10(b). The EP may be an independent contractor or an employee of the user.

User: The party seeking to use Practice E 1527 to complete an environmental site assessment of the subject site. A user may include, without limitation, a potential purchaser of the subject site, a potential tenant of the subject site, an owner of the subject site, a lender, or a property manager.

Recognized Environmental Condition (REC): In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a parcel of property, the goal of the processes established by this practice is to identify recognized environmental conditions. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.

Controlled Recognized Environmental Condition (CREC): A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). For example, if a leaking underground storage tank has been cleaned up to a commercial use standard, but does not meet unrestricted residential cleanup criteria, this would be considered a CREC. The "control" is represented by the restriction that the property use remain commercial. A condition considered by the environmental professional to be a CREC shall be listed in the findings section of the Phase I ESA report and as an REC in the conclusions section. A condition identified as a CREC does not imply that the environmental professional has evaluated or confirmed the adequacy, implementation, or continued effectiveness of the required control that has been, or is intended to be, implemented.

Historical Recognized Environmental Condition (HREC): A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release an HREC, the environmental professional must determine whether the past release is an REC at the time the Phase I ESA is conducted (for example, if there has been change in the regulatory criteria). If the EP considers the past release to be an REC at the time the Phase I ESA is conducted, the condition shall be included in the conclusions section of the report as an REC.

GLOSSARY OF TERMS (continued)

Potential Area of Concern (PAOC): A term adopted to provide an alternative designation to the REC and HREC for a range of environmental issues related to current subject site uses, historical subject site uses, or from adjacent and/or vicinity property uses. The PAOC is utilized to emphasize full disclosure and provide the User with conclusions and recommendations related to potential environmental issues in connection with the subject site based on Krazan's professional experience in cases where official documentation or other evidence may be absent in order to identify an REC or HREC, thereby aiding the User's considerations of environmental due diligence risk tolerance.

Migrate/migration: For the purposes of this practice, "migrate" and "migration" refer to the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface. Vapor migration in the subsurface is described in ASTM E 2600-10 guidance; however, nothing in the E 1527-13 practice should be construed to require application of the E 2600-10 standard to achieve compliance with AAI.

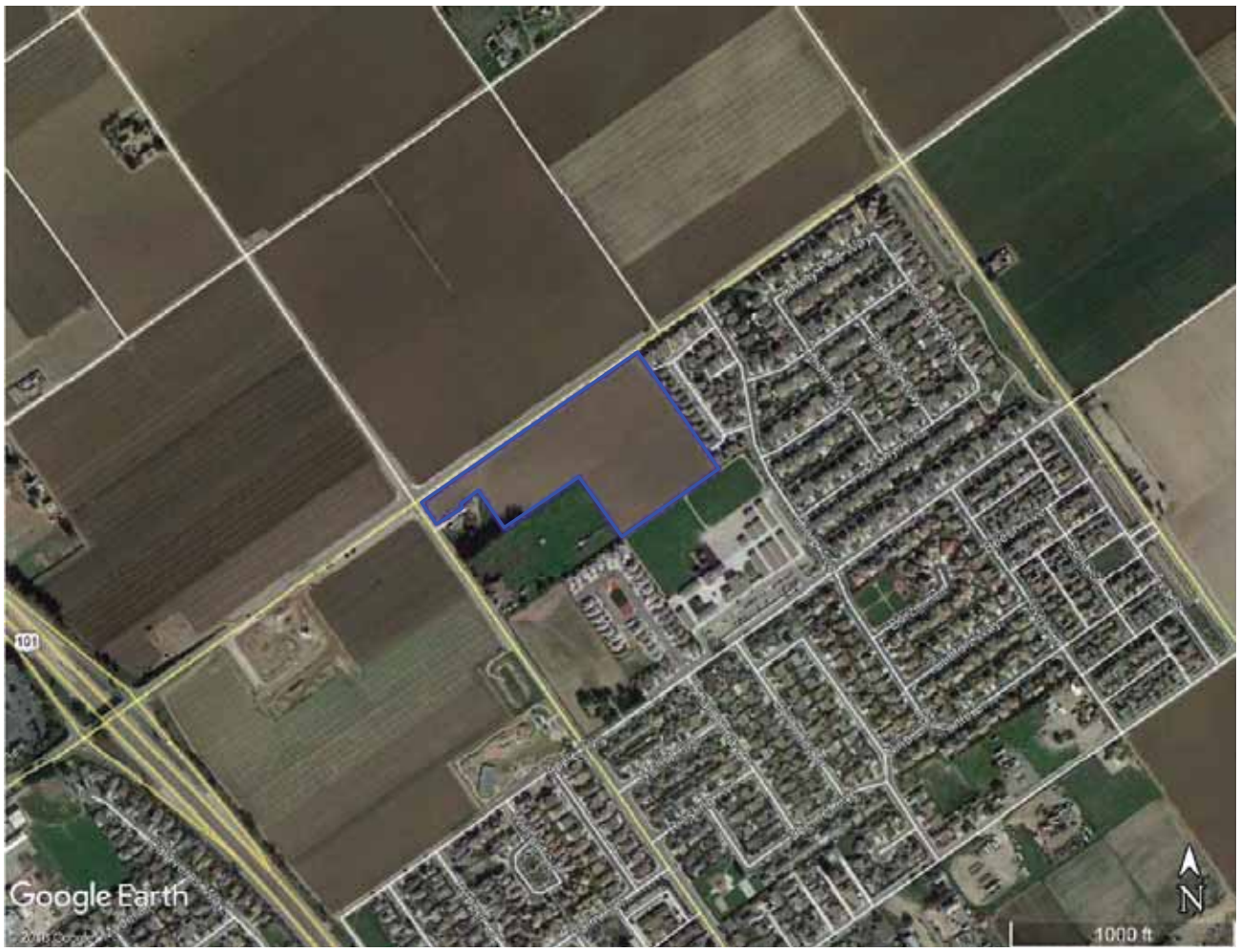
De minimis condition: A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Condition determined to be *de minimis conditions* are not RECS or CRECs.

Data Gap: A lack of or inability to obtain information required by this practice despite good faith efforts by the Environmental Professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to the site reconnaissance and interviews.

Data Failure: A failure to achieve the historical research objectives even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

GLOSSARY OF TERMS (continued)

AAI	All Appropriate Inquiries
AC	Asphalt Concrete
ACM	Asbestos-Containing Materials
AOC	Area of Concern
APN	Assessor's Parcel Number
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
AS	Air Sparging
AUL	Activity & Use Limitations
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CESQG	Conditionally Exempt Small Quantity Generator
CFR	Code of Federal Regulations
CMU	Concrete Masonry Unit
COCs	Constituents of Concern
DEULs	Declaration of Environmental Use Restrictions
DOGGR	Division of Oil, Gas & Geothermal Resources (CA)
DTSC	Department of Toxic Substances Control (CA)
EC	Engineering Control
EDR	Environmental Data Resources, Inc.
EP	Environmental Professional
EPA	United States Environmental Protection Agency
ERP	Emergency Response Plan
ESA	Environmental Site Assessment
ESL	Environmental Screening Level
FOIA	Freedom of Information Act
GPR	Ground Penetrating Radar
HCCD	Haines Criss-Cross Directory
HFIM	Historical Fire Insurance Map
HMBP	Hazardous Materials Business Plan
HREC	Historical Recognized Environmental Condition
HVAC	Heating, Ventilation, Air Conditioning
IC	Institutional Control
LBP	Lead-Based Paint
LLP	Landowner Liability Protection
LQG	Large Quantity Generator
LUC	Land Use Control
LUST	Leaking Underground Storage Tank
MCL	Maximum Contaminant Level
µg/L	Micrograms Per Liter
mg/kg	Milligrams Per Kilogram
mg/L	Milligrams Per Liter
MSDS	Material Safety Data Sheet
MTBE	Methyl Tertiary Butyl Ether
MFR	Multi-Family Residential
ND	Nondetectable
NFA	No Further Action (letter)
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
O&M	Operations & Maintenance Plan
PAOC	Potential Area of Concern
PCB	Polychlorinated Biphenyl
PCC	Portland Cement Concrete
PCE	Perchloroethylene
PEC	Potential Environmental Concern (TS)
PGD	Polk Guide Directory
PG&E	Pacific Gas & Electric
PHCs	Petroleum Hydrocarbon Constituents
PID	Photoionization Detector
ppb	Parts Per Billion
ppm	Parts Per Million
PRG	Preliminary Remediation Goal
PRP	Potentially Responsible Party
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RP	Responsible Party
RWQCB	Regional Water Quality Control Board (CA)
SBA	Small Business Administration
SFR	Single-Family Residential
SPCC	Spill Prevention Control and Countermeasure Plan
SQG	Small Quantity Generator
SCE	Southern California Edison
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compound
SWRCB	State Water Resources Control Board
TCE	Trichloroethylene
TPH	Total Petroleum Hydrocarbons
TPH-D	Total Petroleum Hydrocarbons as Diesel
TPH-G	Total Petroleum Hydrocarbons as Gasoline
TPH-MO	Total Petroleum Hydrocarbons as Motor Oil
TS	Transaction Screen
USGS	United States Geological Survey
USFWS	United States Fish & Wildlife Service
UST	Underground Storage Tank
VEC	Vapor Encroachment Condition
VES	Vapor Encroachment Screening
VOCs	Volatile Organic Compounds



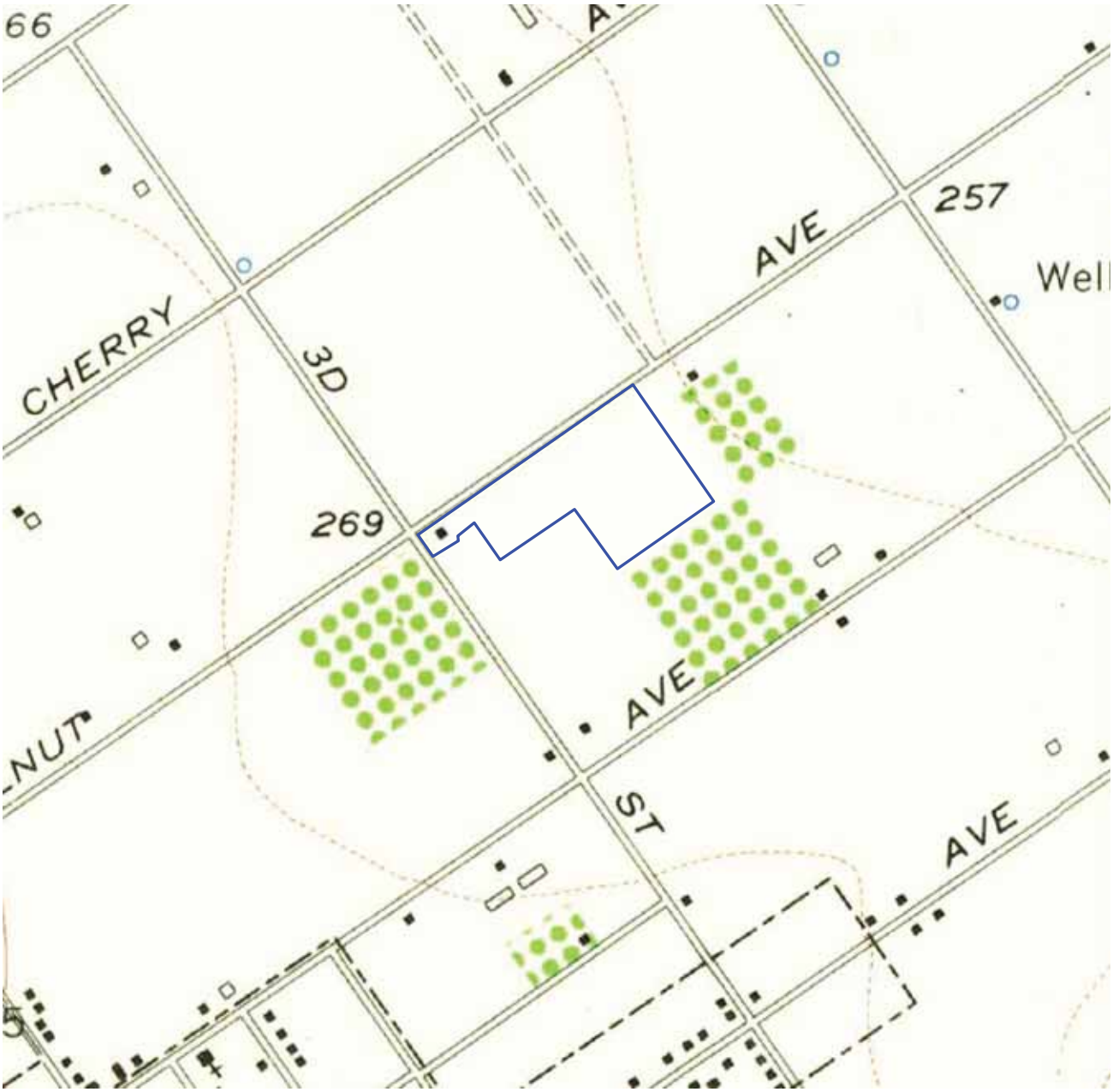
= SUBJECT SITE BOUNDARY

VICINITY MAP **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** NTS	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***With Offices Serving the Western U. S.***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-18104	**Figure No.** 1	

= SUBJECT SITE BOUNDARY (APPROXIMATE)

= HISTORICAL RURAL RESIDENTIAL AREA (APPROXIMATE – FROM HISTORICAL AERIAL PHOTOS)
= APPROXIMATE LOCATION OF BARN-TYPE STRUCTURE (1937 AERIAL PHOTOGRAPH)
= STORMWATER DRAIN INLET

SITE MAP	Scale: NTS	Date: September 2018	Krazan
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY 41206 WALNUT AVENUE APN 109-082-012 GREENFIELD, CALIFORNIA 93927	Drawn By: BV	Approved by: BV	SITE DEVELOPMENT ENGINEERS *With Offices Serving the Western U. S.*
	Project No. 034-18104	Figure No. 2	



7.5-MINUTE SERIES
USGS TOPOGRAPHIC MAP
GREENFIELD, CALIFORNIA
DATED 1956

= SUBJECT SITE BOUNDARY

TOPOGRAPHIC MAP **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** NTS	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***With Offices Serving the Western U. S.***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-18104	**Figure No.** 3	

Photo 1: Southwestern-facing view of the northwestern portion of the subject site historically occupied by a rural residence.

Photo 2: Northeastern-facing view of the central part of the northwestern portion of the subject site adjacent to Walnut Avenue.

Photo 3: Northeastern-facing view of the eastern part of the northwestern portion of the subject site adjacent to Walnut Avenue.

Photo 4: Southeastern-facing view of the northeastern portion of the subject site.

Photo 5: Southwestern-facing view of the central portion of the subject site.

Photo 6: Southwestern-facing view of the southeastern portion of the subject site.

Photo 7: Southwestern-facing view of the central-southern portion of the subject site.

Photo 8: Northwestern-facing view of the central portion of the subject site.

Photo 9: Northeastern-facing view of the central portion of the subject site.

Photo 10: Northeastern-facing view of the northwestern portion of the subject site historically occupied by a rural residence.

Photo 11: Northwestern-facing view of the agricultural land located adjacent to the northwest of the subject site.

Photo 12: Western-facing view of the single-family homes located adjacent to the northeast of the subject site.

Photo 13: Southeastern-facing view of the public school located adjacent to the southeast of the eastern portion of the subject site.

Photo 14: Southwestern-facing view of the rural residence located adjacent to the south and west of the central portion of the subject site.

Photo 15: Eastern-facing view of the single-family home located adjacent to the south and west of the subject site.

Photo 16: Southwestern-facing view of the agricultural land located adjacent to the southwest of the subject site.

Appendix A

ENVIRONMENTAL LIEN & AUL REPORT

Order # 03418104-BV
AFX Reference # 79-80580-47

41206 WALNUT AVENUE
GREENFIELD, CA 93927

Completed 08/10/2018

AFX RESEARCH, LLC

A Quarter-Century of Title Document Research Expertise

999 Monterey St. Suite 380, San Luis Obispo, CA 93401

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ENVIRONMENTAL LIEN & AUL SEARCH REPORT (pg. 2)

SOURCES SEARCHED

Source 1:	MONTEREY COUNTY RECORDER'S OFFICE
Source 2:	CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
Source 3:	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

TARGET PROPERTY

Current Owner(s):	JAKES DREAM INVESTORS LIMITEDPARTNERSHIP		
Street Address:	41206 WALNUT AVENUE		
City, State Zip Code:	GREENFIELD, CA 93927		
APN/Parcel/PIN:	109-082-012-000	County:	MONTEREY
Legal Description:	VOL 13 PAR MAPS PG 153 PAR 2 11.0 AC		

PROPERTY OWNERSHIP

GRANT DEED

Date Recorded:	05/01/2006	Instrument:	2006039301
Dated:	04/21/2006		
Grantor(s):	JESSFIELD INVESTORS LLC		
Grantee(s):	JAKES DREAM INVESTORS LIMITEDPARTNERSHIP		

ENVIRONMENTAL LIENS

NO ENVIRONMENTAL LIENS WERE FOUND FOR SUBJECT PROPERTY.

ACTIVITY AND USE LIMITATIONS (AUL)

NO AUL WERE FOUND FOR SUBJECT PROPERTY.

LEASES AND MISCELLANEOUS INSTRUMENTS

NO LEASES OR MISCELLANEOUS INSTRUMENTS FOUND FOR SUBJECT PROPERTY.

THANK YOU FOR YOUR ORDER

For questions, please contact our office at 1-877-848-5337.

Order # 03418104-BV

AFX Reference # 79-80580-47

Our Environmental Lien and AUL report provides a summary of recorded information on a specific property from the time the current owner purchased the property, to present time. The report is intended to assist in the search for environmental liens filed in land title records. The report will verify property ownership and provide information on recorded environmental liens and/or Activity and Use Limitations that have been recorded from the time the current owner purchased the property, forward.

Our professional network of trained researchers follow established industry protocols and use client-supplied property information to complete this Environmental Lien and AUL report. The research is conducted at all appropriate government offices based on the location of the subject property. This would include city, county, state, federal and tribal offices as needed. The report includes:

- Current deed information (i.e. grantor, grantee, recording dates)
- Legal Description
- Environmental Lien information
- Activity and Use Limitation information
- Copies of any Environmental Liens and/or documents referencing AULs that are listed within our summary report

-Disclaimer-

This report was prepared for the use of **AFX Research LLC** (AFX), exclusively. This report is neither a guarantee of title, a commitment to insure, nor a policy of title insurance. **NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT.** AFX specifically disclaims the making of any such warranties, including without limitation, merchantability or fitness for a particular use or purpose. The information contained in this report is retrieved as it is recorded from the various agencies that make it available. The total liability is limited to the fee paid for this report.

Appendix B

CHICAGO TITLE COMPANY

PRELIMINARY REPORT

In response to the application for a policy of title insurance referenced herein, ***Chicago Title Company*** *hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a policy or policies of title insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.*

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Attachment One. The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Attachment One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

The policy(ies) of title insurance to be issued hereunder will be policy(ies) of Chicago Title Insurance Company, a Florida corporation.

Please read the exceptions shown or referred to herein and the exceptions and exclusions set forth in Attachment One of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

Chicago Title Insurance Company

By:

President

Countersigned By:

Authorized Officer or Agent

Attest:

Secretary

Visit Us on our Website: www.ctic.com

CHICAGO TITLE COMPANY

ISSUING OFFICE: 50 Winham Street, Salinas, CA 93901

FOR SETTLEMENT INQUIRIES, CONTACT:
Chicago Title Company
250 Bonifacio Place • Monterey, CA 93940
(831)375-2262 • FAX (831)646-8544

Another Prompt Delivery From Chicago Title Company Title Department
Where Local Experience And Expertise Make A Difference

PRELIMINARY REPORT

Update A

Title Officer: Maryrose Mancha
Email: mancham@ctt.com
Title No.: FWMN-5251800171-MM

Escrow Officer: Kimberly Verania
Email: Kim.Verania@ctt.com
Escrow No.: FWMN-5251800171

TO: Cushman & Wakefield
328 B Main Street
Salinas, CA 93901
Attn: Leticia Bugarin

PROPERTY ADDRESS(ES): 41206 Walnut Avenue, Greenfield, CA

EFFECTIVE DATE: July 17, 2018 at 07:30 AM

The form of policy or policies of title insurance contemplated by this report is:

CLTA Standard Coverage Policy 1990 (04-08-14)

ALTA Loan Policy 2006

1. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

   A Fee

2. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

   Jake's Dream Investors Limited Partnership

3. THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:

   SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

EXHIBIT "A"

Legal Description

For APN/Parcel ID(s): 109-082-012

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF GREENFIELD, COUNTY OF MONTEREY, STATE OF CALIFORNIA AND IS DESCRIBED AS FOLLOWS:

Parcel 2, as said parcel is shown and so designated on the Parcel Map filed for record November 1, 1979, in Volume 13 of Parcel Maps, at Page 153, in the Office of the County Recorder of the County of Monterey, State of California.

AT THE DATE HEREOF, EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN SAID POLICY FORM WOULD BE AS FOLLOWS:

1. Property taxes, which are a lien not yet due and payable, including any assessments collected with taxes to be levied for the fiscal year 2018-2019.

2. The lien of supplemental or escaped assessments of property taxes, if any, made pursuant to the provisions of Chapter 3.5 (commencing with Section 75) or Part 2, Chapter 3, Articles 3 and 4, respectively, of the Revenue and Taxation Code of the State of California as a result of the transfer of title to the vestee named in Schedule A or as a result of changes in ownership or new construction occurring prior to Date of Policy.

3. Assessments and charges due the Monterey Regional Water Pollution Control Agency.

   Further information may be obtained by contacting:
   District Billing Manager
   P.O. Box 2109
   Monterey, CA 93942
   (831) 372-2385

4. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	Clark Colony Water Co.
Purpose:	Water rights and rights of way
Recording Date:	July 28, 1905
Recording No.:	in Volume 87, Page 121, of Deeds

   The exact location and extent of said easement is not disclosed of record.

5. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

Recording Date:	December 9, 1909
Recording No.:	in Volume 106, Page 517, of Deeds

   Said covenants, conditions and restrictions do provide for reversion of title in the event of a breach thereof.

6. Covenants, conditions and restrictions but omitting any covenants or restrictions, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law, as set forth in the document

Recording Date:	April 10, 1913
Recording No.:	in Volume 129, Page 236, of Deeds

EXCEPTIONS
(continued)

Said covenants, conditions and restrictions do provide for reversion of title in the event of a breach thereof.

7. Matters contained in that certain document

Entitled:	Agreement for Construction of Road Improvements
Dated:	October 24, 1979
Executed by:	County of Monterey, et al.
Recording Date:	November 1, 1979
Recording No.:	in Reel 1369, Page 1263, of Official Records

Reference is hereby made to said document for full particulars.

8. Matters contained in that certain document

Entitled:	Grant Deed
Dated:	October 19, 1984
Executed by:	Mamie E. Rhodd, a married woman, who acquired title as Mamie E. Looney, conveying her sole and separate property, et al.
Recording Date:	November 27, 1984
Recording No.:	in Reel 1789, Page 153, of Official Records

Reference is hereby made to said document for full particulars.

Said document, among other matters, contains the following provision:

"Grantor, Mamie E. Rhodd hereby reserves for herself and her successors in interest with the right to withdraw from the well on the real property described above (Parcel 1, 13 PM 153) for use on the adjacent property described as Parcel 2, as said Parcel is shown shown and so designated on that certain Parcel Map filed in Volume 13 of "Parcel Maps", at Page 153, Official Records of Monterey County, California...."

"Mamie E. Rhodd and her successors in interest to pay a reasonable share of the well pump utilities and well maintenance expenses."

9. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to:	City of Greenfield
Purpose:	Public streets and public utilities
Recording Date:	December 11, 2013
Recording No.:	2013074646, of Official Records
Affects:	As therein provided

EXCEPTIONS
(continued)

10. The Company will require the following documents for review prior to the issuance of any title insurance predicated upon a conveyance or encumbrance from the limited partnership named below.

    Name: Jake's Dream Investors Limited Partnership, a limited partnership

    a. Satisfactory evidence that the partnership was validly formed, is in good standing and that there have been no amendments to the partnership agreement.

    The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

11. The search did not disclose any open mortgages or deeds of trust of record, therefore the Company reserves the right to require further evidence to confirm that the property is unencumbered, and further reserves the right to make additional requirements or add additional items or exceptions upon receipt of the requested evidence.

12. Any rights of the parties in possession of a portion of, or all of, said Land, which rights are not disclosed by the public records.

    The Company will require, for review, a full and complete copy of any unrecorded agreement, contract, license and/or lease, together with all supplements, assignments and amendments thereto, before issuing any policy of title insurance without excepting this item from coverage.

    The Company reserves the right to except additional items and/or make additional requirements after reviewing said documents.

13. Any claims for construction liens that may be recorded by reason of a recent work of improvement under construction and/or completed at the date hereof.

END OF EXCEPTIONS

NOTES

Note 1. Note: Property taxes for the fiscal year shown below are PAID. For proration purposes the amounts were:

Tax ID No.:	109-082-012
Fiscal Year:	2017-2018
1st Installment:	$2,267.04
2nd Installment:	$2,267.04
Exemption:	$0.00
Land:	$361,032.00
Improvements:	$0.00
Personal Property:	$0.00
Code Area:	008-029

Note 2. Note: The policy of title insurance will include an arbitration provision. The Company or the insured may demand arbitration. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. Please ask your escrow or title officer for a sample copy of the policy to be issued if you wish to review the arbitration provisions and any other provisions pertaining to your Title Insurance coverage.

Note 3. Note: The name(s) of the proposed insured(s) furnished with this application for title insurance is/are:

Name(s) furnished: EAH, Inc.

If these name(s) are incorrect, incomplete or misspelled, please notify the Company.

Note 4. Note: There are NO conveyances affecting said Land recorded within 24 months of the date of this report.

Note 5. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

Note 6. Your application for title insurance was placed by reference to only a street address or tax identification number. Based on our records, we believe that the legal description in this report covers the parcel(s) of Land that you requested. If the legal description is incorrect, the seller/borrower must notify the Company and/or the settlement company in order to prevent errors and to be certain that the correct parcel(s) of Land will appear on any documents to be recorded in connection with this transaction and on the policy of title insurance.

Note 7. Note: If a county recorder, title insurance company, escrow company, real estate broker, real estate agent or association provides a copy of a declaration, governing document or deed to any person, California law requires that the document provided shall include a statement regarding any unlawful restrictions. Said statement is to be in at least 14-point bold face type and may be stamped on the first page of any document provided or included as a cover page attached to the requested document. Should a party to this transaction request a copy of any document reported herein that fits this category, the statement is to be included in the manner described.

NOTES
(continued)

Note 8. Note: Any documents being executed in conjunction with this transaction must be signed in the presence of an authorized Company employee, an authorized employee of an agent, an authorized employee of the insured lender, or by using Bancserv or other approved third-party service. If the above requirement cannot be met, please call the Company at the number provided in this report.

END OF NOTES

WIRE SAFE™ | Inquire before you wire!

WIRE FRAUD ALERT

This Notice is not intended to provide legal or professional advice.
If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the number of relevant parties to the transaction as soon as an escrow account is opened.** DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
http://www.fbi.gov

Internet Crime Complain Center:
http://www.ic3.gov

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FIDELITY NATIONAL FINANCIAL
PRIVACY NOTICE
Revised May 1, 2018

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF", "our," or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

Types of Information Collected

We may collect two types of information from you: Personal Information and Browsing Information.

Personal Information. FNF may collect the following categories of Personal Information:

- contact information (e.g., name, address, phone number, email address);
- demographic information (e.g., date of birth, gender, marital status);
- identity information (e.g. Social Security Number, driver's license, passport, or other government ID number);
- financial account information (e.g. loan or bank account information); and
- other personal information necessary to provide products or services to you.

Browsing Information. FNF may automatically collect the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or mobile device:

- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website.

How Personal Information is Collected

We may collect Personal Information about you from:

- information we receive from you on applications or other forms;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

How Browsing Information is Collected

If you visit or use an FNF Website, Browsing Information may be collected during your visit. Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics

Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to other websites. FNF is not responsible for the privacy practices or the content of any of those other websites. We advise you to read the privacy policy of every website you visit.

Use of Personal Information

FNF uses Personal Information for three main purposes:

- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and third parties' products and services, jointly or independently.

When Information Is Disclosed

We may make disclosures of your Personal Information and Browsing Information in the following circumstances:

- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;
- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order; or
- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or the public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Please see **"Choices With Your Information"** to learn the disclosures you can restrict.

Security of Your Information

We maintain physical, electronic, and procedural safeguards to guard your Personal Information. We limit access to nonpublic personal information about you to employees who need to know that information to do their job. When we provide Personal Information to others as discussed in this Privacy Notice, we expect that they process such information in compliance with our Privacy Notice and in compliance with applicable privacy laws.

Choices With Your Information

If you do not want FNF to share your information with our affiliates to directly market to you, you may send an "opt out" request by email, phone, or physical mail as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties, except as permitted by California law.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.

For Oregon Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not disclose information about you creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children

The FNF Websites are meant for adults and are not intended or designed to attract persons under the age of eighteen (18). We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users

FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence for any of the purposes described in this Privacy Notice. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

FNF Website Services for Mortgage Loans

Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice titled When Information is Disclosed, Choices with Your Information, and Accessing and Correcting Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Personal Information. FNF does not share Personal Information collected through the Service Websites, except (1) as required or authorized by contract with the mortgage loan servicer or lender, or (2) as required by law or in the good-faith belief that such disclosure is necessary to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

Your Consent To This Privacy Notice; Notice Changes

By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information in accordance with this Privacy Notice. We may change this Privacy Notice at any time. The revised Privacy Notice, showing the new revision date, will be posted on the FNF Website. Each time you provide information to us following any amendment of this Privacy Notice, your provision of information to us will signify your assent to and acceptance of the terms of the revised Privacy Notice for all previously collected information and information collected from you in the future. We may use comments, information or feedback that you submit to us in any manner that we may choose without notice or compensation to you.

Accessing and Correcting Information; Contact Us

If you have questions, would like to access or correct your Personal Information, or want to opt-out of information sharing for affiliate marketing, send your requests via email to privacy@fnf.com, by phone to (888) 934-3354, or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue,
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

ATTACHMENT ONE

CALIFORNIA LAND TITLE ASSOCIATION
STANDARD COVERAGE POLICY - 1990

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulation (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien, or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

   (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.

3. Defects, liens, encumbrances, adverse claims or other matters:

   (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;

   (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;

   (c) resulting in no loss or damage to the insured claimant;

   (d) attaching or created subsequent to Date of Policy; or

   (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.

4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.

5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.

6. Any claim, which arises out of the transaction vesting in the insured the estate or interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.

EXCEPTIONS FROM COVERAGE - SCHEDULE B, PART I

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.

   Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

2. Any facts, rights, interests, or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.

3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.

4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.

5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.

6. Any lien or right to a lien for services, labor or material not shown by the public records.

ATTACHMENT ONE
(CONTINUED)

CLTA HOMEOWNER'S POLICY OF TITLE INSURANCE (12-02-13)
ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE

EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   a. building;
   b. zoning;
   c. land use;
   d. improvements on the Land;
   e. land division; and
   f. environmental protection.

   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   a. that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   b. that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   c. that result in no loss to You; or
   d. that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.
5. Failure to pay value for Your Title.
6. Lack of a right:
   a. to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   b. in streets, alleys, or waterways that touch the Land.

   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.
8. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake or subsidence.
9. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows:

- For Covered Risk 16, 18, 19 and 21, Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

The deductible amounts and maximum dollar limits shown on Schedule A are as follows:

	Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 10,000.00
Covered Risk 18:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 19:	1.00% of Policy Amount Shown in Schedule A or $5,000.00 (whichever is less)	$ 25,000.00
Covered Risk 21:	1.00% of Policy Amount Shown in Schedule A or $2,500.00 (whichever is less)	$ 5,000.00

ATTACHMENT ONE
(CONTINUED)

2006 ALTA LOAN POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

[Except as provided in Schedule B - Part II,[t[or T]his policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees, or expenses that arise by reason of:

[PART I

[The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.]

PART II

In addition to the matters set forth in Part I of this Schedule, the Title is subject to the following matters, and the Company insures against loss or damage sustained in the event that they are not subordinate to the lien of the Insured Mortgage:]

ATTACHMENT ONE
(CONTINUED)

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
4. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction vesting the Title as shown in Schedule A, is
   (a) a fraudulent conveyance or fraudulent transfer; or
   (b) a preferential transfer for any reason not stated in Covered Risk 9 of this policy.
5. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage, and the Company will not pay costs, attorneys' fees, or expenses that arise by reason of:

[The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the Public Records.]
7. [Variable exceptions such as taxes, easements, CC&R's, etc., shown here.]

ATTACHMENT ONE
(CONTINUED)

ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY - ASSESSMENTS PRIORITY (04-02-15)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   (i) the occupancy, use, or enjoyment of the Land;
   (ii) the character, dimensions, or location of any improvement erected on the Land;
   (iii) the subdivision of land; or
   (iv) environmental protection;
   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
   (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   (a) created, suffered, assumed, or agreed to by the Insured Claimant;
   (b) not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   (c) resulting in no loss or damage to the Insured Claimant;
   (d) attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   (e) resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury, or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   (a) a fraudulent conveyance or fraudulent transfer, or
   (b) a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.
10. Contamination, explosion, fire, flooding, vibration, fracturing, earthquake, or subsidence.
11. Negligence by a person or an Entity exercising a right to extract or develop minerals, water, or any other substances.

Notice of Available Discounts

Pursuant to Section 2355.3 in Title 10 of the California Code of Regulations Fidelity National Financial, Inc. and its subsidiaries ("FNF") must deliver a notice of each discount available under our current rate filing along with the delivery of escrow instructions, a preliminary report or commitment. Please be aware that the provision of this notice does not constitute a waiver of the consumer's right to be charged the filed rate. As such, your transaction may not qualify for the below discounts.

You are encouraged to discuss the applicability of one or more of the below discounts with a Company representative. These discounts are generally described below; consult the rate manual for a full description of the terms, conditions and requirements for such discount. These discounts only apply to transactions involving services rendered by the FNF Family of Companies. This notice only applies to transactions involving property improved with a one-to-four family residential dwelling.

Not all discounts are offered by every FNF Company. The discount will only be applicable to the FNF Company as indicated by the named discount.

FNF Underwritten Title Companies	**Underwritten by FNF Underwriters**
CTC – Chicago Title Company	CTIC – Chicago Title Insurance Company
CLTC – Commonwealth Land Title Company	CLTIC – Commonwealth Land Title Insurance Company
FNTC – Fidelity National Title Company	FNTIC – Fidelity National Title Insurance Company
FNTCCA – Fidelity National Title Company of California	FNTIC – Fidelity National Title Insurance Company
TICOR – Ticor Title Company of California	CTIC – Chicago Title Insurance Company
LTC – Lawyer's Title Company	CLTIC – Commonwealth Land Title Insurance Company

Available Discounts

CREDIT FOR PRELIMINARY TITLE REPORTS AND/OR COMMITMENTS ON SUBSEQUENT POLICIES (CTIC, FNTIC)

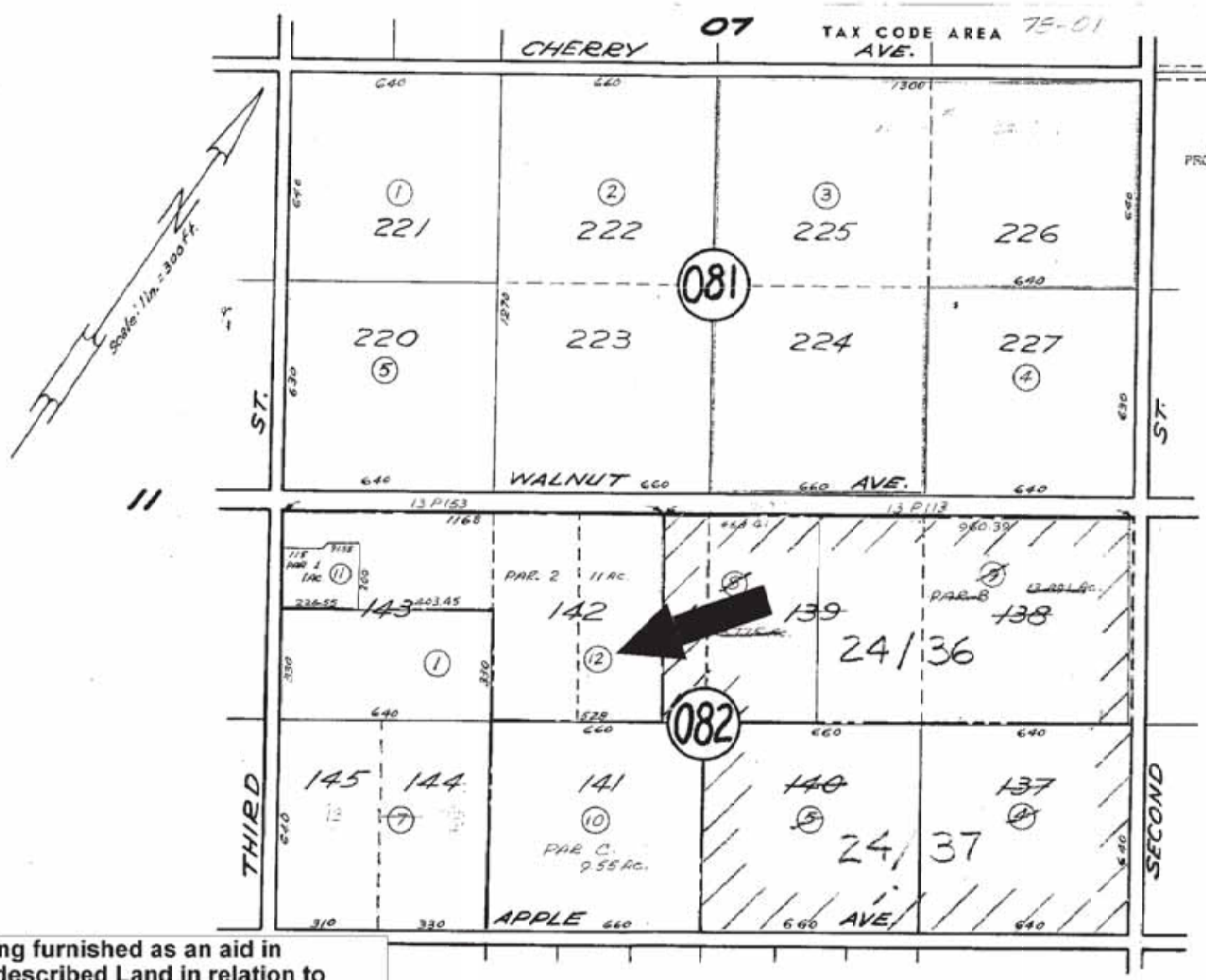
Where no major change in the title has occurred since the issuance of the original report or commitment, the order may be reopened within twelve (12) to thirty-six (36) months and all or a portion of the charge previously paid for the report or commitment may be credited on a subsequent policy charge.

DISASTER LOANS (CTIC, CLTIC, FNTIC)

The charge for a Lender's Policy (Standard or Extended coverage) covering the financing or refinancing by an owner of record, within twenty-four (24) months of the date of a declaration of a disaster area by the government of the United States or the State of California on any land located in said area, which was partially or totally destroyed in the disaster, will be fifty percent (50%) of the appropriate title insurance rate.

CHURCHES OR CHARITABLE NON-PROFIT ORGANIZATIONS (CTIC, FNTIC)

On properties used as a church or for charitable purposes within the scope of the normal activities of such entities, provided said charge is normally the church's obligation the charge for an owner's policy shall be fifty percent (50%) to seventy percent (70%) of the appropriate title insurance rate, depending on the type of coverage selected. The charge for a lender's policy shall be thirty-two percent (32%) to fifty percent (50%) of the appropriate title insurance rate, depending on the type of coverage selected.



This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.

ASSR'S MAP #4 CLARK COLONY
LOTS 137 Thru 145 & 220 Thru 227

Appendix C

Phase I ESA User Questionnaire
Proposed Residential Property
41206 Walnut Avenue; APN 109-082-012
Greenfield, California 93927

Respondent Information:

Name: DIXIE BAUS
Date: 8-6-2018

Company: EAH INC.
Phone: 408-766-3414

Introduction

"In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfield Revitalization Act of 2001 (the 'Brownfields Amendments'), the user must provide the following information (if available) to the environmental professional. Failure to provide this information could result in a determination that 'all appropriate inquiry' is not completed"- American Society for Testing and Materials (ASTM) E1527-05 Appendix X3: User Questionnaire

1. Are you aware of any environmental cleanup liens against the subject site that are filed or recorded under federal, tribal, state, or local law?

NOT AWARE ON ANY.

2. Are you aware of any activity use limitations (AULs) such as engineering controls, land use restrictions, or institutional controls that are in place at the subject site and/or have been filed or recorded in a registry under federal, tribal, state, or local law?

NONE TO OUR KNOWLEDGE.

3. As the user of the Phase I Environmental Site Assessment (ESA), do you have any specialized knowledge or experience related to the subject site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the subject site or an adjacent property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

NO + NONE

4. Does the purchase price being paid for the subject site reasonably reflect the fair market value of the subject site? (Yes) No

   A. If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the subject site?

N/A

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5. Are you aware of commonly known or reasonably ascertainable information about the subject site that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example:

A. Do you know the past uses of the subject site? If so, briefly explain.
WE'VE BEEN INFORMED IT WAS ONCE ACTIVE FARM LAND CERTIFIED ORGANIC & USED TO GROW SUGAR BEETS.

B. Do you know of specific chemicals that are present or once were present at the subject site? If so, briefly explain.
NO

C. Do you know of spills or other chemical releases that have taken place at the subject site? If so, briefly explain.
NO

D. Do you know of any environmental cleanups that have taken place at the subject site? If so, briefly explain.
NO

6. As the user of the Phase I ESA, based on your knowledge and experience related to the subject site, are there any obvious indicators that point to the presence or likely presence of contamination at the subject site?
OWNER DISCLOSED THERE IS AN UNDERGROUND SEPTIC SYSTEM ON THE PROPERTY OFF 3RD STREET. SEE PARCEL MAP FOR APPROX. LOCATION.

7. What is the reason for preparation of this Phase I ESA? (Property purchase/sale; bank loan; proposed development; etc.)
Purchase & development of rental apartments

I, the user of this Phase I ESA (or authorized representative of the User), do hereby attest that I have carefully considered the questions herein and have presented answers to the best of my knowledge and ability based upon the Responsibilities of the User as required within ASTM E1527-05 guidance.

Name DIXIE BAUS (Please Print) Date 8-6-2018

Signature

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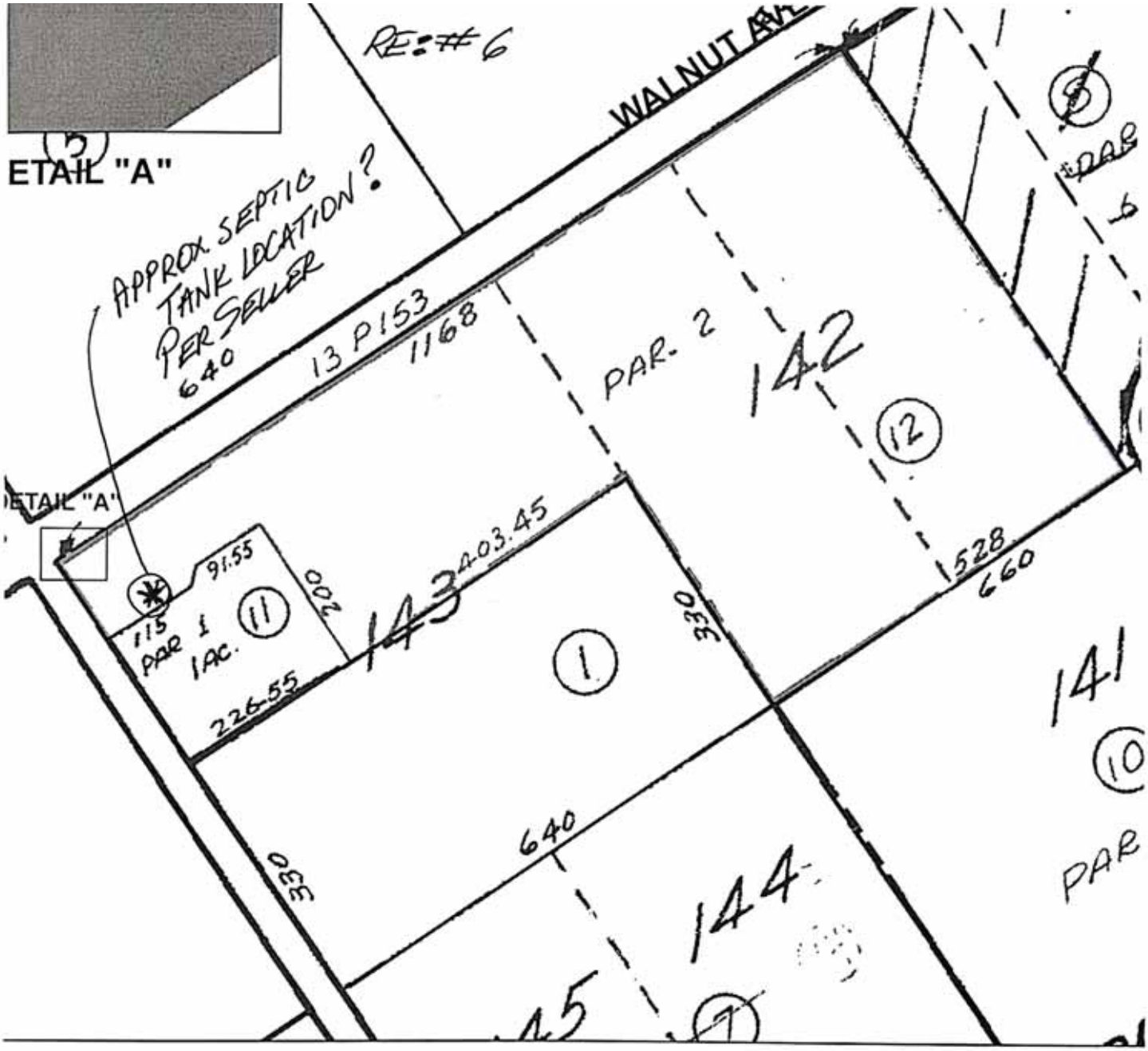

ıd

Property In Question - Fee

tem No. 4 - Easement for Water Rights &
Rights of Way
n 07/28/1905 Vol. 87 Pg121 of Deeds
The exact location of the easement
annot be determined and is not plottable

tem No. 9 - Easement for Public Street & Public Utilities
n 12/11/2013 Inst # 2013074646 of Official Records
Affects said portion as described in the Document

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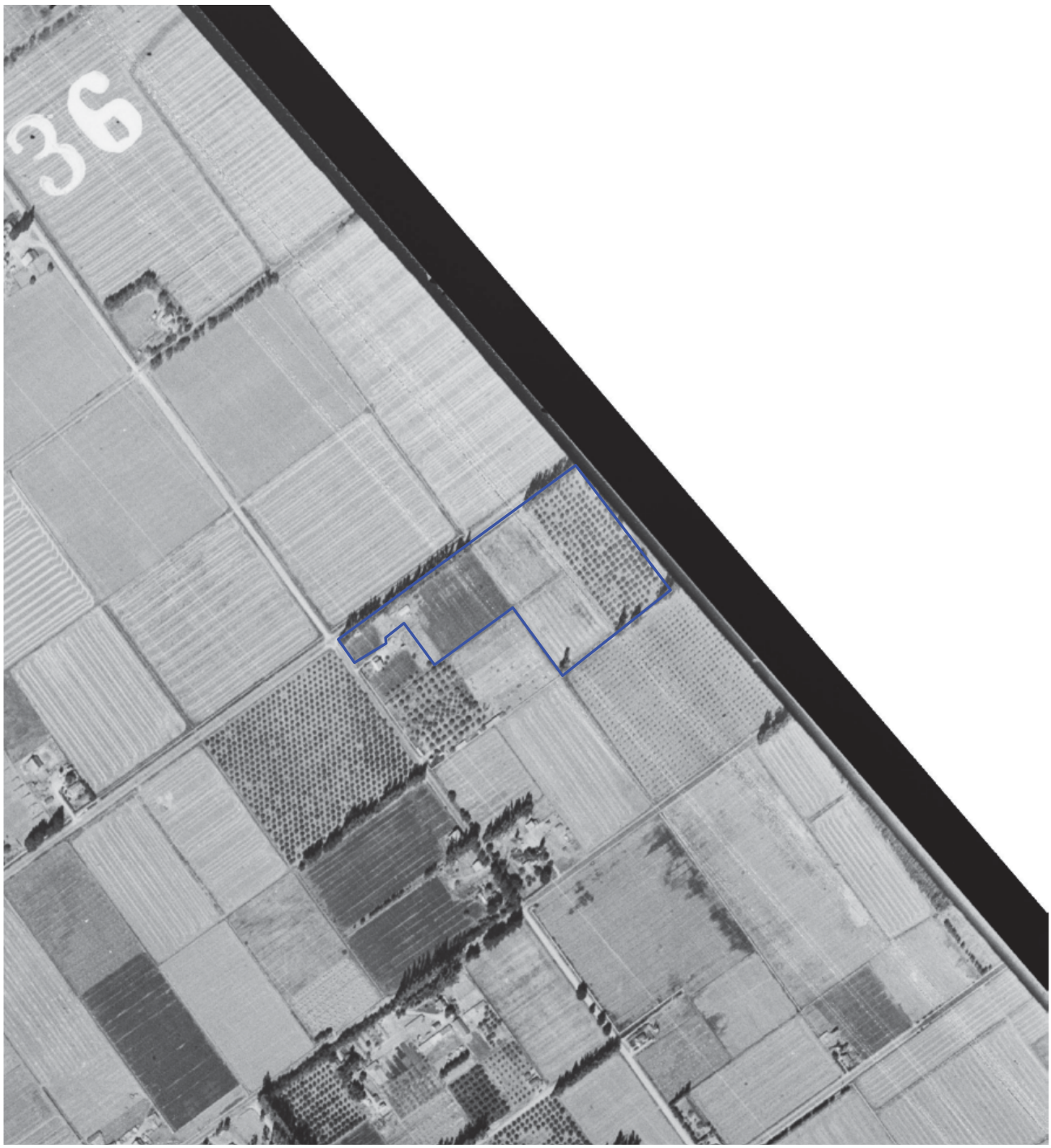
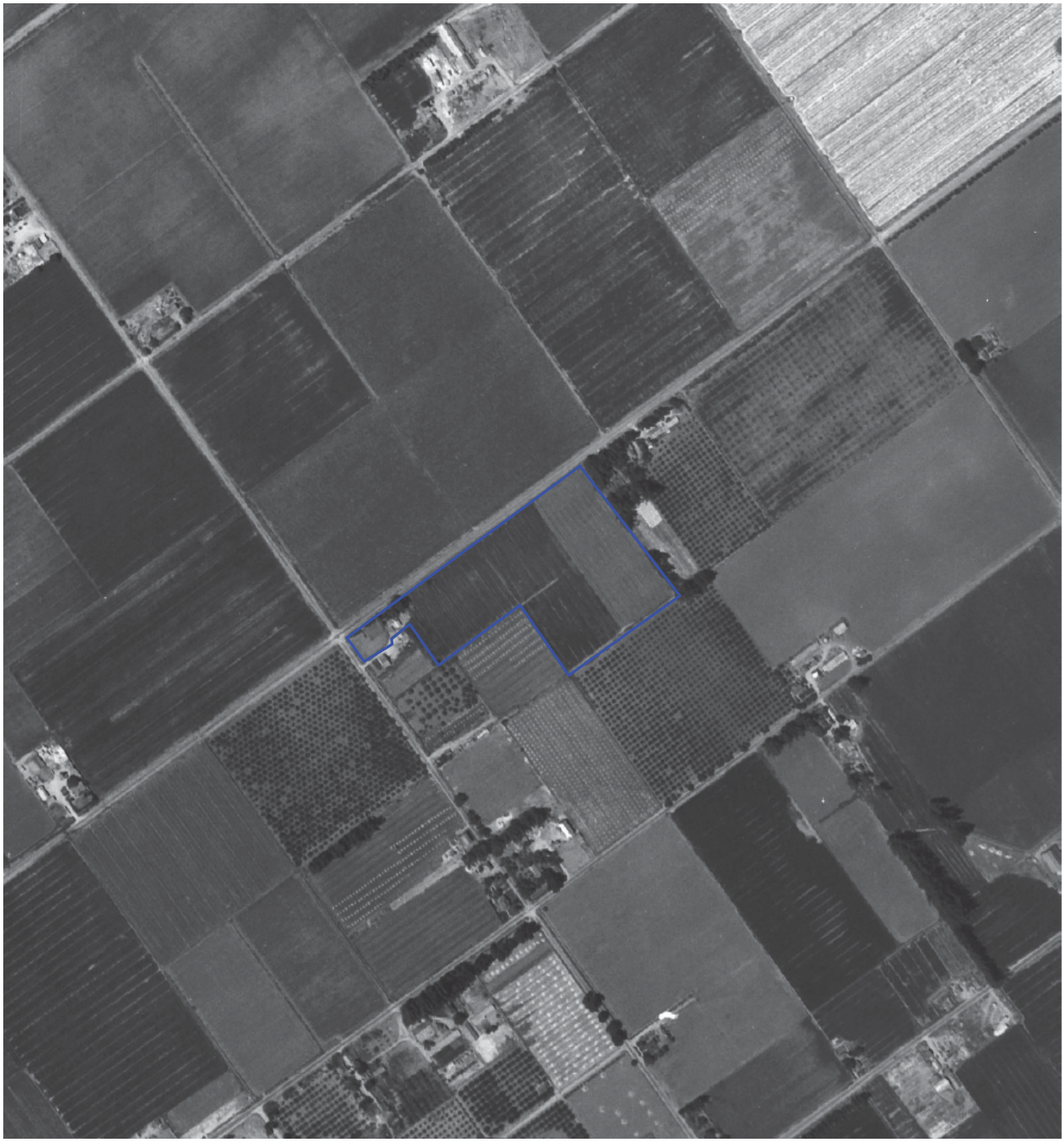
Appendix D



= **Subject Site Boundary (Approximate)**

1937 AERIAL PHOTOGRAPH	**Scale:** 1" = 500'	**Date:** September 2018	Krazan
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Drawn By:** BV	**Approved by:** BV	**SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Project No. 034-18104	**Source:** EDR	

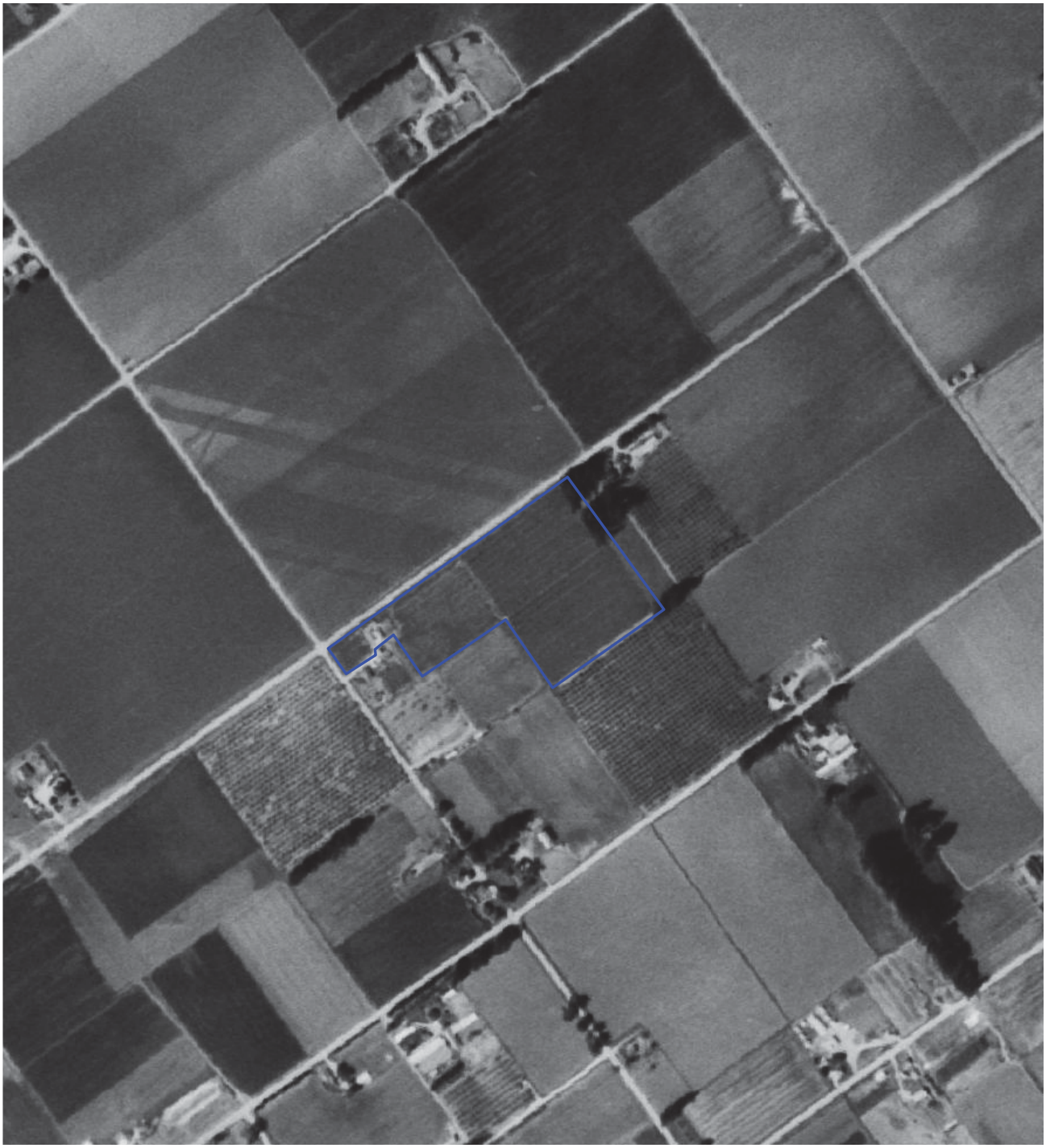


= **Subject Site Boundary (Approximate)**

1949 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** 1" = 500'	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-18104	**Source:** EDR	

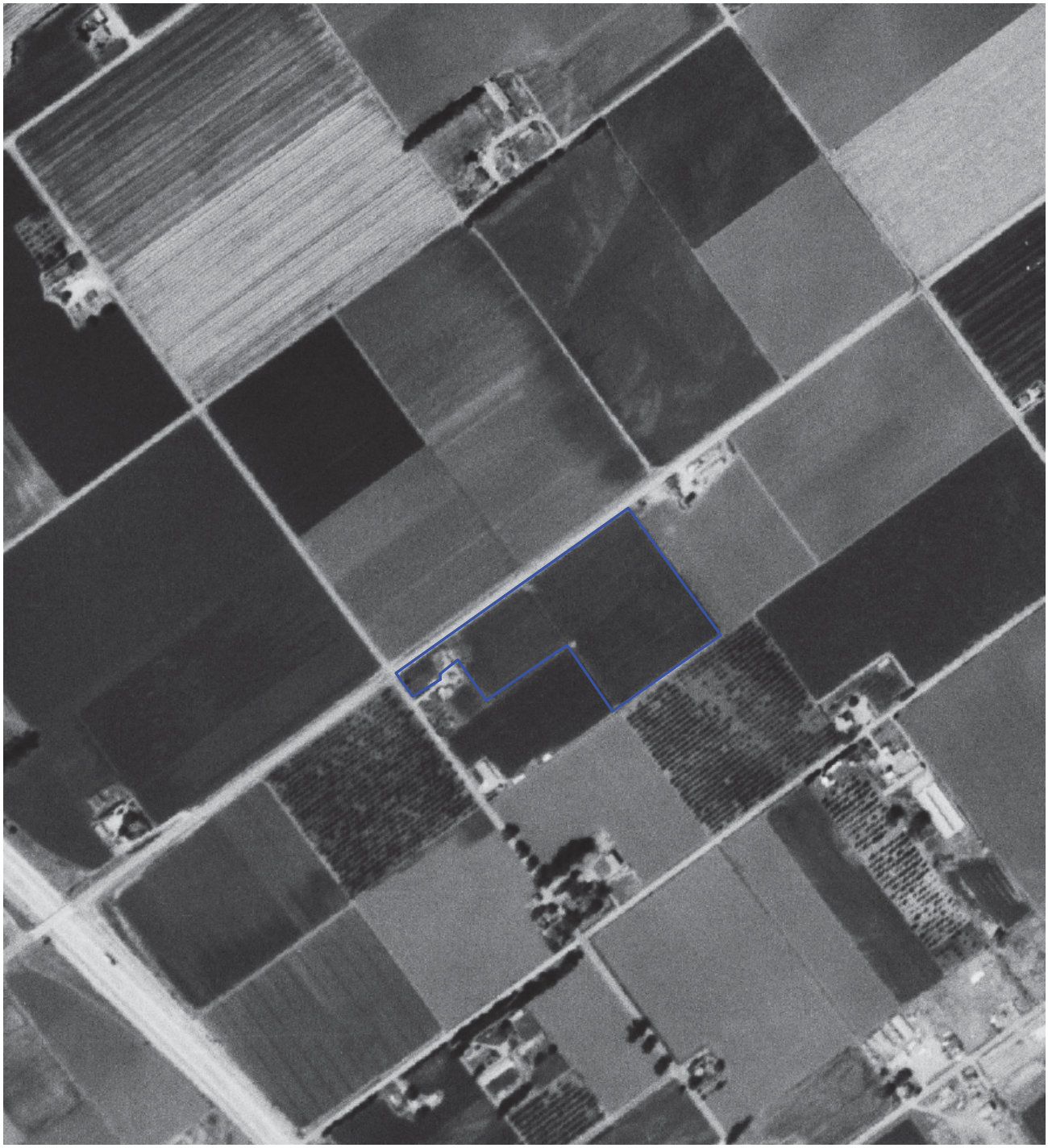
= **Subject Site Boundary (Approximate)**

1956 AERIAL PHOTOGRAPH	**Scale:** 1" = 500'	**Date:** September 2018	Krazan
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Drawn By:** BV	**Approved by:** BV	**SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Project No. 034-18104	**Source:** EDR	



= **Subject Site Boundary (Approximate)**

1960 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** 1" = 500'	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-18104	**Source:** EDR	



= **Subject Site Boundary (Approximate)**

1967 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** 1" = 500'	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-18104	**Source:** EDR	

= **Subject Site Boundary (Approximate)**

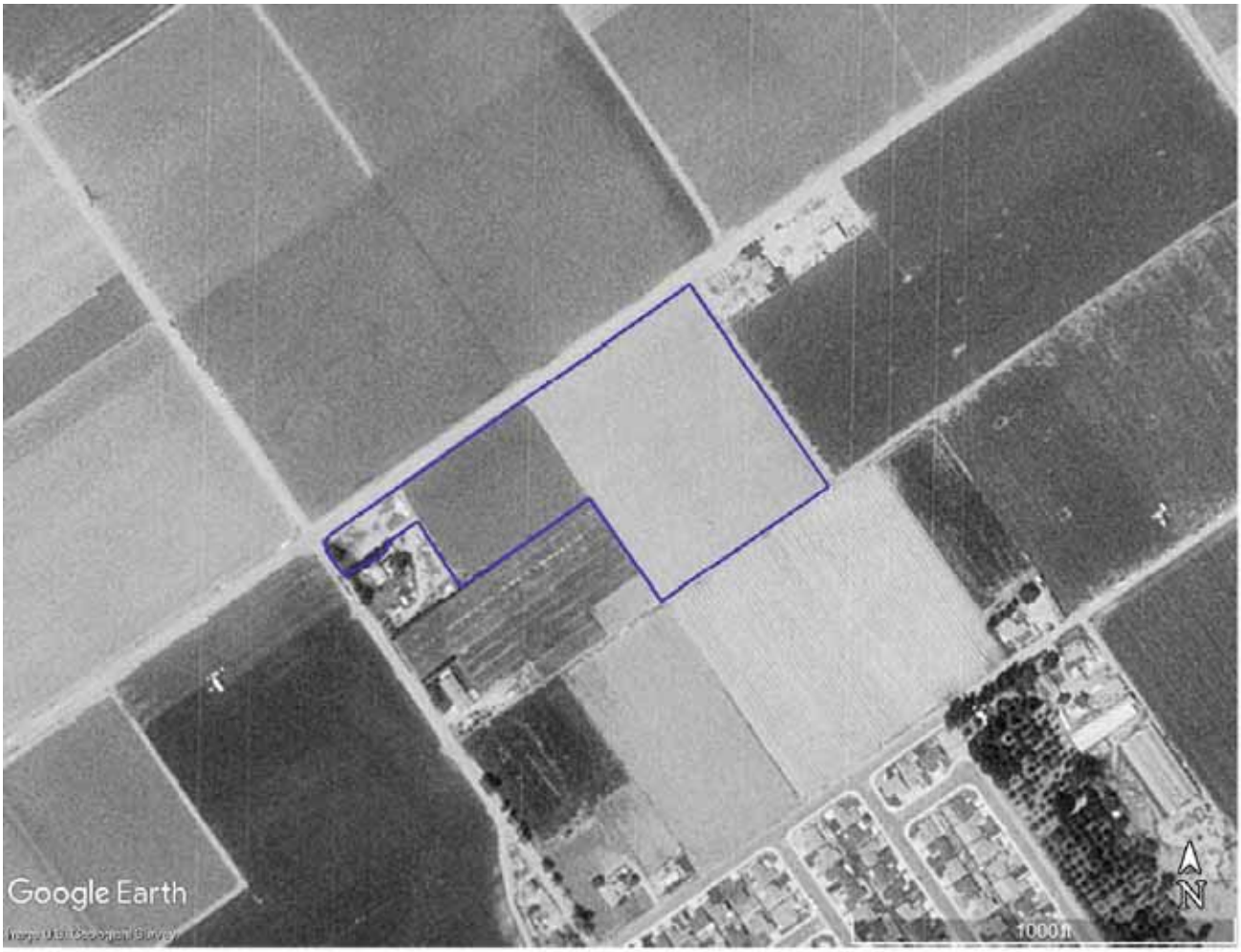
1971 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** 1" = 500'	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-18104	**Source:** EDR	

= **Subject Site Boundary (Approximate)**

1981 AERIAL PHOTOGRAPH	**Scale:** 1" = 500'	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Drawn By:** BV	**Approved by:** BV	
	Project No. 034-18104	**Source:** EDR	

= **Subject Site Boundary (Approximate)**

1989 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** 1" = 500'	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-18104	**Source:** EDR	



= **Subject Site Boundary (Approximate)**

1994 AERIAL PHOTOGRAPH	**Scale:** 1" = 500'	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Drawn By:** BV	**Approved by:** BV	
	Project No. 034-18104	**Source:** EDR	

= **Subject Site Boundary (Approximate)**

2004 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** 1" = 500'	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-18104	**Source:** EDR	

= **Subject Site Boundary (Approximate)**

2011 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** 1" = 500'	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-18104	**Source:** EDR	

= **Subject Site Boundary (Approximate)**

2018 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** 1" = 500'	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-18104	**Source:** EDR	

Appendix E

Proposed Residential Property

41206 Walnut Avenue

Greenfield, CA 93927

Inquiry Number: 5384528.3

August 07, 2018

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

08/07/18

Site Name:

Proposed Residential Property
41206 Walnut Avenue
Greenfield, CA 93927
EDR Inquiry # 5384528.3

Client Name:

Krazan & Associates, Inc.
4320 Orange Grove Avenue Suite E
Sacramento, CA 95841
Contact: Bill Vick

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Krazan & Associates, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 4FFB-49AA-A0A0

PO # NA

Project 034-18104

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 4FFB-49AA-A0A0

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✔ Library of Congress
- ✔ University Publications of America
- ✔ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Appendix F

Krazan & ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROPERTY OWNER INTERVIEW QUESTIONNAIRE

Date: August 8, 2018 Krazan Project Manager: Bill Vick

Project No: 034-18104 Project Name: Proposed Residential Property

Site Address: 41206 Walnut Avenue, Greenfield, California 93927; APN 109-082-012

Interview With: James McNulty

Telephone No: 831-385-4194 Fax No:

Knowledge of Previous Owner(s) and Phone Number? Deceased parent

How are you associated with the subject property? Property Owner / Property Owner's Representative

How long have you been associated with the subject property? 61 yrs

What is the subject property currently used for? Vacant field/farmland

Are there structures on the subject property? None How Many?

Do you know of any previous structures on the subject property? None

Do you have knowledge of the presence of underground storage tanks being located on the subject property either historically or currently? Septic tank, not being used for 50+yrs

Do you have knowledge of the presence of aboveground storage tanks being located on the subject property either historically or currently? None

Do you have knowledge of the presence of imported soil on the subject property? If so, please indicate the origin/location of the imported soil. school soil

Do you know of any chemicals, hazardous materials, and/or environmentally persistent pesticides/herbicides being used, stored or discharged on the subject property? None

Do you know of any buried materials such as garbage dumps or burn pits located on the subject property?
6 inch water line not being used

Do you know of any septic systems located on the subject property (current or historical)? **Yes** No
If yes, how many? 1 not being used

Do you know of any water wells located on the subject property (current or historical)? Yes **No**
If yes, how many?

Do you know of any dry wells located on the subject property (current or historical)? Yes **No**

Do you know of any environmental monitoring wells located on the subject property (current or historical)? Yes **No**

Do you know of any drainage or disposal ponds located on the subject property? None

Is the subject property connected to municipal water and sewer systems? No

Do you know of obvious indications pointing to the presence or likely presence of contamination of the subject property?
None

Do you have any concerns about adjacent property usage such as gasoline stations, industrial uses, or USTs/ASTs on adjacent properties? None

Are you aware of any environmental cleanup liens against the subject property that are filed or recorded under federal, tribal, state, or local law?
None

Are you aware of any activity use limitations (AULs) such as engineering controls, land use restrictions, or institutional controls that are in place at the subject property and/or have been filed or recorded in a registry under federal, tribal, state, or local law?
None

Do you have any specialized knowledge or experience related to the subject property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the subject property or an adjacent property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

Does the purchase price being paid for the subject property reasonably reflect the fair market value of the subject property?
Yes No

Do you know the past uses of the subject property? If so, briefly explain.
Farm land and dairy

Do you know of specific chemicals that are present or once were present at the subject property?
If so, briefly explain.
None

Do you know of spills or other chemical releases that have taken place at the subject property?

If so, briefly explain.

None

Do you know of any environmental cleanups that have taken place at the subject property?

If so, briefly explain.

None

What is the reason for preparation of this Phase I ESA? (Property purchase/sale; bank loan; proposed development; etc.)

Proposed development

Name: James R McNulty
(Please Print)

Date: 8/9/2018

Signature: James R McNulty

Appendix G

Proposed Residential Property
41206 Walnut Avenue
Greenfield, CA 93927

Inquiry Number: 5384528.2s
August 07, 2018

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
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GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
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Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-9
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Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

41206 WALNUT AVENUE
GREENFIELD, CA 93927

COORDINATES

Latitude (North):	36.3325030 - 36° 19' 57.01''
Longitude (West):	121.2365940 - 121° 14' 11.73''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	658273.1
UTM Y (Meters):	4022070.8
Elevation:	265 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5603732 GREENFIELD, CA
Version Date:	2012
West Map:	5603752 PARAISO SPRINGS, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140609
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
41206 WALNUT AVENUE
GREENFIELD, CA 93927

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	WALNUT AVENUE WIDENI	41206 WALNUT AVENUE	CIWQS		TP
2	APPLE AVENUE ELEMENT	APPLE AVENUE/2ND STR	ENVIROSTOR, SCH	Lower	1605, 0.304, East
3	GREENFIELD UNION SCH	490 EL CAMINO REAL	ENVIROSTOR, SCH, CUPA Listings, CERS HAZ WASTE,...	Higher	3262, 0.618, WSW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
WALNUT AVENUE WIDENI 41206 WALNUT AVENUE GREENFIELD, CA 93927	CIWQS	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators

RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

LUST ---------- Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land
CPS-SLIC ---------- Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST ---------- Underground Storage Tank Listing
UST ---------- Active UST Facilities
AST ---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing
VCP ---------- Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS ---------- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ---------- Waste Management Unit Database
SWRCY ---------- Recycler Database
HAULERS ---------- Registered Waste Tire Haulers Listing

INDIAN ODI	Report on the Status of Open Dumps on Indian Lands
ODI	Open Dump Inventory
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS	Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL	Delisted National Clandestine Laboratory Register
HIST Cal-Sites	Historical Calsites Database
SCH	School Property Evaluation Program
CDL	Clandestine Drug Labs
Toxic Pits	Toxic Pits Cleanup Act Sites
US CDL	National Clandestine Laboratory Register
CERS HAZ WASTE	CERS HAZ WASTE

Local Lists of Registered Storage Tanks

SWEEPS UST	SWEEPS UST Listing
HIST UST	Hazardous Substance Storage Container Database
CA FID UST	Facility Inventory Database
CERS TANKS	California Environmental Reporting System (CERS) Tanks

Local Land Records

LIENS	Environmental Liens Listing
LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations
FUSRAP ---- Formerly Utilized Sites Remedial Action Program
UMTRA ---- Uranium Mill Tailings Sites
LEAD SMELTERS ---- Lead Smelter Sites
US AIRS ---- Aerometric Information Retrieval System Facility Subsystem
US MINES ---- Mines Master Index File
ABANDONED MINES ---- Abandoned Mines
FINDS ---- Facility Index System/Facility Registry System
ECHO ---- Enforcement & Compliance History Information
DOCKET HWC ---- Hazardous Waste Compliance Docket Listing
UXO ---- Unexploded Ordnance Sites
FUELS PROGRAM ---- EPA Fuels Program Registered Listing
CA BOND EXP. PLAN ---- Bond Expenditure Plan
Cortese ---- "Cortese" Hazardous Waste & Substances Sites List
CUPA Listings ---- CUPA Resources List
DRYCLEANERS ---- Cleaner Facilities
EMI ---- Emissions Inventory Data
ENF ---- Enforcement Action Listing
Financial Assurance ---- Financial Assurance Information Listing
HAZNET ---- Facility and Manifest Data
ICE ---- ICE
HIST CORTESE ---- Hazardous Waste & Substance Site List
HWP ---- EnviroStor Permitted Facilities Listing
HWT ---- Registered Hazardous Waste Transporter Database
MINES ---- Mines Site Location Listing
MWMP ---- Medical Waste Management Program Listing
NPDES ---- NPDES Permits Listing
PEST LIC ---- Pesticide Regulation Licenses Listing
PROC ---- Certified Processors Database
Notify 65 ---- Proposition 65 Records
UIC ---- UIC Listing
WASTEWATER PITS ---- Oil Wastewater Pits Listing
WDS ---- Waste Discharge System
WIP ---- Well Investigation Program Case List
NON-CASE INFO ---- NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS ---- OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS ---- PROD WATER PONDS (GEOTRACKER)
WELL STIM PROJ ---- Well Stimulation Project (GEOTRACKER)
CERS ---- CERS
SAMPLING POINT ---- SAMPLING POINT (GEOTRACKER)
MILITARY PRIV SITES ---- MILITARY PRIV SITES (GEOTRACKER)
UIC GEO ---- UIC GEO (GEOTRACKER)
PROJECT ---- PROJECT (GEOTRACKER)

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---- EDR Proprietary Manufactured Gas Plants

EXECUTIVE SUMMARY

EDR Hist Auto---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 04/30/2018 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

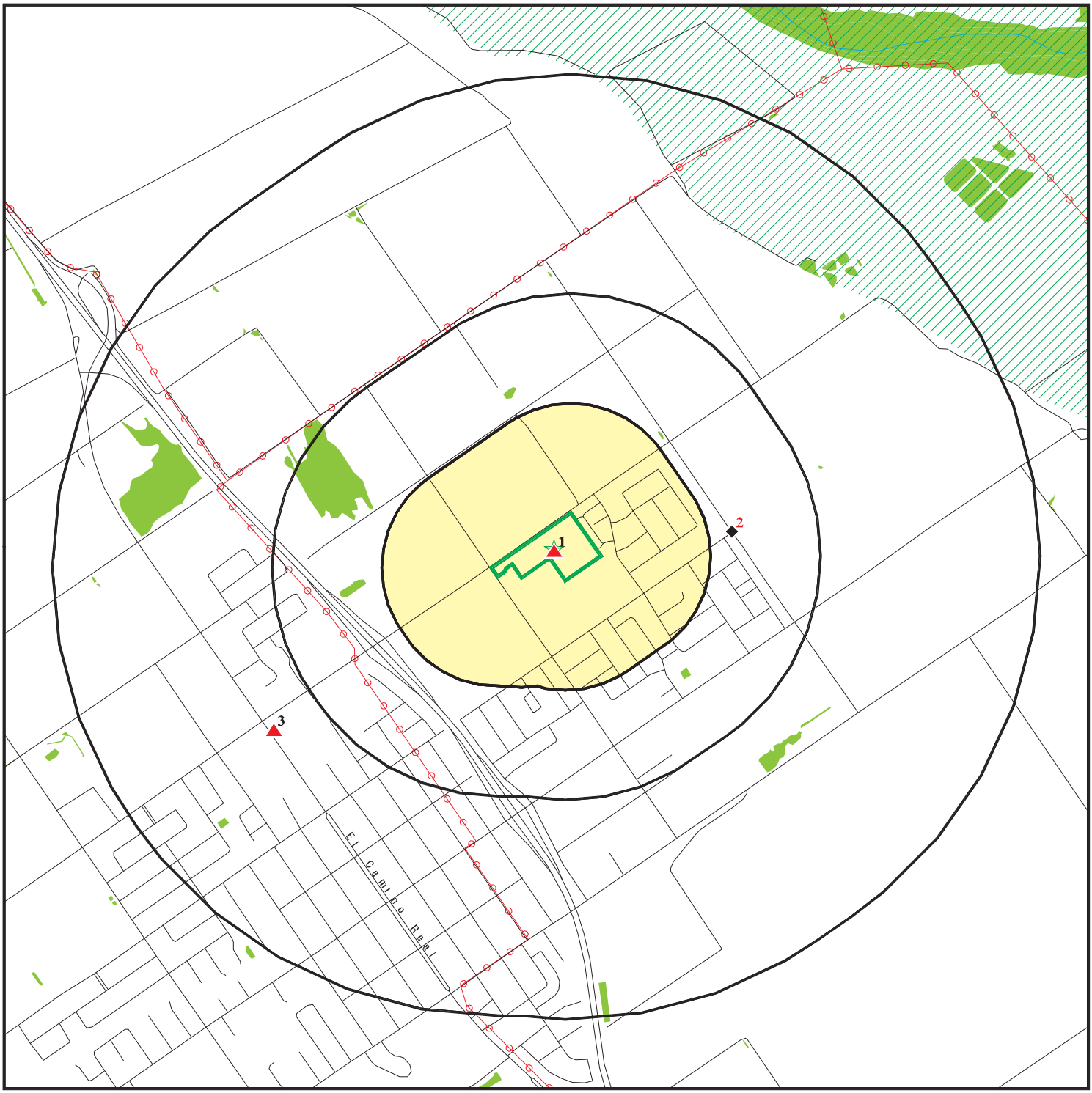
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
GREENFIELD UNION SCH Facility Id: 60001534 Status: Active	***490 EL CAMINO REAL***	***WSW 1/2 - 1 (0.618 mi.)***	***3***	***12***

Lower Elevation	Address	Direction / Distance	Map ID	Page
APPLE AVENUE ELEMENT Facility Id: 27010008 Status: No Further Action	***APPLE AVENUE/2ND STR***	***E 1/4 - 1/2 (0.304 mi.)***	***2***	***8***

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 5384528.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Upgradient Area

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Proposed Residential Property ADDRESS: 41206 Walnut Avenue Greenfield CA 93927 LAT/LONG: 36.332503 / 121.236594	CLIENT: Krazan & Associates, Inc. CONTACT: Bill Vick INQUIRY #: 5384528.2s DATE: August 07, 2018 11:36 am

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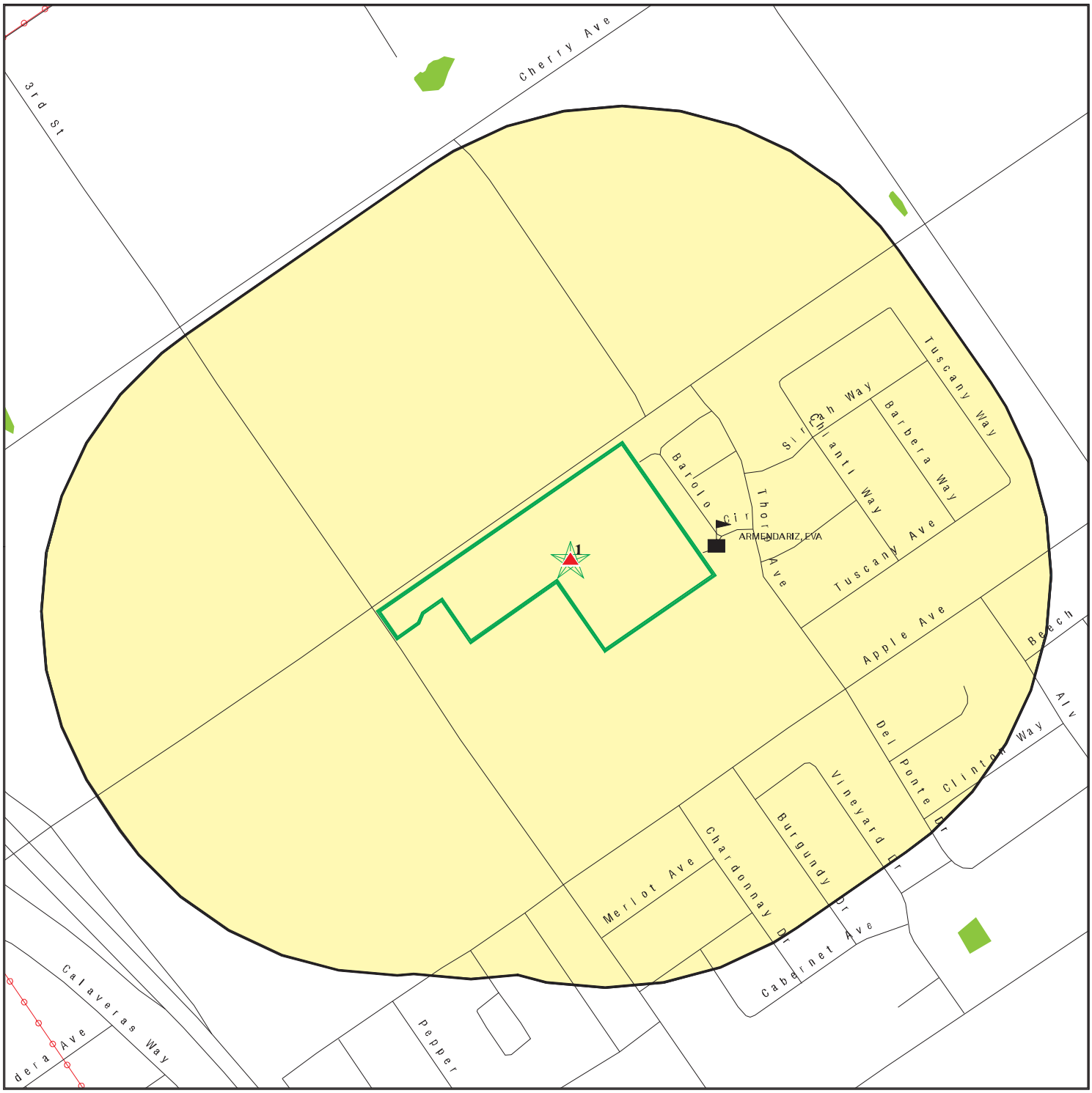
DETAIL MAP - 5384528.2S



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Proposed Residential Property ADDRESS: 41206 Walnut Avenue Greenfield CA 93927 LAT/LONG: 36.332503 / 121.236594	CLIENT: Krazan & Associates, Inc. CONTACT: Bill Vick INQUIRY #: 5384528.2s DATE: August 07, 2018 11:39 am

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	1	1	NR	2
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.001		0	NR	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
CERS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001	1	0	NR	NR	NR	NR	1
PROJECT	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		1	0	0	1	1	0	3

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
Target Property
Actual: 265 ft.

WALNUT AVENUE WIDENING PROJECT — **CIWQS** — **S111293139**
41206 WALNUT AVENUE — **N/A**
GREENFIELD, CA 93927

CIWQS:

Agency:	City of Greenfield
Agency Address:	920 Walnut Avenue, Greefield, CA 93927
Place/Project Type:	Construction - Transportation
SIC/NAICS:	Not reported
Region:	3
Program:	CONSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water construction
Order Number:	2009-0009-DWQ
WDID:	3 27C361484
NPDES Number:	CAS000002
Adoption Date:	Not reported
Effective Date:	07/22/2011
Termination Date:	09/01/2012
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	36.332503
Longitude:	-121.236594

2
East
1/4-1/2
0.304 mi.
1605 ft.

Relative: Lower

Actual: 262 ft.

APPLE AVENUE ELEMENTARY SCHOOL SITE — **ENVIROSTOR SCH** — **S107735851**
APPLE AVENUE/2ND STREET/3RD STREET — **N/A**
GREENFIELD, CA 93927

ENVIROSTOR:

Facility ID:	27010008
Status:	No Further Action
Status Date:	08/29/2006
Site Code:	204001
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	9.55
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Mark Malinowski
Division Branch:	Northern California Schools & Santa Susana
Assembly:	30
Senate:	12
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	36.33210
Longitude:	-121.2337
APN:	109-082-010
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	Arsenic Naturally Occurring Asbestos (NOA DDD DDE DDT

APPLE AVENUE ELEMENTARY SCHOOL SITE (Continued) **S107735851**

Confirmed COC: 30001-NO 40002-NO 30006-NO 30007-NO 30008-NO No Contaminants found
Potential Description: NMA
Alias Name: APPLE AVENUE SCHOOL SITE
Alias Type: Alternate Name
Alias Name: GREENFIELD UNION ELEM SD-ELEM SCH APPLE
Alias Type: Alternate Name
Alias Name: GREENFIELD UNION ELEMENTARY SD
Alias Type: Alternate Name
Alias Name: 109-082-010
Alias Type: APN
Alias Name: 204001
Alias Type: Project Code (Site Code)
Alias Name: 27010008
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 05/24/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 05/03/2006
Comments: District entered into EOA agreement to perform a PEA investigation for naturally ocurring asbestos. Previous Phase I determination expired (5-years), CDE sent District back to DTSC for approval. Site near potential NOA, PEAR for NOA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 01/19/2000
Comments: Pursuant to an agreement between the Department of Toxic substances Control (DTSC) and the California Department of Education, DTSC's Site Mitigation Program completed a review of a Phase I Environmental Assessment and has determined that No Action is necessary.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 05/09/2006
Comments: Signed EOA recieved by DTSC on 5/3/2006. This date will be the reciept date for the PEA Tech Memo workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 08/29/2006
Comments: DTSC approved the PEA with a no further action determination.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/15/2000
Comments: Not reported

APPLE AVENUE ELEMENTARY SCHOOL SITE (Continued) **S107735851**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	03/02/2000
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	09/19/2006
Comments:	Not reported

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Facility ID:	27010008
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	9.55
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Mark Malinowski
Division Branch:	Northern California Schools & Santa Susana
Site Code:	204001
Assembly:	30
Senate:	12
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	08/29/2006
Restricted Use:	NO
Funding:	School District
Latitude:	36.33210
Longitude:	-121.2337
APN:	109-082-010
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	Arsenic, Arsenic, Naturally Occurring Asbestos (NOA, DDD, DDE, DDT
Confirmed COC:	30001-NO, 40002-NO, 30006-NO, 30007-NO, 30008-NO, No Contaminants found
Potential Description:	NMA
Alias Name:	APPLE AVENUE SCHOOL SITE
Alias Type:	Alternate Name
Alias Name:	GREENFIELD UNION ELEM SD-ELEM SCH APPLE
Alias Type:	Alternate Name
Alias Name:	GREENFIELD UNION ELEMENTARY SD

APPLE AVENUE ELEMENTARY SCHOOL SITE (Continued) **S107735851**

Alias Type: Alternate Name
Alias Name: 109-082-010
Alias Type: APN
Alias Name: 204001
Alias Type: Project Code (Site Code)
Alias Name: 27010008
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 05/24/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 05/03/2006
Comments: District entered into EOA agreement to perform a PEA investigation for naturally ocurring asbestos. Previous Phase I determination expired (5-years), CDE sent District back to DTSC for approval. Site near potential NOA, PEAR for NOA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 01/19/2000
Comments: Pursuant to an agreement between the Department of Toxic substances Control (DTSC) and the California Department of Education, DTSC's Site Mitigation Program completed a review of a Phase I Environmental Assessment and has determined that No Action is necessary.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 05/09/2006
Comments: Signed EOA recieved by DTSC on 5/3/2006. This date will be the reciept date for the PEA Tech Memo workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 08/29/2006
Comments: DTSC approved the PEA with a no further action determination.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/15/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 03/02/2000
Comments: Not reported

APPLE AVENUE ELEMENTARY SCHOOL SITE (Continued) **S107735851**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	09/19/2006
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

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3 **GREENFIELD UNION SCHOOL DISTRICT** **ENVIROSTOR** **S103966705**
WSW **490 EL CAMINO REAL** **SCH** **N/A**
1/2-1 **GREENFIELD, CA 93927** **CUPA Listings**
0.618 mi. **CERS HAZ WASTE**
3262 ft. **CERS**

Relative:
Higher

Actual:
288 ft.

ENVIROSTOR:

Facility ID:	60001534
Status:	Active
Status Date:	09/17/2014
Site Code:	201914
Site Type:	School Cleanup
Site Type Detailed:	School
Acres:	14
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Mellan Songco
Supervisor:	Jose Salcedo
Division Branch:	Northern California Schools & Santa Susana
Assembly:	30
Senate:	12
Special Program:	EPA - Target Site Investigation
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	EPA Grant
Latitude:	36.32675
Longitude:	-121.2474
APN:	024-021-001
Past Use:	ABOVE GROUND STORAGE TANKS, AGRICULTURAL - ROW CROPS, RESIDENTIAL AREA, SCHOOL - ELEMENTARY, UNDERGROUND STORAGE TANKS, VEHICLE MAINTENANCE
Potential COC:	Under Investigation Arsenic Benzene Chlordane DDD DDE DDT Lead Polychlorinated biphenyls (PCBs Polynuclear aromatic hydrocarbons (PAHs TPH-diesel TPH-gas TPH-MOTOR OIL Trichloroethylene (TCE Vinyl chloride Dieldrin
Confirmed COC:	30001-NO 30003-NO Chlordane 30006-NO 30007-NO 30008-NO Lead Polynuclear aromatic hydrocarbons (PAHs 30024-NO 30025-NO Dieldrin 3002502-NO 30027-NO 30028-NO Under Investigation 30018-NO
Potential Description:	SOIL, SV, UE
Alias Name:	024-021-001
Alias Type:	APN

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Alias Name: 201914
Alias Type: Project Code (Site Code)
Alias Name: 60001534
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 08/26/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 01/06/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 11/18/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 12/06/2011
Comments: On December 6, 2011, DTSC conducted a scoping meeting and a site walkthrough with the District, their consultants, and DTSC's consultant. The attendees were M. Songco, T. Booze, L. Vallejo, J. Dominguez, B. Schimmel & J. Rios.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 02/16/2012
Comments: DTSC conducted a site visit to observe the implementation of the approved TSI PEA Workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 08/17/2011
Comments: On August 17, 2011, DTSC received an e-copy of the Phase I Environmental Site Assessment for the Cesar Chavez and Greenfield Elementary Schools (Padre Associates, October 2006) as background information.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 09/12/2011
Comments: On July 29, 2011, DTSC issued an Approval letter of the Targeted Site Investigation Application.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 02/14/2012
Comments: Approval of TSI Preliminary Environmental Assessment Workplan (Site Code 201914-83)

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 05/03/2012
Comments: On May 1, 2012, DTSC approved the revised TSI PEA Report with a further action determination.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Workplan
Completed Date: 02/27/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 02/28/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 05/07/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 08/28/2012
Comments: On August 28, 2012, a CRU memorandum was sent to Closeout Recovery Unit. On May 1, 2012, DTSC approved the TSI PEA Reports with a further action determination.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 12/01/2011
Comments: On December 1, 2011, the Start Work Order for the Mary Chapa and El Camino Real Schools - TSI Project was signed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 12/24/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 11/07/2014
Comments: Not reported

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	State/Federal Funded Site Work Order
Completed Date:	12/03/2014
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Facility ID:	60001534
Site Type:	School Cleanup
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	14
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Mellan Songco
Supervisor:	Jose Salcedo
Division Branch:	Northern California Schools & Santa Susana
Site Code:	201914
Assembly:	30
Senate:	12
Special Program Status:	EPA - Target Site Investigation
Status:	Active
Status Date:	09/17/2014
Restricted Use:	NO
Funding:	EPA Grant
Latitude:	36.32675
Longitude:	-121.2474
APN:	024-021-001
Past Use:	ABOVE GROUND STORAGE TANKS, AGRICULTURAL - ROW CROPS, RESIDENTIAL AREA, SCHOOL - ELEMENTARY, UNDERGROUND STORAGE TANKS, VEHICLE MAINTENANCE
Potential COC:	Under Investigation, Arsenic, Benzene, Chlordane, DDD, DDE, DDT, Lead, Polychlorinated biphenyls (PCBs, Polynuclear aromatic hydrocarbons (PAHs, TPH-diesel, TPH-gas, TPH-MOTOR OIL, Trichloroethylene (TCE, Vinyl chloride, Dieldrin
Confirmed COC:	30001-NO, 30003-NO, Chlordane, 30006-NO, 30007-NO, 30008-NO, Lead, Polynuclear aromatic hydrocarbons (PAHs, 30024-NO, 30025-NO, Dieldrin, 3002502-NO, 30027-NO, 30028-NO, Under Investigation, 30018-NO
Potential Description:	SOIL, SV, UE
Alias Name:	024-021-001
Alias Type:	APN
Alias Name:	201914
Alias Type:	Project Code (Site Code)

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Alias Name: 60001534
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 08/26/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 01/06/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 11/18/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 12/06/2011
Comments: On December 6, 2011, DTSC conducted a scoping meeting and a site walkthrough with the District, their consultants, and DTSC's consultant. The attendees were M. Songco, T. Booze, L. Vallejo, J. Dominguez, B. Schimmel & J. Rios.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 02/16/2012
Comments: DTSC conducted a site visit to observe the implementation of the approved TSI PEA Workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 08/17/2011
Comments: On August 17, 2011, DTSC received an e-copy of the Phase I Environmental Site Assessment for the Cesar Chavez and Greenfield Elementary Schools (Padre Associates, October 2006) as background information.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 09/12/2011
Comments: On July 29, 2011, DTSC issued an Approval letter of the Targeted Site Investigation Application.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 02/14/2012

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Comments:	Approval of TSI Preliminary Environmental Assessment Workplan (Site Code 201914-83)
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	05/03/2012
Comments:	On May 1, 2012, DTSC approved the revised TSI PEA Report with a further action determination.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Workplan
Completed Date:	02/27/2015
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fieldwork
Completed Date:	02/28/2015
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Report
Completed Date:	05/07/2015
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	08/28/2012
Comments:	On August 28, 2012, a CRU memorandum was sent to Closeout Recovery Unit. On May 1, 2012, DTSC approved the TSI PEA Reports with a further action determination.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	State/Federal Funded Site Work Order
Completed Date:	12/01/2011
Comments:	On December 1, 2011, the Start Work Order for the Mary Chapa and El Camino Real Schools - TSI Project was signed.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Correspondence
Completed Date:	12/24/2012
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	State/Federal Funded Site Contract
Completed Date:	11/07/2014
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 12/03/2014
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

CUPA MONTEREY:
Facility Id: FA0812869
Region: MONTEREY
Program/Element Code: 512J
Program/Element: 512J - WASTE OIL,NONCHLORINATED SAFETY SOLVENTS
Billing Status: 01 - ACTIVE, BILLABLE
EDR Link ID: FA0812869
Mailing Address: 493 EL CAMINO REAL
Mailing City State Zip: GREENFIELD CA 93927
Program Identifier: HAZMAT
Owner ID: OW0802101
Last Billing Date: 05/26/2016
Last Payment Date: 07/30/2015
Last Payment Amount: 726.00
Total Fee Amount: 548.00
Total Amount Paid: Not reported
Units: 1
Financial Status: (none)
Phone: 8316742840
E-Mail: Not reported
Last Activity Date: 07/29/2016
Prior Inspection Date: 02/05/2016
Current Inspection Date: 07/29/2017
Record ID: PR0606949

Facility Id: FA0812869
Region: MONTEREY
Program/Element Code: 5040
Program/Element: 5040 - BASE FEE-HAZARDOUS MATERIALS REGISTRATION
Billing Status: 01 - ACTIVE, BILLABLE
EDR Link ID: FA0812869
Mailing Address: 493 EL CAMINO REAL
Mailing City State Zip: GREENFIELD CA 93927
Program Identifier: HAZMAT
Owner ID: OW0802101
Last Billing Date: 05/26/2016
Last Payment Date: 07/30/2015
Last Payment Amount: 726.00
Total Fee Amount: 548.00
Total Amount Paid: Not reported
Units: 1
Financial Status: (none)
Phone: 8316742840

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

E-Mail: Not reported
Last Activity Date: 07/29/2016
Prior Inspection Date: 02/05/2016
Current Inspection Date: 07/29/2017
Record ID: PR0602781

CERS HAZ WASTE:
Site ID: 34364
CERS ID: 10433788
CERS Description: Hazardous Waste Generator

Evaluation:
Eval General Type: Other/Unknown
Eval Date: 02-05-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Monterey County Health Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 02-05-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Monterey County Health Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-29-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Monterey County Health Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-29-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Monterey County Health Department
Eval Program: HW
Eval Source: CERS

Coordinates:
Site ID: 34364
Facility Name: GREENFIELD UNION SCHOOL DISTRICT
Env Int Type Code: HWG
Program ID: 10433788
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 36.326510
Longitude: -121.248150

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Affiliation:

Affiliation Type Desc:	CUPA District
Entity Name:	Monterey Cnty Health Dept
Entity Title:	Not reported
Affiliation Address:	1270 Natividad Road
Affiliation City:	Salinas
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93906
Affiliation Phone:	(831) 755-8915

Affiliation Type Desc:	Document Preparer
Entity Name:	Louis Vallejo, Director Facilities, MOT
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Environmental Contact
Entity Name:	Louis Vallejo
Entity Title:	Not reported
Affiliation Address:	490 EL CAMINO REAL
Affiliation City:	GREENFIELD
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93927
Affiliation Phone:	(831) 674-2840

Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	493 EL CAMINO REAL
Affiliation City:	GREENFIELD
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93927
Affiliation Phone:	Not reported

Affiliation Type Desc:	Identification Signer
Entity Name:	Louis Vallejo
Entity Title:	Director Facilities, MOT
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Legal Owner
Entity Name:	GREENFIELD ELEMENTARY SCHOOL
Entity Title:	Not reported
Affiliation Address:	493 EL CAMINO REAL
Affiliation City:	GREENFIELD
Affiliation State:	CA

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Affiliation Country: United States
Affiliation Zip: 93927-0000
Affiliation Phone: (831) 674-6033

Affiliation Type Desc: Operator
Entity Name: GREENFIELD UNION SCHOOL DIST
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (831) 674-6033

Affiliation Type Desc: Parent Corporation
Entity Name: GREENFIELD UNION SCHOOL DISTRICT
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Primary Emergency Contact
Entity Name: VALLEJO, LOUIS
Entity Title: FMOTS
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (831) 578-5436

Affiliation Type Desc: Secondary Emergency Contact
Entity Name: BUNCH, DAVID
Entity Title: MECHANIC
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (831) 320-6109

CERS TANKS:
Site ID: 34364
CERS ID: 10433788
CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Other/Unknown
Eval Date: 02-05-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Monterey County Health Department

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 02-05-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Monterey County Health Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-29-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Monterey County Health Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-29-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Monterey County Health Department
Eval Program: HW
Eval Source: CERS

Coordinates:
Site ID: 34364
Facility Name: GREENFIELD UNION SCHOOL DISTRICT
Env Int Type Code: HWG
Program ID: 10433788
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 36.326510
Longitude: -121.248150

Affiliation:
Affiliation Type Desc: CUPA District
Entity Name: Monterey Cnty Health Dept
Entity Title: Not reported
Affiliation Address: 1270 Natividad Road
Affiliation City: Salinas
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 93906
Affiliation Phone: (831) 755-8915

Affiliation Type Desc: Document Preparer
Entity Name: Louis Vallejo, Director Facilities, MOT
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Environmental Contact
Entity Name:	Louis Vallejo
Entity Title:	Not reported
Affiliation Address:	490 EL CAMINO REAL
Affiliation City:	GREENFIELD
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93927
Affiliation Phone:	(831) 674-2840
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	493 EL CAMINO REAL
Affiliation City:	GREENFIELD
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93927
Affiliation Phone:	Not reported
Affiliation Type Desc:	Identification Signer
Entity Name:	Louis Vallejo
Entity Title:	Director Facilities, MOT
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Legal Owner
Entity Name:	GREENFIELD ELEMENTARY SCHOOL
Entity Title:	Not reported
Affiliation Address:	493 EL CAMINO REAL
Affiliation City:	GREENFIELD
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	93927-0000
Affiliation Phone:	(831) 674-6033
Affiliation Type Desc:	Operator
Entity Name:	GREENFIELD UNION SCHOOL DIST
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(831) 674-6033
Affiliation Type Desc:	Parent Corporation
Entity Name:	GREENFIELD UNION SCHOOL DISTRICT

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Primary Emergency Contact
Entity Name:	VALLEJO, LOUIS
Entity Title:	FMOTS
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(831) 578-5436
Affiliation Type Desc:	Secondary Emergency Contact
Entity Name:	BUNCH, DAVID
Entity Title:	MECHANIC
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(831) 320-6109

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 23

Source: EPA
Telephone: N/A
Last EDR Contact: 07/06/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 23

Source: EPA
Telephone: N/A
Last EDR Contact: 07/06/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 23

Source: EPA
Telephone: N/A
Last EDR Contact: 07/06/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/06/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 05/18/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 23

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 07/06/2018
Next Scheduled EDR Contact: 10/29/2018
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 05/18/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 23

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 07/06/2018
Next Scheduled EDR Contact: 10/29/2018
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/14/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/09/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/13/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/29/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/13/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/29/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/19/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 73

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/27/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 04/30/2018
Date Data Arrived at EDR: 05/02/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 51

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/31/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 04/30/2018
Date Data Arrived at EDR: 05/02/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 51

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/31/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/14/2018
Date Data Arrived at EDR: 05/16/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 37

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 34

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/10/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/01/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/24/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/25/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 34
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/11/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/09/2018
Number of Days to Update: 26
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Semi-Annually

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/18/2018
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/10/2018
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 06/21/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/01/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/10/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/24/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/25/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/13/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 04/30/2018
Date Data Arrived at EDR: 05/02/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 51

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/31/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 06/22/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 06/25/2018
Date Data Arrived at EDR: 06/27/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 40

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 06/27/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/19/2018
Date Data Arrived at EDR: 03/21/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/20/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 07/24/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 54

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 05/29/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 48

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 07/30/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/17/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 08/03/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 04/30/2018
Date Data Arrived at EDR: 05/02/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 51

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/31/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/12/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 55

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 07/05/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Quarterly

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/07/2018
Number of Days to Update: 44

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 07/25/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 03/28/2018
Date Data Arrived at EDR: 05/25/2018
Date Made Active in Reports: 07/10/2018
Number of Days to Update: 46

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 04/19/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 10

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/07/2018
Number of Days to Update: 44

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 07/25/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/05/2018
Date Made Active in Reports: 07/18/2018
Number of Days to Update: 43

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 30

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/06/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 06/04/2018
Date Data Arrived at EDR: 06/06/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 41

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 73

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 51

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 34

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 34

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/28/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 05/25/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/11/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/13/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/15/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 06/27/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/03/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/08/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/22/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/25/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 30

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 07/06/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/20/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 07/06/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 126

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/13/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 07/09/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 07/23/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 06/07/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/04/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 04/03/2018
Date Data Arrived at EDR: 04/05/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 85
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/05/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 03/31/2018
Date Data Arrived at EDR: 04/16/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 74

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/09/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/11/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 30

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 07/06/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/03/2018
Date Data Arrived at EDR: 05/31/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 29

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/13/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 87

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 06/20/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/21/2018
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 28

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 02/25/2018
Date Data Arrived at EDR: 03/17/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 10/31/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 73

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 07/13/2018
Next Scheduled EDR Contact: 10/29/2018
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 01/04/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 06/01/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 30

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 05/23/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/25/2018
Date Data Arrived at EDR: 06/27/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 40

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 06/27/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 04/03/2018
Date Data Arrived at EDR: 05/07/2018
Date Made Active in Reports: 06/15/2018
Number of Days to Update: 39

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

CUPA SAN FRANCISCO CO: CUPA SAN FRANCISCO CO

Cupa facilities

Date of Government Version: 04/20/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 10

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: DRYCLEAN SOUTH COAST

A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 03/16/2018
Date Data Arrived at EDR: 03/20/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 45

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 06/11/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 06/25/2018
Date Data Arrived at EDR: 06/28/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 39

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 06/22/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/20/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 47

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/20/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 47

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/20/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 07/06/2018
Number of Days to Update: 73

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/20/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 60

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 07/17/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/14/2018
Date Data Arrived at EDR: 05/15/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 38

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/09/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/12/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 97

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/13/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Annually

ICE: ICE
Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 05/21/2018
Date Data Arrived at EDR: 05/23/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 55

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 05/23/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 05/21/2018
Date Data Arrived at EDR: 05/23/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 55

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/23/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/09/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 69

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/11/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 54

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/23/2018
Date Data Arrived at EDR: 06/06/2018
Date Made Active in Reports: 07/18/2018
Number of Days to Update: 42

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 05/14/2018
Date Data Arrived at EDR: 05/16/2018
Date Made Active in Reports: 07/05/2018
Number of Days to Update: 50

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 06/04/2018
Date Data Arrived at EDR: 06/06/2018
Date Made Active in Reports: 07/19/2018
Number of Days to Update: 43

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 54

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 06/18/2018
Date Data Arrived at EDR: 06/20/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 47

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 06/14/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 04/27/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 34

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 04/10/2018
Date Data Arrived at EDR: 04/13/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 67

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 07/11/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 06/25/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/18/2018
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/18/2018
Number of Days to Update: 35
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/18/2018
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/18/2018
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

CIWQS: California Integrated Water Quality System
The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 06/04/2018
Date Data Arrived at EDR: 06/06/2018
Date Made Active in Reports: 07/13/2018
Number of Days to Update: 37

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)
Other Oil & Gas Projects sites

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/18/2018
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)
Non-Case Information sites

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/18/2018
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data
The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/07/2018
Number of Days to Update: 44

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 07/25/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/18/2018
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 06/11/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/18/2018
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 04/05/2018
Date Data Arrived at EDR: 04/10/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 65

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Semi-Annually

Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 04/05/2018
Date Data Arrived at EDR: 04/10/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 24

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/05/2018
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List
Cupa Facility List

Date of Government Version: 03/31/2018
Date Data Arrived at EDR: 04/05/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 70

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 06/14/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 07/05/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 05/07/2018
Date Data Arrived at EDR: 05/09/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 36

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/25/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 05/23/2018
Date Data Arrived at EDR: 05/24/2018
Date Made Active in Reports: 07/13/2018
Number of Days to Update: 50

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 05/21/2018
Date Data Arrived at EDR: 05/25/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 56

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 07/30/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 04/27/2018
Date Data Arrived at EDR: 05/02/2018
Date Made Active in Reports: 06/15/2018
Number of Days to Update: 44

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 07/24/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/08/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 39

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 07/30/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 9

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 07/11/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 07/17/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/08/2018
Date Made Active in Reports: 04/30/2018
Number of Days to Update: 53

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/21/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 50

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 07/17/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 05/02/2018
Date Data Arrived at EDR: 05/07/2018
Date Made Active in Reports: 07/18/2018
Number of Days to Update: 72

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 07/20/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 06/12/2018
Date Data Arrived at EDR: 06/15/2018
Date Made Active in Reports: 07/13/2018
Number of Days to Update: 28

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 05/09/2018
Date Data Arrived at EDR: 05/11/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 34

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 07/16/2018
Next Scheduled EDR Contact: 10/29/2018
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 04/16/2018
Date Made Active in Reports: 06/15/2018
Number of Days to Update: 60

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 07/05/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/16/2018
Date Data Arrived at EDR: 04/17/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 63

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/18/2018
Next Scheduled EDR Contact: 10/29/2018
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2018
Date Data Arrived at EDR: 05/01/2018
Date Made Active in Reports: 05/14/2018
Number of Days to Update: 13

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/11/2018
Next Scheduled EDR Contact: 10/29/2018
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 04/01/2018
Date Data Arrived at EDR: 04/17/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 63

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 07/20/2018
Next Scheduled EDR Contact: 10/29/2018
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 07/11/2018
Next Scheduled EDR Contact: 10/29/2018
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 07/17/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/04/2018
Date Data Arrived at EDR: 01/05/2018
Date Made Active in Reports: 01/18/2018
Number of Days to Update: 13

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 07/23/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/22/2018
Date Data Arrived at EDR: 05/24/2018
Date Made Active in Reports: 07/31/2018
Number of Days to Update: 68

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 03/30/2018
Date Data Arrived at EDR: 04/06/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 28

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 07/11/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 05/30/2018
Date Data Arrived at EDR: 06/01/2018
Date Made Active in Reports: 07/13/2018
Number of Days to Update: 42

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 05/22/2018
Date Data Arrived at EDR: 05/24/2018
Date Made Active in Reports: 07/13/2018
Number of Days to Update: 50

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/13/2018
Date Data Arrived at EDR: 06/19/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 31

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 07/02/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 05/23/2018
Date Data Arrived at EDR: 05/31/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 41

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 04/24/2018
Date Data Arrived at EDR: 05/01/2018
Date Made Active in Reports: 06/15/2018
Number of Days to Update: 45

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 07/24/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 05/11/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 42

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 05/11/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 45

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/03/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/10/2018
Number of Days to Update: 63

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/06/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/05/2018
Date Made Active in Reports: 07/18/2018
Number of Days to Update: 43

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 50

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 07/17/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/05/2018
Date Data Arrived at EDR: 04/10/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 24

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/18/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 04/05/2018
Date Data Arrived at EDR: 04/10/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 24

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/18/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/02/2018
Date Data Arrived at EDR: 04/04/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 71

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/03/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/02/2018
Date Data Arrived at EDR: 04/04/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 76

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/03/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 05/16/2018
Date Data Arrived at EDR: 05/22/2018
Date Made Active in Reports: 07/13/2018
Number of Days to Update: 52

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 04/09/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 69

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 07/24/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 06/04/2018
Date Data Arrived at EDR: 06/06/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 41

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 07/17/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/23/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 11

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 07/17/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 06/07/2018
Date Data Arrived at EDR: 06/12/2018
Date Made Active in Reports: 07/10/2018
Number of Days to Update: 28

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/14/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 05/16/2018
Date Data Arrived at EDR: 05/22/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 56

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 06/12/2018
Date Data Arrived at EDR: 06/15/2018
Date Made Active in Reports: 08/06/2018
Number of Days to Update: 52

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/15/2018
Date Data Arrived at EDR: 03/20/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 45

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/06/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List

Cupa facility list

Date of Government Version: 05/16/2018
Date Data Arrived at EDR: 05/23/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 55

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 05/22/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 05/16/2018
Date Data Arrived at EDR: 05/22/2018
Date Made Active in Reports: 07/19/2018
Number of Days to Update: 58

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/16/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2018
Date Data Arrived at EDR: 06/08/2018
Date Made Active in Reports: 07/18/2018
Number of Days to Update: 40

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2018
Date Data Arrived at EDR: 06/12/2018
Date Made Active in Reports: 07/12/2018
Number of Days to Update: 30

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 06/19/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/17/2018
Number of Days to Update: 21

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 06/21/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/03/2018
Date Data Arrived at EDR: 04/06/2018
Date Made Active in Reports: 05/09/2018
Number of Days to Update: 33

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/21/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 05/11/2018
Date Made Active in Reports: 06/15/2018
Number of Days to Update: 35

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 07/16/2018
Next Scheduled EDR Contact: 10/29/2018
Data Release Frequency: Varies

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 06/04/2018
Date Data Arrived at EDR: 06/08/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 33

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/17/2018
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA Facility List
Cupa facilities

Date of Government Version: 01/26/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 47

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/15/2018
Number of Days to Update: 51

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 07/17/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

TULARE COUNTY:

CUPA Facility List
Cupa program facilities

Date of Government Version: 03/19/2018
Date Data Arrived at EDR: 03/22/2018
Date Made Active in Reports: 04/17/2018
Number of Days to Update: 26

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 07/17/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 58

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 07/23/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/27/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/09/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 07/23/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 04/26/2018
Date Data Arrived at EDR: 06/13/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 28

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/13/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 06/20/2018
Date Data Arrived at EDR: 07/03/2018
Date Made Active in Reports: 07/12/2018
Number of Days to Update: 9

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 06/27/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 05/10/2018
Date Data Arrived at EDR: 05/15/2018
Date Made Active in Reports: 06/15/2018
Number of Days to Update: 31

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 07/24/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 01/03/2018
Date Data Arrived at EDR: 02/14/2018
Date Made Active in Reports: 03/22/2018
Number of Days to Update: 36

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 07/13/2018
Date Made Active in Reports: 08/01/2018
Number of Days to Update: 19

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/13/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 04/30/2018
Date Data Arrived at EDR: 05/03/2018
Date Made Active in Reports: 06/07/2018
Number of Days to Update: 35

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 09/25/2017
Number of Days to Update: 62

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/12/2018
Next Scheduled EDR Contact: 10/29/2018
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/21/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/15/2018
Date Made Active in Reports: 07/09/2018
Number of Days to Update: 24

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/11/2018
Next Scheduled EDR Contact: 09/24/2018
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

PROPOSED RESIDENTIAL PROPERTY
41206 WALNUT AVENUE
GREENFIELD, CA 93927

TARGET PROPERTY COORDINATES

Latitude (North):	36.332503 - 36° 19' 57.01''
Longitude (West):	121.236594 - 121° 14' 11.74''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	658273.1
UTM Y (Meters):	4022070.8
Elevation:	265 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5603732 GREENFIELD, CA
Version Date:	2012
West Map:	5603752 PARAISO SPRINGS, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

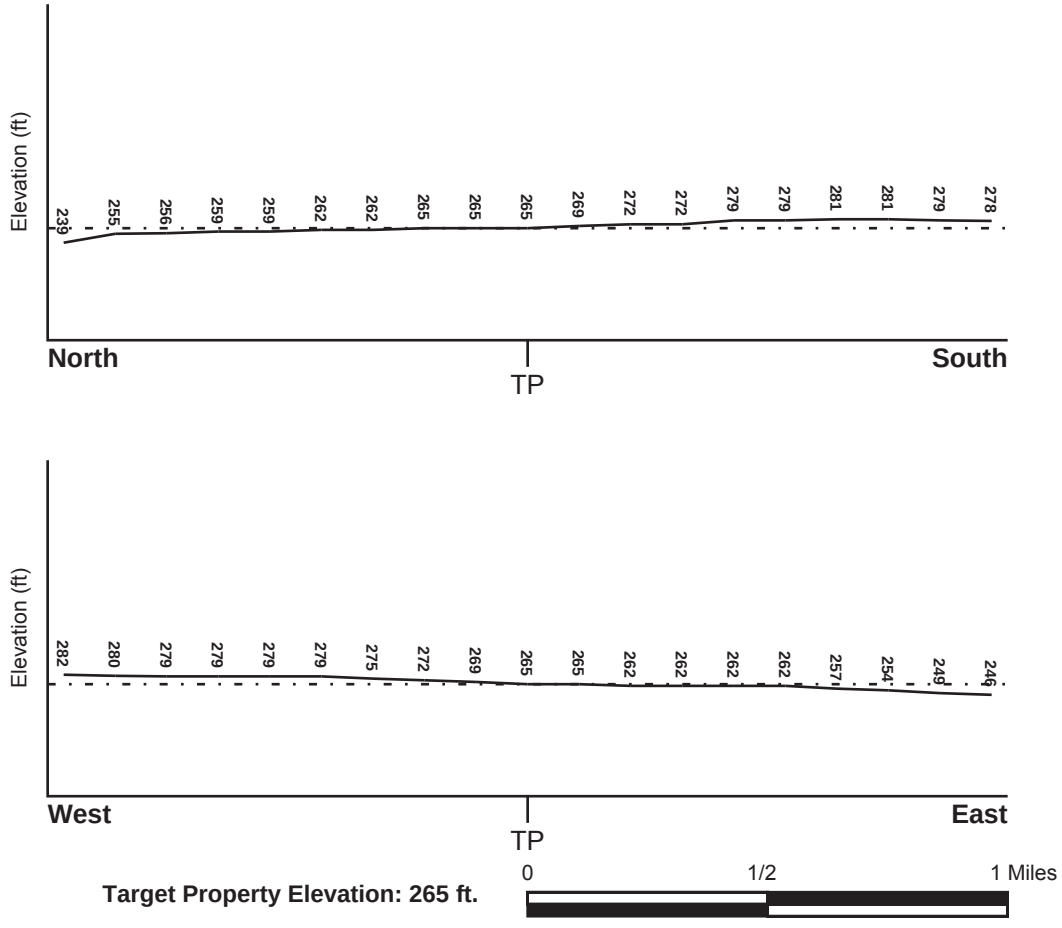
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06053C0850G	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06053C0825G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
GREENFIELD	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

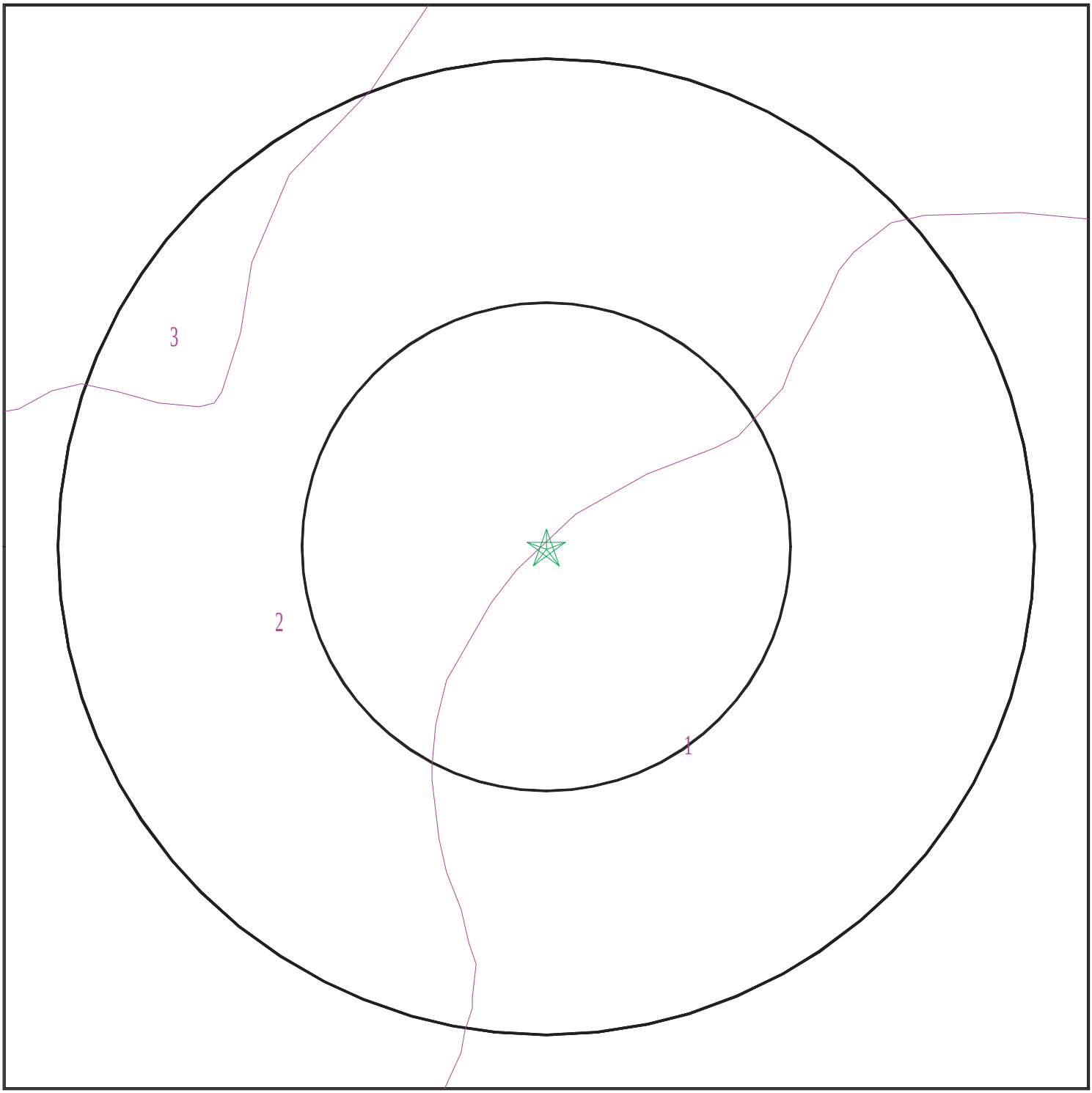
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5384528.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Proposed Residential Property	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	41206 Walnut Avenue Greenfield CA 93927	CONTACT:	Bill Vick
		INQUIRY #:	5384528.2s
LAT/LONG:	36.332503 / 121.236594	DATE:	August 07, 2018 11:40 am

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Arroyo Seco

Soil Surface Texture: gravelly sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	42 inches	gravelly sandy loam	Not reported	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 42 Min: 14	Max: 8.4 Min: 6.6
2	42 inches	59 inches	very gravelly coarse sandy loam	Not reported	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 42 Min: 14	Max: 8.4 Min: 6.6

Soil Map ID: 2

Soil Component Name: Elder

Soil Surface Texture: loam

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	40 inches	loam	Not reported	COARSE-GRAINED SOILIS, Gravels, Clean Gravels, Well-graded gravel.	Max: 705 Min: 141	Max: 7.8 Min: 7.4
2	40 inches	59 inches	very gravelly sand	Not reported	COARSE-GRAINED SOILIS, Gravels, Clean Gravels, Well-graded gravel.	Max: 705 Min: 141	Max: 7.8 Min: 7.4

Soil Map ID: 3

Soil Component Name: Elder

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	37 inches	sandy loam	Not reported	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 6.6
2	37 inches	51 inches	gravelly sandy loam	Not reported	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 6.6
3	51 inches	72 inches	fine gravelly loamy coarse sand	Not reported	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 6.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS40000172341	1/4 - 1/2 Mile NW
2	USGS40000172367	1/4 - 1/2 Mile NNE
4	USGS40000172340	1/2 - 1 Mile ENE
5	USGS40000172111	1/2 - 1 Mile SSW
6	USGS40000172404	1/2 - 1 Mile NE
7	USGS40000172510	1/2 - 1 Mile North

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

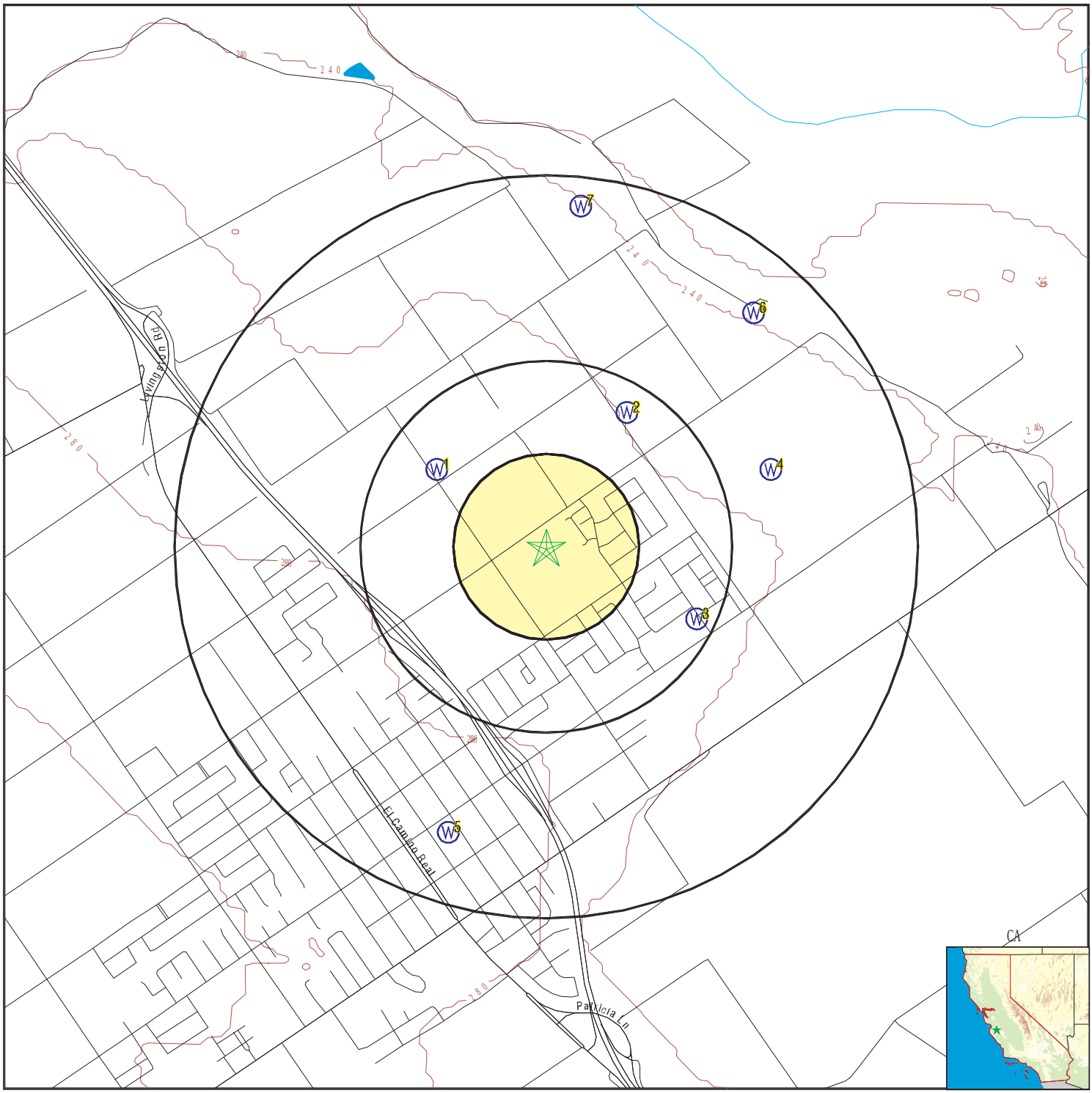
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
3	13736	1/4 - 1/2 Mile ESE

PHYSICAL SETTING SOURCE MAP - 5384528.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Proposed Residential Property	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	41206 Walnut Avenue Greenfield CA 93927	CONTACT:	Bill Vick
		INQUIRY #:	5384528.2s
LAT/LONG:	36.332503 / 121.236594	DATE:	August 07, 2018 11:40 am

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
NW
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000172341**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	018S007E29M001M	Type:	Well
Description:	Not Reported	HUC:	18060005
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

2
NNE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000172367**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	018S007E29G001M	Type:	Well
Description:	Not Reported	HUC:	18060005
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

3
ESE
1/4 - 1/2 Mile
Higher

CA WELLS **13736**

Seq:	13736	Prim sta c:	18S/07E-29Q02 M
Frds no:	2700501001	County:	27
District:	57	User id:	27C
System no:	2700501	Water type:	G
Source nam:	WELL 01	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	361947.5	Longitude:	1211342.0
Precision:	3	Status:	AR
Comment 1:	TRAVEL 0.35 MILES EAST ON OAK STREET FROM THIRD STREET		
Comment 2:	WELL IS 250 FEET OF THE ROAD	Comment 3:	Not Reported
Comment 4:	Not Reported	Comment 5:	Not Reported
Comment 6:	Not Reported	Comment 7:	Not Reported
System no:	2700501	System nam:	OAK STREE WATER SYSTEM #3
Hqname:	Not Reported	Address:	Not Reported
City:	Not Reported	State:	Not Reported
Zip:	Not Reported	Zip ext:	Not Reported
Pop serv:	0	Connection:	0

Area serve: Not Reported

4
ENE **FED USGS** **USGS40000172340**
1/2 - 1 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	018S007E29J001M	Type:	Well
Description:	Not Reported	HUC:	18060005
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

5
SSW **FED USGS** **USGS40000172111**
1/2 - 1 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	018S007E32M001M	Type:	Well
Description:	Not Reported	HUC:	18060005
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19620101	Well Depth:	284
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1971-07-01
Feet below surface:	78.00	Feet to sea level:	Not Reported
Note:	Not Reported		

6
NE **FED USGS** **USGS40000172404**
1/2 - 1 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	018S007E29A001M	Type:	Well
Description:	Not Reported	HUC:	18060005
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

7
North
1/2 - 1 Mile
Lower | **FED USGS** | **USGS40000172510**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	018S007E20K001M	Type:	Well
Description:	Not Reported	HUC:	18060005
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	200
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
93927	8	0

Federal EPA Radon Zone for MONTEREY County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for MONTEREY COUNTY, CA

Number of sites tested: 16

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.788 pCi/L	94%	6%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	2.133 pCi/L	67%	33%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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Appendix H

Krazan & ASSOCIATES, INC.

SITE DEVELOPMENT ENGINEERS

William H. Vick, Ph.D., REA

Environmental Project Manager

AREAS OF EXPERTISE

Phase I Environmental Site Assessments
Environmental Analytical Chemistry
Pollutant Fate and Effects
Site Characterization and Remediation
Physical Characterization of Construction Materials
Quality Assurance/Quality Control Programs

EDUCATION AND CERTIFICATIONS

Bachelor of Science in Molecular Biology
University of Texas - Dallas
Doctor of Philosophy in Environmental Sciences
University of Texas – Dallas
California Environmental Protection Agency
Department of Toxic Substances Control
Registered Environmental Assessor I No. 30165
Asbestos Building Inspector, Certification No. 3370
NICET Certified Construction Materials Testing
CalTrans Certified Construction Materials Testing

PROFESSIONAL AFFILIATIONS

Member, American Society for Testing Materials

RELEVANT PROFESSIONAL EXPERIENCE

2002 to Present

Senior Technical Staff, Krazan & Associates, Inc.
Environmental project manager responsible for design, conduct, and management of site investigations, including Phase I Environmental Site Assessments using state-of-the-art research methods, and surface and subsurface contaminant characterization. Additional responsibilities include direction and management of construction materials testing laboratory, including data review, compliance evaluation, and quality assurance/quality control programs.

1981 to 1987

Principal Investigator, Science Applications, Inc.
Responsible for the design, conduct, and management of environmental research programs for government clients. In this capacity, primary responsibilities included design of multidisciplinary research programs in response to environmental issues of national scope, technical and financial management, design and implementation of project-specific quality assurance/quality control programs, statistical data evaluation/interpretation and report preparation. Representative research programs include development of an analytical chemistry procedure for ultra trace-level analysis of dioxin, investigation of the chronic toxicity of crude

oil to selected marine species, an evaluation of physical encapsulation techniques for remediation of dioxin contaminated soils, and participation in the remedial investigation/feasibility study of the Stringfellow NPL Superfund hazardous waste site.

1979 to 1981

Graduate Research Assistant, University of Texas - Dallas
Responsible for the design and conduct of an EPA-funded research program to assess the effectiveness of activated carbon for removal of trace-level organic pollutants from industrial wastewater. Conducted on-site, pilot-scale technology evaluation, characterized pollutant breakthrough profiles, and evaluated system monitoring techniques. Responsible for QA/QC program and for all data analysis and interpretation.

1977 to 1979

Environmental Chemistry Analyst, Texas Instruments, Inc.
Responsible for analysis of environmental samples for trace-level organic contaminants using mass spectrometry and gas chromatography. As senior analyst on evening shift, responsible for review, interpretation, and management of all data generated.

Krazan & ASSOCIATES, INC.

SITE DEVELOPMENT ENGINEERS

Art Farkas, R.E.A.

Vice President
Environmental Division

AREAS OF EXPERTISE

Project Management and Oversight
Senior Quality Control Review
Staff Development
Information Management
Marketing, Public Relations and Publicity

EDUCATION AND ACCOMPLISHMENTS

California Environmental Protection Agency
Department of Toxic Substances Control
Registered Environmental Assessor I No. 07818
Bachelor of Electronic Engineering Technology,
University of Dayton, Ohio
CEQA Training: University of California Davis Extension
NEPA Training: U.S. Department of Housing and Urban Development Region 9, San Francisco

PROFESSIONAL EXPERIENCE

February 1998 to Present

Vice President, Krazan & Associates, Inc., Environmental Division
CEQA and NEPA project management specialist. Project Manager and senior quality control reviewer for Phase I and Phase II Environmental Site Assessments. Activities include division oversight, business development, regional coordination of technical services and delivery of efficient integrated site development engineering services in conjunction with the Geotechnical and Construction Testing and Inspection Divisions of the firm

Dec. 1994 to Feb. 1998

Executive Director, Downtown Association of Fresno
Responsibilities included management of business association for Central Business District of Fresno; Director of the Fresno Main Street Program; project operations and promotions management; policy formation, budgeting; marketing, public relations; publicity, fundraising and public speaking; management of 18-member Board of Directors for non-profit organization.

Apr. 1974 to Dec. 1994

Operations Manager/Program Director/Air Personality: Radio Broadcasting

1974 - 1980 KFIG	1981 - 1991 KKDJ
1980 - 1981 KIOY	1991 - 1994 KTHT

Responsibilities included operations management of staff and systems; program direction; on-air performance; production' promotions' public affairs and marketing.

February 14, 2019 Project No. 034-18104

Mr. Welton Jordan
EAH Housing
18525 Sutter Boulevard, Suite 140
Morgan Hill, California 95037
Welton.jordan@eahhousing.org

RE: Report of Findings
Limited Geophysical Survey and
On-Site Shallow Soil Sampling and Analysis
Proposed Residential Development Property
41206 Walnut Avenue
APN 109-082-012
Greenfield, California 93827

Dear Mr. Jordan:

Pursuant to your request, Krazan & Associates, Inc. (Krazan) has conducted a limited geophysical survey (LGS) and on-site shallow soil sampling and analysis at the referenced property (subject site; see Figure 1, Vicinity Map). The scope of work was based upon the findings and conclusions provided in Krazan's September 7, 2018 *Phase I Environmental Site Assessment (ESA)* prepared for EAH Housing (Client). The work was reportedly being conducted in conjunction with a real estate transaction and not by the request of a regulatory agency.

BACKGROUND

During the course of the referenced ESA, Krazan identified no evidence of recognized environmental conditions (RECs), controlled RECs (CRECs) or historical RECs (HRECs) in conjunction with the subject site as defined by ASTM E 1527-13. However, the following potential areas of concern (PAOCs) and site development issues were identified in connection with the subject site:

PAOCs

- Krazan's review of historical aerial photographs indicates that a rural residential area was present in the northwestern portion of the subject site from at least 1937 until at least 1960, and a barn-type structure was visible in the northwestern portion of the subject site circa 1937. Additionally, historical aerial photographs of the subject site vicinity taken between 1937 and 2017 suggest that the subject site and the surrounding properties have been associated with agricultural uses throughout most of the 1937 to 2017 time interval. Historical uses of the subject site prior to 1937 were not reasonably ascertainable utilizing the standard historical references consulted during this assessment, and it is therefore unknown how long structures were located on the subject site prior to 1937. Mr. James McNulty, a representative of the owner of the subject site familiar with the subject site for the past 61 years, indicated that he was unaware of underground storage tanks (USTs) being located at the subject site and no records of USTs for the subject site are on file with the local regulatory agencies. However, USTs on rural or agricultural properties historically have been exempt from requirements for registration with regulatory agencies.

Krazan's experience with such properties has shown that it is not uncommon for property owners/operators to install USTs for their convenience, especially in the vicinity of structures, which are undocumented and whose presence would remain unknown in spite of the standard data research conducted in the course of this Phase I ESA. It is therefore possible that subsurface features such as unregistered USTs may exist in the vicinity of the former on-site structures which remain unknown based upon the absence of any regulatory, municipality, interview data, or other evidence indicating their presence or location. Consequently, despite an absence of data suggesting their presence, the presence or absence of USTs associated with the northwestern portion of the subject site prior to the current owner of the subject site is unknown.

For a higher level of due diligence, Krazan recommended conducting a limited geophysical survey in the inferred area of the vicinity of the former on-site structures previously located in the northwestern portion of the subject site to assess the presence or absence of subsurface metallic anomalies characteristic of underground storage tanks. If a UST is identified, it should be removed in accordance with State and local guidelines.

- Krazan's historical research indicates that the subject site was utilized for agricultural purposes from at least 1937 until at least the early-2010s, with an orchard partially occupying the subject site in 1937 and possibly before. Given the time frame in which the subject site was partially occupied by an orchard and the use of the subject site for the cultivation of row crops/orchards for at least 80 years, there is a heightened potential that environmentally persistent pesticides/herbicides historically may have been applied to the crops located on the subject site. Additionally, the subject site owner representative indicated in a questionnaire response that soil imported from the adjoining school is located on the subject site, although he did not indicate the location of the imported soil. Therefore, given the potential use of environmentally persistent pesticides and/or herbicides on site, the agricultural use of the subject site for an extended period of time (at least 80 years), the report that vicinity agricultural property soil was imported to the subject site, and the planned redevelopment of the subject site for residential purposes, the current condition of the subject site soils is unknown and an assessment of shallow soils for the residues of such materials is considered to be prudent in consultation with the client.

  A limited soil assessment was recommended to assess the presence or absence of significant concentrations of environmentally persistent pesticides/herbicides related to the historical agricultural use of the subject site.

Site Development Issues

- According to Mr. James McNulty, a representative of the owner of the subject site who has been familiar with the subject site for the past 61 years, no water wells are located on the subject site. However, Krazan's review of historical aerial photographs indicates that a structure was located within the northwestern portion of the subject site circa 1937. A domestic water well was possibly associated with the former on-site structure. If a water well is identified during the planned redevelopment of the subject site, it should be properly destroyed in accordance with State and local guidelines.
- According to Mr. McNulty, a septic system which has not been in use for 50+ years is located on the subject site. The presence of the septic system is not anticipated to have adversely impacted the subject site due to its presumed use for domestic purposes only. If the septic system is not to be utilized in the planned redevelopment of the subject site, it should be properly abandoned/closed or destroyed in accordance with State and local guidelines. Mr. McNulty has reportedly provided Krazan's client with a parcel map showing the approximate location of the reported septic system.

PURPOSE

The purpose of this investigation was to assess the presence or absence of potential current or former unregistered USTs on the subject site and the presence or absence of potential concentrations of organochlorine pesticides (OCPs)/chlorinated herbicides (CHs) and arsenic in shallow soils located on the subject site property.

The Site Development Issues were not addressed in this Report of Findings.

SCOPE OF WORK

General Activities

- A site specific health and safety plan (HASP) was prepared, including the appropriate level of personal protection equipment (PPE) for Krazan personnel to cover field activities.
- Industry standard methods and protocols for sample collection, sampling equipment decontamination, sample storage, transport, hold times, chain-of-custody, etc., were implemented.
- Site safety protocols, including appropriate level of PPE and a proper exclusion zone around the work area, were maintained.
- A shovel was utilized to excavate to approximately six (6) inches below ground surface (bgs). Soil samples were collected utilizing a shovel and were placed in laboratory-supplied glass jars. The soil samples were collected in the interval from approximately six (6) inches to one (1) foot bgs.
- Subsequent to sample collection, the soil samples were immediately placed in an iced chest, labeled on a chain-of-custody form and transferred to SunStar Laboratories of Lake Forest, California under chain-of-custody protocol.
- Constituents of concern (COCs) investigated during the course of this assessment and their respective analytical methods included the following:
    - OCPs by EPA Method 8081A;
    - CHs by EPA Method 8151; and,
    - Arsenic by EPA Method 6010B.

Soil Sampling

Please refer to Figure 2 for referenced locations.

- On January 29, 2019, 21 discrete soil samples were collected from the subject site. The discrete samples were composted in the laboratory into three (3), three(3)-part composite samples (COMP C1A,C1B,C1C; COMP C2A, C2B,C2C, and COMP 3A,C3B,C3C) and three (3), four (4)-part composite samples (COMP C4A,C4B,C4C;4D, COMP C5A, C5B,C5C, C5D, and COMP 6CA,C6B,C6C,C6D) Each of the six (6) composite soil samples was analyzed for OCPs and CHs.
- One (1) discrete sample from each of the six (6) composite sampling areas was submitted for laboratory analysis for arsenic.

APPLICABLE REGULATORY AGENCY REFERENCE

Krazan's evaluation of the results and findings associated with the soil sampling included referencing the January 2019 San Francisco Regional Water Quality Control Board's (SFRWQCB) environmental screening levels (ESLs) referenced in the technical document titled, *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*. According to the RWQCB's 2019 document, ESLs are considered to be conservative. Under most circumstances and within limits described by the RWQCB, the presence of a chemical in soil, soil vapor or groundwater at concentrations below the corresponding ESL (Residential, Any Land Use/Construction Worker or Commercial/Industrial) for the respective constituent can be assumed not to pose a significant, long-term (chronic) threat to human health and the environment. Additional evaluation will generally be necessary at sites where a chemical is present at concentrations above the corresponding ESL. Active remediation may or may not be required, however, depending on site-specific conditions and considerations. As stated by the RWQCB, the ESL document may be especially beneficial for use at sites with limited impacts, where the preparation of a formal environmental assessment may not be warranted or feasible due to time and cost constraints.

REPORT AND DISCUSSION OF FINDINGS

Soil Sampling Results

- Analytical results for the soil samples submitted for laboratory analysis for OCPs and CHs were reported as not detected (ND) above laboratory reporting limits (RLs), as shown on Table I.
- Arsenic was ND above the laboratory RL of 5.0 mg/kg. The laboratory RL for arsenic is above the Residential ESL for arsenic, however, the laboratory RL is within the background level of 12 mg/kg that researchers with the DTSC have reported[1].

The laboratory report is presented in Appendix A.

Limited Geophysical Survey

- The results of the LGS indicated the presence of randomly scattered, shallow metal debris detect in the locations shown on the LGS report (see Appendix B). According to the LGS, no anomalies possibly indicative of large structural objects such as USTs or items of significant debris were detected with the area of the LGS. A copy of the LGS is provided in Appendix B.

CONCLUSIONS

Based on the findings in the field and the laboratory analytical reports for the soil samples collected and analyzed from the subject site during this investigation, no evidence of a known significant impact (based on a comparison with established regulatory screening levels) was identified in the areas assessed with respect to the reported concentrations of OCPs and CHs.

[1] Chernoff, G. et. Al., *Determination of a South California Regional Background Arsenic Concentration in Soil*, undated.

In the area assess, the LGS did not detect any metallic or other anomalies consistent with a UST or former UST excavation.

LIMITATIONS

This soil investigation conducted at the subject site was not intended to characterize or define the extent of possible impact beneath the subject site; rather, this work was conducted to assess the presence or absence of significant concentrations of OCPs, CHs and arsenic in shallow subsurface soils. The findings of this report were based upon the results of our field and laboratory investigations, along with the interpretation of subsurface conditions associated with our exploratory soil borings and soil samples. Therefore, the data are accurate only to the degree implied by review of the data obtained and by professional interpretation.

The soil sampling locations were located in the field by review of available maps. Therefore, the location of the soil samples should be considered accurate only to the degree implied by the methods used to locate them. Chemical testing was done by laboratories certified by the State of California Department of Health Services. The results of the chemical testing are accurate only to the degree of care of ensuring the testing accuracy and the representative nature of the soil samples obtained.

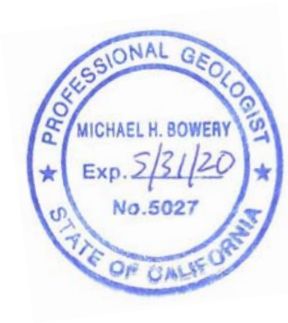
This subsurface investigation of the subject site has been limited in scope. This type of assessment is undertaken with the calculated risk that the presence, full nature and extent of contamination would not be revealed by methods employed. Therefore, no warranty is given; either expressed or implied that hazardous material contamination or buried structures, which would not have been disclosed through this investigation, do not exist at the subject site. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used.

The limited geophysical survey equipment is considered a state-of-the-art technology that is effective within certain limitations for the investigation of buried features such as septic tanks, fuel bunkers, USTs, and/or piping in areas accessible at the time of the investigation. In uncommon or atypical cases where bunkers or tanks are buried at depths greater than two (2) feet bgs and/or which may be covered by layers of pavement cumulatively in excess of two to four inches in thickness, rock, gravel or aggregate layers, dense (clayey) soils, or other surface or subsurface metallic objects (such as motor vehicles, fencing, piping, conduit or rebar) that can interfere with the electrical transmission/reception of the equipment, the equipment's technical capabilities can be exceeded to a degree where the presence of a UST or other metallic feature could not be detected. No guarantee is made or implied that the geophysical survey will detect suspected metallic features under uncommon or atypical circumstances as described above, or that the discovery of underground piping or conduit commonly found underlying commercial properties in and of itself is evidence of the presence of USTs. It should be understood that the location of subsurface objects and utilities is dependent upon the recognition of physical phenomena at the ground surface. These phenomena can be magnetic fields or electromagnetic waves that give rise to a surface expression which in turn is interpreted as representative of subsurface objects. These waves, however, may be attenuated and/or distorted by a number of factors including soil moisture, corrosion, and proximity to other surface and subsurface facilities. The findings presented herewith are based on professional interpretation using state of the art methods and equipment and a degree of conservatism deemed proper as of this report date. It is not warranted that such data cannot be superseded by future geotechnical, environmental, or technical developments.

This assessment and report were authorized by and prepared for the exclusive use of our Client. Unauthorized use of or reliance on the information contained in this report without the expressed written consent of Krazan & Associates, Inc. is strictly prohibited.

CLOSING

We appreciate the opportunity to be of service to the EAH Housing. If you have any questions, or if we can be of further assistance, please feel free to contact me at (559) 348-2200.



Respectfully Submitted,
KRAZAN & ASSOCIATES, INC.

Michael H. Bowery, P.G. No. 5027
Senior Manager

Arthur C. Farkas, REA 07818
Environmental Division Manager

MHB/ACF/mlt

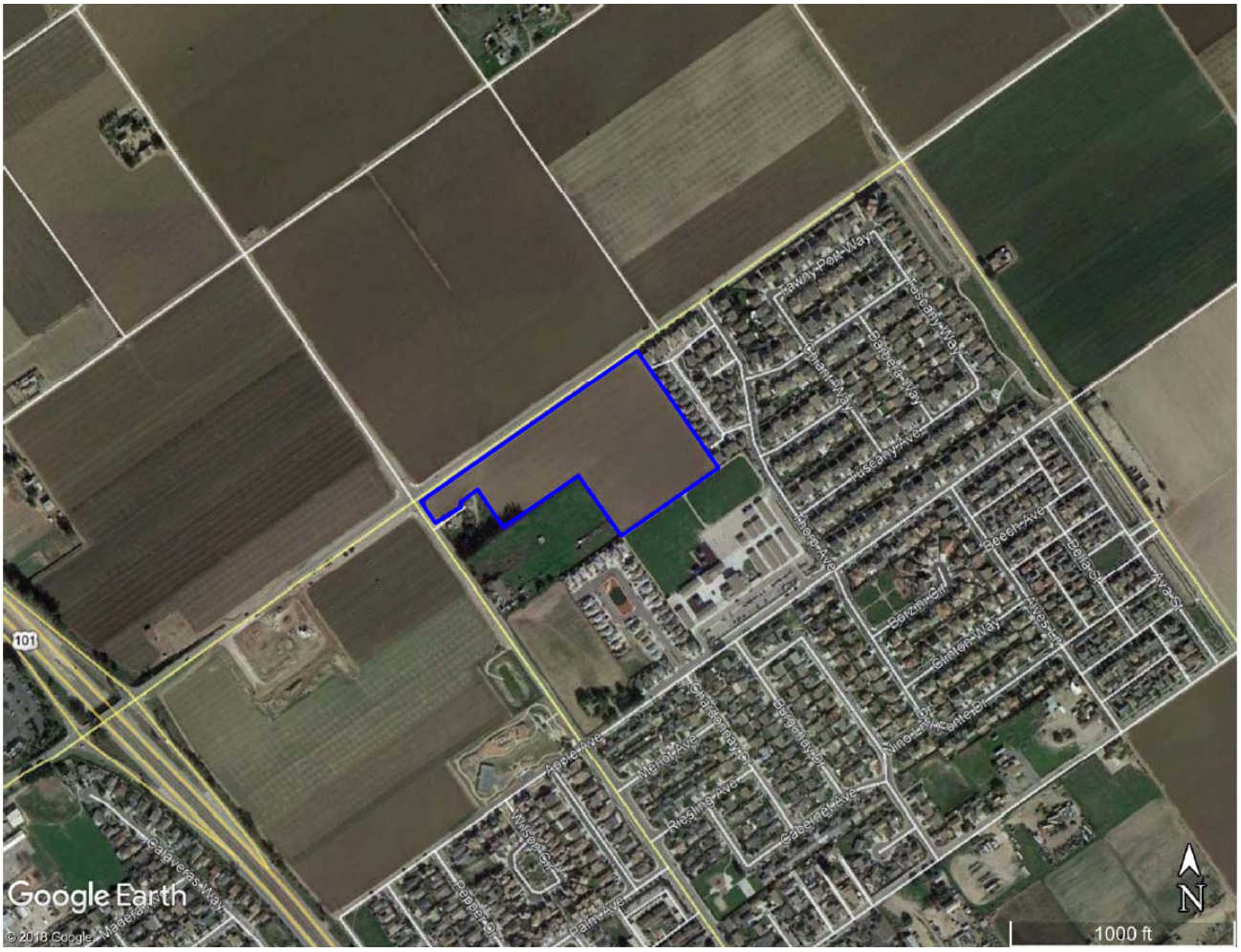
Attachments:

Figure 1 – Vicinity Map
Figure 2 – Site Map
Appendix A – Laboratory Analytical Report
Appendix B – LGS Report

TABLE I
Proposed Residential Development Property
41206 Walnut Avenue
APN 109-082-012
Greenfield, California 93827
January 29, 2019 Sampling; Arsenic, OCPs and CHs
(Concentrations are expressed in milligrams per kilogram [mg/kg])

Contaminant	Arsenic	OCPs	CHs
Sample ID			
COMP: C1A,C1B,C1C	NA	ND	ND
COMP: C2A,C2B,C2C	NA	ND	ND
COMP: C3A,C3B,C3C	NA	ND	ND
COMP: C4A,C4B,C4C,C4D	NA	ND	ND
COMP: C5A,C5B,C5C,C5D	NA	ND	ND
COMP: C6A,C6B,C6C,C6D	NA	ND	ND
C1A	ND	NA	NA
C2A	ND	NA	NA
C3A	ND	NA	NA
C4B	ND	NA	NA
C5B	ND	NA	NA
C6B	ND	NA	NA
ESLs	0.067	Various	Various

Notes: Only those OCPs and CHs detected are shown
NA = Not Analyzed for this compound
ND = Not Detected above the Practical Quantitation Limit
ESLs – Residential Shallow Soil Exposure (Table S-1, California Regional Water Quality Control Board, San Francisco Bay Region – January 2019)



= SUBJECT SITE BOUNDARY

VICINITY MAP **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** NTS	**Date:** September 2018	Krazan **SITE DEVELOPMENT ENGINEERS** ***With Offices Serving the Western U. S.***
	Drawn By: BV	**Approved by:** BV	
	Project No. 034-18104	**Figure No.** 1	

= SUBJECT SITE BOUNDARY (APPROXIMATE)

= APPROXIMATE AREA OF LGS

= SOIL SAMPLE LOCATION (NOTE: COMP 1 THROUGH COMP 6 AS SHOWN)

SITE MAP **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** NTS	**Date:** February 2019	Krazan **SITE DEVELOPMENT ENGINEERS** ***With Offices Serving the Western U. S.***
	Drawn By: MP	**Approved by:** MB	
	Project No. 034-18104	**Figure No.** 2	

Appendix A

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

06 February 2019

Mike Bowery
Krazan, Clovis
215 West Dakota Avenue
Clovis, CA 93612

RE: EAH Greenfield

Enclosed are the results of analyses for samples received by the laboratory on 01/30/19 09:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeff Lee
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C1A	T190237-01	Soil	01/29/19 09:53	01/30/19 09:50
C2A	T190237-04	Soil	01/29/19 10:08	01/30/19 09:50
C3A	T190237-07	Soil	01/29/19 10:18	01/30/19 09:50
C4B	T190237-11	Soil	01/29/19 10:36	01/30/19 09:50
C5B	T190237-15	Soil	01/29/19 10:49	01/30/19 09:50
C6B	T190237-19	Soil	01/29/19 11:04	01/30/19 09:50
COMP: C1A, C1B, C1C	T190237-22	Soil	01/29/19 00:00	01/30/19 09:50
COMP: C2A, C2B, C2C	T190237-23	Soil	01/29/19 00:00	01/30/19 09:50
COMP: C3A, C3B, C3C	T190237-24	Soil	01/29/19 00:00	01/30/19 09:50
COMP: C4A, C4B, C4C, C4D	T190237-25	Soil	01/29/19 00:00	01/30/19 09:50
COMP: C5A, C5B, C5C, C5D	T190237-26	Soil	01/29/19 00:00	01/30/19 09:50
COMP: C6A, C6B, C6C, C6D	T190237-27	Soil	01/29/19 00:00	01/30/19 09:50

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

DETECTIONS SUMMARY

Sample ID: C1A **Laboratory ID:** T190237-01

No Results Detected

Sample ID: C2A **Laboratory ID:** T190237-04

No Results Detected

Sample ID: C3A **Laboratory ID:** T190237-07

No Results Detected

Sample ID: C4B **Laboratory ID:** T190237-11

No Results Detected

Sample ID: C5B **Laboratory ID:** T190237-15

No Results Detected

Sample ID: C6B **Laboratory ID:** T190237-19

No Results Detected

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Jeff Lee, Project Manager

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Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

Sample ID: COMP: C1A, C1B, C1C **Laboratory ID:** T190237-22

No Results Detected

Sample ID: COMP: C2A, C2B, C2C **Laboratory ID:** T190237-23

No Results Detected

Sample ID: COMP: C3A, C3B, C3C **Laboratory ID:** T190237-24

No Results Detected

Sample ID: COMP: C4A, C4B, C4C, C4D **Laboratory ID:** T190237-25

No Results Detected

Sample ID: COMP: C5A, C5B, C5C, C5D **Laboratory ID:** T190237-26

No Results Detected

Sample ID: COMP: C6A, C6B, C6C, C6D **Laboratory ID:** T190237-27

No Results Detected

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

C1A

T190237-01 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	5.0	mg/kg	1	9013046	01/30/19	01/30/19	EPA 6010b	

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215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

C2A

T190237-04 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	5.0	mg/kg	1	9013046	01/30/19	01/30/19	EPA 6010b	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

C3A

T190237-07 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	5.0	mg/kg	1	9013046	01/30/19	01/30/19	EPA 6010b	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

C4B

T190237-11 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Arsenic	ND	5.0	mg/kg	1	9013046	01/30/19	01/30/19	EPA 6010b	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

C5B

T190237-15 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	5.0	mg/kg	1	9013046	01/30/19	01/30/19	EPA 6010b	

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

C6B

T190237-19 (Soil)

SunStar Laboratories, Inc.

Metals by EPA 6010B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	ND	5.0	mg/kg	1	9013046	01/30/19	01/30/19	EPA 6010b	

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Providing Quality Analytical Services Nationwide

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

COMP: C1A, C1B, C1C

T190237-22 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	5.0	ug/kg	1	9013035	01/30/19	02/04/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*102 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*105 %*	*35-140*		"	"	"	"	
Chlorinated Herbicides by EPA Method 8151A									
2,4,5-T	ND	5.00	ug/kg	1	9013036	01/30/19	02/04/19	8151	
2,4,5-TP (Silvex)	ND	5.00	"	"	"	"	"	"	
2,4-D	ND	5.00	"	"	"	"	"	"	
2,4-DB	ND	5.00	"	"	"	"	"	"	
3,5-Dichlorobenzoic acid	ND	5.00	"	"	"	"	"	"	
4-Nitrophenol	ND	5.00	"	"	"	"	"	"	
Acifluorfen	ND	5.00	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

COMP: C1A, C1B, C1C

T190237-22 (Soil)

SunStar Laboratories, Inc.

Chlorinated Herbicides by EPA Method 8151A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bentazon	ND	5.00	ug/kg	1	9013036	01/30/19	02/04/19	8151	
Chloramben	ND	5.00	"	"	"	"	"	"	
Dalapon	ND	30.0	"	"	"	"	"	"	
DCPA diacid	ND	5.00	"	"	"	"	"	"	
Dicamba	ND	5.00	"	"	"	"	"	"	
Dichloroprop	ND	5.00	"	"	"	"	"	"	
Dinoseb	ND	5.00	"	"	"	"	"	"	
Pentachlorophenol	ND	5.00	"	"	"	"	"	"	
Picloram	ND	5.00	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*51.6 %*	*35-150*		"	"	"	"	

SunStar Laboratories, Inc.

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Jeff Lee, Project Manager

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949.297.5027 Fax

Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

COMP: C2A, C2B, C2C

T190237-23 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	5.0	ug/kg	1	9013035	01/30/19	02/04/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*94.1 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*104 %*		*35-140*	"	"	"	"	
Chlorinated Herbicides by EPA Method 8151A									
2,4,5-T	ND	5.00	ug/kg	1	9013036	01/30/19	02/04/19	8151	
2,4,5-TP (Silvex)	ND	5.00	"	"	"	"	"	"	
2,4-D	ND	5.00	"	"	"	"	"	"	
2,4-DB	ND	5.00	"	"	"	"	"	"	
3,5-Dichlorobenzoic acid	ND	5.00	"	"	"	"	"	"	
4-Nitrophenol	ND	5.00	"	"	"	"	"	"	
Acifluorfen	ND	5.00	"	"	"	"	"	"	

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

COMP: C2A, C2B, C2C

T190237-23 (Soil)

SunStar Laboratories, Inc.

Chlorinated Herbicides by EPA Method 8151A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bentazon	ND	5.00	ug/kg	1	9013036	01/30/19	02/04/19	8151	
Chloramben	ND	5.00	"	"	"	"	"	"	
Dalapon	ND	30.0	"	"	"	"	"	"	
DCPA diacid	ND	5.00	"	"	"	"	"	"	
Dicamba	ND	5.00	"	"	"	"	"	"	
Dichloroprop	ND	5.00	"	"	"	"	"	"	
Dinoseb	ND	5.00	"	"	"	"	"	"	
Pentachlorophenol	ND	5.00	"	"	"	"	"	"	
Picloram	ND	5.00	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*80.6 %*	*35-150*		"	"	"	"	

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

COMP: C3A, C3B, C3C

T190237-24 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	5.0	ug/kg	1	9013035	01/30/19	02/04/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*96.3 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*101 %*	*35-140*		"	"	"	"	
Chlorinated Herbicides by EPA Method 8151A									
2,4,5-T	ND	5.00	ug/kg	1	9020118	02/01/19	02/05/19	8151	
2,4,5-TP (Silvex)	ND	5.00	"	"	"	"	"	"	
2,4-D	ND	5.00	"	"	"	"	"	"	
2,4-DB	ND	5.00	"	"	"	"	"	"	
3,5-Dichlorobenzoic acid	ND	5.00	"	"	"	"	"	"	
4-Nitrophenol	ND	5.00	"	"	"	"	"	"	
Acifluorfen	ND	5.00	"	"	"	"	"	"	

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Jeff Lee, Project Manager

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

COMP: C3A, C3B, C3C

T190237-24 (Soil)

SunStar Laboratories, Inc.

Chlorinated Herbicides by EPA Method 8151A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bentazon	ND	5.00	ug/kg	1	9020118	02/01/19	02/05/19	8151	
Chloramben	ND	5.00	"	"	"	"	"	"	
Dalapon	ND	30.0	"	"	"	"	"	"	
DCPA diacid	ND	5.00	"	"	"	"	"	"	
Dicamba	ND	5.00	"	"	"	"	"	"	
Dichloroprop	ND	5.00	"	"	"	"	"	"	
Dinoseb	ND	5.00	"	"	"	"	"	"	
Pentachlorophenol	ND	5.00	"	"	"	"	"	"	
Picloram	ND	5.00	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*38.8 %*	*35-150*		"	"	"	"	

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

COMP: C4A, C4B, C4C, C4D

T190237-25 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	5.0	ug/kg	1	9013035	01/30/19	02/04/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*105 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*112 %*	*35-140*		"	"	"	"	
Chlorinated Herbicides by EPA Method 8151A									
2,4,5-T	ND	5.00	ug/kg	1	9013036	01/30/19	02/04/19	8151	
2,4,5-TP (Silvex)	ND	5.00	"	"	"	"	"	"	
2,4-D	ND	5.00	"	"	"	"	"	"	
2,4-DB	ND	5.00	"	"	"	"	"	"	
3,5-Dichlorobenzoic acid	ND	5.00	"	"	"	"	"	"	
4-Nitrophenol	ND	5.00	"	"	"	"	"	"	
Acifluorfen	ND	5.00	"	"	"	"	"	"	

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

COMP: C4A, C4B, C4C, C4D

T190237-25 (Soil)

SunStar Laboratories, Inc.

Chlorinated Herbicides by EPA Method 8151A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bentazon	ND	5.00	ug/kg	1	9013036	01/30/19	02/04/19	8151	
Chloramben	ND	5.00	"	"	"	"	"	"	
Dalapon	ND	30.0	"	"	"	"	"	"	
DCPA diacid	ND	5.00	"	"	"	"	"	"	
Dicamba	ND	5.00	"	"	"	"	"	"	
Dichloroprop	ND	5.00	"	"	"	"	"	"	
Dinoseb	ND	5.00	"	"	"	"	"	"	
Pentachlorophenol	ND	5.00	"	"	"	"	"	"	
Picloram	ND	5.00	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*75.5 %*	*35-150*		"	"	"	"	

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

COMP: C5A, C5B, C5C, C5D

T190237-26 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	5.0	ug/kg	1	9013035	01/30/19	02/04/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*102 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*108 %*	*35-140*		"	"	"	"	
Chlorinated Herbicides by EPA Method 8151A									
2,4,5-T	ND	5.00	ug/kg	1	9013036	01/30/19	02/04/19	8151	
2,4,5-TP (Silvex)	ND	5.00	"	"	"	"	"	"	
2,4-D	ND	5.00	"	"	"	"	"	"	
2,4-DB	ND	5.00	"	"	"	"	"	"	
3,5-Dichlorobenzoic acid	ND	5.00	"	"	"	"	"	"	
4-Nitrophenol	ND	5.00	"	"	"	"	"	"	
Acifluorfen	ND	5.00	"	"	"	"	"	"	

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

COMP: C5A, C5B, C5C, C5D

T190237-26 (Soil)

SunStar Laboratories, Inc.

Chlorinated Herbicides by EPA Method 8151A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bentazon	ND	5.00	ug/kg	1	9013036	01/30/19	02/04/19	8151	
Chloramben	ND	5.00	"	"	"	"	"	"	
Dalapon	ND	30.0	"	"	"	"	"	"	
DCPA diacid	ND	5.00	"	"	"	"	"	"	
Dicamba	ND	5.00	"	"	"	"	"	"	
Dichloroprop	ND	5.00	"	"	"	"	"	"	
Dinoseb	ND	5.00	"	"	"	"	"	"	
Pentachlorophenol	ND	5.00	"	"	"	"	"	"	
Picloram	ND	5.00	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*56.7 %*	*35-150*		"	"	"	"	

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

COMP: C6A, C6B, C6C, C6D

T190237-27 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	5.0	ug/kg	1	9013035	01/30/19	02/04/19	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endrin	ND	5.0	"	"	"	"	"	"	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	5.0	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*103 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*95.7 %*	*35-140*		"	"	"	"	
Chlorinated Herbicides by EPA Method 8151A									
2,4,5-T	ND	5.00	ug/kg	1	9013036	01/30/19	02/04/19	8151	
2,4,5-TP (Silvex)	ND	5.00	"	"	"	"	"	"	
2,4-D	ND	5.00	"	"	"	"	"	"	
2,4-DB	ND	5.00	"	"	"	"	"	"	
3,5-Dichlorobenzoic acid	ND	5.00	"	"	"	"	"	"	
4-Nitrophenol	ND	5.00	"	"	"	"	"	"	
Acifluorfen	ND	5.00	"	"	"	"	"	"	

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Jeff Lee, Project Manager

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

COMP: C6A, C6B, C6C, C6D

T190237-27 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chlorinated Herbicides by EPA Method 8151A									
Bentazon	ND	5.00	ug/kg	1	9013036	01/30/19	02/04/19	8151	
Chloramben	ND	5.00	"	"	"	"	"	"	
Dalapon	ND	30.0	"	"	"	"	"	"	
DCPA diacid	ND	5.00	"	"	"	"	"	"	
Dicamba	ND	5.00	"	"	"	"	"	"	
Dichloroprop	ND	5.00	"	"	"	"	"	"	
Dinoseb	ND	5.00	"	"	"	"	"	"	
Pentachlorophenol	ND	5.00	"	"	"	"	"	"	
Picloram	ND	5.00	"	"	"	"	"	"	
Surrogate: 2,4-DCAA		*65.9 %*	*35-150*		"	"	"	"	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9013046 - EPA 3050B										
Blank (9013046-BLK1)				Prepared & Analyzed: 01/30/19						
Arsenic	ND	5.0	mg/kg							
LCS (9013046-BS1)				Prepared & Analyzed: 01/30/19						
Arsenic	104	5.0	mg/kg	100		104	75-125			
Matrix Spike (9013046-MS1)	**Source: T190230-01**			Prepared & Analyzed: 01/30/19						
Arsenic	99.2	5.0	mg/kg	98.0	4.79	96.3	75-125			
Matrix Spike Dup (9013046-MSD1)	**Source: T190230-01**			Prepared & Analyzed: 01/30/19						
Arsenic	98.1	5.0	mg/kg	99.0	4.79	94.2	75-125	1.18	20	

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
949.297.5020 Phone
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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9013035 - EPA 3550 ECD/GCMS										
Blank (9013035-BLK1)				Prepared: 01/30/19 Analyzed: 02/04/19						
alpha-BHC	ND	5.0	ug/kg							
gamma-BHC (Lindane)	ND	5.0	"							
beta-BHC	ND	5.0	"							
delta-BHC	ND	5.0	"							
Heptachlor	ND	5.0	"							
Aldrin	ND	5.0	"							
Heptachlor epoxide	ND	5.0	"							
gamma-Chlordane	ND	5.0	"							
alpha-Chlordane	ND	5.0	"							
Endosulfan I	ND	5.0	"							
4,4´-DDE	ND	5.0	"							
Dieldrin	ND	5.0	"							
Endrin	ND	5.0	"							
4,4´-DDD	ND	5.0	"							
Endosulfan II	ND	5.0	"							
4,4´-DDT	ND	5.0	"							
Endrin aldehyde	ND	5.0	"							
Endosulfan sulfate	ND	5.0	"							
Methoxychlor	ND	5.0	"							
Endrin ketone	ND	5.0	"							
Toxaphene	ND	20	"							
Surrogate: Tetrachloro-meta-xylene	*9.98*		*"*	*10.0*		*99.8*	*35-140*			
Surrogate: Decachlorobiphenyl	*10.8*		*"*	*10.0*		*108*	*35-140*			
LCS (9013035-BS1)				Prepared: 01/30/19 Analyzed: 02/04/19						
gamma-BHC (Lindane)	29.4	5.0	ug/kg	40.4		72.9	40-120			
Heptachlor	30.0	5.0	"	40.4		74.2	40-120			
Aldrin	27.4	5.0	"	40.4		67.8	40-120			
Dieldrin	29.1	5.0	"	40.4		72.1	40-120			
Endrin	28.6	5.0	"	40.4		70.7	40-120			
4,4´-DDT	27.2	5.0	"	40.4		67.4	33-147			
Surrogate: Tetrachloro-meta-xylene	*9.71*		*"*	*10.1*		*96.2*	*35-140*			
Surrogate: Decachlorobiphenyl	*11.1*		*"*	*10.1*		*110*	*35-140*			

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9013035 - EPA 3550 ECD/GCMS										
Matrix Spike (9013035-MS1)	**Source: T190237-22**			Prepared: 01/30/19 Analyzed: 02/04/19						
gamma-BHC (Lindane)	28.7	5.0	ug/kg	39.6	ND	72.6	30-120			
Heptachlor	29.1	5.0	"	39.6	ND	73.4	30-120			
Aldrin	27.2	5.0	"	39.6	ND	68.7	30-120			
Dieldrin	30.0	5.0	"	39.6	ND	75.7	30-120			
Endrin	28.9	5.0	"	39.6	ND	72.9	30-120			
4,4′-DDT	36.1	5.0	"	39.6	ND	91.2	30-120			
Surrogate: Tetrachloro-meta-xylene	*9.51*		*"*	*9.90*		*96.0*	*35-140*			
Surrogate: Decachlorobiphenyl	*10.6*		*"*	*9.90*		*107*	*35-140*			
Matrix Spike Dup (9013035-MSD1)	**Source: T190237-22**			Prepared: 01/30/19 Analyzed: 02/04/19						
gamma-BHC (Lindane)	28.2	5.0	ug/kg	39.2	ND	71.9	30-120	0.972	30	
Heptachlor	28.7	5.0	"	39.2	ND	73.3	30-120	0.139	30	
Aldrin	26.5	5.0	"	39.2	ND	67.5	30-120	1.84	30	
Dieldrin	29.1	5.0	"	39.2	ND	74.3	30-120	1.84	30	
Endrin	28.5	5.0	"	39.2	ND	72.7	30-120	0.177	30	
4,4′-DDT	35.1	5.0	"	39.2	ND	89.6	30-120	1.77	30	
Surrogate: Tetrachloro-meta-xylene	*9.77*		*"*	*9.80*		*99.6*	*35-140*			
Surrogate: Decachlorobiphenyl	*9.97*		*"*	*9.80*		*102*	*35-140*			

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

Chlorinated Herbicides by EPA Method 8151A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9013036 - 8151 Prep										
Blank (9013036-BLK1)				Prepared: 01/30/19 Analyzed: 02/04/19						
2,4,5-T	ND	5.00	ug/kg							
2,4,5-TP (Silvex)	ND	5.00	"							
2,4-D	ND	5.00	"							
2,4-DB	ND	5.00	"							
3,5-Dichlorobenzoic acid	ND	5.00	"							
4-Nitrophenol	ND	5.00	"							
Acifluorfen	ND	5.00	"							
Bentazon	ND	5.00	"							
Chloramben	ND	5.00	"							
Dalapon	ND	30.0	"							
DCPA diacid	ND	5.00	"							
Dicamba	ND	5.00	"							
Dichloroprop	ND	5.00	"							
Dinoseb	ND	5.00	"							
Pentachlorophenol	ND	5.00	"							
Picloram	ND	5.00	"							
Surrogate: 2,4-DCAA	*291*		*"*	*399*		*73.0*	*35-150*			
LCS (9013036-BS1)				Prepared: 01/30/19 Analyzed: 02/04/19						
2,4,5-T	63.1	5.00	ug/kg	98.8		63.8	20-150			
2,4,5-TP (Silvex)	90.0	5.00	"	99.0		90.9	20-150			
2,4-D	96.6	5.00	"	99.0		97.6	20-150			
Surrogate: 2,4-DCAA	*336*		*"*	*396*		*84.9*	*35-150*			
LCS Dup (9013036-BSD1)				Prepared: 01/30/19 Analyzed: 02/04/19						
2,4,5-T	66.1	5.00	ug/kg	99.4		66.5	20-150	4.66	30	
2,4,5-TP (Silvex)	89.3	5.00	"	99.6		89.7	20-150	0.792	30	
2,4-D	94.1	5.00	"	99.6		94.5	20-150	2.63	30	
Surrogate: 2,4-DCAA	*292*		*"*	*398*		*73.3*	*35-150*			

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

Chlorinated Herbicides by EPA Method 8151A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9020118 - 8151 Prep										
Blank (9020118-BLK1)				Prepared: 02/01/19 Analyzed: 02/05/19						
2,4,5-T	ND	5.00	ug/kg							
2,4,5-TP (Silvex)	ND	5.00	"							
2,4-D	ND	5.00	"							
2,4-DB	ND	5.00	"							
3,5-Dichlorobenzoic acid	ND	5.00	"							
4-Nitrophenol	ND	5.00	"							
Acifluorfen	ND	5.00	"							
Bentazon	ND	5.00	"							
Chloramben	ND	5.00	"							
Dalapon	ND	30.0	"							
DCPA diacid	ND	5.00	"							
Dicamba	ND	5.00	"							
Dichloroprop	ND	5.00	"							
Dinoseb	ND	5.00	"							
Pentachlorophenol	ND	5.00	"							
Picloram	ND	5.00	"							
Surrogate: 2,4-DCAA	*303*		*"*	*394*		*77.0*	*35-150*			
LCS (9020118-BS1)				Prepared: 02/01/19 Analyzed: 02/04/19						
2,4,5-T	81.3	5.00	ug/kg	98.6		82.5	20-150			
2,4,5-TP (Silvex)	91.4	5.00	"	98.8		92.5	20-150			
2,4-D	98.4	5.00	"	98.8		99.6	20-150			
Surrogate: 2,4-DCAA	*304*		*"*	*395*		*76.8*	*35-150*			
LCS Dup (9020118-BSD1)				Prepared: 02/01/19 Analyzed: 02/04/19						
2,4,5-T	79.0	5.00	ug/kg	99.8		79.1	20-150	2.98	30	
2,4,5-TP (Silvex)	103	5.00	"	100		103	20-150	11.5	30	
2,4-D	104	5.00	"	100		104	20-150	5.11	30	
Surrogate: 2,4-DCAA	*317*		*"*	*400*		*79.2*	*35-150*			

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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Krazan, Clovis	Project: EAH Greenfield	
215 West Dakota Avenue	Project Number: 034-18104	**Reported:**
Clovis CA, 93612	Project Manager: Mike Bowery	02/06/19 14:22

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.

Jeff Lee, Project Manager

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Krazan & Associates, Inc. 215 W. Dakota Avenue, Clovis, CA 93612, (559) 348-2200, FAX (559) 348-2190

CHAIN-OF-CUSTODY RECORD

DATE: 01/29/19 **Lab ID:** T190287

Client:	Krazan & Associates, Inc.
Address:	215 West Dakota Avenue Clovis, CA 93612
Sampled By:	Michael Bowery
Phone:	(559) 348-2200
FAX:	(559) 348-2201
Project Manager:	Michael Bowery
Project Job:	034-18104 EAH Greenfield

	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	REQUESTED ANALYSIS: Organochlorine Pesticides	Chlorinated Herbicides	Arsenic
1	C1A 01	1/29/19	9:53	Soil	1	Sleeve	x	x	x
2	C1B 02	1/29/19	9:57	Soil	1	Sleeve			
3	C1C 03	1/29/19	9:58	Soil	1	Sleeve			
4	C2A 04	1/29/19	10:08	Soil	1	Sleeve	x	x	x
5	C2B 05	1/29/19	10:11	Soil	1	Sleeve			
6	C2C 06	1/29/19	10:13	Soil	1	Sleeve			
7	C3A 07	1/29/19	10:18	Soil	1	Sleeve	x	x	x
8	C3B 08	1/29/19	10:21	Soil	1	Sleeve			
9	C3C 09	1/29/19	10:23	Soil	1	Sleeve			
10	C4A 10	1/29/19	10:35	Soil	1	Sleeve	x	x	

Correct Containers:	Yes	No	
Sample Temperature:	Ambient	Cold	Warm
Sample Preservative:	~~Yes~~	No	
Turnaround Time:	(Standard)	Specify:	

Comments:

Composite samples C1A, 1B, 1C into 1 sample for analysis 4.5

for OCPs and CHs; do the sample and composite samples C2, C3, C4, C5, and C6 (total 6 samples

for analysis); analyze 6 discrete samples as indicated for arsenic.

RELINQUISHED BY		RECEIVED BY	
Signature:	[signature]	Signature:	
Print:	Michael H. Bowery	Print:	
Company:	Krazan & Associates	Company:	
Date:	01/29/19 Time 3:20	Date:	Time:
Signature:		Signature:	[signature]
Print:		Print:	Sunny
Company:	FedEx	Company:	Sun Star
Date:	1-30-19 Time: 9:50	Date:	1-30-19 Time: 9:50
Signature:		Signature:	
Print:		Print:	
Company:		Company:	
Date:	Time:	Date:	Time:

Krazan & Associates, Inc. 215 W. Dakota Avenue, Clovis, CA 93612, (559) 348-2200, FAX (559) 348-2190

CHAIN-OF-CUSTODY RECORD

DATE: 01/29/19 **Lab ID:** 1190237

Client:	Krazan & Associates, Inc.
Address:	215 West Dakota Avenue Clovis, CA 93612
Sampled By:	Michael Bowery
Phone:	(559) 348-2200
FAX:	(559) 348-2201
Project Manager:	Michael Bowery
Project Job:	034-18104 EAH Greenfield

REQUESTED ANALYSIS

	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Organochlorine Pesticides	Chlorinated Herbicides	Arsenic										
1	C4B 11	1/29/19	10:36	Soil	1	Sleeve			x										
2	C4C 12	1/29/19	10:39	Soil	1	Sleeve													
3	C4D 13	1/29/19	10:41	Soil	1	Sleeve													
4	C5A 14	1/29/19	10:47	Soil	1	Sleeve	x	x											
5	C5B 15	1/29/19	10:49	Soil	1	Sleeve			x										
6	C5C 16	1/29/19	10:51	Soil	1	Sleeve													
7	C5D 17	1/29/19	10:53	Soil	1	Sleeve													
8	C6A 18	1/29/19	11:03	Soil	1	Sleeve	x	x											
9	C6B 19	1/29/19	11:04	Soil	1	Sleeve			x										
10	C6C 20	1/29/19	11:09	Soil	1	Sleeve													

Correct Containers:	Yes	No		
Sample Temperature:	Ambient	Cold	Warm	
Sample Preservative:	Yes	No		
Turnaround Time:	Standard	Specify:		

Comments:

Composite samples C1A, 1B, 1C into 1 sample for analysis

for OCPs and CHs; do the sample and composite samples C2, C3, C4, C5, and C6 (total 6 samples for analysis); analyze 6 discrete samples as indicated for arsenic.

RELINQUISHED BY		RECEIVED BY	
Signature:		Signature:	
Print:	Michael H. Bowery	Print:	
Company:	Krazan & Associates	Company:	
Date:	01/29/19 Time 3:30	Date:	Time:
Signature:		Signature:	
Print:		Print:	Sunny
Company:	FedEx	Company:	Sun Star
Date:	1-30-19 Time: 9:50	Date:	1/30/19 Time: 9:50
Signature:		Signature:	
Print:		Print:	
Company:		Company:	
Date:	Time:	Date:	Time:

Krazan & Associates, Inc. 215 W. Dakota Avenue, Clovis, CA 93612, (559) 348-2200, FAX (559) 348-2190

CHAIN-OF-CUSTODY RECORD

DATE: 01/29/19 **Lab ID:** T190237

Client:	Krazan & Associates, Inc.
Address:	215 West Dakota Avenue Clovis, CA 93612
Sampled By:	Michael Bowery
Phone:	(559) 348-2200
FAX:	(559) 348-2201
Project Manager:	Michael Bowery
Project Job:	034-18104 EAH Greenfield

REQUESTED ANALYSIS

	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container #	Container Type	Organochlorine Pesticides	Chlorinated Herbicides	Arsenic
1	C6D 21	1/29/19	11:11	Soil	1	Sleeve			
2									
3									
4									
5									
6									
7									
8									
9									
10									

Correct Containers:	Yes	No		
Sample Temperature:	Ambient	Cold	Warm	
Sample Preservative:	~~Yes~~	No		
Turnaround Time:	(Standard)	Specify:		

Comments:

Composite samples C1A, 1B, 1C into 1 sample for analysis

for OCPs and CHs; do the sample and composite samples C2, C3, C4, C5, and C6 (total 6 samples

for analysis); analyze 6 discrete samples as indicated for arsenic.

RELINQUISHED BY		RECEIVED BY	
Signature:		Signature:	
Print:	Michael H. Bowery	Print:	
Company:	Krazan & Associates	Company:	
Date:	01/29/19 Time 3:30	Date:	Time:
Signature:		Signature:	
Print:		Print:	Sunny
Company:	Fed Ex	Company:	Sun Star
Date:	1-30-19 Time: 9:50	Date:	1-30-19 Time: 9:50
Signature:		Signature:	
Print:		Print:	
Company:		Company:	
Date:	Time:	Date:	Time:

SunStar Laboratories — Celebrating 20 Years!

SAMPLE RECEIVING REVIEW SHEET

Batch/Work Order #: T190237

Client Name: KRAZAN Project: EAH GREENFIELD

Delivered by: ☐ Client ☐ SunStar Courier ☐ GSO ☒ FedEx ☐ Other

If Courier, Received by: Date/Time Courier Received:

Lab Received by: SUNNY Date/Time Lab Received: 1:30.19 / 9:50

Total number of coolers received: 1

Temperature: Cooler #1 3.3	°C +/- the CF (1.2°C) = 4.5	°C corrected temperature	
Temperature: Cooler #2	°C +/- the CF (1.2°C) =	°C corrected temperature	
Temperature: Cooler #3	°C +/- the CF (1.2°C) =	°C corrected temperature	
Temperature criteria = ≤ 6°C (no frozen containers)	Within criteria?	☒ **Yes** ☐ **No**	
If NO:			
Samples received on ice?	☐ Yes	☐ **No → Complete Non-Conformance Sheet**	
If on ice, samples received same day collected?	☐ Yes → Acceptable	☐ **No → Complete Non-Conformance Sheet**	

Custody seals intact on cooler/sample	☐ Yes	☐ No*	☒ N/A
Sample containers intact	☒ Yes	☐ No*	
Sample labels match Chain of Custody IDs	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☐ Yes	☐ No*	☒ N/A
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times	☒ **Yes**	☐ **No***	

* Complete Non-Conformance Receiving Sheet if checked

Cooler/Sample Review - Initials and date: SG 1:30.19

Comments:

(949) 297-5020 ■ www.sunstarlabs.com ■ 25712 Commercentre Drive ■ Lake Forest, CA 92630

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T190237

Client:	**Krazan, Clovis**	**Project Manager:**	**Jeff Lee**
Project:	**EAH Greenfield**	**Project Number:**	**034-18104**

Report To:
Krazan, Clovis
Mike Bowery
215 West Dakota Avenue
Clovis, CA 93612

Date Due:	02/06/19 17:00 (5 day TAT)		
Received By:	Sunny Lounethone	Date Received:	01/30/19 09:50
Logged In By:	Sunny Lounethone	Date Logged In:	01/30/19 10:37

Samples Received at:	**4.5°C**		
Custody Seals	No	Received On Ice	Yes
Containers Intact	Yes		
COC/Labels Agree	Yes		
Preservation Confirm	No		

Analysis	Due	TAT	Expires	Comments
T190237-01 C1A [Soil] Sampled 01/29/19 09:53 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	02/06/19 15:00	5	07/28/19 09:53	Arsenic only
T190237-02 C1B [Soil] Sampled 01/29/19 09:57 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T190237-03 C1C [Soil] Sampled 01/29/19 09:58 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T190237-04 C2A [Soil] Sampled 01/29/19 10:08 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	02/06/19 15:00	5	07/28/19 10:08	Arsenic only
T190237-05 C2B [Soil] Sampled 01/29/19 10:11 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T190237-06 C2C [Soil] Sampled 01/29/19 10:13 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T190237-07 C3A [Soil] Sampled 01/29/19 10:18 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	02/06/19 15:00	5	07/28/19 10:18	Arsenic only

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T190237

Client:	**Krazan, Clovis**	**Project Manager:**	**Jeff Lee**
Project:	**EAH Greenfield**	**Project Number:**	**034-18104**

Analysis	Due	TAT	Expires	Comments
T190237-08 C3B [Soil] Sampled 01/29/19 10:21 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T190237-09 C3C [Soil] Sampled 01/29/19 10:23 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T190237-10 C4A [Soil] Sampled 01/29/19 10:35 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T190237-11 C4B [Soil] Sampled 01/29/19 10:36 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	02/06/19 15:00	5	07/28/19 10:36	Arsenic only
T190237-12 C4C [Soil] Sampled 01/29/19 10:39 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T190237-13 C4D [Soil] Sampled 01/29/19 10:41 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T190237-14 C5A [Soil] Sampled 01/29/19 10:47 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T190237-15 C5B [Soil] Sampled 01/29/19 10:49 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	02/06/19 15:00	5	07/28/19 10:49	Arsenic only
T190237-16 C5C [Soil] Sampled 01/29/19 10:51 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T190237-17 C5D [Soil] Sampled 01/29/19 10:53 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T190237-18 C6A [Soil] Sampled 01/29/19 11:03 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T190237

Client: Krazan, Clovis
Project: EAH Greenfield
Project Manager: Jeff Lee
Project Number: 034-18104

Analysis	Due	TAT	Expires	Comments
T190237-19 C6B [Soil] Sampled 01/29/19 11:04 (GMT-08:00) Pacific Time (US &				
6010 Individual Metals	02/06/19 15:00	5	07/28/19 11:04	Arsenic only
T190237-20 C6C [Soil] Sampled 01/29/19 11:09 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T190237-21 C6D [Soil] Sampled 01/29/19 11:11 (GMT-08:00) Pacific Time (US &				
[NO ANALYSES]				
T190237-22 COMP: C1A, C1B, C1C [Soil] Sampled 01/29/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 3:1**
8081 Pesticides	02/06/19 15:00	5	02/12/19 00:00	
8151 Herbicides	02/06/19 15:00	5	02/12/19 00:00	
T190237-23 COMP: C2A, C2B, C2C [Soil] Sampled 01/29/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 3:1**
8081 Pesticides	02/06/19 15:00	5	02/12/19 00:00	
8151 Herbicides	02/06/19 15:00	5	02/12/19 00:00	
T190237-24 COMP: C3A, C3B, C3C [Soil] Sampled 01/29/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 3:1**
8081 Pesticides	02/06/19 15:00	5	02/12/19 00:00	
8151 Herbicides	02/06/19 15:00	5	02/12/19 00:00	
T190237-25 COMP: C4A, C4B, C4C, C4D [Soil] Sampled 01/29/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1**
8081 Pesticides	02/06/19 15:00	5	02/12/19 00:00	
8151 Herbicides	02/06/19 15:00	5	02/12/19 00:00	
T190237-26 COMP: C5A, C5B, C5C, C5D [Soil] Sampled 01/29/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1**
8081 Pesticides	02/06/19 15:00	5	02/12/19 00:00	
8151 Herbicides	02/06/19 15:00	5	02/12/19 00:00	
T190237-27 COMP: C6A, C6B, C6C, C6D [Soil] Sampled 01/29/19 00:00 (GMT-08:00) Pacific Time (US &				**COMPOSITE 4:1**
8081 Pesticides	02/06/19 15:00	5	02/12/19 00:00	
8151 Herbicides	02/06/19 15:00	5	02/12/19 00:00	

Reviewed By

Date

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

WORK ORDER

T190237

Client:	**Krazan, Clovis**	**Project Manager:**	**Jeff Lee**
Project:	**EAH Greenfield**	**Project Number:**	**034-18104**

Reviewed By

Date

Appendix B

SubSurface Surveys
& Associates, Inc.
An Applied Geophysical Company

2075 Corte Del Nogal, Suite W
Carlsbad, CA 92011

Office: (760) 476-0492
Fax: (760) 476-0493

February 5, 2019

Project/Invoice No. 19-038

Krazan & Associates, Inc.
215 West Dakota Avenue
Clovis, California 93612

Attn: Michael Bowery

Re: Geophysical Investigation Report, Agricultural Field, 41206 Walnut Ave, Greenfield, California

This report is to present the results of our geophysical survey carried out over portions of an agricultural field located at the approximate address of 41206 Walnut Avenue in Greenfield, California (Figure 1). The survey was performed on January 29, 2019, and its purpose was to detect and delineate, insofar as possible, underground fuel storage tanks (UST), septic tanks, debris pits, junk pipes, any other detectable subsurface anomalous object, as well as any active, modern utilities.

A combination of total-field magnetometry with an integrated differentially-corrected global positioning system (DGPS), ground penetrating radar (GPR), and two electromagnetic devices (EM) were applied to the search and follow-up confirmation. Utility locators with line tracing capabilities were also used where applicable.

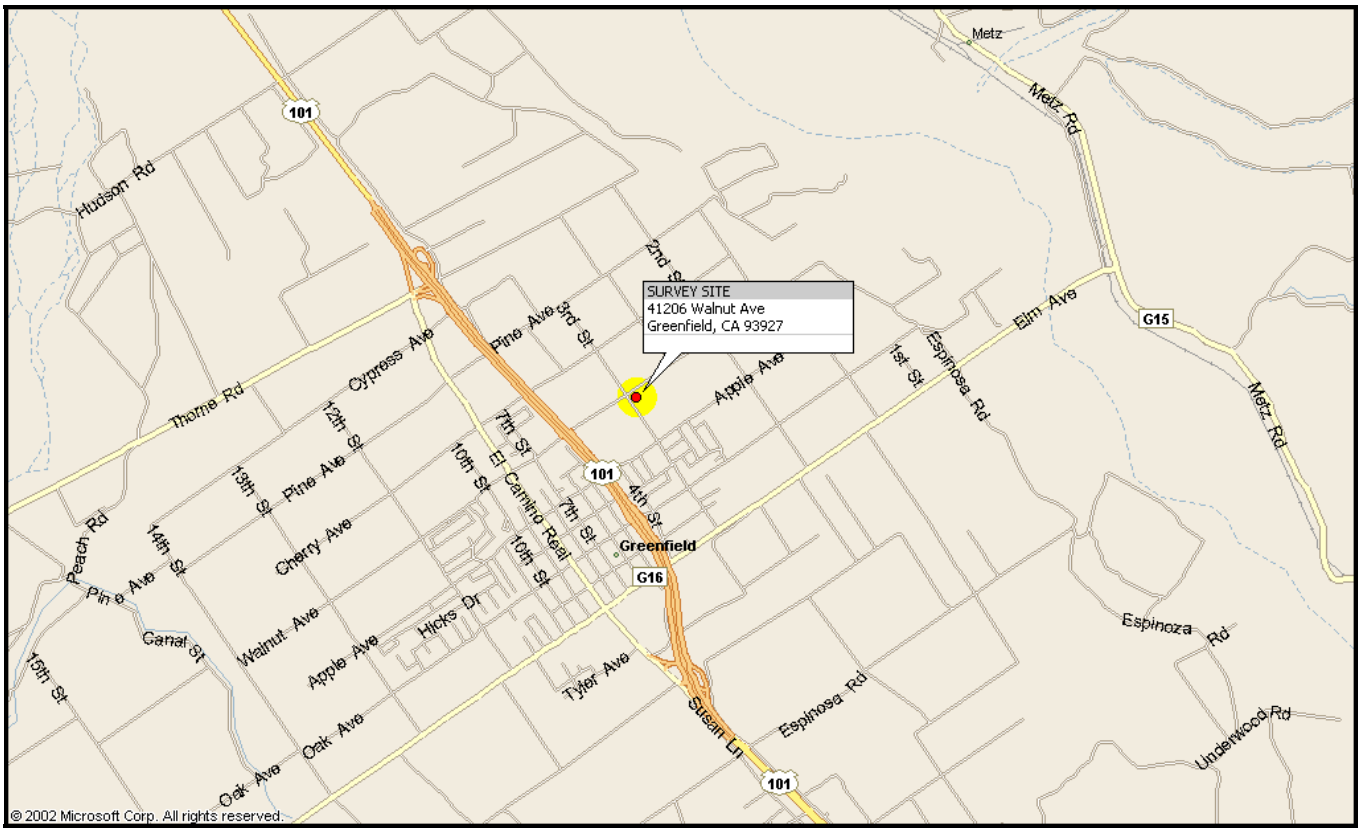


FIGURE 1. Site location map.

Survey Design – The designated survey area measured approximately 1.5 acres and was located on the east corner of the intersection of Walnut Avenue and 3rd Street. The area actually investigated was slightly larger and ultimately measured 360 x 120 feet, as shown in Figure 2.

Within this designated area all initial surveying was performed with a cesium vapor-type total-field magnetometer with integrated DGPS positioning system. Note that this instrument can take instantaneous readings and does not require its sensor to be stationary or preferentially oriented. This unit was configured to auto-record a magnetic reading every 0.5 seconds while simultaneously recording the sensor's global position. The unit's operator then continuously and methodically walked all portions of the designated survey area so as to insure that a reading was taken at a maximum of five feet in any direction. All data was later downloaded and contoured into map format in order to determine where within the field any anomalous objects might be located.

Follow-up surveying for confirmation was achieved by systematically free-traversing with the supplemental instruments while simply monitoring them manually, continuously, and in real-time to determine which responses were significant and due to true subsurface targets, and which were likely due to other non-target or above-ground features and should be ignored (examples being false anomalies from nearby metal fence posts). In these situations, the free-traversing method for follow-up work is highly advantageous in that it allows for the best chance of immediate re-detection of true anomalous objects, despite possible interferences, and facilitates the opportunity to immediately investigate them further in a strategic, methodical manner. In this manner, several metal-detecting EM devices and GPR were traversed systematically over areas for detailing and confirmation in areas where the total-field magnetometer suggested possible anomalies.

In addition, the line tracers were used to impress signals onto pipes, generally through accessible risers and tracer wires when present, to delineate the lines' locations and orientations. The instruments were also used in passive mode, configured to detect 60 Hz electrical signals and other common radio-frequency signals found in active electrical and communication lines.

Gridded magnetic surveying was conducted with a GEM Systems GSM-19W with its own internal GPS receiver with WAAS-provided differential corrections. Follow-up EM free-traversing was performed with a Geonics EM61MK2 Handheld and Fisher TW-6 M-Scope. Follow-up GPR free-traversing was performed with a Sensors & Software Noggin Ground Penetrating Radar unit with a 250 MHz antenna. A Metrotech 9890 and RIDGID SR-60 SeekTech utility locators rounded out the tools applied.

Brief Description of the Geophysical Methods Applied – Standard magnetic surveying employs a small, portable magnetometer to measure changes in the Earth's total magnetic field intensity, and can detect variations as minute as 0.1 nanoTeslas (nT). Non-native buried ferrous objects will distort the Earth's magnetic field immediately around the object resulting in sudden spatial variations that deviate suddenly and unexpectedly from the Earth's normal background levels; and the location of these sudden distortions generally correspond to the location of the anomalous object. Note that man-made metallic objects generally produce robust anomalies with amplitudes deviating up to 2000 nT above background and are thus relatively easy to locate with this geophysical method.

The EM61MK2 Handheld instrument is a high resolution, time-domain device for detecting buried conductive objects. It consists of a powerful transmitter that generates a pulsed primary magnetic field when its coils are energized, which induces eddy currents in nearby conductive objects. The decay of the

eddy currents, following the input pulse, is measured by the coils, which in turn serve as receiver coils. The decay rate is measured for two coils, mounted concentrically, one above the other. By making the measurements at a relatively long time interval (measured in milliseconds) after termination of the primary pulse, the response is nearly independent of the electrical conductivity of the ground. Thus, the instrument is a super-sensitive metal detector. Due to its unique coil arrangement, the response curve is a single well-defined positive peak directly over a buried conductive object. This facilitates quick and accurate location of targets up to 6 feet below ground level.

The M-Scope device energizes the ground by producing an alternating primary magnetic field with AC current in a transmitting coil. If conducting materials are within the area of influence of the primary field, AC eddy currents are induced to flow in the conductors. A receiving coil senses the secondary magnetic field produced by these eddy currents, and outputs the response as anomalous conditions. The strength of the secondary field is a function of the conductivity of the object; say a pipe, tank or cluster of drums, its size, and its depth and position relative to the instrument's two coils. Conductive objects, to a depth of approximately 7 feet below ground surface (bgs) for the M-Scope are sensed. The device is also somewhat focused; that is, it is more sensitive to conductors below the instrument than they are to conductors off to the side.

The GPR instrument beams energy into the ground from its transducer/antenna, in the form of electromagnetic waves. A portion of this energy is reflected back to the antenna at a boundary in the subsurface across which there is an electrical contrast. The instrument produces a continuous record of the reflected energy as the antenna is traversed across the ground surface. The greater the electrical contrast, the higher the amplitude of the returned energy. The radar wave travels at a velocity unique to the material properties of the ground being investigated, and when these velocities are known, the two-way travel times can be converted to depth. The depth of penetration and image resolution produced are a function of ground electrical conductivity and dielectric constant.

The line locator is used to passively detect energized high voltage electric lines and electrical conduit (50-60 Hz), VLF signals (14-22 kHz), as well as to actively trace other utilities. Where risers are present, the utility locator transmitter can be connected directly to the object, and a signal (9.8-82 kHz) is sent traveling along the conductor, pipe, conduit, etc. In the absence of a riser, the transmitter can be used to impress an input signal on the utility by induction. In either case, the receiver unit is tuned to the input signal, and is used to actively trace the signal along the pipe’s surface projection.

Interpretation and Conclusions – The interpretation took place both in real time as the survey progressed, and was later refined and finalized after careful review of all gridded magnetic data. These results are presented below with a site anomaly map with embedded magnetic contour data (Figure 2) and site photographs of the various detected items (Figures 3-4).

Detected items were painted out on site and are additionally highlighted in all accompanying graphics in coordinated colors including blue for water, green for storm drain, and orange for traffic signal conduit. Please review the site anomaly map and site photographs for the locations and orientations of all detected items.

No anomalies possibly indicative of large structural objects or items of significant debris were detected anywhere within the designated survey area. Since the site was open and free of most possible interferences to effective detection, our confidence that no such items are present here is relatively high.

Very small items of randomly scattered, shallow metal debris were detected in the locations shown in Figures 2. In each case, these items were determined to be insignificant and harmless, and likely represent such things as nuts and bolts, rusty metal shards, a small section or rebar, etc. Because of their innocuous nature, these items were not marked out but were instead ignored.

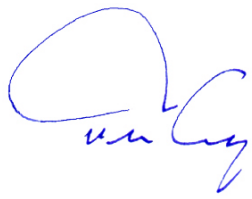
Along the periphery of the lot active water, traffic signal conduit, and storm drain were detected as shown in Figures 3 and 4. These items represent the only significant objects detected during the survey.

Limitations and Further Recommendations - It should be understood that limitations inherent in geophysical instruments and/or surveying techniques exist at all sites, and nearly all sites exhibit conditions under which such might not perform optimally. Consequently, the detection of buried objects in all circumstances **cannot be guaranteed**. Such limitations are numerous and include, but are not limited to, rebar-reinforced ground cover, abrupt changes in ground cover type, above-ground obstacles preventing full traverses or traverses in one direction only, above-ground conductive objects interfering with instrument signal, nearby powerlines or EM transmitters, highly conductive background soil conditions, limited GPR penetration, non-metallic targets, shallower or larger objects shielding deeper or smaller targets, tracing signal jumping from one line to another, and inaccessible risers, cleanouts, valve boxes, and manholes. If one or more geophysical instrument is rendered ineffective and cannot be utilized, the quality of the survey can be somewhat degraded.

SubSurface Surveys may include maps in some reports. While they are an accurate general representation of the site and our findings, they are not of engineering quality (i.e., measured and mapped by a licensed land surveyor).

SubSurface Surveys and Associates makes no guarantee either expressed or implied regarding the accuracy of the findings and interpretations present. And, in no event will SubSurface Surveys and Associates be liable for any direct, indirect, special, incidental, or consequential damages resulting from interpretations and opinions presented herewith.

All data generated on this project are in confidential file in this office, and are available for review by authorized persons at any time. The opportunity to participate in this investigation is very much appreciated. Please call, if there are questions.



Travis Crosby
California State Geophysics Registration GP1044
Senior Geophysicist, SubSurface Surveys

Sub Surface Surveys	SITE: **Agricultural Field** **41206 Walnut Avenue** **Greenfield, California**	TITLE: **Site Anomaly Map**	SURVEY DATE: **January 29, 2019**
		PREPARED FOR: **Krazan & Associates**	SSS PROJECT NO: **19-038**

LEGEND:

- Traffic Signal
- Storm Drain
- Water
- Conduit Vault
- Drain Grate
- Sign or Post
- Traffic Light
- Survey Boundaries
- Total-field Magnetic Contour Data
  Contour Range: 0-52,000 nT
  Countour Interval: 200 nT

SCALE
0 60ft

FIGURE 2

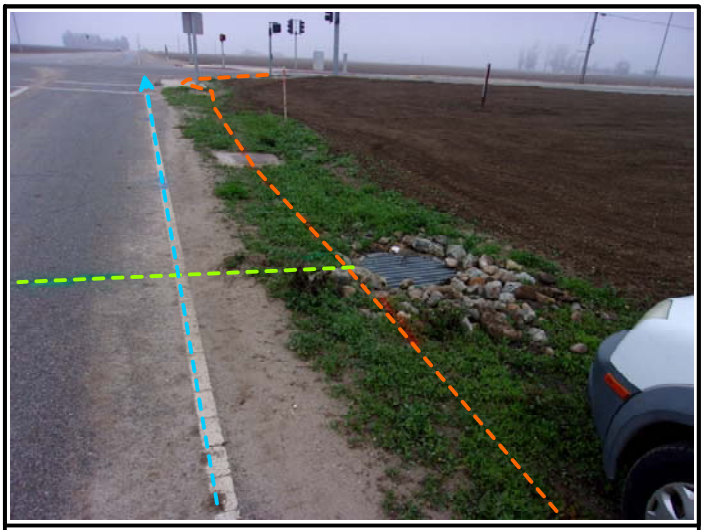
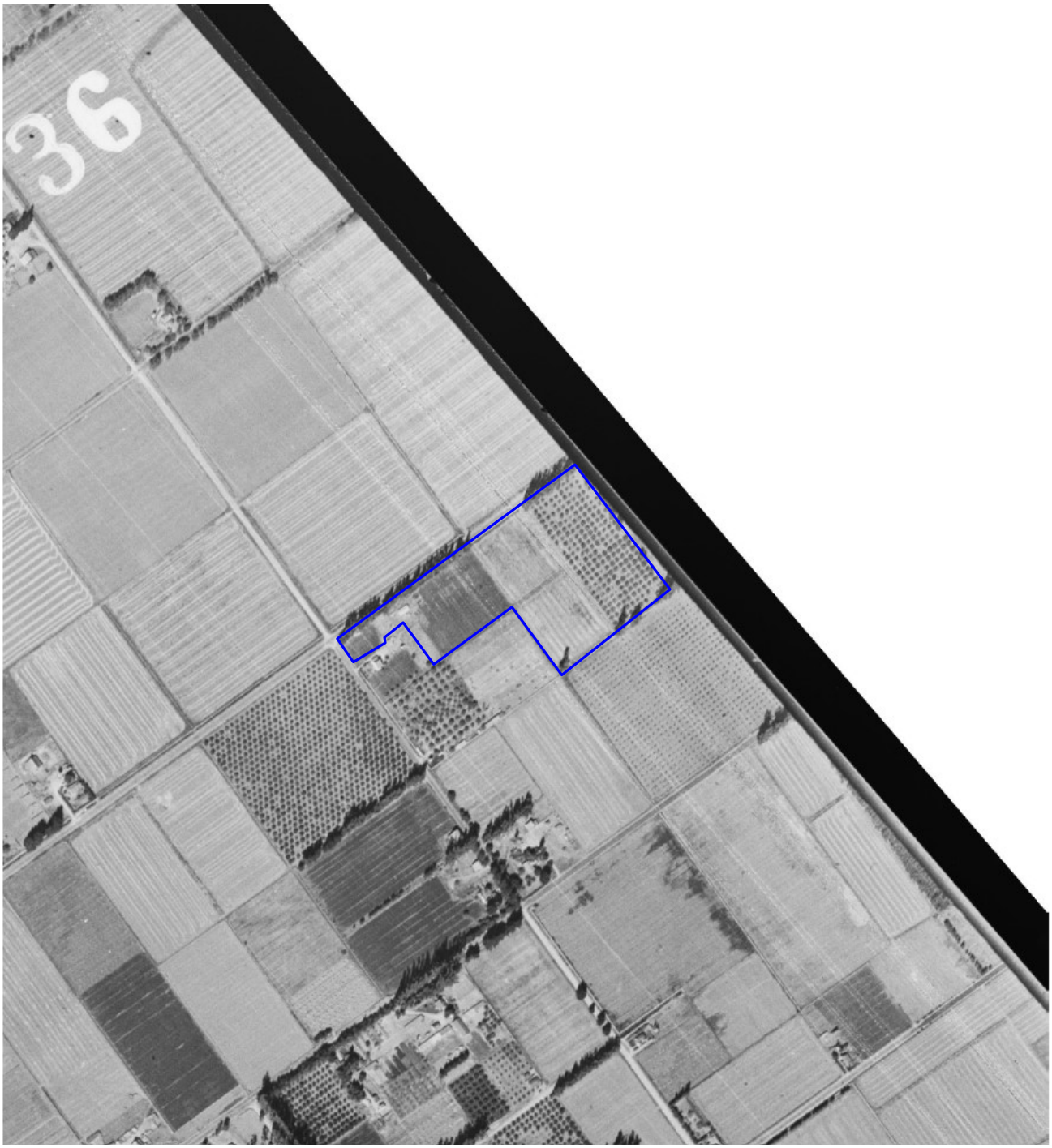


Figure 3

Figure 4

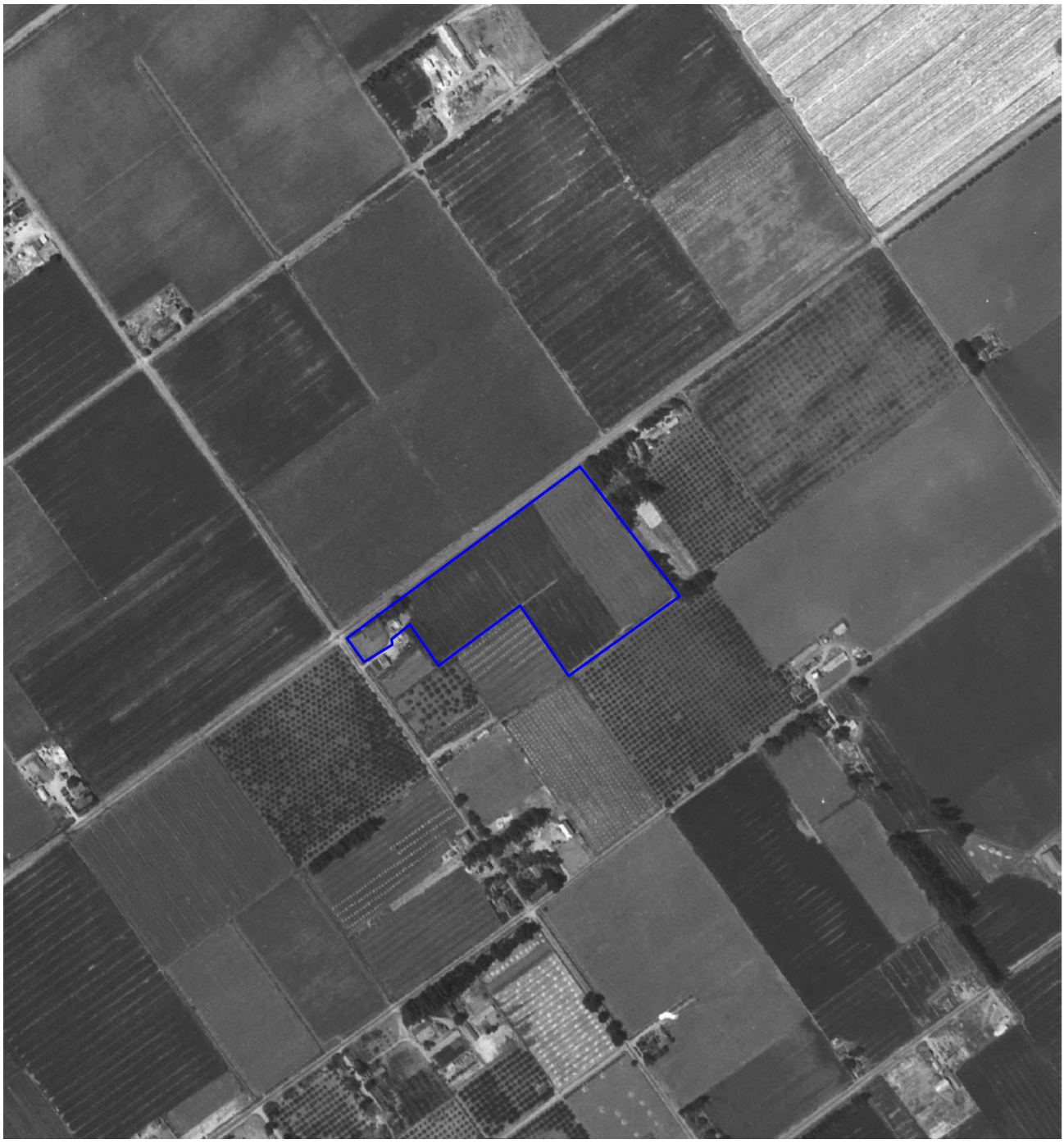
Sub Surface Surveys	SITE: **Agricultural Field** **41206 Walnut Avenue** **Greenfield, California**	TITLE: **Anomaly Photographs**	SURVEY DATE: **January 29, 2019**
		PREPARED FOR: **Krazan & Associates**	SSS PROJECT NO: **19-038**

Appendix E



= **Subject Site Boundary (Approximate)**

1937 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** 1" = 500'	**Date:** May 2020	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Drawn By: BV	**Approved by:** BV	
	Project No. 3418104-20	**Source:** EDR	

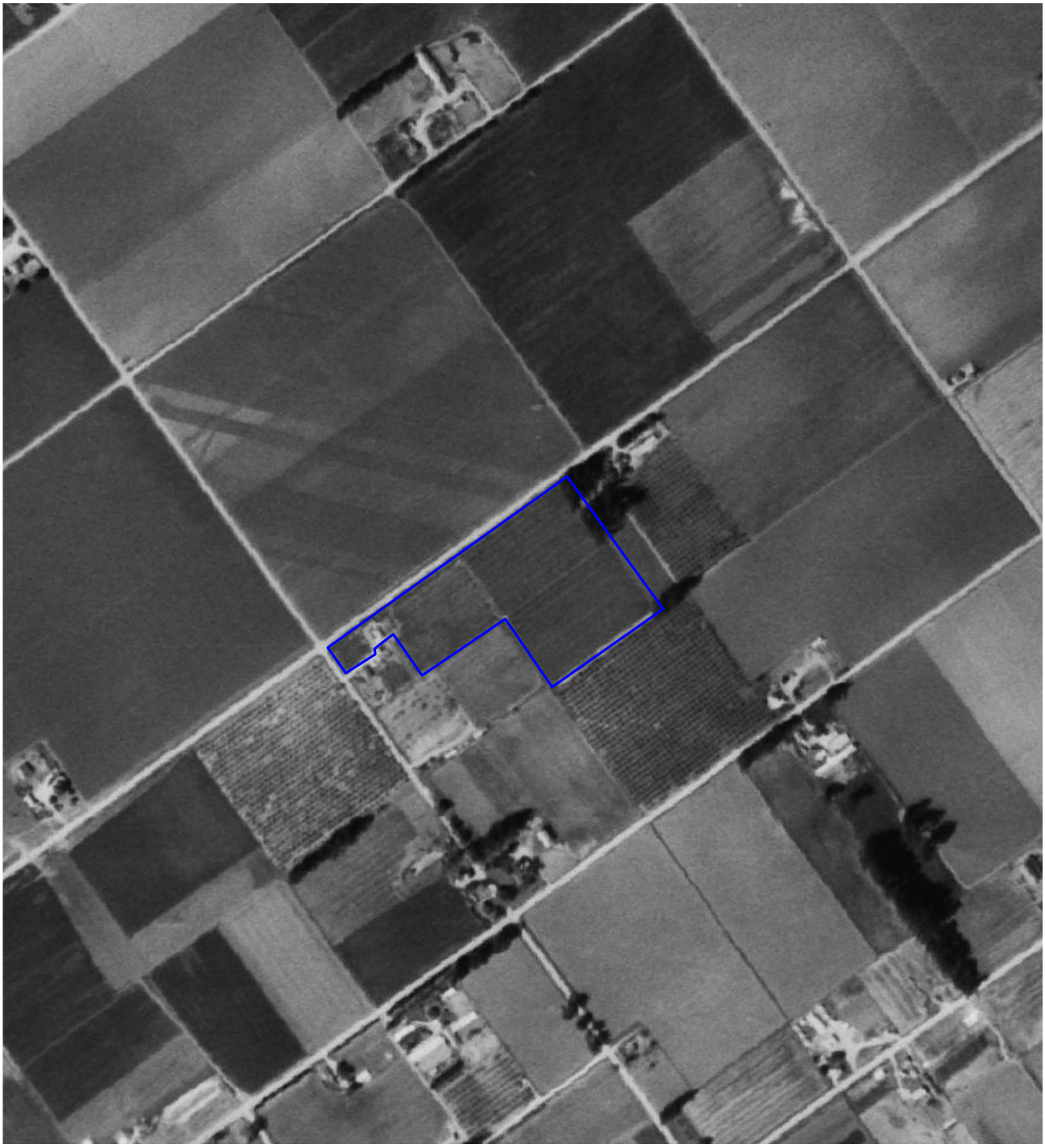


= **Subject Site Boundary (Approximate)**

1949 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** 1" = 500'	**Date:** May 2020	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Drawn By: BV	**Approved by:** BV	
	Project No. 3418104-20	**Source:** EDR	

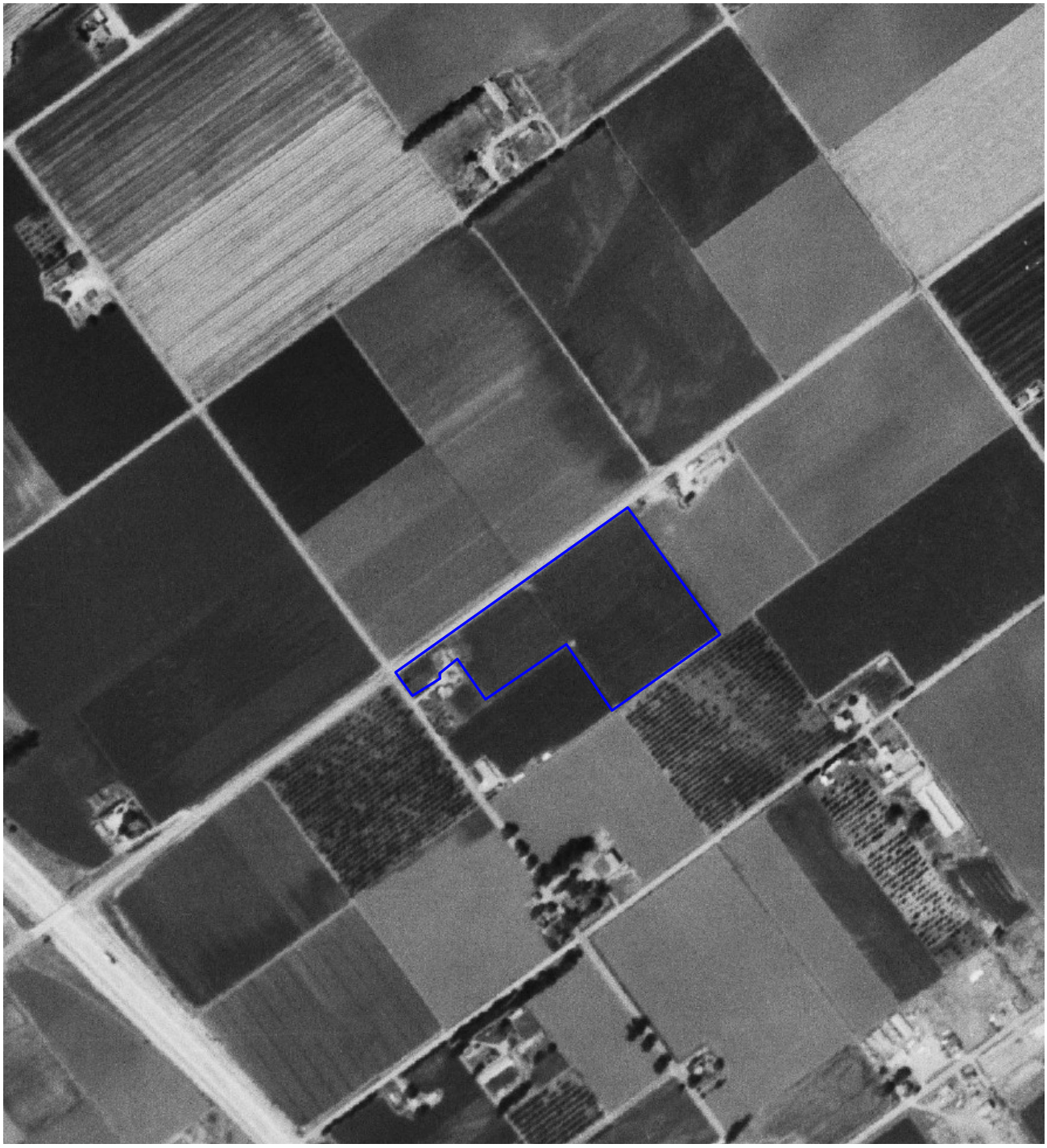
= **Subject Site Boundary (Approximate)**

1956 AERIAL PHOTOGRAPH	**Scale:** 1" = 500'	**Date:** May 2020	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Drawn By:** BV	**Approved by:** BV	
	Project No. 3418104-20	**Source:** EDR	



= **Subject Site Boundary (Approximate)**

1960 AERIAL PHOTOGRAPH	**Scale:** 1" = 500'	**Date:** May 2020	Krazan **SITE DEVELOPMENT ENGINEERS** *Offices Serving the Western United States*
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Drawn By:** BV	**Approved by:** BV	
	Project No. 3418104-20	**Source:** EDR	



= **Subject Site Boundary (Approximate)**

1967 AERIAL PHOTOGRAPH	**Scale:** 1" = 500'	**Date:** May 2020	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Drawn By:** BV	**Approved by:** BV	
	Project No. 3418104-20	**Source:** EDR	

= **Subject Site Boundary (Approximate)**

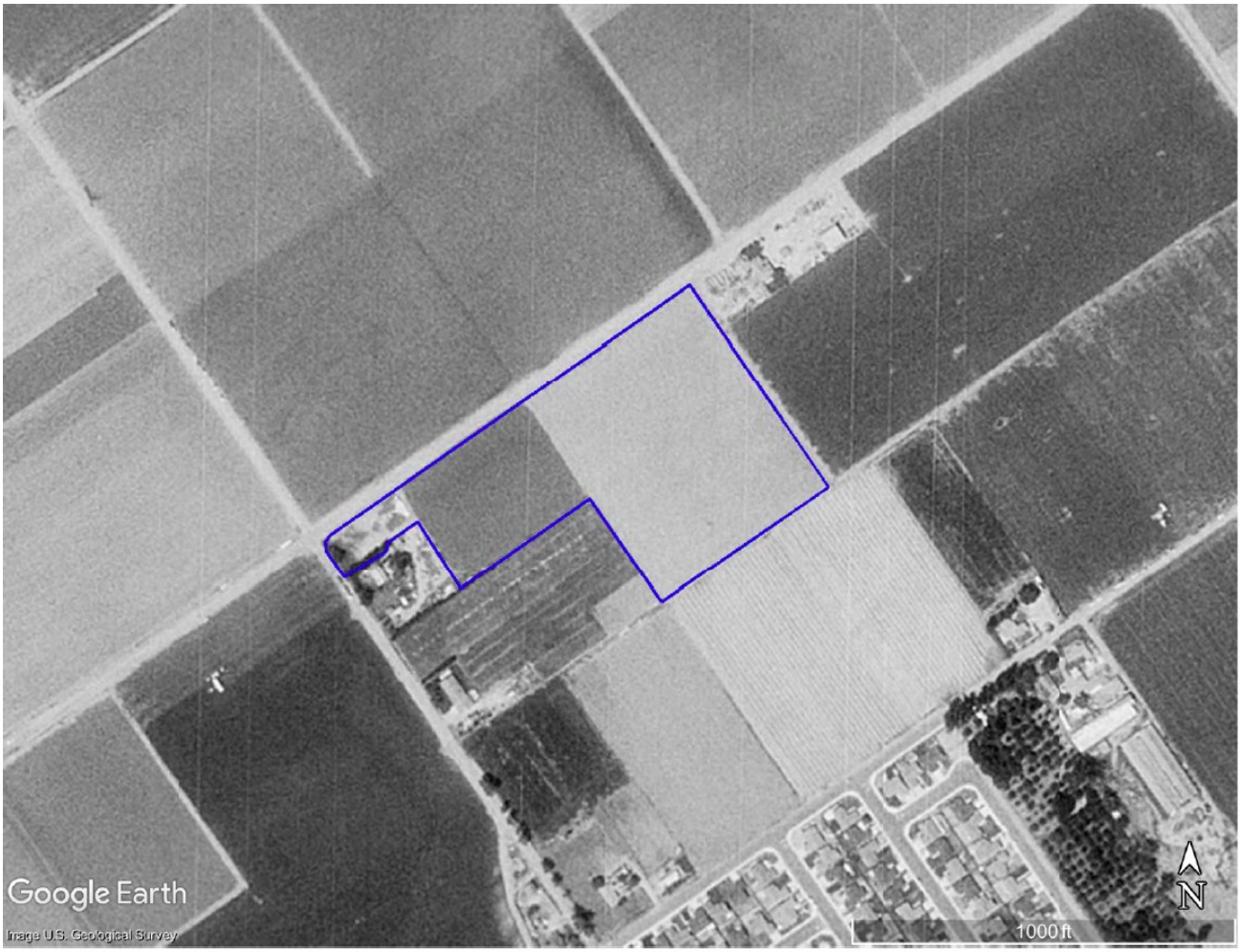
1971 AERIAL PHOTOGRAPH	**Scale:** 1" = 500'	**Date:** May 2020	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Drawn By:** BV	**Approved by:** BV	
	Project No. 3418104-20	**Source:** EDR	

= Subject Site Boundary (Approximate)

1981 AERIAL PHOTOGRAPH	**Scale:** 1" = 500'	**Date:** May 2020	Krazan SITE DEVELOPMENT ENGINEERS *Offices Serving the Western United States*
PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Drawn By:** BV	**Approved by:** BV	
	Project No. 3418104-20	**Source:** EDR	

= **Subject Site Boundary (Approximate)**

1989 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** 1" = 500'	**Date:** May 2020	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Drawn By: BV	**Approved by:** BV	
	Project No. 3418104-20	**Source:** EDR	



= **Subject Site Boundary (Approximate)**

1994 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** 1" = 500'	**Date:** May 2020	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Drawn By: BV	**Approved by:** BV	
	Project No. 3418104-20	**Source:** EDR	

= **Subject Site Boundary (Approximate)**

2004 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** 1" = 500'	**Date:** May 2020	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Drawn By: BV	**Approved by:** BV	
	Project No. 3418104-20	**Source:** EDR	

= **Subject Site Boundary (Approximate)**

2011 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** 1" = 500'	**Date:** May 2020	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Drawn By: BV	**Approved by:** BV	
	Project No. 3418104-20	**Source:** EDR	

= **Subject Site Boundary (Approximate)**

2018 AERIAL PHOTOGRAPH **PROPOSED RESIDENTIAL DEVELOPMENT PROPERTY** **41206 WALNUT AVENUE** **APN 109-082-012** **GREENFIELD, CALIFORNIA 93927**	**Scale:** 1" = 500'	**Date:** May 2020	Krazan **SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Drawn By: BV	**Approved by:** BV	
	Project No. 3418104-20	**Source:** EDR	

Appendix F

Proposed Residential Property

41206 Walnut Avenue

Greenfield, CA 93927

Inquiry Number: 6040269.5

April 14, 2020

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

04/14/20

Site Name:

Proposed Residential Property
41206 Walnut Avenue
Greenfield, CA 93927
EDR Inquiry # 6040269.5

Client Name:

Krazan & Associates, Inc.
4320 Orange Grove Avenue Suite E
Sacramento, CA 95841
Contact: Bill Vick

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Krazan & Associates, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 796E-4228-B44A

PO # NA

Project 034-18104-2020-BV

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 796E-4228-B44A

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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Appendix G

Proposed Residential Property
41206 Walnut Avenue
Greenfield, CA 93927

Inquiry Number: 6040269.2s
April 14, 2020

The EDR Radius Map™ Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Detail Map	3
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GEOCHECK ADDENDUM

GeoCheck - Not Requested

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

41206 WALNUT AVENUE
GREENFIELD, CA 93927

COORDINATES

Latitude (North):	36.3325080 - 36° 19' 57.02''
Longitude (West):	121.2366070 - 121° 14' 11.78''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	658271.9
UTM Y (Meters):	4022071.2
Elevation:	265 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5603732 GREENFIELD, CA
Version Date:	2012
West Map:	5603752 PARAISO SPRINGS, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140609
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
41206 WALNUT AVENUE
GREENFIELD, CA 93927

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	WALNUT AVENUE WIDENI	41206 WALNUT AVENUE	CIWQS		TP
2	APPLE AVENUE ELEMENT	APPLE AVENUE/2ND STR	ENVIROSTOR, SCH	Lower	1605, 0.304, East
3	GREENFIELD UNION SCH	490 EL CAMINO REAL	ENVIROSTOR, SCH, CERS HAZ WASTE, CUPA Listings,...	Higher	3257, 0.617, WSW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 9 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
WALNUT AVENUE WIDENI 41206 WALNUT AVENUE GREENFIELD, CA 93927	CIWQS	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators

RCRA-SQG RCRA - Small Quantity Generators
RCRA-VSQG RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS Land Use Control Information System
US ENG CONTROLS Engineering Controls Sites List
US INST CONTROLS Institutional Controls Sites List

Federal ERNS list

ERNS Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF Solid Waste Information System

State and tribal leaking storage tank lists

LUST Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST Leaking Underground Storage Tanks on Indian Land
CPS-SLIC Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST Underground Storage Tank Listing
UST Active UST Facilities
AST Aboveground Petroleum Storage Tank Facilities
INDIAN UST Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP Voluntary Cleanup Priority Listing
VCP Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT Waste Management Unit Database
SWRCY Recycler Database

HAULERS Registered Waste Tire Haulers Listing
INDIAN ODI Report on the Status of Open Dumps on Indian Lands
ODI Open Dump Inventory
DEBRIS REGION 9 Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL Delisted National Clandestine Laboratory Register
HIST Cal-Sites Historical Calsites Database
SCH School Property Evaluation Program
CDL Clandestine Drug Labs
CERS HAZ WASTE CERS HAZ WASTE
Toxic Pits Toxic Pits Cleanup Act Sites
US CDL National Clandestine Laboratory Register
PFAS PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

SWEEPS UST SWEEPS UST Listing
HIST UST Hazardous Substance Storage Container Database
CA FID UST Facility Inventory Database
CERS TANKS California Environmental Reporting System (CERS) Tanks

Local Land Records

LIENS Environmental Liens Listing
LIENS 2 CERCLA Lien Information
DEED Deed Restriction Listing

Records of Emergency Release Reports

HMIRS Hazardous Materials Information Reporting System
CHMIRS California Hazardous Material Incident Report System
LDS Land Disposal Sites Listing
MCS Military Cleanup Sites Listing
SPILLS 90 SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR RCRA - Non Generators / No Longer Regulated
FUDS Formerly Used Defense Sites
DOD Department of Defense Sites
SCRD DRYCLEANERS State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR Financial Assurance Information
EPA WATCH LIST EPA WATCH LIST
2020 COR ACTION 2020 Corrective Action Program List
TSCA Toxic Substances Control Act
TRIS Toxic Chemical Release Inventory System
SSTS Section 7 Tracking Systems
ROD Records Of Decision
RMP Risk Management Plans
RAATS RCRA Administrative Action Tracking System
PRP Potentially Responsible Parties
PADS PCB Activity Database System

EXECUTIVE SUMMARY

ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
DOCKET HWC	Hazardous Waste Compliance Docket Listing
ECHO	Enforcement & Compliance History Information
UXO	Unexploded Ordnance Sites
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
HAZNET	Facility and Manifest Data
ICE	ICE
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
CERS	CERS
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT	SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)

HWTS Hazardous Waste Tracking System
MINES MRDS Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP EDR Proprietary Manufactured Gas Plants
EDR Hist Auto EDR Exclusive Historical Auto Stations
EDR Hist Cleaner EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF Recovered Government Archive Solid Waste Facilities List
RGA LUST Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 01/27/2020 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
GREENFIELD UNION SCH	***490 EL CAMINO REAL***	***WSW 1/2 - 1 (0.617 mi.)***	***3***	***13***

EXECUTIVE SUMMARY

Facility Id: 60001534
Status: Active

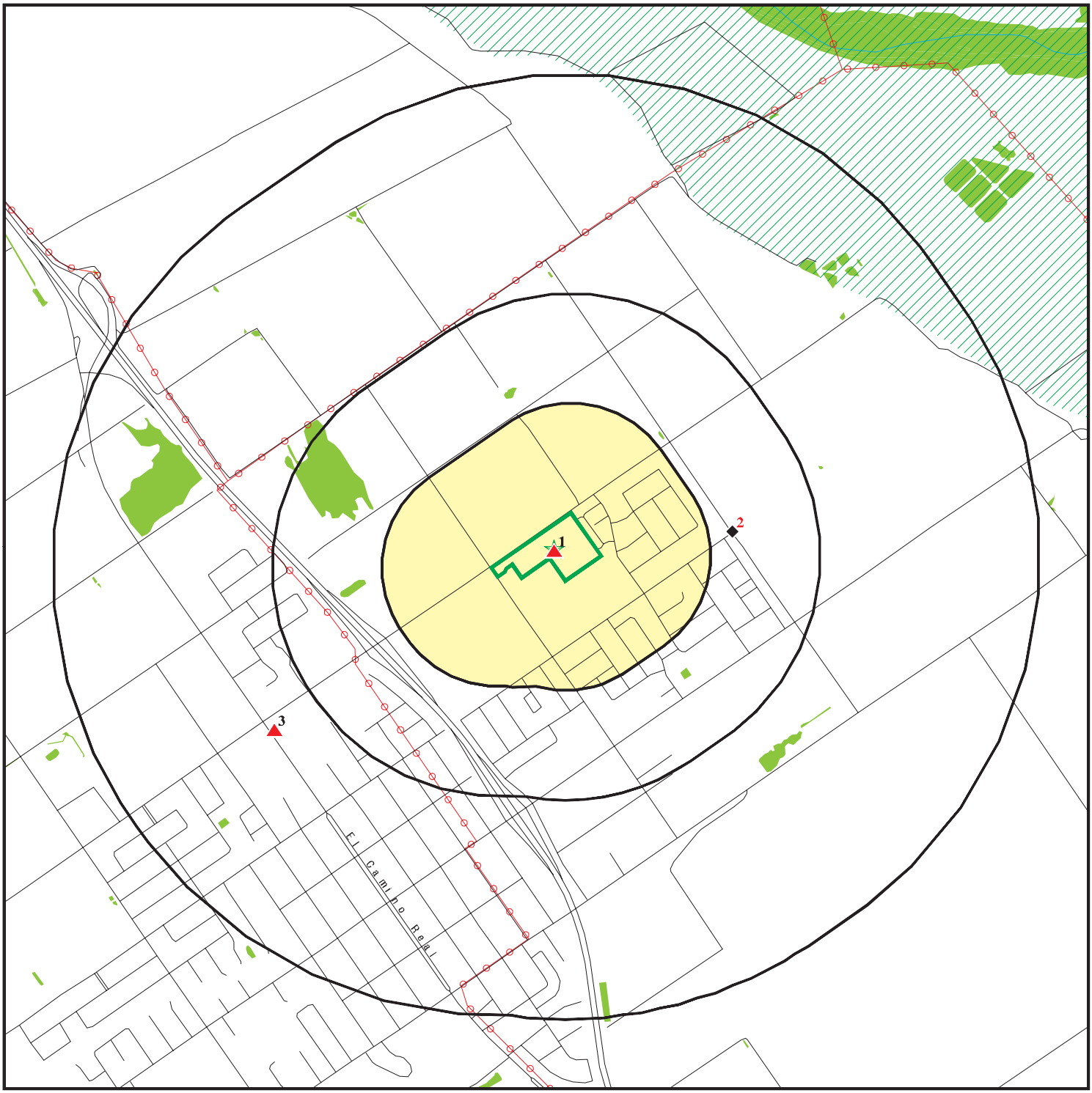
Lower Elevation	Address	Direction / Distance	Map ID	Page
APPLE AVENUE ELEMENT	***APPLE AVENUE/2ND STR***	***E 1/4 - 1/2 (0.304 mi.)***	***2***	***9***

Facility Id: 27010008
Status: No Further Action

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 6040269.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Proposed Residential Property	CLIENT: Krazan & Associates, Inc.
ADDRESS: 41206 Walnut Avenue Greenfield CA 93927	CONTACT: Bill Vick INQUIRY #: 6040269.2s
LAT/LONG: 36.332508 / 121.236607	DATE: April 14, 2020 5:08 pm

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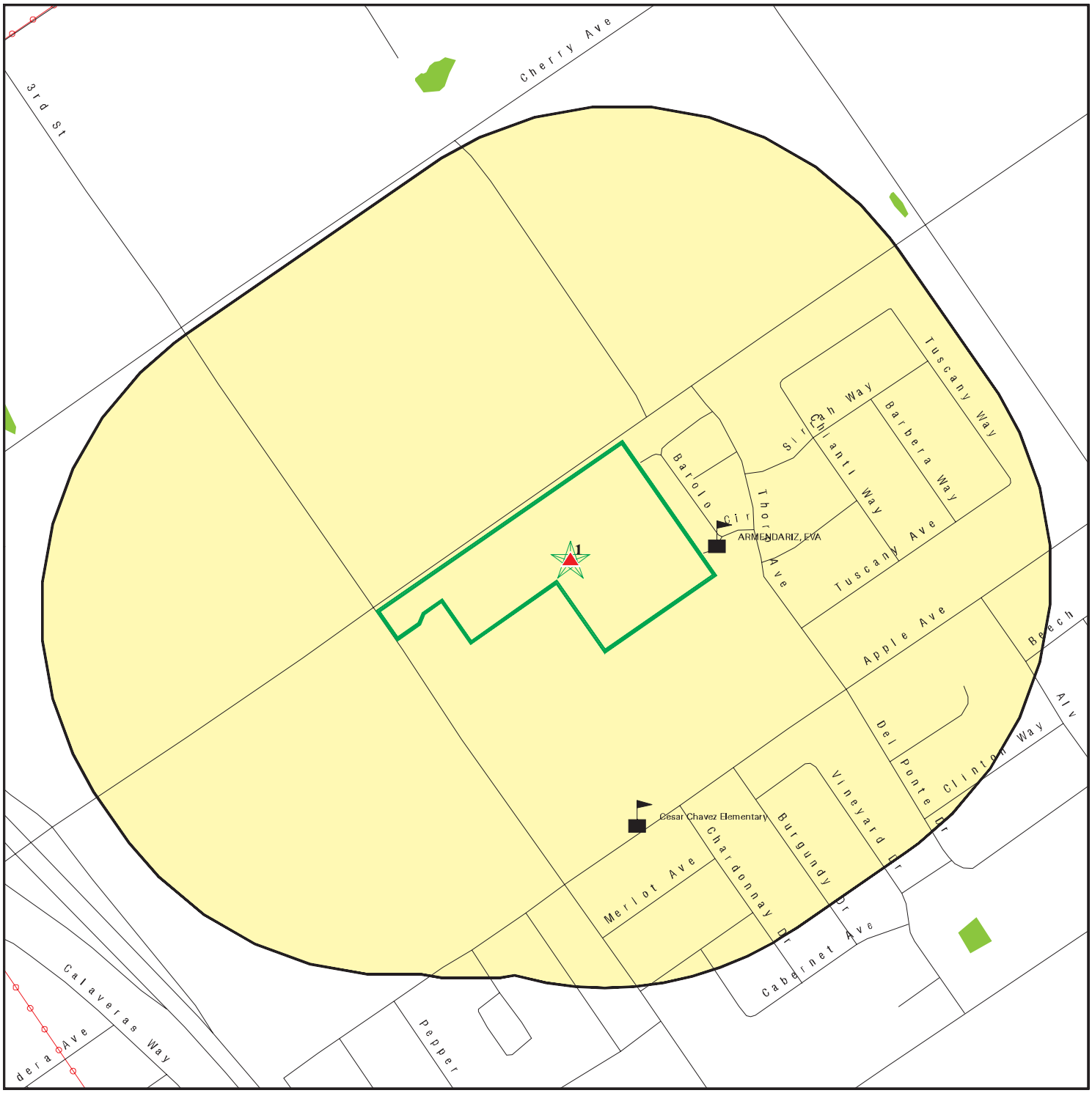
DETAIL MAP - 6040269.2S



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Proposed Residential Property	CLIENT:	Krazan & Associates, Inc.
ADDRESS:	41206 Walnut Avenue Greenfield CA 93927	CONTACT:	Bill Vick
		INQUIRY #:	6040269.2s
LAT/LONG:	36.332508 / 121.236607	DATE:	April 14, 2020 5:12 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	1	1	NR	2
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001	1	0	NR	NR	NR	NR	1
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		1	0	0	1	1	0	3

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
Target Property
Actual: 265 ft.

WALNUT AVENUE WIDENING PROJECT
41206 WALNUT AVENUE
GREENFIELD, CA 93927

CIWQS **S111293139**
N/A

CIWQS:

Name:	WALNUT AVENUE WIDENING PROJECT
Address:	41206 WALNUT AVENUE
City,State,Zip:	GREENFIELD, CA 93927
Agency:	City of Greenfield
Agency Address:	920 Walnut Avenue, Greefield, CA 93927
Place/Project Type:	Construction - Transportation
SIC/NAICS:	Not reported
Region:	3
Program:	CONSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water construction
Order Number:	2009-0009-DWQ
WDID:	3 27C361484
NPDES Number:	CAS000002
Adoption Date:	Not reported
Effective Date:	07/22/2011
Termination Date:	09/01/2012
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	36.332503
Longitude:	-121.236594

2
East
1/4-1/2
0.304 mi.
1605 ft.

Relative: Lower
Actual: 262 ft.

APPLE AVENUE ELEMENTARY SCHOOL SITE
APPLE AVENUE/2ND STREET/3RD STREET
GREENFIELD, CA 93927

ENVIROSTOR SCH **S107735851**
N/A

ENVIROSTOR:

Name:	APPLE AVENUE ELEMENTARY SCHOOL SITE
Address:	APPLE AVENUE/2ND STREET/3RD STREET
City,State,Zip:	GREENFIELD, CA 93927
Facility ID:	27010008
Status:	No Further Action
Status Date:	08/29/2006
Site Code:	204001
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	9.55
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Mark Malinowski
Division Branch:	Northern California Schools & Santa Susana
Assembly:	30
Senate:	12
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED

APPLE AVENUE ELEMENTARY SCHOOL SITE (Continued) **S107735851**

Funding: School District
Latitude: 36.33210
Longitude: -121.2337
APN: 109-082-010
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: Arsenic Naturally Occurring Asbestos (NOA DDD DDE DDT
Confirmed COC: 30001-NO 40002-NO 30006-NO 30007-NO 30008-NO No Contaminants found
Potential Description: NMA
Alias Name: APPLE AVENUE SCHOOL SITE
Alias Type: Alternate Name
Alias Name: GREENFIELD UNION ELEM SD-ELEM SCH APPLE
Alias Type: Alternate Name
Alias Name: GREENFIELD UNION ELEMENTARY SD
Alias Type: Alternate Name
Alias Name: 109-082-010
Alias Type: APN
Alias Name: 204001
Alias Type: Project Code (Site Code)
Alias Name: 27010008
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 05/09/2006
Comments: Signed EOA recieved by DTSC on 5/3/2006. This date will be the reciept date for the PEA Tech Memo workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 08/29/2006
Comments: DTSC approved the PEA with a no further action determination.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 01/19/2000
Comments: Pursuant to an agreement between the Department of Toxic substances Control (DTSC) and the California Department of Education, DTSC's Site Mitigation Program completed a review of a Phase I Environmental Assessment and has determined that No Action is necessary.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 05/24/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 05/03/2006
Comments: District entered into EOA agreement to perform a PEA investigation for naturally ocurring asbestos. Previous Phase I determination expired (5-years), CDE sent District back to DTSC for approval. Site near potential NOA, PEAR for NOA.

APPLE AVENUE ELEMENTARY SCHOOL SITE (Continued) **S107735851**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	09/19/2006
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	01/15/2000
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	03/02/2000
Comments:	Not reported

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Name:	APPLE AVENUE ELEMENTARY SCHOOL SITE
Address:	APPLE AVENUE/2ND STREET/3RD STREET
City,State,Zip:	GREENFIELD, CA 93927
Facility ID:	27010008
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	9.55
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Mark Malinowski
Division Branch:	Northern California Schools & Santa Susana
Site Code:	204001
Assembly:	30
Senate:	12
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	08/29/2006
Restricted Use:	NO
Funding:	School District
Latitude:	36.33210
Longitude:	-121.2337
APN:	109-082-010
Past Use:	AGRICULTURAL - ROW CROPS

APPLE AVENUE ELEMENTARY SCHOOL SITE (Continued) **S107735851**

Potential COC:	Arsenic, Arsenic, Naturally Occurring Asbestos (NOA, DDD, DDE, DDT
Confirmed COC:	30001-NO, 40002-NO, 30006-NO, 30007-NO, 30008-NO, No Contaminants found
Potential Description:	NMA
Alias Name:	APPLE AVENUE SCHOOL SITE
Alias Type:	Alternate Name
Alias Name:	GREENFIELD UNION ELEM SD-ELEM SCH APPLE
Alias Type:	Alternate Name
Alias Name:	GREENFIELD UNION ELEMENTARY SD
Alias Type:	Alternate Name
Alias Name:	109-082-010
Alias Type:	APN
Alias Name:	204001
Alias Type:	Project Code (Site Code)
Alias Name:	27010008
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Workplan
Completed Date:	05/09/2006
Comments:	Signed EOA recieved by DTSC on 5/3/2006. This date will be the reciept date for the PEA Tech Memo workplan.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	08/29/2006
Comments:	DTSC approved the PEA with a no further action determination.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	01/19/2000
Comments:	Pursuant to an agreement between the Department of Toxic substances Control (DTSC) and the California Department of Education, DTSC's Site Mitigation Program completed a review of a Phase I Environmental Assessment and has determined that No Action is necessary.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	05/24/2006
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	05/03/2006
Comments:	District entered into EOA agreement to perform a PEA investigation for naturally ocurring asbestos. Previous Phase I determination expired (5-years), CDE sent District back to DTSC for approval. Site near potential NOA, PEAR for NOA.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo

APPLE AVENUE ELEMENTARY SCHOOL SITE (Continued) **S107735851**

Completed Date:	09/19/2006
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	01/15/2000
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	03/02/2000
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

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3 **GREENFIELD UNION SCHOOL DISTRICT** **ENVIROSTOR** **S103966705**
WSW **490 EL CAMINO REAL** **SCH** **N/A**
1/2-1 **GREENFIELD, CA 93927** **CERS HAZ WASTE**
0.617 mi. **CUPA Listings**
3257 ft. **CERS**

Relative: **Higher**

Actual: **288 ft.**

ENVIROSTOR:

Name:	RECONSTRUCTION OF MARY CHAPA AND EL CAMINO REAL SCHOOLS SITE
Address:	490 EL CAMINO REAL
City,State,Zip:	GREENFIELD, CA 93927
Facility ID:	60001534
Status:	Active
Status Date:	09/17/2014
Site Code:	201914
Site Type:	School Cleanup
Site Type Detailed:	School
Acres:	14
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Jose Salcedo
Division Branch:	Northern California Schools & Santa Susana
Assembly:	30
Senate:	12
Special Program:	EPA - Target Site Investigation
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	EPA Grant
Latitude:	36.32675
Longitude:	-121.2474
APN:	024-021-001
Past Use:	ABOVE GROUND STORAGE TANKS, AGRICULTURAL - ROW CROPS, RESIDENTIAL

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

AREA, SCHOOL - ELEMENTARY, UNDERGROUND STORAGE TANKS, VEHICLE MAINTENANCE

Potential COC: Under Investigation Arsenic Benzene Chlordane DDD DDE DDT Lead Polychlorinated biphenyls (PCBs Polynuclear aromatic hydrocarbons (PAHs TPH-diesel TPH-gas TPH-MOTOR OIL Trichloroethylene (TCE Vinyl chloride Dieldrin

Confirmed COC: 30001-NO 30003-NO Chlordane 30006-NO 30007-NO 30008-NO Lead Polynuclear aromatic hydrocarbons (PAHs 30024-NO 30025-NO Dieldrin 3002502-NO 30027-NO 30028-NO Under Investigation 30018-NO

Potential Description: SOIL, SV, UE

Alias Name: 024-021-001
Alias Type: APN
Alias Name: 201914
Alias Type: Project Code (Site Code)
Alias Name: 60001534
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 12/01/2011
Comments: On December 1, 2011, the Start Work Order for the Mary Chapa and El Camino Real Schools - TSI Project was signed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 12/06/2011
Comments: On December 6, 2011, DTSC conducted a scoping meeting and a site walkthrough with the District, their consultants, and DTSC's consultant. The attendees were M. Songco, T. Booze, L. Vallejo, J. Dominguez, B. Schimmel & J. Rios.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 02/16/2012
Comments: DTSC conducted a site visit to observe the implementation of the approved TSI PEA Workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 11/18/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 08/28/2012
Comments: On August 28, 2012, a CRU memorandum was sent to Closeout Recovery Unit. On May 1, 2012, DTSC approved the TSI PEA Reports with a further action determination.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Completed Date: 12/24/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 01/06/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 12/03/2014
Comments: On December 3, 2014, the Start Work Order was signed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 08/26/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 11/07/2014
Comments: On November 13, 2014, DTSC forwarded the fully executed contract number 14-T3897 signed November 7, 2014 to Geocon Consultants, Inc.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 08/17/2011
Comments: On August 17, 2011, DTSC received an e-copy of the Phase I Environmental Site Assessment for the Cesar Chavez and Greenfield Elementary Schools (Padre Associates, October 2006) as background information.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 09/12/2011
Comments: On July 29, 2011, DTSC issued an Approval letter of the Targeted Site Investigation Application.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 02/14/2012
Comments: Approval of TSI Preliminary Environmental Assessment Workplan (Site Code 201914-83)

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 05/03/2012
Comments: On May 1, 2012, DTSC approved the revised TSI PEA Report with a further action determination.

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Workplan
Completed Date:	02/27/2015
Comments:	On February 27, 2015, DTSC approved the TSI Final SSI Workplan for implementation.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fieldwork
Completed Date:	02/28/2015
Comments:	On Feb 28, 2015, DTSC provided oversight during the implementation of the SSI WP.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Report
Completed Date:	05/07/2015
Comments:	On May 7, 2015, DTSC approved the revised SSI Report with a further action determination.

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Name:	RECONSTRUCTION OF MARY CHAPA AND EL CAMINO REAL SCHOOLS SITE
Address:	490 EL CAMINO REAL
City,State,Zip:	GREENFIELD, CA 93927
Facility ID:	60001534
Site Type:	School Cleanup
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	14
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Jose Salcedo
Division Branch:	Northern California Schools & Santa Susana
Site Code:	201914
Assembly:	30
Senate:	12
Special Program Status:	EPA - Target Site Investigation
Status:	Active
Status Date:	09/17/2014
Restricted Use:	NO
Funding:	EPA Grant
Latitude:	36.32675

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Longitude:	-121.2474
APN:	024-021-001
Past Use:	ABOVE GROUND STORAGE TANKS, AGRICULTURAL - ROW CROPS, RESIDENTIAL AREA, SCHOOL - ELEMENTARY, UNDERGROUND STORAGE TANKS, VEHICLE MAINTENANCE
Potential COC:	Under Investigation, Arsenic, Benzene, Chlordane, DDD, DDE, DDT, Lead, Polychlorinated biphenyls (PCBs, Polynuclear aromatic hydrocarbons (PAHs, TPH-diesel, TPH-gas, TPH-MOTOR OIL, Trichloroethylene (TCE, Vinyl chloride, Dieldrin
Confirmed COC:	30001-NO, 30003-NO, Chlordane, 30006-NO, 30007-NO, 30008-NO, Lead, Polynuclear aromatic hydrocarbons (PAHs, 30024-NO, 30025-NO, Dieldrin, 3002502-NO, 30027-NO, 30028-NO, Under Investigation, 30018-NO
Potential Description:	SOIL, SV, UE
Alias Name:	024-021-001
Alias Type:	APN
Alias Name:	201914
Alias Type:	Project Code (Site Code)
Alias Name:	60001534
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	State/Federal Funded Site Work Order
Completed Date:	12/01/2011
Comments:	On December 1, 2011, the Start Work Order for the Mary Chapa and El Camino Real Schools - TSI Project was signed.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	12/06/2011
Comments:	On December 6, 2011, DTSC conducted a scoping meeting and a site walkthrough with the District, their consultants, and DTSC's consultant. The attendees were M. Songco, T. Booze, L. Vallejo, J. Dominguez, B. Schimmel & J. Rios.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	02/16/2012
Comments:	DTSC conducted a site visit to observe the implementation of the approved TSI PEA Workplan.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	State/Federal Funded Site Contract
Completed Date:	11/18/2011
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	08/28/2012
Comments:	On August 28, 2012, a CRU memorandum was sent to Closeout Recovery Unit. On May 1, 2012, DTSC approved the TSI PEA Reports with a further action determination.

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 12/24/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 01/06/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Work Order
Completed Date: 12/03/2014
Comments: On December 3, 2014, the Start Work Order was signed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 08/26/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: State/Federal Funded Site Contract
Completed Date: 11/07/2014
Comments: On November 13, 2014, DTSC forwarded the fully executed contract number 14-T3897 signed November 7, 2014 to Geocon Consultants, Inc.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 08/17/2011
Comments: On August 17, 2011, DTSC received an e-copy of the Phase I Environmental Site Assessment for the Cesar Chavez and Greenfield Elementary Schools (Padre Associates, October 2006) as background information.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 09/12/2011
Comments: On July 29, 2011, DTSC issued an Approval letter of the Targeted Site Investigation Application.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 02/14/2012
Comments: Approval of TSI Preliminary Environmental Assessment Workplan (Site Code 201914-83)

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Completed Date: 05/03/2012
Comments: On May 1, 2012, DTSC approved the revised TSI PEA Report with a further action determination.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Workplan
Completed Date: 02/27/2015
Comments: On February 27, 2015, DTSC approved the TSI Final SSI Workplan for implementation.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 02/28/2015
Comments: On Feb 28, 2015, DTSC provided oversight during the implementation of the SSI WP.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 05/07/2015
Comments: On May 7, 2015, DTSC approved the revised SSI Report with a further action determination.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

CERS HAZ WASTE:
Name: GREENFIELD UNION SCHOOL DISTRICT
Address: 490 EL CAMINO REAL
City,State,Zip: GREENFIELD, CA 93927
Site ID: 34364
CERS ID: 10433788
CERS Description: Hazardous Waste Generator

CUPA MONTEREY:
Name: GREENFIELD UNION SCHOOL DISTRICT
Address: 490 EL CAMINO REAL
City,State,Zip: GREENFIELD, CA 93927
Facility Id: FA0812869
Region: MONTEREY
Program/Element Code: 512J
Program/Element: 512J - WASTE OIL,NONCHLORINATED SAFETY SOLVENTS
Billing Status: 01 - ACTIVE, BILLABLE
EDR Link ID: FA0812869
Mailing Address: 493 EL CAMINO REAL
Mailing City State Zip: GREENFIELD CA 93927
Program Identifier: HAZMAT

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Owner ID:	OW0802101
Last Billing Date:	05/26/2016
Last Payment Date:	07/30/2015
Last Payment Amount:	726.00
Total Fee Amount:	548.00
Total Amount Paid:	Not reported
Units:	1
Financial Status:	(none)
Phone:	8316742840
E-Mail:	Not reported
Last Activity Date:	07/29/2016
Prior Inspection Date:	02/05/2016
Current Inspection Date:	07/29/2017
Record ID:	PR0606949

Name:	GREENFIELD UNION SCHOOL DISTRICT
Address:	490 EL CAMINO REAL
City,State,Zip:	GREENFIELD, CA 93927
Facility Id:	FA0812869
Region:	MONTEREY
Program/Element Code:	5040
Program/Element:	5040 - BASE FEE-HAZARDOUS MATERIALS REGISTRATION
Billing Status:	01 - ACTIVE, BILLABLE
EDR Link ID:	FA0812869
Mailing Address:	493 EL CAMINO REAL
Mailing City State Zip:	GREENFIELD CA 93927
Program Identifier:	HAZMAT
Owner ID:	OW0802101
Last Billing Date:	05/26/2016
Last Payment Date:	07/30/2015
Last Payment Amount:	726.00
Total Fee Amount:	548.00
Total Amount Paid:	Not reported
Units:	1
Financial Status:	(none)
Phone:	8316742840
E-Mail:	Not reported
Last Activity Date:	07/29/2016
Prior Inspection Date:	02/05/2016
Current Inspection Date:	07/29/2017
Record ID:	PR0602781

CERS:

Name:	GREENFIELD UNION SCHOOL DISTRICT
Address:	490 EL CAMINO REAL
City,State,Zip:	GREENFIELD, CA 93927
Site ID:	34364
CERS ID:	10433788
CERS Description:	Chemical Storage Facilities

Evaluation:

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	07-29-2016
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Monterey County Health Department

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 02-05-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Monterey County Health Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-29-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Monterey County Health Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 02-05-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Monterey County Health Department
Eval Program: HW
Eval Source: CERS

Coordinates:
Site ID: 34364
Facility Name: GREENFIELD UNION SCHOOL DISTRICT
Env Int Type Code: HWG
Program ID: 10433788
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 36.326510
Longitude: -121.248150

Affiliation:
Affiliation Type Desc: Identification Signer
Entity Name: Louis Vallejo
Entity Title: Director Facilities, MOT
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner
Entity Name: GREENFIELD ELEMENTARY SCHOOL
Entity Title: Not reported
Affiliation Address: 493 EL CAMINO REAL
Affiliation City: GREENFIELD

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	93927-0000
Affiliation Phone:	(831) 674-6033
Affiliation Type Desc:	Document Preparer
Entity Name:	Louis Vallejo, Director Facilities, MOT
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	493 EL CAMINO REAL
Affiliation City:	GREENFIELD
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93927
Affiliation Phone:	Not reported
Affiliation Type Desc:	CUPA District
Entity Name:	Monterey Cnty Health Dept
Entity Title:	Not reported
Affiliation Address:	1270 Natividad Road
Affiliation City:	Salinas
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93906
Affiliation Phone:	(831) 796-1269
Affiliation Type Desc:	Parent Corporation
Entity Name:	GREENFIELD UNION SCHOOL DISTRICT
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Environmental Contact
Entity Name:	Louis Vallejo
Entity Title:	Not reported
Affiliation Address:	490 EL CAMINO REAL
Affiliation City:	GREENFIELD
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	93927
Affiliation Phone:	Not reported
Affiliation Type Desc:	Operator
Entity Name:	GREENFIELD UNION SCHOOL DIST

GREENFIELD UNION SCHOOL DISTRICT (Continued) **S103966705**

Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(831) 674-6033

Count: 0 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 01/30/2020
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 9

Source: EPA
Telephone: N/A
Last EDR Contact: 03/25/2020
Next Scheduled EDR Contact: 07/13/2020
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 01/30/2020
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 9

Source: EPA
Telephone: N/A
Last EDR Contact: 04/02/2020
Next Scheduled EDR Contact: 07/13/2020
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 01/30/2020
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 9

Source: EPA
Telephone: N/A
Last EDR Contact: 04/02/2020
Next Scheduled EDR Contact: 07/13/2020
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 04/03/2020
Next Scheduled EDR Contact: 07/13/2020
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/30/2020
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 9

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/02/2020
Next Scheduled EDR Contact: 07/27/2020
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 01/30/2020
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 9

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/02/2020
Next Scheduled EDR Contact: 07/27/2020
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/16/2019
Date Data Arrived at EDR: 12/16/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 4

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/25/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/16/2019
Date Data Arrived at EDR: 12/16/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 4

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/25/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/16/2019
Date Data Arrived at EDR: 12/16/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 4

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/25/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/16/2019
Date Data Arrived at EDR: 12/16/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 4

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/25/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/16/2019
Date Data Arrived at EDR: 12/16/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 4

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/25/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 11/04/2019
Date Data Arrived at EDR: 11/13/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 76

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/10/2020
Next Scheduled EDR Contact: 05/25/2020
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 11/22/2019
Date Data Arrived at EDR: 11/22/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/20/2020
Next Scheduled EDR Contact: 06/08/2020
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 11/22/2019
Date Data Arrived at EDR: 11/22/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 67

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/20/2020
Next Scheduled EDR Contact: 06/08/2020
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/16/2019
Date Data Arrived at EDR: 12/19/2019
Date Made Active in Reports: 03/06/2020
Number of Days to Update: 78

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/24/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/27/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/09/2020
Number of Days to Update: 72

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/28/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 01/27/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/09/2020
Number of Days to Update: 72

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/28/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/11/2019
Date Data Arrived at EDR: 11/12/2019
Date Made Active in Reports: 01/08/2020
Number of Days to Update: 57

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 02/11/2020
Next Scheduled EDR Contact: 05/25/2020
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 66

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/01/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/01/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 10/02/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/03/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 72

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/10/2019
Date Data Arrived at EDR: 12/05/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 67

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/15/2019
Date Data Arrived at EDR: 12/17/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/16/2019
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/11/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/04/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/27/2020
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)

Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/18/2020
Number of Days to Update: 70

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 08/27/2019
Date Data Arrived at EDR: 08/28/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 75

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 03/19/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: Varies

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 12/06/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/25/2020
Number of Days to Update: 77

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 03/11/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)

Military ust sites

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/18/2020
Number of Days to Update: 70

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/21/2020
Number of Days to Update: 73

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 03/12/2020
Next Scheduled EDR Contact: 06/29/2020
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 10/11/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/01/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/10/2019
Date Data Arrived at EDR: 12/05/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 67

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/01/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 10/02/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 10/11/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 68

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/03/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 72

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 10/04/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/27/2020
Number of Days to Update: 85

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 01/27/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/09/2020
Number of Days to Update: 72

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/28/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 03/18/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 12/18/2019
Date Data Arrived at EDR: 12/19/2019
Date Made Active in Reports: 02/19/2020
Number of Days to Update: 62

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 03/24/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/02/2019
Date Data Arrived at EDR: 12/16/2019
Date Made Active in Reports: 03/06/2020
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/17/2020
Next Scheduled EDR Contact: 06/29/2020
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/19/2020
Number of Days to Update: 71

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 11/15/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/23/2020
Number of Days to Update: 69

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 02/07/2020
Next Scheduled EDR Contact: 05/25/2020
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/27/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/09/2020
Next Scheduled EDR Contact: 08/03/2020
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176
Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 01/31/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 82
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/21/2020
Next Scheduled EDR Contact: 06/08/2020
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21
Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program
This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/27/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/09/2020
Number of Days to Update: 72
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/28/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs
A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/16/2019
Date Made Active in Reports: 09/24/2019
Number of Days to Update: 70
Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 03/26/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites
Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27
Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 01/21/2020
Date Data Arrived at EDR: 01/22/2020
Date Made Active in Reports: 04/01/2020
Number of Days to Update: 70

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 01/22/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/21/2020
Next Scheduled EDR Contact: 06/08/2020
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/19/2020
Number of Days to Update: 71

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 12/19/2019
Date Data Arrived at EDR: 12/23/2019
Date Made Active in Reports: 02/21/2020
Number of Days to Update: 60

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 02/21/2020
Next Scheduled EDR Contact: 06/08/2020
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 08/01/2019
Date Data Arrived at EDR: 08/02/2019
Date Made Active in Reports: 10/11/2019
Number of Days to Update: 70

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 01/31/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 01/21/2020
Date Data Arrived at EDR: 01/22/2020
Date Made Active in Reports: 04/01/2020
Number of Days to Update: 70

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/22/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 12/02/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/04/2020
Number of Days to Update: 62

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/27/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 01/30/2020
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 9

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/02/2020
Next Scheduled EDR Contact: 07/13/2020
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 12/03/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/04/2020
Number of Days to Update: 62

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 03/03/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/05/2019
Date Data Arrived at EDR: 12/06/2019
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 70

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/24/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/24/2019
Date Data Arrived at EDR: 01/22/2020
Date Made Active in Reports: 03/30/2020
Number of Days to Update: 68

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 01/22/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 66

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/18/2020
Number of Days to Update: 70

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/16/2019
Date Data Arrived at EDR: 12/16/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 4

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/25/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 11/12/2019
Date Data Arrived at EDR: 11/19/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 70

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/19/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/10/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/06/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63
Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/13/2020
Next Scheduled EDR Contact: 05/25/2020
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 12/16/2019
Date Data Arrived at EDR: 12/19/2019
Date Made Active in Reports: 02/27/2020
Number of Days to Update: 70
Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/24/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 02/03/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73
Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/07/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198
Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/20/2020
Next Scheduled EDR Contact: 06/29/2020
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 11/16/2018
Date Made Active in Reports: 11/21/2019
Number of Days to Update: 370

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/05/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 10/23/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 84

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/30/2020
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 9

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 04/02/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 04/25/2019
Date Data Arrived at EDR: 05/02/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/21/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 01/30/2020
Date Data Arrived at EDR: 02/06/2020
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 8

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 04/02/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 10/09/2019
Date Data Arrived at EDR: 10/11/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 70

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/10/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 03/26/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/25/2019
Date Data Arrived at EDR: 10/25/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 82

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 04/10/2020
Next Scheduled EDR Contact: 08/03/2020
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 42
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 03/06/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 02/27/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 02/07/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/01/2019
Next Scheduled EDR Contact: 07/13/2020
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 10/01/2019
Date Data Arrived at EDR: 10/29/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 78

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 01/28/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 01/17/2020
Date Made Active in Reports: 03/06/2020
Number of Days to Update: 49

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/26/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 03/25/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/10/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 01/31/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/21/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/30/2020
Date Data Arrived at EDR: 02/05/2020
Date Made Active in Reports: 02/14/2020
Number of Days to Update: 9

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/02/2020
Next Scheduled EDR Contact: 07/13/2020
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 12/03/2019
Date Data Arrived at EDR: 12/03/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 56

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 03/02/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/06/2019
Date Data Arrived at EDR: 11/25/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 64

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/25/2020
Next Scheduled EDR Contact: 06/08/2020
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 02/28/2020
Next Scheduled EDR Contact: 06/08/2020
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 02/28/2020
Next Scheduled EDR Contact: 06/08/2020
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/11/2019
Date Made Active in Reports: 02/27/2020
Number of Days to Update: 78

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/05/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/22/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 03/02/2020
Number of Days to Update: 89

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 03/03/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 01/05/2020
Date Data Arrived at EDR: 01/07/2020
Date Made Active in Reports: 03/06/2020
Number of Days to Update: 59

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 04/07/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/17/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 74
Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/03/2020
Next Scheduled EDR Contact: 07/27/2020
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71
Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 02/21/2020
Next Scheduled EDR Contact: 06/08/2020
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/18/2019
Date Data Arrived at EDR: 11/19/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 70
Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/19/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6
Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 12/18/2019
Date Data Arrived at EDR: 12/20/2019
Date Made Active in Reports: 02/20/2020
Number of Days to Update: 62
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 03/24/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64
Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 02/14/2020
Next Scheduled EDR Contact: 05/25/2020
Data Release Frequency: Varies

CUPA SAN FRANCISCO CO: CUPA Facility Listing
Cupa facilities

Date of Government Version: 02/03/2020
Date Data Arrived at EDR: 02/04/2020
Date Made Active in Reports: 04/09/2020
Number of Days to Update: 65

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 01/31/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 01/31/2020
Date Data Arrived at EDR: 01/31/2020
Date Made Active in Reports: 04/09/2020
Number of Days to Update: 69

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 02/21/2020
Next Scheduled EDR Contact: 06/08/2020
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 12/04/2019
Date Data Arrived at EDR: 01/29/2020
Date Made Active in Reports: 04/09/2020
Number of Days to Update: 71

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 02/27/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Annually

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 12/02/2019
Date Data Arrived at EDR: 12/03/2019
Date Made Active in Reports: 02/04/2020
Number of Days to Update: 63

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 02/27/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/24/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 59

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 03/20/2020
Next Scheduled EDR Contact: 06/29/2020
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/22/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 66

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 04/03/2020
Next Scheduled EDR Contact: 08/03/2020
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 01/21/2020
Date Data Arrived at EDR: 01/23/2020
Date Made Active in Reports: 04/01/2020
Number of Days to Update: 69

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/09/2020
Next Scheduled EDR Contact: 08/03/2020
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 11/08/2019
Date Data Arrived at EDR: 11/12/2019
Date Made Active in Reports: 01/08/2020
Number of Days to Update: 57

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 02/07/2020
Next Scheduled EDR Contact: 05/25/2020
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 05/29/2019
Date Made Active in Reports: 07/22/2019
Number of Days to Update: 54

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/08/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 11/18/2019
Date Data Arrived at EDR: 11/19/2019
Date Made Active in Reports: 01/23/2020
Number of Days to Update: 65

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 02/19/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 11/18/2019
Date Data Arrived at EDR: 11/19/2019
Date Made Active in Reports: 01/23/2020
Number of Days to Update: 65

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/19/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 01/06/2020
Date Data Arrived at EDR: 01/07/2020
Date Made Active in Reports: 03/05/2020
Number of Days to Update: 58

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 04/09/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/24/2020
Number of Days to Update: 76
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 11/22/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/04/2020
Number of Days to Update: 62
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 03/03/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 11/11/2019
Date Data Arrived at EDR: 11/12/2019
Date Made Active in Reports: 01/08/2020
Number of Days to Update: 57
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 02/11/2020
Next Scheduled EDR Contact: 05/25/2020
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 12/03/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/04/2020
Number of Days to Update: 62
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 03/03/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/19/2020
Number of Days to Update: 71
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 12/11/2019
Date Data Arrived at EDR: 12/12/2019
Date Made Active in Reports: 02/21/2020
Number of Days to Update: 71
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 03/12/2020
Next Scheduled EDR Contact: 06/29/2020
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 12/06/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/19/2020
Number of Days to Update: 71
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/18/2020
Number of Days to Update: 70
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 11/19/2019
Date Data Arrived at EDR: 01/07/2020
Date Made Active in Reports: 03/09/2020
Number of Days to Update: 62
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 04/10/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 02/14/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 03/18/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/18/2020
Number of Days to Update: 70
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/18/2020
Number of Days to Update: 70
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/19/2020
Number of Days to Update: 71
Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 12/03/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/04/2020
Number of Days to Update: 62
Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 03/03/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 01/21/2020
Date Data Arrived at EDR: 01/22/2020
Date Made Active in Reports: 04/01/2020
Number of Days to Update: 70
Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 01/22/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/18/2020
Number of Days to Update: 70
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/18/2020
Number of Days to Update: 70
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/18/2020
Number of Days to Update: 70
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/18/2020
Number of Days to Update: 70
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/18/2020
Number of Days to Update: 70
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3
Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 02/28/2020
Next Scheduled EDR Contact: 06/08/2020
Data Release Frequency: Varies

HWTS: Hazardous Waste Tracking System
The Hazardous Waste Tracking System (HWTS) is the Department of Toxic Substances Control?s data repository for hazardous waste Identification (ID) numbers and manifest information. HWTS generates reports on hazardous waste shipments for generators, transporters, and TSDFs.

Date of Government Version: 10/15/2019
Date Data Arrived at EDR: 11/14/2019
Date Made Active in Reports: 02/07/2020
Number of Days to Update: 85
Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 03/26/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53
Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 03/26/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 01/06/2020
Date Data Arrived at EDR: 01/07/2020
Date Made Active in Reports: 03/06/2020
Number of Days to Update: 59
Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 03/26/2020
Next Scheduled EDR Contact: 07/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 09/06/2019
Date Data Arrived at EDR: 09/10/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 51
Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 02/27/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106
Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 03/26/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 12/02/2019
Date Data Arrived at EDR: 12/03/2019
Date Made Active in Reports: 02/04/2020
Number of Days to Update: 63
Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 03/18/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 02/27/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 12/02/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/04/2020
Number of Days to Update: 62

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 01/27/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 12/27/2019
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/09/2020
Number of Days to Update: 72

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 01/03/2020
Date Made Active in Reports: 03/05/2020
Number of Days to Update: 62

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 01/03/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 10/08/2019
Date Data Arrived at EDR: 10/10/2019
Date Made Active in Reports: 12/11/2019
Number of Days to Update: 62

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 03/31/2020
Next Scheduled EDR Contact: 07/13/2020
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 04/09/2020
Next Scheduled EDR Contact: 08/03/2020
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 11/13/2019
Date Data Arrived at EDR: 11/14/2019
Date Made Active in Reports: 01/23/2020
Number of Days to Update: 70

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 03/26/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 01/21/2020
Date Data Arrived at EDR: 01/23/2020
Date Made Active in Reports: 03/30/2020
Number of Days to Update: 67

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/09/2020
Next Scheduled EDR Contact: 08/03/2020
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 02/13/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Varies

KERN COUNTY:

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 10/28/2019
Date Data Arrived at EDR: 11/05/2019
Date Made Active in Reports: 01/08/2020
Number of Days to Update: 64

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 01/31/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/25/2019
Date Data Arrived at EDR: 12/05/2019
Date Made Active in Reports: 02/04/2020
Number of Days to Update: 61

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 02/13/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List

Cupa facility list

Date of Government Version: 01/15/2020
Date Data Arrived at EDR: 01/16/2020
Date Made Active in Reports: 04/01/2020
Number of Days to Update: 76

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/13/2020
Next Scheduled EDR Contact: 07/27/2020
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List

Cupa facility list

Date of Government Version: 01/30/2020
Date Data Arrived at EDR: 01/31/2020
Date Made Active in Reports: 04/09/2020
Number of Days to Update: 69

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 04/09/2020
Next Scheduled EDR Contact: 08/03/2020
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 03/12/2020
Next Scheduled EDR Contact: 06/29/2020
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 01/15/2020
Date Data Arrived at EDR: 01/16/2020
Date Made Active in Reports: 02/07/2020
Number of Days to Update: 22

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 03/26/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/13/2020
Date Data Arrived at EDR: 01/14/2020
Date Made Active in Reports: 03/24/2020
Number of Days to Update: 70

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 01/14/2020
Next Scheduled EDR Contact: 04/27/2020
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 01/15/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 51

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/02/2020
Next Scheduled EDR Contact: 07/27/2020
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 03/27/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills
This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/30/2012
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 42

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 01/17/2020
Next Scheduled EDR Contact: 04/27/2020
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory
A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 03/27/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory
A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 03/27/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 01/14/2020
Date Made Active in Reports: 03/24/2020
Number of Days to Update: 70
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 01/14/2020
Next Scheduled EDR Contact: 04/27/2020
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/02/2020
Next Scheduled EDR Contact: 07/27/2020
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/09/2020
Next Scheduled EDR Contact: 08/03/2020
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/27/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 64
Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/09/2020
Next Scheduled EDR Contact: 08/03/2020
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/18/2019
Date Data Arrived at EDR: 11/20/2019
Date Made Active in Reports: 01/27/2020
Number of Days to Update: 68
Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 02/14/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29
Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 03/20/2020
Next Scheduled EDR Contact: 07/13/2020
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 11/18/2019
Date Data Arrived at EDR: 11/20/2019
Date Made Active in Reports: 01/03/2020
Number of Days to Update: 44

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 02/13/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 11/20/2019
Date Data Arrived at EDR: 12/02/2019
Date Made Active in Reports: 02/07/2020
Number of Days to Update: 67

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 02/21/2020
Next Scheduled EDR Contact: 06/08/2020
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 11/06/2019
Date Data Arrived at EDR: 11/07/2019
Date Made Active in Reports: 01/08/2020
Number of Days to Update: 62

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 04/13/2020
Next Scheduled EDR Contact: 07/13/2020
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/21/2020
Next Scheduled EDR Contact: 06/08/2020
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 03/05/2020
Next Scheduled EDR Contact: 06/08/2020
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 10/30/2019
Date Data Arrived at EDR: 10/30/2019
Date Made Active in Reports: 12/11/2019
Number of Days to Update: 42

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 01/24/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 10/04/2019
Date Data Arrived at EDR: 12/02/2019
Date Made Active in Reports: 02/04/2020
Number of Days to Update: 64

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/03/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 10/04/2019
Date Data Arrived at EDR: 12/02/2019
Date Made Active in Reports: 02/04/2020
Number of Days to Update: 64

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/03/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 02/04/2020
Date Made Active in Reports: 04/10/2020
Number of Days to Update: 66

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/04/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 12/02/2019
Date Data Arrived at EDR: 12/03/2019
Date Made Active in Reports: 02/07/2020
Number of Days to Update: 66

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 02/27/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 04/09/2020
Next Scheduled EDR Contact: 08/03/2020
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/17/2019
Date Data Arrived at EDR: 10/22/2019
Date Made Active in Reports: 12/13/2019
Number of Days to Update: 52
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 02/10/2020
Next Scheduled EDR Contact: 06/29/2020
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 10/17/2019
Date Data Arrived at EDR: 10/22/2019
Date Made Active in Reports: 01/03/2020
Number of Days to Update: 73
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 02/10/2020
Next Scheduled EDR Contact: 06/29/2020
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/14/2019
Date Data Arrived at EDR: 12/23/2019
Date Made Active in Reports: 02/20/2020
Number of Days to Update: 59
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 03/31/2020
Next Scheduled EDR Contact: 07/13/2020
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/14/2019
Date Data Arrived at EDR: 12/23/2019
Date Made Active in Reports: 02/21/2020
Number of Days to Update: 60
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 03/31/2020
Next Scheduled EDR Contact: 07/13/2020
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 11/14/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/23/2020
Number of Days to Update: 69
Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 01/31/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 11/26/2019
Date Data Arrived at EDR: 11/27/2019
Date Made Active in Reports: 02/04/2020
Number of Days to Update: 69

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 02/03/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 12/03/2019
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 02/04/2020
Number of Days to Update: 62

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 03/03/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/09/2020
Next Scheduled EDR Contact: 08/03/2020
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 12/26/2019
Date Data Arrived at EDR: 01/22/2020
Date Made Active in Reports: 04/01/2020
Number of Days to Update: 70

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 04/09/2020
Next Scheduled EDR Contact: 08/03/2020
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 02/27/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

LUST SAN FRANCISCO: Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 01/31/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 01/08/2020
Date Data Arrived at EDR: 01/09/2020
Date Made Active in Reports: 03/06/2020
Number of Days to Update: 57

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 01/07/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/12/2020
Next Scheduled EDR Contact: 06/29/2020
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 12/12/2019
Date Data Arrived at EDR: 12/13/2019
Date Made Active in Reports: 02/20/2020
Number of Days to Update: 69

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/14/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 09/03/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/05/2019
Number of Days to Update: 57

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 02/20/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/05/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 02/14/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 11/18/2019
Date Data Arrived at EDR: 11/19/2019
Date Made Active in Reports: 01/23/2020
Number of Days to Update: 65

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 02/14/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 02/21/2020
Next Scheduled EDR Contact: 06/08/2020
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 10/30/2019
Date Data Arrived at EDR: 11/01/2019
Date Made Active in Reports: 01/08/2020
Number of Days to Update: 68

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 02/13/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 02/14/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 02/14/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/27/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 12/09/2019
Date Data Arrived at EDR: 12/11/2019
Date Made Active in Reports: 02/21/2020
Number of Days to Update: 72

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/27/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 02/25/2020
Date Data Arrived at EDR: 02/26/2020
Date Made Active in Reports: 03/11/2020
Number of Days to Update: 14

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 03/18/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/03/2020
Date Made Active in Reports: 03/05/2020
Number of Days to Update: 62

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 04/06/2020
Next Scheduled EDR Contact: 07/06/2020
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 11/04/2019
Date Data Arrived at EDR: 11/07/2019
Date Made Active in Reports: 01/08/2020
Number of Days to Update: 62

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 04/02/2020
Next Scheduled EDR Contact: 07/27/2020
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 12/02/2019
Date Data Arrived at EDR: 12/03/2019
Date Made Active in Reports: 02/07/2020
Number of Days to Update: 66

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 02/27/2020
Next Scheduled EDR Contact: 06/15/2020
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 05/20/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 07/18/2019
Number of Days to Update: 58

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 03/17/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 01/21/2020
Date Data Arrived at EDR: 01/23/2020
Date Made Active in Reports: 03/30/2020
Number of Days to Update: 67

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 04/09/2020
Next Scheduled EDR Contact: 08/03/2020
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 11/25/2019
Date Data Arrived at EDR: 11/27/2019
Date Made Active in Reports: 02/04/2020
Number of Days to Update: 69

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 02/03/2020
Next Scheduled EDR Contact: 05/18/2020
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/09/2020
Next Scheduled EDR Contact: 08/03/2020
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/26/2019
Date Data Arrived at EDR: 01/24/2020
Date Made Active in Reports: 04/01/2020
Number of Days to Update: 68

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/21/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/20/2020
Next Scheduled EDR Contact: 07/13/2020
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 02/07/2020
Next Scheduled EDR Contact: 05/25/2020
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 12/26/2019
Date Data Arrived at EDR: 01/24/2020
Date Made Active in Reports: 04/01/2020
Number of Days to Update: 68

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 01/21/2020
Next Scheduled EDR Contact: 05/04/2020
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 11/26/2019
Date Data Arrived at EDR: 12/10/2019
Date Made Active in Reports: 02/21/2020
Number of Days to Update: 73

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/10/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 12/12/2019
Date Data Arrived at EDR: 01/15/2020
Date Made Active in Reports: 03/25/2020
Number of Days to Update: 70

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 03/20/2020
Next Scheduled EDR Contact: 07/13/2020
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 11/04/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 01/08/2020
Number of Days to Update: 63

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 02/07/2020
Next Scheduled EDR Contact: 05/25/2020
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 01/30/2020
Date Data Arrived at EDR: 01/30/2020
Date Made Active in Reports: 03/09/2020
Number of Days to Update: 39

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 01/30/2020
Next Scheduled EDR Contact: 05/25/2020
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/10/2020
Next Scheduled EDR Contact: 07/20/2020
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 05/01/2019
Date Made Active in Reports: 06/21/2019
Number of Days to Update: 51

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 01/31/2020
Next Scheduled EDR Contact: 05/11/2020
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/02/2020
Next Scheduled EDR Contact: 07/27/2020
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 10/02/2019
Date Made Active in Reports: 12/10/2019
Number of Days to Update: 69

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/18/2020
Next Scheduled EDR Contact: 06/01/2020
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/09/2020
Next Scheduled EDR Contact: 06/22/2020
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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Appendix H

Krazan & ASSOCIATES, INC.

SITE DEVELOPMENT ENGINEERS

William H. Vick, Ph.D., REA

Environmental Project Manager

AREAS OF EXPERTISE

Phase I Environmental Site Assessments
Environmental Analytical Chemistry
Pollutant Fate and Effects
Site Characterization and Remediation
Physical Characterization of Construction Materials
Quality Assurance/Quality Control Programs

EDUCATION AND CERTIFICATIONS

Bachelor of Science in Molecular Biology
University of Texas - Dallas
Doctor of Philosophy in Environmental Sciences
University of Texas – Dallas
California Environmental Protection Agency
Department of Toxic Substances Control
Registered Environmental Assessor I No. 30165
Asbestos Building Inspector, Certification No. 3370
NICET Certified Construction Materials Testing
CalTrans Certified Construction Materials Testing

PROFESSIONAL AFFILIATIONS

Member, American Society for Testing Materials

RELEVANT PROFESSIONAL EXPERIENCE

2002 to Present

Senior Technical Staff, Krazan & Associates, Inc.
Environmental project manager responsible for design, conduct, and management of site investigations, including Phase I Environmental Site Assessments using state-of-the-art research methods, and surface and subsurface contaminant characterization. Additional responsibilities include direction and management of construction materials testing laboratory, including data review, compliance evaluation, and quality assurance/quality control programs.

1981 to 1987

Principal Investigator, Science Applications, Inc.
Responsible for the design, conduct, and management of environmental research programs for government clients. In this capacity, primary responsibilities included design of multidisciplinary research programs in response to environmental issues of national scope, technical and financial management, design and implementation of project-specific quality assurance/quality control programs, statistical data evaluation/interpretation and report preparation. Representative research programs include development of an analytical chemistry procedure for ultra trace-level analysis of dioxin, investigation of the chronic toxicity of crude

oil to selected marine species, an evaluation of physical encapsulation techniques for remediation of dioxin contaminated soils, and participation in the remedial investigation/feasibility study of the Stringfellow NPL Superfund hazardous waste site.

1979 to 1981

Graduate Research Assistant, University of Texas - Dallas
Responsible for the design and conduct of an EPA-funded research program to assess the effectiveness of activated carbon for removal of trace-level organic pollutants from industrial wastewater. Conducted on-site, pilot-scale technology evaluation, characterized pollutant breakthrough profiles, and evaluated system monitoring techniques. Responsible for QA/QC program and for all data analysis and interpretation.

1977 to 1979

Environmental Chemistry Analyst, Texas Instruments, Inc.
Responsible for analysis of environmental samples for trace-level organic contaminants using mass spectrometry and gas chromatography. As senior analyst on evening shift, responsible for review, interpretation, and management of all data generated.

Krazan & ASSOCIATES, INC.

SITE DEVELOPMENT ENGINEERS

Art Farkas, R.E.A.

Vice President
Environmental Division

AREAS OF EXPERTISE

Project Management and Oversight
Senior Quality Control Review
Staff Development
Information Management
Marketing, Public Relations and Publicity

EDUCATION AND ACCOMPLISHMENTS

California Environmental Protection Agency
Department of Toxic Substances Control
Registered Environmental Assessor I No. 07818
Bachelor of Electronic Engineering Technology,
University of Dayton, Ohio
CEQA Training: University of California Davis Extension
NEPA Training: U.S. Department of Housing and Urban Development Region 9, San Francisco

PROFESSIONAL EXPERIENCE

February 1998 to Present

Vice President, Krazan & Associates, Inc., Environmental Division
CEQA and NEPA project management specialist. Project Manager and senior quality control reviewer for Phase I and Phase II Environmental Site Assessments. Activities include division oversight, business development, regional coordination of technical services and delivery of efficient integrated site development engineering services in conjunction with the Geotechnical and Construction Testing and Inspection Divisions of the firm

Dec. 1994 to Feb. 1998

Executive Director, Downtown Association of Fresno
Responsibilities included management of business association for Central Business District of Fresno; Director of the Fresno Main Street Program; project operations and promotions management; policy formation, budgeting; marketing, public relations; publicity, fundraising and public speaking; management of 18-member Board of Directors for non-profit organization.

Apr. 1974 to Dec. 1994

Operations Manager/Program Director/Air Personality: Radio Broadcasting

1974 - 1980 KFIG	1981 - 1991 KKDJ
1980 - 1981 KIOY	1991 - 1994 KTHT

Responsibilities included operations management of staff and systems; program direction; on-air performance; production' promotions' public affairs and marketing.

APPENDIX F – HEALTH RISK ASSESSMENT

AECOM
600 Montgomery
San Francisco, CA 94111
aecom.com

Project name:
Greenfield Commons Residential Project

Project ref:
60635847

To:
Paul Wood, City Manager
City of Greenfield
El Camino Real
Greenfield, CA 93927
United States

CC:
Rob Mullane, Consulting Planner, City of Greenfield

From:
Mary Kaplan, Senior Air Quality Scientist
Stephen Barnard, Senior Air Quality Scientist
Emma Rawnlsey, Project Manager

Date:
September 9, 2020

Memo

Subject: Final Health Risk Assessment

AECOM has prepared this technical memorandum to describe the results of the Health Risk Assessment for the proposed Greenfield Commons Project. The Health Risk Assessment was requested by the City of Greenfield, for compliance with the California Environmental Quality Act (CEQA), and is consistent with the Monterey Bay Air Resources District CEQA Air Quality Guidelines.[1] This memorandum describes the project, the approach to the health risk assessment, and the modeling methodologies used to perform the analysis.

The Greenfield Commons project, proposed by EAH Housing, provides the City of Greenfield with an opportunity to meet its affordable housing goals, serve the farmworker community that helps support the local economy, and promote the community's rural atmosphere and heritage. The proposed Greenfield Commons project would convert an existing vacant parcel along Walnut Avenue into 222 modular apartments within eight buildings, a community building, and internal open space, recreational spaces, and circulation.

Located along the east side of the City, the approximately 11-acre residential project site is adjacent to active agricultural uses including the Borzini Farms, as well as orchards and row crops across Walnut Avenue in unincorporated Monterey County but within the City's Sphere of Influence. EAH proposes an 82-foot buffer on the northern side of Greenfield Commons project site, to reduce the likelihood of the drift of applied compounds during pesticide or herbicide applications from the adjacent farmland toward the Greenfield Commons area that could expose future residents of Greenfield Commons to health risks.

The nearby agricultural use of pesticides, herbicides, and other toxic air contaminants has been examined by the Monterey County Agricultural Commissioner, who recommended a 150 foot agricultural buffer zone for the project site.

A review of the Borzini Farm practices including agricultural pesticide, herbicide, fungicide compounds and application methods, times, and amounts together with simulation of these practices through the use of the United States Environmental Protection Agency (U.S. EPA) approved AgDRIFT and American

[1] Monterey Bay Air Resources District CEQA Air Quality Guidelines. Available at: https://www.mbard.org/files/f665829d1/CEQA_full+%281%29.pdf. Accessed July 2020.

Meteorological Society/U.S. EPA Regulatory Model (AERMOD) models, suggest that exposure effects are within acceptable levels and that the agricultural buffer distance as proposed will be more than adequate to limit off-site activity exposure for the future residents of the Greenfield Commons.

This memorandum addresses the following topics, as listed below by section:

1.0 – Introduction describes the project understanding and the objectives and methodology for the Health Risk Assessment.

2.0 – Emissions Estimates describes the methods used to estimate the emissions of toxic air contaminants generated by nearby agricultural activities.

3.0 – Air Dispersion Modeling describes the methods for modeling pollutant dispersion and estimating pollutant concentration contributions from project sources.

4.0 – Health Risk Analysis Methodology and Results provides an overview of the methodology for estimating potential health risks to new and existing sensitive receptors and results of the excess cancer risk and non-cancer risks at the project's maximally exposed individual (MEI).

5.0 – Conclusions provides a summary of the conclusions based on the modeling conducted.

6.0 – Measures to Reduce Exposure identifies measures that would reduce project health risks, provides the methodology for assessing the effectiveness of these measures.

7.0 – Uncertainties provides a discussion of uncertainties and limitations associated with the Health Risk Analysis.

8.0 – Attachments presents the approved scope of work and summary of model inputs.

1.0 Introduction

Project Understanding

EAH Housing has proposed to develop a vacant site in the City of Greenfield, California with affordable housing units to serve the farmworker community and others. The proposed site (see Figure 1) is located across Walnut Avenue from actively farmed agricultural lands. The closest farmed lands are Units 6, 7 and 9 of the Borzini Farms and Ranch. These units are approximately 70 feet, 155 feet, and 80 feet from the project site, respectively. The EAH site plan includes an 82-foot agricultural buffer zone along the northern boundary of the project site.

Because of the use of agricultural products (pesticides, herbicides, fungicides) to promote and protect crops within the Borzini Farms and the location of the planned Greenfield Commons residential community, both the Agricultural Commissioner for Monterey County and the City want to better understand the potential for drift of the agricultural products used on the Borzini Farms crop areas and exposure to the future residents of the Greenfield Commons.

Upon review of the Greenfield Commons plan and site location relative to the agricultural area as well as active application of agricultural products during the growing seasons, the Monterey County Agricultural Commissioner suggested in a letter dated 26 February 2020 that an agricultural buffer zone distance of 150 feet, as well as installation of a bermed and treed, vegetative screen along Walnut Avenue, would be a sufficient safeguard to reduce agricultural drift of compounds from Borzini Farm spraying applications near the Greenfield Commons area.

The City has contracted AECOM to assess the likelihood of agricultural drift of applied compounds to the Borzini Farms areas to impact the Greenfield Commons site as well as the efficacy of the proposed buffer zone and vegetative screening to limit exposure of the future Greenfield Commons residents from the drifting of sprayed chemical compounds from agricultural applications.

AECOM has reviewed information supplied by the Borzini Farms regarding the types and amounts of applied compounds and the time periods during which agricultural spraying is performed on its nearby acreage. Further, AECOM has examined literature to quantify vegetative screening efficacy and to examine drift potentials. The U.S. EPA models AgDRIFT and AERMOD were used to simulate the Borzini Farm application methods and likely resulting drift patterns and downwind extents to determine relative likelihood of potential exposure to the Greenfield Commons project site.

Health Risk Background

The U.S. EPA regulates hazardous air pollutants, also known as toxic air contaminants (TACs). TACs may be emitted by stationary, area, or mobile sources. Common stationary sources of TAC emissions include gasoline stations, dry cleaners, and diesel backup generators, which are subject to the requirements of local air districts' permits. The other, often more substantial, sources of TAC emissions are motor vehicles on freeways, on high-volume roadways, or in other areas with high numbers of diesel vehicles, such as distribution centers. Off-road mobile sources are also major contributors of TAC emissions and include construction equipment, ships, and trains. TACs are also found in insecticides, pesticides, and fungicides often used on agricultural fields.

TACs collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., long-duration) and acute (i.e., severe but short-term) adverse effects on human health, including carcinogenic effects. Human health effects of TACs include birth defects, neurological damage, cancer, and mortality. There are hundreds of different types of toxic air contaminants with varying degrees of toxicity. The health risks of individual TACs vary greatly; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

Figure 1: Greenfield Commons Property Location and Borzini Farm Units 6, 7, and 9

TACs can be separated into carcinogens and noncarcinogens based on the nature of the effects associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur. Any exposure to a carcinogen poses some risk of contracting cancer. Noncarcinogens differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

Air pollution does not affect every individual in the population in the same way, and some groups are more sensitive than others to adverse health effects. Land uses such as residences, schools, daycare centers, hospitals, and nursing and convalescent homes are considered most sensitive to poor air quality, because the population groups associated with these uses are more susceptible to respiratory distress or, for residential receptors, their exposure time is greater than that for other land uses. Therefore, these groups are referred to as sensitive receptors. The Office of Environmental Health Hazard Assessment (OEHHA),[2] defines sensitive receptors as children, adults, and seniors occupying or residing in residences, schools, daycare centers, hospitals, and senior-care facilities. Potential health risk impacts on the new residents from the proposed project are evaluated in this Health Risk Assessment.

Objective and Methodology

The purpose of this Health Risk Assessment is to assess potential TAC emissions associated with the spraying of pesticides, insecticides, and fungicides at Borzini Units 6, 7, and 9. These sites have been selected because the proposed residential dwellings of the Greenfield Commons project (sensitive receptors) would be within 1,000 feet of these units. Since the Monterey Bay Air Resources District does not have its own guidance for health risk assessments, other air district guidance was used. The analyses were conducted consistent with guidance and methodologies from local, regional, state, and federal agencies, including the California Air Resources Board,[3] the Office of Environmental Health Hazard Assessment (OEHHA),[4] and the U.S. EPA's Guideline on Air Quality Models (Appendix W).[5]

This analysis evaluates health risk and hazard impacts of agricultural spraying emissions on offsite sensitive receptors (residents) within 1,000 feet to determine the probability of contracting cancer over 30 years from two years of exposure, as well as assessing chronic non-cancer and acute risk.

Project Sources

The Borzini Farm applies agricultural products to promote and preserve crops within its acreage using a tractor-mounted boom aligned with medium-sized, spray drop spectra spray nozzles in an 80-degree fan coverage pattern. Tractor speeds are nominally 5 miles per hour (mph) and spray boom and nozzle heights are typically 20 inches or less above the ground surface.

Spraying of agricultural products is typically completed during nighttime hours under suitable wind conditions (i.e., with winds less than 10 mph and under wind directions other than northerly) in compliance with the California Code of Regulations Pesticide Use Near Schoolsites[6] and other City and County restrictions. Limited ground spraying of liquid pesticides occurred during daytime hours on two days in March as allowed per the regulation if the distance is greater than 25 feet from a schoolsite. Aerial spraying events were conducted six times in 2019 during weekend daytime hours only. Complete logs of

2 Office of Environmental Health Hazard Assessment (OEHHA). 2015 (February). Air Toxics Hot Spots Program Guidance Manual. https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed July 2020.
3 California Air Resources Board (CARB). 2017. Hotspots Analysis Reporting Program 2 Air Dispersion Modeling and Risk Tool (Version 19121). https://www.arb.ca.gov/toxics/harp/harp.htm. Accessed July 2020.
4 Office of Environmental Health Hazard Assessment (OEHHA). 2015 (February). Air Toxics Hot Spots Program Guidance Manual. https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed July 2020.
5 U.S EPA. 2017 (January). Guideline on Air Quality Models (Revised). 40 Code of Federal Regulations, Part 51, Appendix W. Office of Air Quality Planning and Standards.
6 California Code of Regulations. https://www.cdpr.ca.gov/docs/legbills/rulepkgs/16-004/16-004_final_text.pdf. Accessed August 2020.

agricultural products sprayed, the amounts sprayed, the time and date of spraying, the location being sprayed, the vegetative crop being treated are all kept by Borzini Farms and have been provided for the most recent year of activity (2019).

2.0 Emissions Estimates

Information regarding the types, amounts, and times of application of agricultural products used by Borzini Farm and Ranch were reviewed by AECOM. A total of 55 different products including pesticides, herbicides, fungicides were listed in the Borzini usage inventory, and further information was sought and provided regarding other aspects of the application process. Safety Data Sheets (SDS) for the products used by Borzini Farms were obtained and reviewed by AECOM to compare the active ingredients for each of the products used for spraying to those included in the California Air Resources Board (CARB) Hot Spots Analysis and Reporting Program (HARP) database of constituents. U.S. EPA Product Labels for many of the listed products were also reviewed to ensure product usage and application coverage rates provided conform with product-specific labeling, usage and application practices.

This Health Risk Assessment evaluates emissions of compounds associated with the agricultural products that are listed in the Consolidated Table of OEHHA[7]. As shown in Table 1, many of the products used do not contain active ingredients or constituents included in the Consolidated Table. CARB is currently proposing to add over 800 substances for emissions tracking and subsequent evaluation of health risks which would likely increase the number of products assessed in an HRA. [8,9]

Table 1: List of Agricultural Products Used on Borzini Farms Blocks 6, 7, and 9

Agricultural Product Applied	Active Ingredient Listed on CARB/HARP Consolidated Table of Risk Assessment Health Values
ABAMEX MITICIDE/INSECTICIDE	
ACEPHATE 97UP	
ACTIGARD 50WG	Crystalline Silica
AFRAME (CA & HI)	Propylene Glycol
ALIETTE WDG FUNGICID	
ASSAIL 30SG	
BADGE X2 FUNGICIDE/B	Copper Compounds
BELEAF 50 SG INSECTICIDE	
BRANDT M.S.O.	
CABRIO(R) EG FUNGICI	
CAPAROL 4L	Ethylene Glycol
CHAMP FORMULA 2 FLOW	Copper Compounds
DU PONT CURZATE 60DF FUNGICIDE	
DUAL MAGNUM (CA/HI*)	Naphthalene
DUPONT FONTELIS FUNG	
DUPONT LANNATE SP IN	
INTREPID 2F	
JET-AG	
KERB SC	Propylene Glycol

[7] Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values. Available at: https://ww2.arb.ca.gov/sites/default/files/classic//toxics/healthval/contable.pdf. Accessed July 2020.

[7] https://ww3.arb.ca.gov/ab2588/SRPReview/Master%20List%20of%20New%20Proposed%20Substances.pdf

[9] https://ww2.arb.ca.gov/hot-spots-inventory-guidelines

Agricultural Product Applied	Active Ingredient Listed on CARB/HARP Consolidated Table of Risk Assessment Health Values
LAMBDA-CY EC AGRICUL	
LOROX DF	
LUNA TRANQUILITY	
MANZATE MAX	Manganese Compound
MERIVON(R) XEMIUM(R)	Propylene Glycol
METEOR	
MILLER FOAM FIGHTER	
MONTANA 2F INSECTICI	
MOVENTO	
MULTI-SPRED	
MUSTANG (CA & NY)	
MUSTANG INSECTICIDE	Propylene Glycol
NEW CENTURY OIL SPRE	
NUPRID 2SC	Propylene Glycol
NUPRID 2SC SOIL/FOLIAR INSECTICIDE	
PERM-UP 25 DF INSECTICIDE	
PHOSTROL AGRICULTURAL FUNGICIDE	
PLATINUM 75 SG	
POUNCE 25 WP	
PREFAR 4-E	
PRESIDIO FUNGICIDE	
PREVICUR FLEX FUNGIC	
PROPI-STAR EC	Naphthalene
RADIANT SC	
REASON 500 SC FUNGICIDE	Propylene Glycol
REVUS	
RIDOMIL GOLD SL	Propylene Glycol
RO-NEET HERBICIDE	Naphthalene
ZAMPRO FUNGICIDE	

Note: Blank cells indicate that no active ingredients were listed on the Consolidated Table.

Product application amounts, rates, and area of application were used to develop the maximum hourly (pounds per hour or lb/hour) and annual average (pounds per year or lb/year) emission rates shown in Table 2. These emissions estimates were then used to determine concentrations of each pollutant at sensitive receptor locations in order to report constituent concentrations and to then evaluate the excess cancer risk a receptor is exposed to as a result of the proposed project.

Table 2: Product Emission Rates by Unit (lb/hour and lb/year)

	Regulated Compound		Emissions from Applications	
Model ID	**CAS**	**Description**	**lb/year**	**lb/hour**
Borzini7	1175	Crystalline Silica	61.6900	3.4272
Borzini6	1175	Crystalline Silica	76.5731	4.2541
Borzini9	1175	Crystalline Silica	36.5791	2.0322
Borzini7	57556	Propylene Glycol	203.0880	11.2827
Borzini6	57556	Propylene Glycol	252.0845	14.0047
Borzini9	57556	Propylene Glycol	120.4212	6.6901
Borzini7	7440508	Copper Compounds	321.2670	17.8482
Borzini6	7440508	Copper Compounds	398.7752	22.1542
Borzini9	7440508	Copper Compounds	190.4956	7.6912
Borzini7	107211	Ethylene Glycol	79.1798	4.3989
Borzini6	107211	Ethylene Glycol	98.2826	5.4601
Borzini9	107211	Ethylene Glycol	46.9498	2.6083
Borzini7	91203	Naphthalene	10.0017	0.5556
Borzini6	91203	Naphthalene	12.4146	0.6897
Borzini9	91203	Naphthalene	5.9305	0.3295
Borzini7	7439965	Manganese Compound	292.9654	16.2759
Borzini6	7439965	Manganese Compound	363.6456	20.2025
Borzini9	7439965	Manganese Compound	173.7141	9.6508

Values in Table 2 were derived from the Borzini Farm application rates, tractor speeds, AgDRIFT inputs, SDS and U.S. EPA product label identification of active ingredients and percentages, and acreage sprayed. The application rates provided by Borzini Farm are expressed either in gallons per acre (gal/ac) or pounds per acre (lb/ac). The gal/ac rates were converted to lb/ac rates by applying liquified product weights (e.g., 8 pounds per gallon).

AgDRIFT uses a total path of 20 swaths in its Tier I input assumptions. Borzini Farm indicated in its response for additional information that the spraying applicator tractor is driven at approximately 5 miles per hour. At 5 mph, it would take about 3 minutes per swath to traverse the width of each of the Borzini Units 6, 7, 9 and hence a 20-swath coverage path would take about 1 hour per Unit.

Total Unit acreage for each of the modeled volume sources was calculated based on the areal dimensions of the modeled Borzini Farm units (6, 7, 9) depicted on Figure 1. Using these area-specific acreage values, the regulated compound emission rates (in lb/hour) were calculated. The lb/hour rates were calculated by multiplying the acreage sprayed by the application rate and then by the regulated compound percentage. This calculation provided a compound-specific emission rate for maximum short-term exposure scenario modeling.

To determine the annual aggregate compound-specific emissions, annual usage was conservatively estimated and a ratio of the annual to the hourly was applied to all compounds. Spraying records for the 2019 crop season were examined and show that agricultural product spraying at the Borzini Farm Units of interest is episodic, sporadic, and seasonal; i.e., the application is non-continuous. To estimate the annual application emission rates, the total annual amount sprayed (in pounds) was calculated from the Borzini records. This annual rate was then divided by the maximum hourly amount sprayed for all three units,

resulting in a value of 18. This factor was then applied to each of the modeled Units and regulated compounds sprayed to calculate an annual treatment amount per compound and per Unit.

Because of the number of different agricultural products applied, each product that contained a regulated compound was tallied in Table 2 to allow a complete assessment of compound variability by product type. The HARP2 inputs do not differentiate treatment types, but rather compounds only. Consequently, the listing in Table 2 was modified to conform with the HARP2 input requirements using only the maximum hourly rates for each compound and modeled source, and then using the aggregated annual values for each compound and modeled source.

3.0 Air Dispersion Modeling

Two models were used to determine downwind concentrations from the agricultural activities at Borzini Farms, AgDRIFT and AERMOD. These are discussed in turn, below.

AgDRIFT

The amount of downwind drift of agricultural products applied to crops is governed by the application method, amount, meteorological conditions, and downwind features. Of these factors, droplet size and meteorological conditions are primary considerations with other factors such as patterns, delivery methods (aerial or ground), and downwind vegetative or other impediments to flow of secondary importance. Models have been specifically developed to help identify drift potential from agricultural applications of pesticides and other products. The U.S. EPA Pesticide Division's [10] model has been selected and can examine ground and aerial spray applications and the potential drift associated with the inputs provided.

The AgDRIFT model includes a tiered process to evaluate agricultural drift of sprayed products with a single tier for both ground and orchard blast spraying and a multi-tiered approach for aerial applications. The Borzini lands that are in the City of Greenfield's zone of influence (Borzini Blocks 6, 7, and 9 as shown in Figure 1) are almost exclusively sprayed with agricultural products via ground versus aerial applications. As noted above, the ground-based spraying at Borzini Farms is completed by tractor-driven, boom-mounted spray nozzles which deliver liquified product in amounts according to product specifications and practices. Because nearly all the spraying is done via ground applications, only the ground application events were examined using AgDRIFT.

The AgDRIFT model is an extension of an earlier model AGricultural DISPersal (AGDISP) which forms the basis of the dispersion routines in AgDRIFT. AgDRIFT was developed as an update to AGDISP to better simulate field-data results collected by the Spray Drift Task Force. The AgDRIFT model has been shown to be in "good agreement with field results for estimating near-field buffer zones needed to manage human, crop, livestock, and ecological exposure". [11]

AgDRIFT is coded to allow for the assessment of agricultural pesticide and other product spraying and was developed in part to assist the U.S. EPA Office of Pesticide Programs in establishing best application practices for the many and varied agricultural products to reduce the potential for downwind drift, post-application. The U.S. EPA pesticide product labeling system uses AgDRIFT results as a guide in developing appropriate product labeling to reduce downwind drift of sprayed pesticides. Hence, for farmers spraying in accordance with product-specific labeling and application guidance, potential drift is reduced to levels that contain overspray and limit downwind drift of materials sprayed.

The Borzini Farm application log documentation suggests that application amounts conform with labeled product specifications and guidance; therefore, Borzini spray and application practices should help limit the potential for downwind drift of applied pesticides, herbicides, fungicides. Due to the spatial orientation of the Borzini Farm properties relative to the Ceasar Chavez Elementary School to the southeast of the Greenfield Commons location (Figure 1), the Borzini Farm is prohibited from applying agricultural products during times when elementary school children could be present at the school (i.e., during the daytime) and/or when winds are blowing from a northerly direction.

[10] AgDRIFT. Available at: https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/models-pesticide-risk-assessment. Accessed July 2020.
[11] Bird, S., M. Teske, D. Esterly, T. Curbishley, S. Ray, and S. Perry, AgDRIFT: A Model for Estimating Near-Field Spray Drift from Aerial Applications, 2002.

Methodology

The AgDRIFT ground-based Tier 1 assessment requires the understanding of the likely droplet size spectra, the height of application above ground, and the data percentile comparative level to which the assessment is being applied. There are two options for each of these input variables including:

- Boom Height – low boom or high boom
- Drop Size Distribution – American Society of Agricultural and Biological Engineers (ASABE, formerly ASAE) Very Fine to Fine or ASABE Fine to Medium/Coarse
- Data Percentile – 50th Percentile or 90th Percentile

Based on information supplied by Borzini Farm, the AgDRIFT assessment of the Borzini Farm applications used the low boom height option; the ASABE Fine to Medium/Coarse drop size distribution; and the 90th percentile data evaluation. The low boom height in AgDRIFT corresponds to a height of 20 inches above grade height and the ASABE Fine to Medium/Coarse drop size corresponds to a mean droplet diameter of 341 micrometers (µm). The 90th percentile data conforms with a conservative assessment of impacts.

The droplet spectra range[12] is provided in Figure 2 and is from the AgDRIFT User's Guide. As seen in Figure 2 the droplet spectra produced by different nozzle sizes and application dynamics varies considerably. The smaller the droplet size the longer it typically remains in the atmosphere and therefore more likely to drift farther than larger droplet sizes due to the mass of the droplets. Further, smaller droplets are subject to quicker evaporation than larger droplets which can result in the drift of more concentrated pesticide mass downwind.

Because the Borzini Farm application uses low boom tractor-mounted medium droplet nozzles, the Medium to Coarse droplet spectra in Figure 2 is the most appropriate spectra to apply and therefore the ASABE Fine to Medium/Coarse drop size was used in AgDRIFT. Following the initial AgDRIFT entries, the model allows the user to specify the assessment type. Because an objective of this Health Risk Assessment is to determine an appropriate protective downwind buffer zone at the Greenfield Commons project site, the terrestrial field assessment was selected.

The terrestrial field assessment allows the calculation at a distance, downwind of the edge of the application area, of the fraction of applied material remaining, and the initial average deposition in various units of measure based on the active application rate as determined in pounds per acre (lb/ac). Based on the recent Borzini Farm application records, the maximum application rate of active ingredients is about 1.5 lb/ac which corresponds with the product in Table 1 identified as Badge X2 Fungicide/B containing copper compounds. Under the terrestrial application entry, the calculated lb/ac rate of 1.498 was entered per the Borzini Farm record values and the potential drift results were calculated at various distances downwind from the edge of the Borzini application area.

Specific values at various distances downwind of the edge of the application area are shown in Table 3, corresponding to distances of 70, 100, and 150 feet from the edge of the application area.

Even though the Borzini Farm application of agricultural products to the fields closest to the planned Greenfield Commons residential area is not permitted by the City of Greenfield during northerly winds, to ensure a conservative assessment, the application area was assumed to start at the edge of the Borzini Farm Unit 6 (Figure 1) along the northern edge of Walnut Avenue.

[12] A User's Guide for AgDRIFT 2.0.07: A Tiered Approach for the Assessment of Spray Drift of Pesticides, February 2003. Available at: https://www.epa.gov/sites/production/files/2015-07/agdrift_2.1.1.zip. Accessed July 2020.

Figure 2: AgDRIFT Drop Diameter Volume Fractions for Various Spray Size Classifications

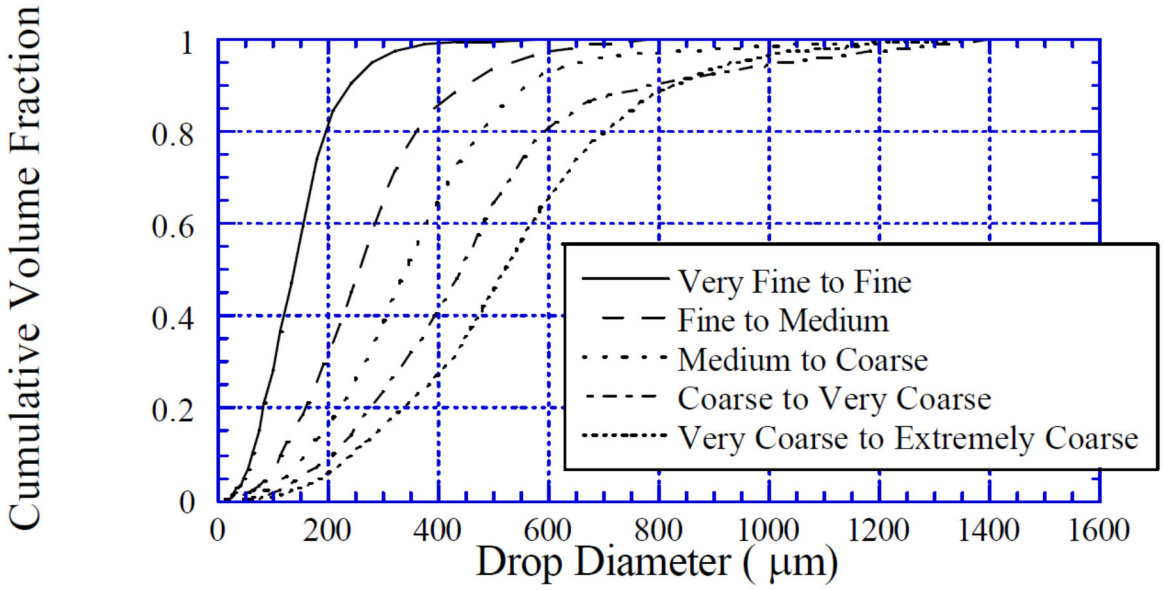


Table 3: AgDRIFT Terrestrial Assessment – Point Deposition – Initial Average Deposition Values at Various Distances from Edge of Application Area

Point Deposition Parameter	Distance from Edge of Application Area		
	70 feet	100 feet	150 feet
Fraction of Applied	0.0058	0.0044	0.0033
Pounds per Acre	0.0086	0.0066	0.0049

Results

Applications for a low boom, ASABE Fine to Medium/Coarse droplet spectra, and a 90th percentile data value comparison result in a Tier I deposition profile in AgDRIFT as depicted in Figure 3. The deposition curve in Figure 3 suggests that applying the medium droplet spectra, in combination with a low boom application height, result in rapid depletion of sprayed material as shown by a nearly two order of magnitude decrease in fraction of material applied within about 20 feet of the edge of the application area. That value is halved again within 100 feet of the edge of the application area.

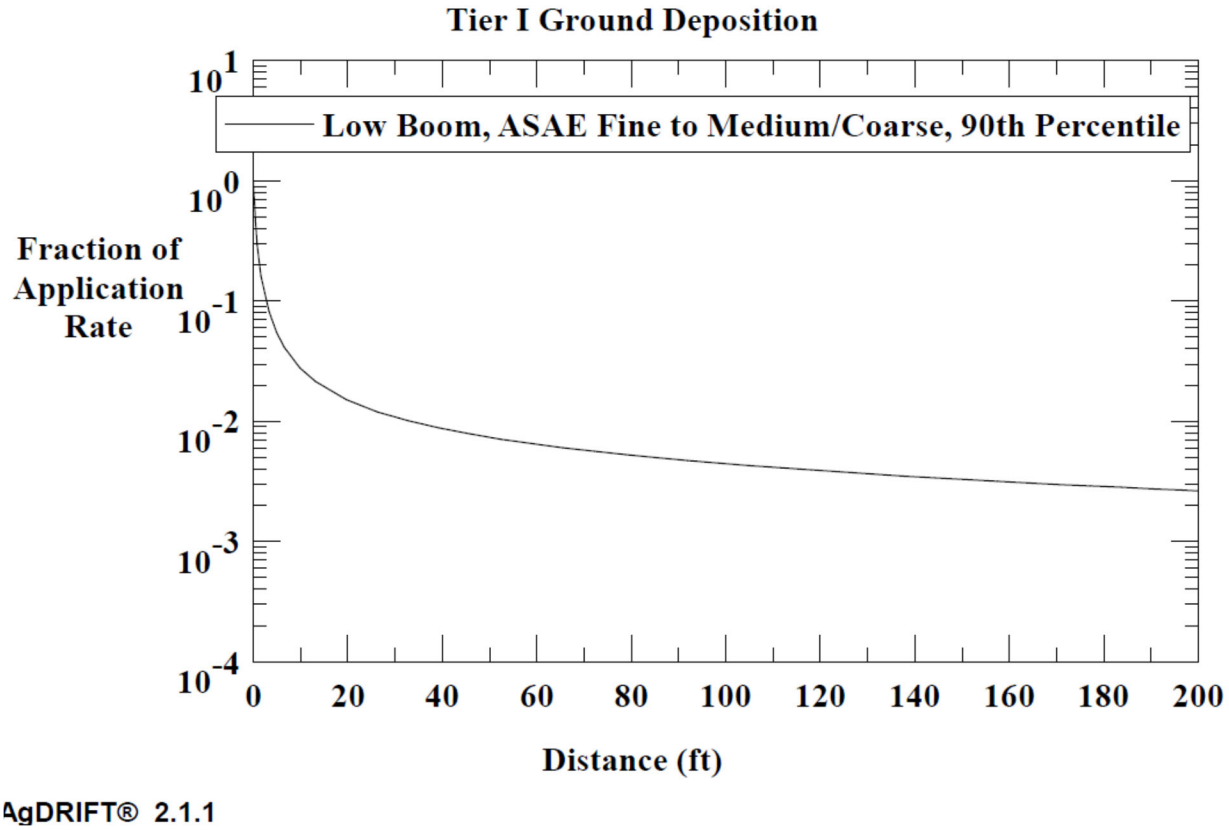
The distance from the Borzini Farm Unit 6 edge of application area to the centerline of Walnut Avenue is approximately 50 feet. The distance from the edge of the application area to the nearest Greenfield Commons boundary is approximately 70 feet. As shown in Figure 3 and Table 3, AgDRIFT calculates more than two orders of magnitude depletion in the fraction of sprayed materials applied at a distance of 70 feet from the edge of the application area, suggesting a greater than 99 percent reduction in sprayed material over that distance.

The results of the AgDRIFT assessment suggest that the material being applied by the Borzini Farm through liquified, low boom, medium spectra nozzles, during nighttime, non-northerly wind direction periods will not likely reach the windward edge of the Greenfield Commons project site without substantial reduction in sprayed quantity mass.

This finding of limited agricultural drift and deposition is supported by recent soil sampling of the planned Greenfield Commons site and the finding of no detectable concentrations in the soil of pesticides and compounds sampled by Krazen & Associates Inc. in 2018.[13] Given that the Borzini Farm operation has a long-standing practice of agricultural spraying and that the project site is within 100 feet of the farmland, if agricultural drifting were occurring routinely then one might expect to detect traces of drifted pesticides or other compounds in soil samples from the area.

Because no compounds or pesticides were detected in the soil samples suggests that the Borzini Farm spraying practices limit off-site agricultural drift.

Figure 3: AgDRIFT Tier I Ground Deposition versus Distance for Low Boom Medium Spray



AERMOD

The AERMOD dispersion model (Version 19191) was used to estimate pollutant concentrations at specific distances from project emission sources using five years (2015-2019) of hourly meteorological data from the Salinas Airport (KSNS) meteorological station. The selection of the Salinas Airport station as a proxy for the project site is consistent with guidelines issued by the California Air Resources Board[14] and U.S. EPA Appendix W and is described in more detail below.

[13] Krazan & Associates, Inc. Phase I Environmental Site Assessment – Proposed Residential Development Property – 41206 Walnut Avenue, Greenfield, California, 19 May 2020.

[14] California Air Resources Board (CARB). 2018 (July). *EMFAC2017 Volume III – Technical Documentation v1.0.2.* https://www.arb.ca.gov/msei/downloads/emfac2017-volume-iii-technical-documentation.pdf.

Selection of Representative Meteorological Data

To be considered as representative of the application location and in accordance with the Guideline on Air Quality Models (40 CFR 51 Appendix W), meteorological data collected at another site should be based on “1) the proximity of the meteorological monitoring site to the area under consideration, 2) the complexity of terrain, 3) the exposure of the meteorological site, and 4) the period of time during which data are collected.”

The Salinas Airport meteorological station is approximately 30 miles from the Greenfield Commons site, with no significant terrain between the two locations that could potentially obstruct or dramatically change the wind flow. The Salinas airport measurement site is influenced by a similar valley alignment as the Greenfield Commons site and the data are collected on a routine basis under federal collection assurance programs and are complete and recent. The Salinas airport data therefore meet the requirements of representativeness and were used in the AERMOD modeling assessment.

Representative surface meteorological data was were obtained for the most recent five-year period (2015-2019) from the Salinas airport measurement site and coupled with upper air data for the same period from the Oakland (KOAK) upper air sounding station, which is the closest station to the Salinas Airport station. A windrose showing the direction, windspeed, and frequency of winds at the Salinas Airport station for the five-year period of data as processed in AERMET is provided in Figure 4.

As discussed previously, spraying is generally restricted to nighttime hours between 7 p.m. and 6 a.m. seven days per week due to proximity of the Ceasar Chavez Elementary School. The infrequent aerial and daytime spraying was not included in the modeling analysis as cancer risk is based on long-term exposure. In 2019, there were 55 calendar days when spraying occurred, with 46 days (84%) where spraying was conducted between 7 p.m. and 6 a.m. The only exceptions to nighttime spraying was for six days when aerial spraying events were undertaken on weekends during daylight hours, and three days that included ground spraying events during daytime hours. A windrose showing wind conditions only for those nighttime hours over the five-year period at the Salinas Airport site is provided in Figure 5.

Figure 4: Salinas Airport Meteorological Station Wind Rose (2015-2019)

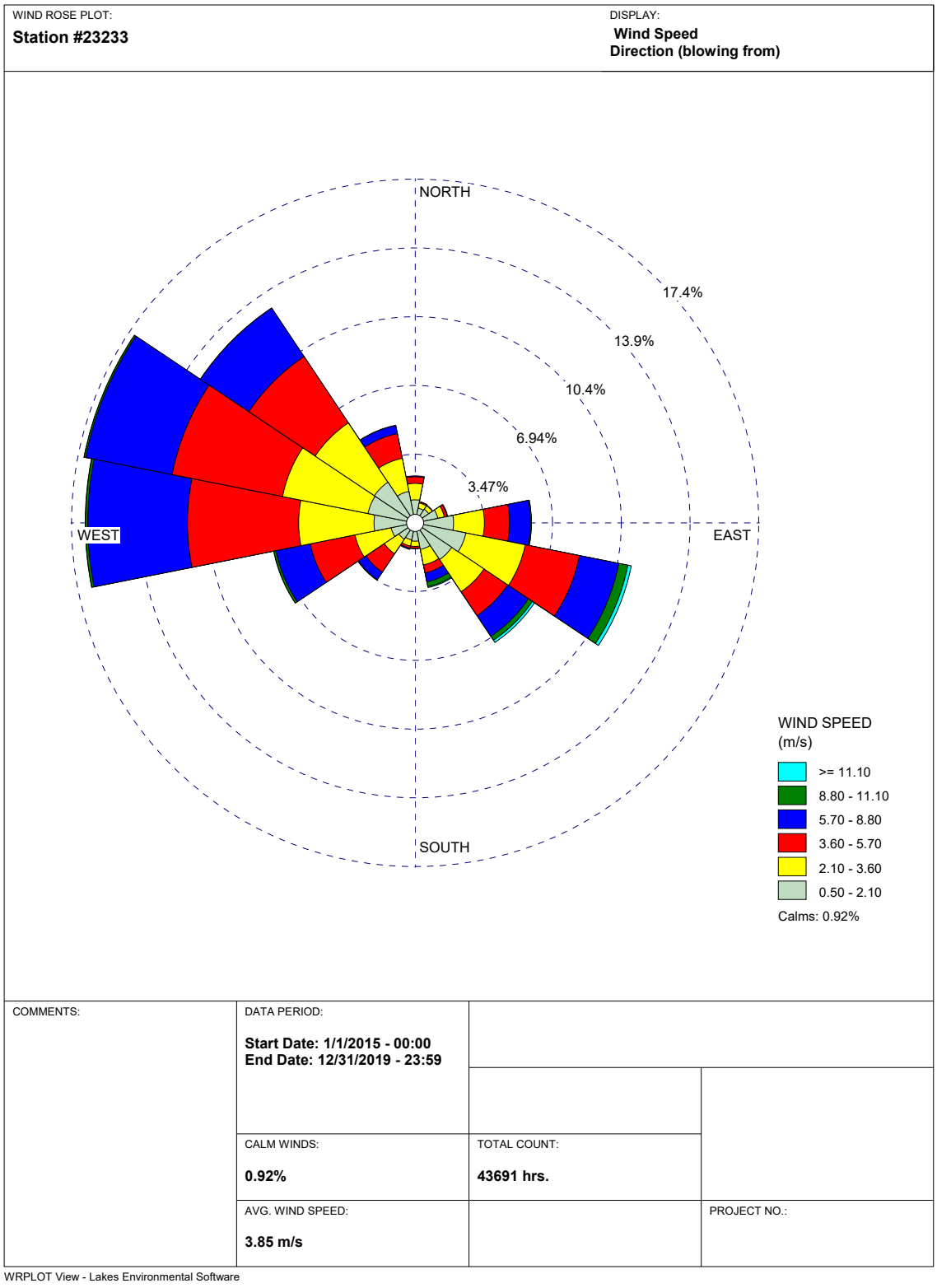
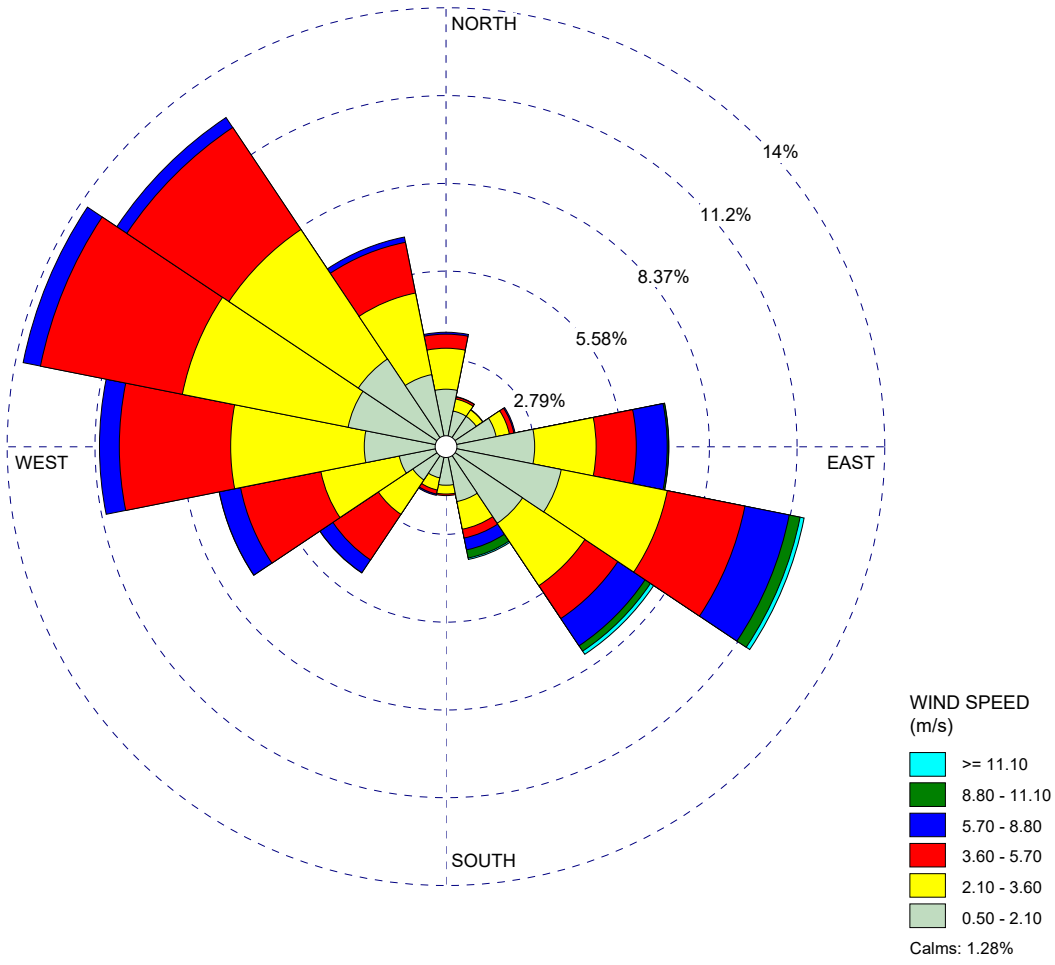


Figure 5: Salinas Airport Meteorological Station Wind Rose (2015-2019) – Nighttime Hours Only

WIND ROSE PLOT:
Station #23233

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 1/1/2015 - 00:00** **End Date: 12/31/2019 - 23:59**		
	CALM WINDS: **1.28%**	TOTAL COUNT: **23659 hrs.**	
	AVG. WIND SPEED: **3.09 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

Meteorological Data Processing

The meteorological data required for input to AERMOD were generated with the latest version of AERMET (19191) using the U.S. EPA regulatory-approved adjusted u* option. The adjusted u* option adjusts the surface friction velocity (u* or ustar) for low wind speed stable conditions. Hourly surface observations, over a five-year period (2015-2019) from the Salinas Airport meteorological station, along with concurrent upper air data from Oakland, CA were used as input to AERMET. The three-step AERMET procedure includes retrieval and quality assurance of the surface and upper air data measurements, merging of that quality assured data with one-minute wind speed measurements to limit the number of potential calm hours for which AERMOD will not calculate values, and the application of surface geophysical parameters and other enhancements so that AERMET can calculate appropriate boundary layer characterizations for dispersion.

The one-minute wind measurement data were retrieved for the KSNS site and processed using AERMINUTE (Version 15272) merged with the surface and upper air data in the AERMET Stage 2 processing. The Stage 3 processing included geophysical surface values obtained from the AERSURFACE program which examines land use classifications around the measurement site based on USGS land use classification geo-registered maps.

AERMET creates two output files for input to AERMOD:

- SURFACE: a file with boundary layer parameters such as sensible heat flux, surface friction velocity, convective velocity scale, vertical potential temperature gradient in the 1,640 feet layer above the planetary boundary layer, and convective and mechanical mixing heights. Also provided are values of Monin-Obukhov length, surface roughness, albedo, Bowen ratio, wind speed, wind direction, temperature, and heights at which measurements were taken.
- PROFILE: a file containing multi-level meteorological data with wind speed, wind direction, temperature, sigma-theta ($\sigma\theta$) and sigma-w (σw) when such data are available. For this application involving representative data from the Salinas Airport station, the profile file contained a single level of wind data and temperature data. Sigma-theta and sigma-w were not measured at this station.

AERMET requires specification of site characteristics including surface roughness (zo), albedo (r), and Bowen ratio (Bo). These parameters were developed according to the guidance provided by U.S. EPA in the AERMOD Implementation Guide:[15]

- The determination of the surface roughness length should be based on an inverse distance weighted geometric mean for a default upwind distance of 1 kilometer relative to the measurement site. Surface roughness length may be varied by sector to account for variations in land cover near the measurement site; however, the sector widths should be no smaller than 30 degrees.
- The determination of the Bowen ratio should be based on a simple un-weighted geometric mean (i.e., no direction or distance dependency) for a representative domain, with a default domain defined by a 0.6-mile by 0.6-mile region centered on the measurement site.
- The determination of the albedo should be based on a simple un-weighted arithmetic mean (i.e., no direction or distance dependency) for the same representative domain as defined for Bowen ratio, with a default domain defined by a 0.6-mile by 0.6-mile region centered on the measurement site.

The AERMOD Implementation Guide recommends that the surface characteristics be determined based on digitized land cover data. U.S. EPA has developed a tool called AERSURFACE that can be used to determine the site characteristics based on digitized land cover data in accordance with the

[15] U.S. EPA. 2019 (August). *AERMOD Implementation Guide (AIG)*. EPA/454/B-18-003. Office of Air Quality Planning and Standards. https://www3.epa.gov/ttn/scram/models/aermod/aermod_implementation_guide.pdf. Accessed July 2020.

recommendations from the implementation guide discussed above. AERSURFACE[16] incorporates look-up tables of representative surface characteristic values by land cover category and seasonal category. AERSURFACE was applied with the instructions provided in the AERSURFACE User's Guide.

The current version of AERSURFACE (Version 20060) supports the use of land cover data from the U.S. Geological Survey National Land Cover Data. AERSURFACE version 20060 supports use of more recent NLCD files and the most recent files from 2016 were used as input to the AERSURFACE program. The AERMOD Implementation Guide recommends that the surface characteristics be determined based on the land use surrounding the site where the surface meteorological data were collected.

As recommended in the AERMOD Implementation Guide for surface roughness, the 0.6-mile radius circular area centered at the meteorological station site can be divided into sectors for the analysis. To conform with the alignment of the Borzini Farm relative to the Greenfield Commons site, two sectors were evaluated including the sector from 235 degrees to 55 degrees (along the alignment of Walnut Avenue) representing the agricultural lands and from 55 degrees to 235 degrees representing the other, or non-agricultural land use areas.

In AERSURFACE, the various land cover categories are linked to a set of seasonal surface characteristics. As such, AERSURFACE requires specification of the seasonal category for each month of the year. The following five seasonal categories are supported by AERSURFACE, with the applicable months of the year specified for this site.

1. Midsummer with lush vegetation (June-August).
2. Autumn with un-harvested cropland (September- November).
3. Late autumn after frost and harvest, or winter with no snow (December - February)
4. Winter with continuous snow on ground (none).
5. Transitional spring with partial green coverage or short annuals (March - May).

For Bowen ratio, the land use values are linked to three categories of surface moisture corresponding to average, wet, and dry conditions. The surface moisture condition for the site may vary depending on the meteorological data period for which the surface characteristics were applied. AERSURFACE applies the surface moisture condition for the entire data period. Therefore, if the surface moisture condition varies significantly across the data period, then AERSURFACE can be applied multiple times to account for those variations.

As such, the surface moisture condition for each season is typically determined by comparing precipitation for the period of data to the 30-year climatological record, selecting "wet" conditions if precipitation is in the upper 30th-percentile, "dry" conditions if precipitation is in the lower 30th-percentile, and "average" conditions if precipitation is in the middle 40th-percentile.

As the Borzini Farm agricultural product spraying is typically confined to nighttime periods and occurs within irrigated cropland, there is greater consistency in available moisture throughout the year within the irrigated area than in areas that rely completely on precipitation for soil moisture. Further, both the Bowen ratio and albedo values contribute more to daytime atmospheric variations than nighttime variability as both the Bowen ratio and albedo have direct response to, and ameliorating effects on, surface solar gain.

Again, as the Borzini Farm activity being assessed occurs during nighttime hours only, rather than comparing monthly precipitation values to the 30-year climatological record to determine whether irrigated cropland would be considered wet, arid, or average, AERSURFACE processing for this analysis used average moisture conditions for all years, reflecting the nature of the cropland activity being modeled.

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[16] U.S. EPA. 2020 (February). AERSURFACE User's Guide. Office of Air Quality Planning and Standards. EPA-454/B-20-008. https://www3.epa.gov/scram001/models/aermod/aersurface/aersurface_ug_v20060.pdf. Accessed July 2020.

Receptor Locations

Sensitive receptor locations for the proposed project are shown in Figure 6. Terrain elevations were obtained from commercially available digital terrain elevations developed by the U.S. Geological Survey by using its National Elevation Dataset. The National Elevation Dataset data provide terrain elevations with 3.28-feet (1-meter) vertical resolution and 32.81-feet (10-meter) (1/3 arc-second) horizontal resolution based on a Universal Transverse Mercator (UTM) coordinate system. The U.S. Geological Survey specifies coordinates in North American Datum 83, UTM Zone 10. AERMAP (Version 18081) was used to process the National Elevation Dataset data and assign elevations to the receptor locations and sources.

Applicability of AERMOD

While AERMOD is not specifically purposed to simulate agricultural drift as AgDRIFT is, AERMOD is coded to simulate emissions from volume, area, and line source type emission activities and can be coupled with hourly meteorological data to calculate short-term (1-hour) and longer term averaging period concentration and deposition values at a number of receptor locations. Used properly, AERMOD can provide spatial patterns of concentration and deposition values reflecting a variety of inputs that include physical locations of sources of emissions, types, quantities, durations, exhaust parameters, under different meteorological conditions at downwind receptor locations that reflect terrain influences and can provide discrete values at each of these locations for different averaging periods.

AERMOD was utilized to calculate ground level concentration values within the Greenfield Commons area based on inputs derived from direct Borzini Farm information as well as values associated with the AgDRIFT assessment. The AgDRIFT assessment provides clear guidance on how best to integrate AgDRIFT results into the AERMOD modeling assumptions and how best to simulate the agricultural spraying dynamics into another model not necessarily designed to do so.

Source Characterization

Upon consideration of the modeling being conducted it was determined that a low-level volume source or series of volume sources would be best suited to simulate the low-boom, tractor mounted spraying activity conducted by the Borzini Farms. Pairing representative hourly meteorological data with the volume source approach also allowed use of the AERMOD EMISFACT hour-of-day option to best simulate the Borzini Farm restriction on spraying only during late evening, nighttime, and very early morning hours between the hours of 7 p.m. and 6 a.m. only, conforming with the Borzini Farm spraying restriction.

The AERMOD input parameters for the Borzini Farm simulated agricultural application emission sources are provided in Table 4. As shown, four volume sources were used to simulate the emissions from spraying activities. The volume sources were developed based on the outlines of the areas shown in Figure 7 with a single volume source for both Borzini Units 7 and 9, and two volume sources for Borzini Unit 6. The volume source dimensions were determined based on U.S. EPA guidance as contained in the AERMOD User’s Guide.

As noted earlier, the AERMOD EMISFACT HROFDY emission factor was applied to each of the modeled volume sources so that only emissions would occur during the hours of 7 pm to 7 am, daily. The heights of the volume source release and the emission rates modeled were based on AgDRIFT parameters.

The AgDRIFT-assumed low boom height of 20 inches above grade was used as the volume source release height and because of the two orders of magnitude depletion found in the AgDRIFT results, rather than apply a unit-emission-rate of 1 gram/second to each of the modeled sources the emission rate was modified to account for the AgDRIFT results and a 0.01 g/s value was used for each of the three Borzini areas noted (6,7,9).

Emissions from the above sources were run in AERMOD to determine air pollutant concentrations at sensitive receptor locations. AERMOD was run using unit emissions. Each source was modeled assuming emissions of 1 gram per second (g/s) for point sources, 1 g/s divided by the number of volume sources in a road segment, or 1 g/s divided by the area source in square meters. The unitized AERMOD results for each source are output in $\mu g/m^3$ per g/s $[(\mu g/m^3)(g/s)^{-1}]$.

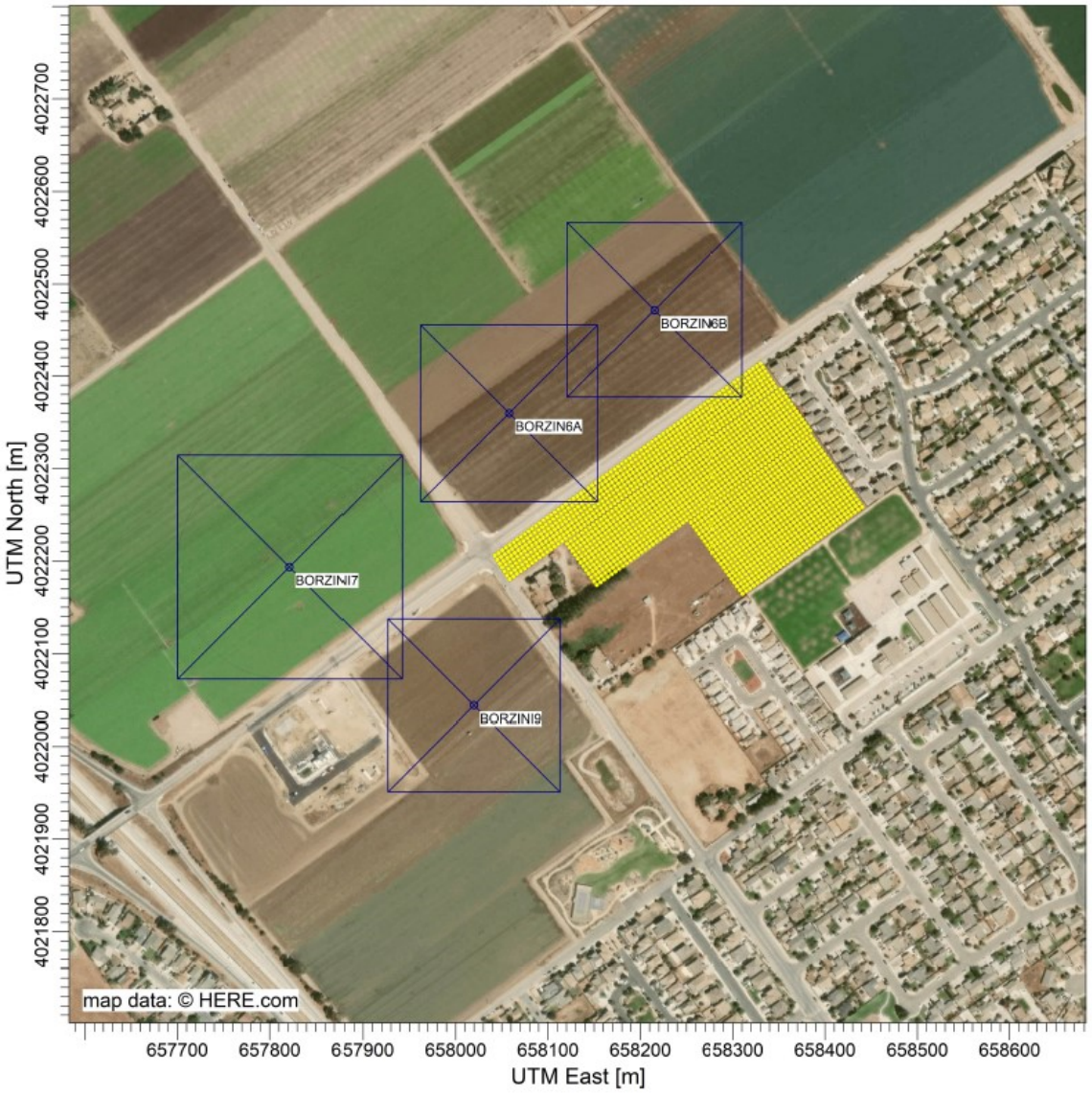
Figure 6: Receptor Locations

Table 4: Borzini Farm – Agricultural Product Spraying AERMOD Model Input Parameters

Modeled Source ID	Source Type	Location UTM NAD83			Modeled Release Parameters			
		Easting (m)	Northing (m)	Elevation (m msl)	Emission Rate (g/s)	Release Height (m)	Initial Lateral Dimension (m-σ_y)	Initial Vertical Dimension (m-σ_z)
Borzini7	volume	657821.3	4022193.4	81.75	0.01	0.508	56.2760	0.4725
Borzin6a	volume	658057.9	4022359.9	81.75	0.005	0.508	44.6139	0.4725
Borzin6b	volume	658215.3	4022471.9	81.75	0.005	0.508	44.0734	0.4725
Borzini9	volume	658019.8	4022044.3	81.75	0.01	0.508	43.3442	0.4725

Figure 7:Modeled Source Locations

PROJECT TITLE:
Volume Source Locations



COMMENTS:	SOURCES: 4	COMPANY NAME: AECOM	
	RECEPTORS: 1860	MODELER: Mary M. Kaplan	AECOM
		SCALE: 1:6,912 — 0 — 0.2 km	
		DATE: 7/23/2020	PROJECT NO.:

4.0 Health Risk Analysis Methodology and Results

Pollutant Concentrations

Maximum hourly and period-average plot files generated by AERMOD as described above were input to HARP2[17] with corresponding toxic air contaminant emission rates for each phase of construction as well as the project operational emissions to calculate project pollutant concentration contributions. These concentrations were then used to estimate the long-term effects of toxic air contaminants on nearby existing and proposed offsite and future onsite sensitive receptor locations.

Receptor Exposure and Health Risk Calculations

Exposure factors were used to calculate the dose associated with exposure to the estimated unit concentration results obtained using AERMOD. California Air Resources Board created the HARP2 software to assist in the development of emissions inventories, dispersion modeling, and risk assessment. For this project, HARP2 was used solely to estimate cancer risk via HARP2's Air Dispersion Modeling and Risk Tool (ADMRT), Version 19121; ADMRT was developed to encapsulate the exposure factors and guidance of the 2015 OEHHA.[18] AECOM evaluated the probability of contracting cancer over 30 years from two years of exposure to emissions for resident receptors through the inhalation, soil ingestion, mother's milk, and homegrown produce pathways, using the Risk Management Plan (RMP)-Derived Method. Factors that affect the dose that a receptor would receive include but are not limited to age-specific daily breathing rates as well as exposure time, frequencies, and duration. The general formula for calculating residential inhalation risk is as follows:

$$RISK_{inh\text{-}res} = DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH$$

Where:

$RISK_{inh\text{-}res}$	= Residential inhalation cancer risk
$DOSE_{air}$	= Daily inhalation dose (milligrams/kilogram [mg/kg]-day)
CPF	= Inhalation cancer potency factor (mg/kg-day-1)
ASF	= Age sensitivity factor for a specified age group (unitless)
ED	= Exposure duration (in years) for a specified age group
AT	= Averaging time for lifetime cancer risk (years)
FAH	= Fraction of time spent at home (unitless)

The inhalation risk was calculated in HARP2 using the OEHHA 2015 recommended default values for these parameters:

CPF	= Substance-specific
ASF	= 10 for 3rd trimester of pregnancy to age 2, 3 for age 2 to 16, 1 for age 16 to 30
ED	= 0.25 years for 3rd trimester, 2 years for age 0 to 2,
AT	= 30 years
FAH	= 1.0 (no adjustment)

[17] The Hotspots Analysis and Reporting Program (HARP) is a software suite that addresses the programmatic requirement of the Air Toxics "Hot Spots" Program (Assembly Bill 2588). HARP incorporates the information presented in the 2015 Air Toxics Hotspots Program Guidance Manual.

[18] Office of Environmental Health Hazard Assessment (OEHHA). 2015 (February). Air Toxics Hot Spots Program Guidance Manual. https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

The daily inhalation dose is defined as:

DOSEair = Cair × {BR/BW} × A × EF × 10-6

Where:

DOSEair	= Dose through inhalation (mg/kg-day)
Cair	= Concentration in air (µg/m3)
{BR/BW}	= Daily Breathing rate normalized to body weight (Liters/kilogram body weight - day)
A	= Inhalation absorption factor (unitless)
EF	= Exposure frequency (unitless), days/365 days
10-6	= Micrograms to milligrams conversion, liters to cubic meters conversion

The daily inhalation dose is calculated in HARP2 using OEHHA 2015 recommended default values for these parameters:

Cair	= Concentration as calculated from AERMOD
{BR/BW}	= RMP derived method (i.e., 95th percentile) estimates (361 for 3rd trimester of pregnancy, 1090 for age 0 to 2, 745 for age 2 to 16, 335 for age 16 to 30)
A	= 1
EF	= 0.96 (350 days/365 days in a year for a resident)

Health Risk Analysis Results

The results of the health risk assessment for the location of the highest concentration or point of maximum impact (PMI) for Acute Hazard Index (HI) impacts, as well as the maximum exposed individual resident (MEIR) for cancer and non-carcinogenic chronic health risk impacts are summarized in Table 5. The risk drivers are Copper Compounds for acute non-cancer risk, naphthalene for cancer risk, and Manganese Compounds for chronic non-cancer chronic risk and chronic 8-hour risk, respectively. As shown in Table 5, all results are below the CEQA thresholds.

Table 5: Maximum Uncontrolled Excess Cancer Risk at Existing Offsite Residential Receptors

Receptor	Maximum Cancer Risk (per million)	Maximum Acute Hazard Index	Maximum Chronic 8-hour Risk	Maximum Chronic Hazard Index
PMI/MEIR	0.015	0.78	0.03	0.06
Threshold	10	1.0	1.0	1.0

Figures 8 and 9 display the excess cancer risk and acute non-cancer risk isopleth maps showing the decrease in risk with distance from the modeled agricultural activities. The highest risk is on the western side of the Greenfield Commons site, closest to the modeled sources. The risk decreases with distance from the sources and Walnut Avenue.

Figure 8: Excess Cancer Risk

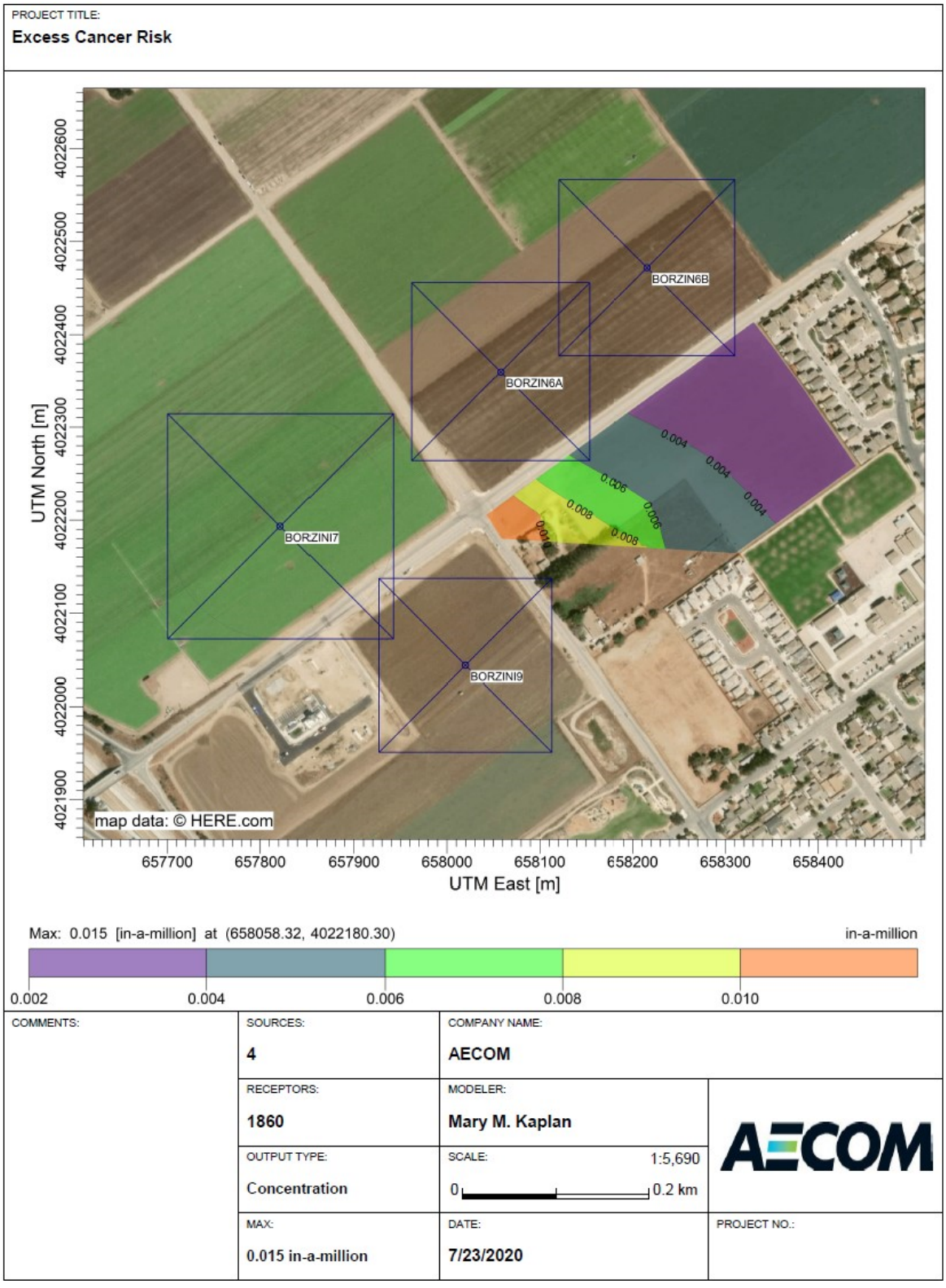
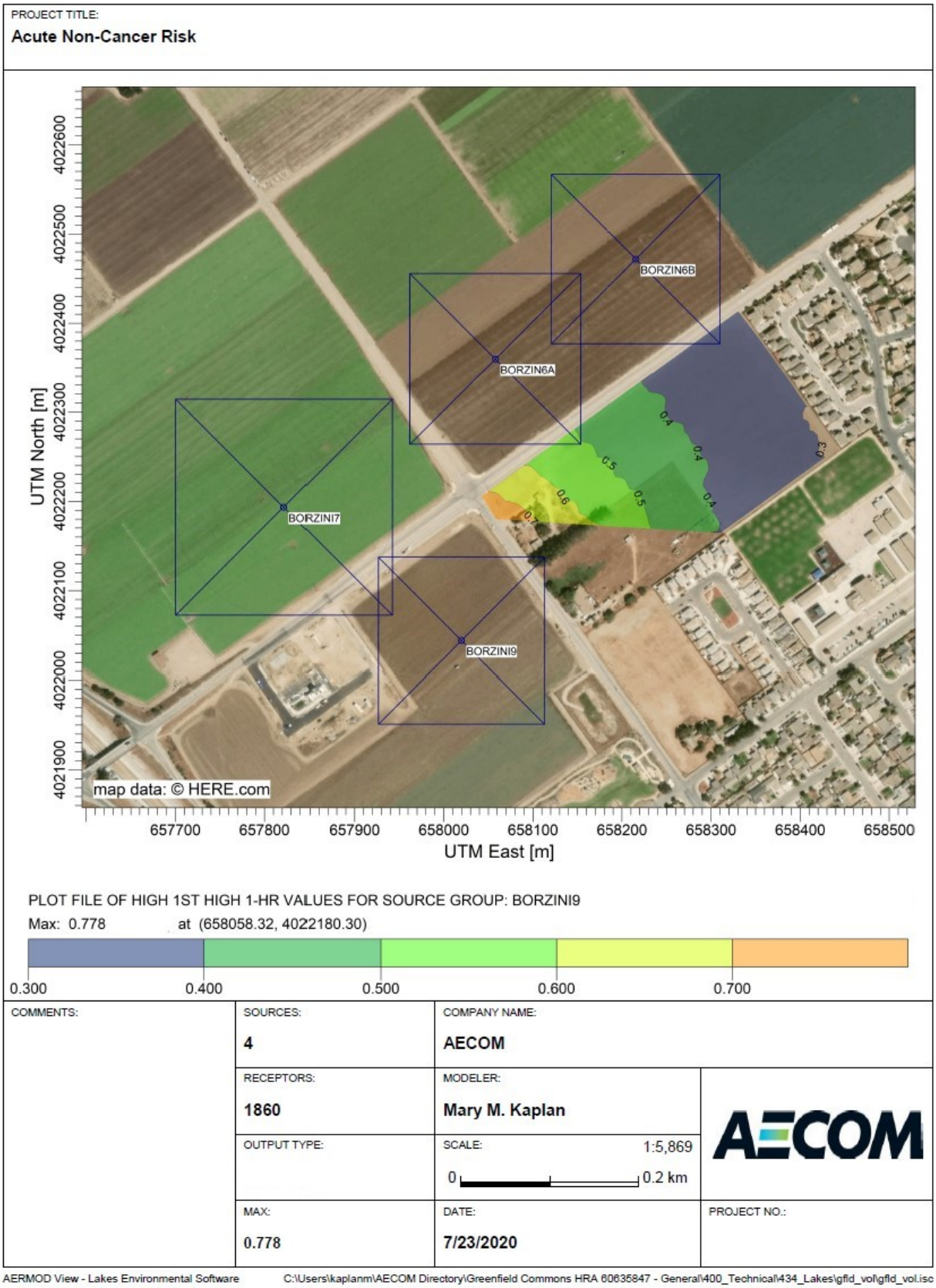


Figure 9: Acute Non-Cancer Risk



5.0 Conclusions

The results of the AgDRIFT assessment suggest that the material being applied by the Borzini Farm based on current practices will not likely reach the windward edge of the Greenfield Commons project site without substantial reduction in sprayed quantity mass. Continuation of these practices will not likely result in agricultural drift of pesticides or other compounds toward the Greenfield Commons site in significant quantities that may affect exposure. Simulating the Borzini application amounts in AgDRIFT supports the notion of limited drift of applied material and especially that drift toward future residents of the planned Greenfield Commons community as supported by the soil sampling results.

Based on current analysis and CARB's current HARP database of constituents, the 82-foot buffer proposed by EAH appears adequate to protect project residents from drift of agricultural products.

Further modeling with AERMOD and HARP2 shows that the excess cancer risk and non-cancer risk from active ingredients current assessed in HARP2 are below CEQA thresholds.

6.0 Measures to Reduce Exposure

The Monterey County Agricultural Commissioner requested that EAH Housing allow space for a buffer between the Borzini Farm and the proposed Greenfield Commons residential community in the design of the project.

Mitigation of agricultural drift begins with proper spray application techniques and the following of established methods and product-specific instructions. As detailed in prior sections, Borzini Farm spray applications appear to follow product application guidelines, are applied with low boom medium-droplet spray nozzles, during nighttime periods when the wind is not blowing from the farmland toward the residential area.

While the results from AgDRIFT suggest over a 99 percent reduction in sprayed material from the edge of the Borzini Farm spray area to the southern edge of Walnut Avenue, implementation of a vegetative barrier between the Greenfield Commons and Walnut Avenue will help further reduce remaining agricultural drift and would also provide additional benefits by reducing fugitive dust, road dust and noise..

Hewitt (2001) reviewed and summarized previous studies on the efficacy of drift filtration by natural collectors as a possible future supplement to AgDRIFT modeling with the possible inclusion of "interception factors"[19]. Some studies have suggested a 70 to 90 percent reduction in spray drift due to grass wind breaks between 0.5 to 1.5 m in height, located on the edge of sprayed fields and that those reductions occur within a zone 0-3 m downwind of the edge of the sprayed area.

Other studies summarized by Hewitt (2001), indicated that vegetative barriers 1.5 to 2 times the height of spray and with 50 percent porous barrier were effective at reducing drift by a similar percentage. It was noted that increasing the density beyond 50 percent reduced the collection efficiency, and hence the reduction value, as higher density planted barriers encourage air flow over the barrier rather than through the barrier.

Hard surfaces such as berms or walled boundaries without vegetative cover would likely be less effective than natural barriers of sufficient porosity as wind carrying any remaining droplets would be forced over the wall without the barrier induced vorticity which enhances droplet shedding and capture from a porous barrier.

While unnecessary based on the HRA results, a semi-porous barrier of natural/native vegetation that extends 1.5 to 2 times the height of the spraying application height and allows for a porosity of 50 percent should allow sufficient capture of any remaining drifted compounds from agricultural product applications. A vegetative barrier coupled with Borzini Farm spray application practices should provide sufficient reduction in drift to protect Greenfield Commons residences from drift effects of agricultural spraying in addition to fugitive dust dispersed by agricultural activities, road dust and noise.

In addition, the installation of MERV-13 air filters in each HVAC unit will reduce exposure to particle-based (metals) TACs such as Copper and Manganese Compounds, the primary risk drivers for non-cancer risk. MERV-13 air filters can reduce particulates 75 percent on average[20].

[19] Hewitt, Andrew J. 2001. Drift Filtration by Natural and Artificial Collectors; A Literature Review

[20] U.S. EPA Indoor Air Quality https://www.epa.gov/indoor-air-quality-iaq/what-merv-rating-1. Accessed July 2020.

7.0 Uncertainties

In accordance with risk assessment guidance, the following discussion summarizes the main uncertainties associated with the emissions estimation, air dispersion modeling, and risk estimation components of the Health Risk Assessment methodology.

Emissions Estimates

Uncertainties exist in estimating emissions from agricultural spraying. Emission calculations are dependent on accuracy of measured quantities used and manufacturer application rates.

Air Dispersion Modeling

In addition to the uncertainty associated with emission estimates, uncertainty exists regarding drift, deposition and resulting pollutant concentrations estimated by the air dispersion models. The limitations of the air dispersion model provide a source of uncertainty in the estimation of exposure concentrations. According to the U.S. EPA Appendix W, errors attributable to the limitation of the algorithms implemented in the air dispersion model in the highest estimated concentrations of +/- 10 percent to 40 percent are typical. The health risk methodologies use conservative assumptions and techniques to produce conservative results; thus, predicted exposure concentrations are likely to be at or above actual exposure concentrations.

The source parameters used to model emission sources add uncertainty. For all emission sources, source parameters were used based on information provided or expected to produce more conservative (worst-case) results. Discrepancies might exist between the actual emissions characteristics of a source and its representation in the model; exposure concentrations used in this assessment represent approximate exposure concentrations.

Health Risk Analysis

Numerous assumptions must be made to estimate human exposure to pollutants. These assumptions include parameters such as breathing rates, exposure time and frequency, exposure duration, and human activity patterns. While a mean value derived from scientifically defensible studies is the best estimate of central tendency, most exposure variables used in this Health Risk Assessment are high-end estimates. The combination of several high-end estimates used as exposure parameters may substantially overestimate chemical intake. The excess lifetime cancer risks calculated in this assessment are therefore likely to be higher than may be required to be protective of public health. Generally, the concentrations and health risk decrease substantially as the distance between the source and receptor increases.

OEHHA 2015 notes that the conservative assumptions used in a risk assessment are intended to avoid underestimation of actual risks posed by a site, and are designed to err on the side of health protection. The estimated risks in this Health Risk Assessment are based primarily on a series of conservative assumptions related to predicted environmental concentrations, exposure, and chemical toxicity. The use of conservative assumptions tends to produce upper-bound estimates of risk. Although it is difficult to quantify the uncertainties associated with all the assumptions made in this risk assessment, the use of conservative assumptions is likely to result in substantial overestimates of exposure and, hence, risk.

However, as noted in Section 2, ARB is considering the addition of approximately 800 substances to their emissions reporting and health risk assessment requirements including a number of pesticides that are classified as carcinogens or cause other symptoms. In this respect, risk may be underestimated; however, vegetation buffer and MERV-13 filters included in the project design would reduce exposure from any substances added by ARB.

8.0 Attachments

The following information is attached to this Health Risk Assessment:

- Attachment A: Correspondence from Monterey County Agricultural Commissioner – letter dated February 26, 2020.
- Attachment B: Request for Information Response from Borzini Farm via telephone interview with AECOM dated July 13, 2020.
- Attachment C: Spreadsheet of agricultural products used at Borzini Farm 6,7, 9.
- Attachment D: Safety Data Sheets (SDS) for agricultural products used at Borzini Farm.
- Attachment E: Calculation spreadsheet to convert Borzini usage and spray application rates to applicable HARP2 emissions.
- Attachment F: HARP2 Emission Inputs.

Attachment A

Correspondence from Monterey County Agricultural Commissioner

MONTEREY COUNTY

AGRICULTURAL COMMISSIONER/SEALER OF WEIGHTS & MEASURES
HENRY S. GONZALES, AGRICULTURAL COMMISSIONER/SEALER
1428 ABBOTT STREET - SALINAS, CALIFORNIA 93901
PHONE: (831) 759-7325 FAX: (831) 422-5003
WEBSITE: ag.co.monterey.ca.us

February 26, 2020

City of Greenfield
599 El Camino Real,
Greenfield, CA 93927
Attn: Paul Mugan, Community Services Director
CC: Paul Wood, City Manager
CC: Michael Schaier, EAH housing Project Manager

RE: Vegetative Screen Landscaping Plans
Multi-Family Housing Development, 3rd Street and Walnut Avenue, Greenfield

Dear Mr. Mugan:

This letter is in reply to an email dated October 24, 2019 (attached), and in-person meeting of November 18, 2019 with EAH housing. We have reviewed the vegetative screen landscaping plans sent by EAH to our office, as well as the planned berm, 'living wall' fence, building orientation, and planned installation of Merv-13 or 16 Carbon Filters.

With the following stipulations, this office will accept a reduction of 50 feet from the original October 18, 2019, recommendation of a 200-foot agricultural buffer along Walnut Avenue between residential units and the adjacent agriculture to the north:

1. A vegetative screen must be in place before the first residents occupy the buildings along Walnut Avenue.
2. Create a vegetative screen maintenance covenant with the City of Greenfield outlining responsibility of the property landscaping and any landscaping located on City property.
3. A three-foot berm shall be created along Walnut Avenue.
4. Trees shall be at least 15 feet tall when installed.
5. An irrigation and watering schedule must be put in place.
6. Immediately replace landscaping should it die.
7. Consult with the Agricultural Commissioner's Office upon finalization of landscaping plans and the ongoing maintenance plan for the property.

8. Include a designee for the long-term upkeep of the vegetative screen in the maintenance plans.
9. Contact the Agricultural Commissioner's Office for review and approval of the planned vegetative screen prior to final approval of the project by the City of Greenfield.

With these stipulations a 150-foot vegetative screen is acceptable.

Sincerely,

Henry S. Gonzales
Monterey County Agricultural Commissioner

Attachment B
Request for Information Response from Borzini Farm

Borzini Farms Data Request – Telephone Interview with AECOM on July 13,2020

Please provide the following information for our health risk analysis:

1) Please label the locations of Blocks 6, 7, 9, 10 on the map shown on Page 2.
   Block 6 is the closest to the proposed development. A map showing where the Blocks are located has been requested from Borzini Farms.

2) Which ag commodities are grown closest to the planned development site? Are crops rotated between those shown or are leeks, spinach, cilantro, arugula, leaf lettuces, celery typically grown?
   Crops are rotated. In the spring spinach is planted. In the summer its celery. In the fall its cabbage and lettuce. Some years gets 2 crops and some years 3 crops.

3) What is the first planted row distance from the center of Walnut Avenue?

   Approximately 50 ft from the center of Walnut Avenue.

4) What is the first spray application line distance from the center of Walnut Avenue?
   Approximately 50 ft from the center of Walnut Avenue.

5) List of applied products includes 55 different product entries. Is this list subject to change? How often are products updated and are updates expected soon? If so, what new products will be added and which deleted?
   Chemicals listed are what the Borzini plans on using, unless they are required to no longer do so.

6) Are the MSDS sheets available for these products?
   SDS provided by email.

7) What methods are used to apply ground spraying? Low or high boom equipped tractor? Hand wand applications?
   Tractor applies chemicals. Low boom equipment with all crops, except celery, which grows up to two feet.

8) What size spray nozzles are used. If size is not known do the nozzles produce an ultrafine mist or medium mist?
   Medium mist. 806 (size and angle)

9) Are all applications of chemical treatments liquid spray? Are there any dry powder applications or oil based spraying?
   All liquid based chemicals

10) What application pattern is typically used (start row, end row, north to south)?
    Spray parallel to Walnut Ave from the east to west

11) What speed is the tractor typically driven?
    5 to 6 miles per hour

12) What wind speeds and/or wind directions restrict spraying? How is that information monitored or obtained?
    Winds blow from north to south

13) Are there any other meteorological factors used to limit spray activities?
    No
14) Once an area is sprayed, is the treated area undisturbed for a certain period of time? If so, typically how long?
    Depending on the pesticide used, re-entry is not allowed until 12 to 48 hours. Signs are posted up during non-entry period.

15) Confirm what times of day and year are allowed for spraying to occur? Provide for both ground and aerial spraying.
    Spray occurs at nighttime only, during growing season spring through fall.

Borzini Ranch 1 Areas
Legend
Borzini Ranch 1
property
Google Earth
2000 ft
N

Attachment C
Agricultural Products used at Borzini Farm Units 6, 7 and 9

Permit #	Permitee	Source	Full Site Number	Site Location	Application Date	Application Time	Commodity Code	Commodity	Planted Amount	Planted Units	EPA Reg No	Product Name	Quantity Used	Quantity Units	Treated Amount	Treated Units	Appl. Method	Applicator Name	Applicator License #	Applicator Address	Document #	Submitted By	Submitted Date	Entered By	Time Stamp Date	Time Stamp Time	Rpt Status	Sub Status	School Notify
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	1/2/2019	7:21 PM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.3700	Gallon	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8188215	PINNACLE APPLICATION	1/3/2019	agrian_data	1/3/2019	8:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	1/2/2019	7:21 PM	14010-0	LEEK	220.0000	ACRES	264-1085-AA	LUNA TRANQUILITY	0.8200	Gallon	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8188215	PINNACLE APPLICATION	1/3/2019	agrian_data	1/3/2019	8:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	1/2/2019	7:21 PM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0900	Gallon	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8188215	PINNACLE APPLICATION	1/3/2019	agrian_data	1/3/2019	8:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	1/2/2019	7:22 PM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.3000	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8188216	PINNACLE APPLICATION	1/3/2019	agrian_data	1/3/2019	8:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	1/2/2019	7:22 PM	14010-0	LEEK	220.0000	ACRES	264-1085-AA	LUNA TRANQUILITY	0.6800	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8188216	PINNACLE APPLICATION	1/3/2019	agrian_data	1/3/2019	8:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	1/2/2019	7:22 PM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0800	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8188216	PINNACLE APPLICATION	1/3/2019	agrian_data	1/3/2019	8:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	1/2/2019	7:23 PM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.2500	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8188217	PINNACLE APPLICATION	1/3/2019	agrian_data	1/3/2019	8:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	1/2/2019	7:23 PM	14010-0	LEEK	220.0000	ACRES	264-1085-AA	LUNA TRANQUILITY	0.5600	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8188217	PINNACLE APPLICATION	1/3/2019	agrian_data	1/3/2019	8:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	1/2/2019	7:23 PM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0600	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8188217	PINNACLE APPLICATION	1/3/2019	agrian_data	1/3/2019	8:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	1/26/2019	7:41 PM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.3700	Gallon	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8226545	PINNACLE APPLICATION	1/28/2019	agrian_data	1/28/2019	8:27 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	1/26/2019	7:41 PM	14010-0	LEEK	220.0000	ACRES	7969-310-AA	MERIVON(R) XEMIUM(R)	0.3300	Gallon	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8226545	PINNACLE APPLICATION	1/28/2019	agrian_data	1/28/2019	8:27 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	1/26/2019	7:41 PM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0900	Gallon	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8226545	PINNACLE APPLICATION	1/28/2019	agrian_data	1/28/2019	8:27 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	1/26/2019	7:42 PM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.3000	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8226546	PINNACLE APPLICATION	1/28/2019	agrian_data	1/28/2019	8:27 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	1/26/2019	7:42 PM	14010-0	LEEK	220.0000	ACRES	7969-310-AA	MERIVON(R) XEMIUM(R)	0.2700	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8226546	PINNACLE APPLICATION	1/28/2019	agrian_data	1/28/2019	8:27 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	1/26/2019	7:42 PM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0800	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8226546	PINNACLE APPLICATION	1/28/2019	agrian_data	1/28/2019	8:27 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	1/26/2019	7:43 PM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.2500	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8226547	PINNACLE APPLICATION	1/28/2019	agrian_data	1/28/2019	8:27 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	1/26/2019	7:43 PM	14010-0	LEEK	220.0000	ACRES	7969-310-AA	MERIVON(R) XEMIUM(R)	0.2200	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8226547	PINNACLE APPLICATION	1/28/2019	agrian_data	1/28/2019	8:27 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	1/26/2019	7:43 PM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0600	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8226547	PINNACLE APPLICATION	1/28/2019	agrian_data	1/28/2019	8:27 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	2/12/2019	7:30 PM	13024-0	SPINACH	220.0000	ACRES	100-1202-ZA	RIDOMIL GOLD SL (CA,	0.7800	Gallon	3.1200	ACRES	Ground	PINNACLE APPLICATION	31566	950	8261804	PINNACLE APPLICATION	2/13/2019	agrian_data	2/13/2019	7:29 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	2/12/2019	7:30 PM	13024-0	SPINACH	220.0000	ACRES	100-816-AA	DUAL MAGNUM (CA/HI*)	0.2400	Gallon	3.1200	ACRES	Ground	PINNACLE APPLICATION	31566	950	8261804	PINNACLE APPLICATION	2/13/2019	agrian_data	2/13/2019	7:29 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	2/12/2019	7:30 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0600	Gallon	3.1200	ACRES	Ground	PINNACLE APPLICATION	31566	950	8261804	PINNACLE APPLICATION	2/13/2019	agrian_data	2/13/2019	7:29 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	2/12/2019	7:31 PM	13024-0	SPINACH	220.0000	ACRES	100-1202-ZA	RIDOMIL GOLD SL (CA,	1.2000	Gallon	4.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8261805	PINNACLE APPLICATION	2/13/2019	agrian_data	2/13/2019	7:29 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	2/12/2019	7:31 PM	13024-0	SPINACH	220.0000	ACRES	100-816-AA	DUAL MAGNUM (CA/HI*)	0.3700	Gallon	4.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8261805	PINNACLE APPLICATION	2/13/2019	agrian_data	2/13/2019	7:29 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	2/12/2019	7:31 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0900	Gallon	4.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8261805	PINNACLE APPLICATION	2/13/2019	agrian_data	2/13/2019	7:29 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007D	BORZINI RANCH 1	2/12/2019	8:20 PM	13501-0	CILANTRO	220.0000	ACRES	100-620-ZB	CAPAROL 4L	1.1000	Gallon	2.9500	ACRES	Ground	PINNACLE APPLICATION	31566	950	8263840	PINNACLE APPLICATION	2/14/2019	agrian_data	2/14/2019	6:55 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007D	BORZINI RANCH 1	2/12/2019	8:20 PM	13501-0	CILANTRO	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0500	Gallon	2.9500	ACRES	Ground	PINNACLE APPLICATION	31566	950	8263840	PINNACLE APPLICATION	2/14/2019	agrian_data	2/14/2019	6:55 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007E	BORZINI RANCH 1	2/12/2019	8:21 PM	13501-0	CILANTRO	220.0000	ACRES	100-620-ZB	CAPAROL 4L	1.1000	Gallon	2.9500	ACRES	Ground	PINNACLE APPLICATION	31566	950	8263841	PINNACLE APPLICATION	2/14/2019	agrian_data	2/14/2019	6:55 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007E	BORZINI RANCH 1	2/12/2019	8:21 PM	13501-0	CILANTRO	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0500	Gallon	2.9500	ACRES	Ground	PINNACLE APPLICATION	31566	950	8263841	PINNACLE APPLICATION	2/14/2019	agrian_data	2/14/2019	6:55 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007F	BORZINI RANCH 1	2/12/2019	8:22 PM	13501-0	CILANTRO	220.0000	ACRES	100-620-ZB	CAPAROL 4L	1.1600	Gallon	3.1100	ACRES	Ground	PINNACLE APPLICATION	31566	950	8263842	PINNACLE APPLICATION	2/14/2019	agrian_data	2/14/2019	6:55 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007F	BORZINI RANCH 1	2/12/2019	8:22 PM	13501-0	CILANTRO	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0600	Gallon	3.1100	ACRES	Ground	PINNACLE APPLICATION	31566	950	8263842	PINNACLE APPLICATION	2/14/2019	agrian_data	2/14/2019	6:55 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006A	BORZINI RANCH 1	2/22/2019	7:21 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.4500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8279212	PINNACLE APPLICATION	2/23/2019	agrian_data	2/23/2019	7:49 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006A	BORZINI RANCH 1	2/22/2019	7:21 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8279212	PINNACLE APPLICATION	2/23/2019	agrian_data	2/23/2019	7:49 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006B	BORZINI RANCH 1	2/22/2019	7:22 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.4500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8279213	PINNACLE APPLICATION	2/23/2019	agrian_data	2/23/2019	7:49 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006B	BORZINI RANCH 1	2/22/2019	7:22 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8279213	PINNACLE APPLICATION	2/23/2019	agrian_data	2/23/2019	7:49 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	2/25/2019	9:30 PM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.3700	Gallon	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8284581	PINNACLE APPLICATION	2/26/2019	agrian_data	2/26/2019	8:29 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	2/25/2019	9:30 PM	14010-0	LEEK	220.0000	ACRES	55146-64-ZA	CHAMP FORMULA 2 FLOW	0.6400	Gallon	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8284581	PINNACLE APPLICATION	2/26/2019	agrian_data	2/26/2019	8:29 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	2/25/2019	9:30 PM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0900	Gallon	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8284581	PINNACLE APPLICATION	2/26/2019	agrian_data	2/26/2019	8:29 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	2/25/2019	9:31 PM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.3000	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8284582	PINNACLE APPLICATION	2/26/2019	agrian_data	2/26/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	2/25/2019	9:31 PM	14010-0	LEEK	220.0000	ACRES	55146-64-ZA	CHAMP FORMULA 2 FLOW	0.5300	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8284582	PINNACLE APPLICATION	2/26/2019	agrian_data	2/26/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	2/25/2019	9:31 PM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0800	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8284582	PINNACLE APPLICATION	2/26/2019	agrian_data	2/26/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	2/25/2019	9:32 PM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.2500	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8284583	PINNACLE APPLICATION	2/26/2019	agrian_data	2/26/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	2/25/2019	9:32 PM	14010-0	LEEK	220.0000	ACRES	55146-64-ZA	CHAMP FORMULA 2 FLOW	0.4400	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8284583	PINNACLE APPLICATION	2/26/2019	agrian_data	2/26/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	2/25/2019	9:32 PM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0600	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8284583	PINNACLE APPLICATION	2/26/2019	agrian_data	2/26/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SA	BORZINI RANCH 1	2/28/2019	6:48 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.4500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8298124	PINNACLE APPLICATION	3/1/2019	agrian_data	3/1/2019	8:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SA	BORZINI RANCH 1	2/28/2019	6:48 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8298124	PINNACLE APPLICATION	3/1/2019	agrian_data	3/1/2019	8:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SD	BORZINI RANCH 1	3/4/2019	9:00 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.4500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8307650	PINNACLE APPLICATION	3/5/2019	agrian_data	3/5/2019	8:18 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SD	BORZINI RANCH 1	3/4/2019	9:00 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8307650	PINNACLE APPLICATION	3/5/2019	agrian_data	3/5/2019	8:18 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006S	BORZINI RANCH 1	3/5/2019	12:01 PM	13024-0	SPINACH	220.0000	ACRES	100-1202-ZA	RIDOMIL GOLD SL	1.8500	Gallon	7.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8315498	PINNACLE APPLICATION	3/7/2019	agrian_data	3/7/2019	9:15 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006S	BORZINI RANCH 1	3/5/2019	12:01 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.1400	Gallon	7.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8315498	PINNACLE APPLICATION	3/7/2019	agrian_data	3/7/2019	9:15 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106NE	BORZINI RANCH 1	3/9/2019	1:30 PM	13024-0	SPINACH	220.0000	ACRES	100-1202-ZA	RIDOMIL GOLD SL	0.9000	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8325292	PINNACLE APPLICATION	3/11/2019	agrian_data	3/11/2019	7:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106NE	BORZINI RANCH 1	3/9/2019	1:30 PM	13024-0	SPINACH	220.0000	ACRES	74530-16-AA	RO-NEET HERBICIDE	0.4500	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8325292	PINNACLE APPLICATION	3/11/2019	agrian_data	3/11/2019	7:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106NE	BORZINI RANCH 1	3/9/2019	1:30 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0700	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8325292	PINNACLE APPLICATION	3/11/2019	agrian_data	3/11/2019	7:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SE	BORZINI RANCH 1	3/9/2019	12:30 PM	13024-0	SPINACH	220.0000	ACRES	100-1202-ZA	RIDOMIL GOLD SL	0.5200	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8331780	PINNACLE APPLICATION	3/13/2019	agrian_data	3/13/2019	7:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SE	BORZINI RANCH 1	3/9/2019	12:30 PM	13024-0	SPINACH	220.0000	ACRES	74530-16-AA	RO-NEET HERBICIDE	0.2600	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8331780	PINNACLE APPLICATION	3/13/2019	agrian_data	3/13/2019	7:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SE	BORZINI RANCH 1	3/9/2019	12:30 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8331780	PINNACLE APPLICATION	3/13/2019	agrian_data	3/13/2019	7:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SF	BORZINI RANCH 1	3/9/2019	12:31 PM	13024-0	SPINACH	220.0000	ACRES	100-1202-ZA	RIDOMIL GOLD SL	0.5200	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8331781	PINNACLE APPLICATION	3/13/2019	agrian_data	3/13/2019	7:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SF	BORZINI RANCH 1	3/9/2019	12:31 PM	13024-0	SPINACH	220.0000	ACRES	74530-16-AA	RO-NEET HERBICIDE	0.2600	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8331781	PINNACLE APPLICATION	3/13/2019	agrian_data	3/13/2019	7:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SF	BORZINI RANCH 1	3/9/2019	12:31 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8331781	PINNACLE APPLICATION	3/13/2019	agrian_data	3/13/2019	7:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	3/14/2019	10:40 PM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.3700	Gallon	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337347	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:17 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	3/14/2019	10:40 PM	14010-0	LEEK	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.1300	Gallon	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337347	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:17 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	3/14/2019	10:40 PM	14010-0	LEEK	220.0000	ACRES	352-834-AA	DUPONT FONTELIS FUNG	0.7300	Gallon	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337347	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:17 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	3/14/2019	10:40 PM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0900	Gallon	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337347	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:17 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	3/14/2019	10:41 PM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.3000	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337348	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:17 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	3/14/2019	10:41 PM	14010-0	LEEK	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.1000	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337348	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:17 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	3/14/2019	10:41 PM	14010-0	LEEK	220.0000	ACRES	352-834-AA	DUPONT FONTELIS FUNG	0.6000	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337348	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:17 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	3/14/2019	10:41 PM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0800	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337348	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:17 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	3/14/2019	10:42 PM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.2500	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337349	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:17 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	3/14/2019	10:42 PM	14010-0	LEEK	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0900	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337349	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:17 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	3/14/2019	10:42 PM	14010-0	LEEK	220.0000	ACRES	352-834-AA	DUPONT FONTELIS FUNG	0.5000	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337349	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:17 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	3/14/2019	10:42 PM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0600	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337349	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:17 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	3/13/2019	11:33 PM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.1300	Pounds	2.8400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337414	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	3/13/2019	11:33 PM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.1000	Gallon	2.8400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337414	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	3/13/2019	11:33 PM	13024-0	SPINACH	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0700	Gallon	2.8400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337414	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	3/13/2019	11:33 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0500	Gallon	2.8400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337414	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	3/13/2019	11:34 PM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.1700	Pounds	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337415	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	3/13/2019	11:34 PM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.1200	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337415	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	3/13/2019	11:34 PM	13024-0	SPINACH	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0800	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337415	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	3/13/2019	11:34 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0700	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337415	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	3/13/2019	11:35 PM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.0600	Pounds	1.3800	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337416	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	3/13/2019	11:35 PM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0500	Gallon	1.3800	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337416	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	3/13/2019	11:35 PM	13024-0	SPINACH	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0300	Gallon	1.3800	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337416	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	3/13/2019	11:35 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0300	Gallon	1.3800	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337416	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	3/15/2019	12:45 AM	13045-0	LETTUCE HEAD	220.0000	ACRES	62719-578-AA	KERB SC	2.4400	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337515	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:50 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	3/15/2019	12:45 AM	13045-0	LETTUCE HEAD	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.1200	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8337515	PINNACLE APPLICATION	3/15/2019	agrian_data	3/15/2019	8:50 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007D	BORZINI RANCH 1	3/18/2019	1:00 AM	13501-0	CILANTRO	220.0000	ACRES	48813-50004-AA	BRANDT M.S.O.	0.1100	Gallon	2.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343206	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:50 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007D	BORZINI RANCH 1	3/18/2019	1:00 AM	13501-0	CILANTRO	220.0000	ACRES	61842-23-AA	LOROX DF	1.4500	Pounds	2.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343206	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:50 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007D	BORZINI RANCH 1	3/18/2019	1:00 AM	13501-0	CILANTRO	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0500	Gallon	2.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343206	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:50 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007E	BORZINI RANCH 1	3/18/2019	1:01 AM	13501-0	CILANTRO	220.0000	ACRES	48813-50004-AA	BRANDT M.S.O.	0.1100	Gallon	2.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343207	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:50 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007E	BORZINI RANCH 1	3/18/2019	1:01 AM	13501-0	CILANTRO	220.0000	ACRES	61842-23-AA	LOROX DF	1.4500	Pounds	2.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343207	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:50 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007E	BORZINI RANCH 1	3/18/2019	1:01 AM	13501-0	CILANTRO	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0500	Gallon	2.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343207	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:50 AM	ACC	DPR	Required

Permit #	Permitee	Source	Full Site Number	Site Location	Application Date	Application Time	Commodity Code	Commodity	Planted Amount	Planted Units	EPA Reg No	Product Name	Quantity Used	Quantity Units	Treated Amount	Treated Units	Appl. Method	Applicator Name	Applicator License #	Applicator Address	Document #	Submitted By	Submitted Date	Entered By	Time Stamp Date	Time Stamp Time	Rpt Status	Sub Status	School Notify
2700061	BORZINI FARMS INC.	webbatch	01007F	BORZINI RANCH 1	3/18/2019	1:02 AM	13501-0	CILANTRO	220.0000	ACRES	48813-50004-AA	BRANDT M.S.O.	0.1200	Gallon	3.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343208	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:50 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007F	BORZINI RANCH 1	3/18/2019	1:02 AM	13501-0	CILANTRO	220.0000	ACRES	61842-23-AA	LOROX DF	1.6000	Pounds	3.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343208	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:50 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007F	BORZINI RANCH 1	3/18/2019	1:02 AM	13501-0	CILANTRO	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0600	Gallon	3.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343208	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:50 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006C	BORZINI RANCH 1	3/17/2019	11:00 PM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0800	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343242	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:54 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006C	BORZINI RANCH 1	3/17/2019	11:00 PM	13056-0	ARUGULA	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0600	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343242	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:54 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006C	BORZINI RANCH 1	3/17/2019	11:00 PM	13056-0	ARUGULA	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0300	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343242	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:54 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006C	BORZINI RANCH 1	3/17/2019	11:00 PM	13056-0	ARUGULA	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343242	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:54 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006D	BORZINI RANCH 1	3/17/2019	11:01 PM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0800	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343243	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:54 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006D	BORZINI RANCH 1	3/17/2019	11:01 PM	13056-0	ARUGULA	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0600	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343243	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:54 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006D	BORZINI RANCH 1	3/17/2019	11:01 PM	13056-0	ARUGULA	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0300	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343243	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:54 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006D	BORZINI RANCH 1	3/17/2019	11:01 PM	13056-0	ARUGULA	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343243	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:54 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006A	BORZINI RANCH 1	3/17/2019	10:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.1500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343283	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006A	BORZINI RANCH 1	3/17/2019	10:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.1200	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343283	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006A	BORZINI RANCH 1	3/17/2019	10:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0600	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343283	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006A	BORZINI RANCH 1	3/17/2019	10:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343283	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006A	BORZINI RANCH 1	3/17/2019	10:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343283	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006B	BORZINI RANCH 1	3/17/2019	10:31 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.1500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343284	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006B	BORZINI RANCH 1	3/17/2019	10:31 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.1200	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343284	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006B	BORZINI RANCH 1	3/17/2019	10:31 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0600	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343284	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006B	BORZINI RANCH 1	3/17/2019	10:31 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343284	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006B	BORZINI RANCH 1	3/17/2019	10:31 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8343284	PINNACLE APPLICATION	3/18/2019	agrian_data	3/18/2019	9:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007D	BORZINI RANCH 1	3/20/2019	4:00 AM	13501-0	CILANTRO	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.1100	Gallon	2.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8349459	PINNACLE APPLICATION	3/20/2019	agrian_data	3/20/2019	7:58 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007D	BORZINI RANCH 1	3/20/2019	4:00 AM	13501-0	CILANTRO	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0900	Gallon	2.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8349459	PINNACLE APPLICATION	3/20/2019	agrian_data	3/20/2019	7:58 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007D	BORZINI RANCH 1	3/20/2019	4:00 AM	13501-0	CILANTRO	220.0000	ACRES	42750-211-AA	PROPI-STAR EC	0.0900	Gallon	2.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8349459	PINNACLE APPLICATION	3/20/2019	agrian_data	3/20/2019	7:58 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007D	BORZINI RANCH 1	3/20/2019	4:00 AM	13501-0	CILANTRO	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0500	Gallon	2.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8349459	PINNACLE APPLICATION	3/20/2019	agrian_data	3/20/2019	7:58 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007E	BORZINI RANCH 1	3/20/2019	4:01 AM	13501-0	CILANTRO	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.1100	Gallon	2.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8349460	PINNACLE APPLICATION	3/20/2019	agrian_data	3/20/2019	7:58 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007E	BORZINI RANCH 1	3/20/2019	4:01 AM	13501-0	CILANTRO	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0900	Gallon	2.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8349460	PINNACLE APPLICATION	3/20/2019	agrian_data	3/20/2019	7:58 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007E	BORZINI RANCH 1	3/20/2019	4:01 AM	13501-0	CILANTRO	220.0000	ACRES	42750-211-AA	PROPI-STAR EC	0.0900	Gallon	2.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8349460	PINNACLE APPLICATION	3/20/2019	agrian_data	3/20/2019	7:58 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007E	BORZINI RANCH 1	3/20/2019	4:01 AM	13501-0	CILANTRO	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0500	Gallon	2.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8349460	PINNACLE APPLICATION	3/20/2019	agrian_data	3/20/2019	7:58 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007F	BORZINI RANCH 1	3/20/2019	4:02 AM	13501-0	CILANTRO	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.1200	Gallon	3.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8349461	PINNACLE APPLICATION	3/20/2019	agrian_data	3/20/2019	7:58 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007F	BORZINI RANCH 1	3/20/2019	4:02 AM	13501-0	CILANTRO	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.1000	Gallon	3.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8349461	PINNACLE APPLICATION	3/20/2019	agrian_data	3/20/2019	7:58 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007F	BORZINI RANCH 1	3/20/2019	4:02 AM	13501-0	CILANTRO	220.0000	ACRES	42750-211-AA	PROPI-STAR EC	0.1000	Gallon	3.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8349461	PINNACLE APPLICATION	3/20/2019	agrian_data	3/20/2019	7:58 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007F	BORZINI RANCH 1	3/20/2019	4:02 AM	13501-0	CILANTRO	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0600	Gallon	3.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8349461	PINNACLE APPLICATION	3/20/2019	agrian_data	3/20/2019	7:58 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SA	BORZINI RANCH 1	3/21/2019	9:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.1500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8357047	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:13 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SA	BORZINI RANCH 1	3/21/2019	9:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.1300	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8357047	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:13 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SA	BORZINI RANCH 1	3/21/2019	9:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0700	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8357047	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:13 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SA	BORZINI RANCH 1	3/21/2019	9:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	8033-36-AA-70506	ASSAIL 30SG	0.2500	Pounds	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8357047	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:13 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SA	BORZINI RANCH 1	3/21/2019	9:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8357047	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:13 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SD	BORZINI RANCH 1	3/21/2019	10:15 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.1500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8356990	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:08 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SD	BORZINI RANCH 1	3/21/2019	10:15 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.1300	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8356990	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:08 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SD	BORZINI RANCH 1	3/21/2019	10:15 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0700	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8356990	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:08 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SD	BORZINI RANCH 1	3/21/2019	10:15 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	8033-36-AA-70506	ASSAIL 30SG	0.2500	Pounds	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8356990	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:08 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SD	BORZINI RANCH 1	3/21/2019	10:15 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8356990	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:08 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SC	BORZINI RANCH 1	3/21/2019	10:00 PM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0800	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8357012	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:09 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SC	BORZINI RANCH 1	3/21/2019	10:00 PM	13056-0	ARUGULA	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0600	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8357012	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:09 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SC	BORZINI RANCH 1	3/21/2019	10:00 PM	13056-0	ARUGULA	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0300	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8357012	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:09 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SC	BORZINI RANCH 1	3/21/2019	10:00 PM	13056-0	ARUGULA	220.0000	ACRES	8033-36-AA-70506	ASSAIL 30SG	0.1300	Pounds	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8357012	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:09 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SC	BORZINI RANCH 1	3/21/2019	10:00 PM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8357012	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:09 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SB	BORZINI RANCH 1	3/21/2019	9:45 PM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0800	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8357039	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:12 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SB	BORZINI RANCH 1	3/21/2019	9:45 PM	13056-0	ARUGULA	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0600	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8357039	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:12 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SB	BORZINI RANCH 1	3/21/2019	9:45 PM	13056-0	ARUGULA	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0300	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8357039	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:12 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SB	BORZINI RANCH 1	3/21/2019	9:45 PM	13056-0	ARUGULA	220.0000	ACRES	8033-36-AA-70506	ASSAIL 30SG	0.1300	Pounds	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8357039	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:12 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SB	BORZINI RANCH 1	3/21/2019	9:45 PM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8357039	PINNACLE APPLICATION	3/22/2019	agrian_data	3/22/2019	10:12 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	3/25/2019	10:30 PM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.1300	Pounds	2.8400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366360	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:31 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	3/25/2019	10:30 PM	13024-0	SPINACH	220.0000	ACRES	55146-83-AA	PHOSTROL	1.4200	Gallon	2.8400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366360	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:31 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	3/25/2019	10:30 PM	13024-0	SPINACH	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	2.1300	Pounds	2.8400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366360	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:31 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	3/25/2019	10:30 PM	13024-0	SPINACH	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0600	Gallon	2.8400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366360	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:31 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	3/25/2019	10:30 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0500	Gallon	2.8400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366360	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:31 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	3/25/2019	10:31 PM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.1600	Pounds	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366361	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:31 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	3/25/2019	10:31 PM	13024-0	SPINACH	220.0000	ACRES	55146-83-AA	PHOSTROL	1.8000	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366361	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:31 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	3/25/2019	10:31 PM	13024-0	SPINACH	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	2.7000	Pounds	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366361	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:31 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	3/25/2019	10:31 PM	13024-0	SPINACH	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0800	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366361	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:31 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	3/25/2019	10:31 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0700	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366361	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:31 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	3/25/2019	10:32 PM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.2000	Pounds	4.3200	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366362	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:31 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	3/25/2019	10:32 PM	13024-0	SPINACH	220.0000	ACRES	55146-83-AA	PHOSTROL	2.1600	Gallon	4.3200	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366362	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:31 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	3/25/2019	10:32 PM	13024-0	SPINACH	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	3.2400	Pounds	4.3200	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366362	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:31 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	3/25/2019	10:32 PM	13024-0	SPINACH	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.1000	Gallon	4.3200	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366362	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:31 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	3/25/2019	10:32 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0800	Gallon	4.3200	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366362	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:31 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006S	BORZINI RANCH 1	3/25/2019	11:00 PM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.3500	Pounds	7.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366372	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006S	BORZINI RANCH 1	3/25/2019	11:00 PM	13024-0	SPINACH	220.0000	ACRES	55146-83-AA	PHOSTROL	3.7000	Gallon	7.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366372	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006S	BORZINI RANCH 1	3/25/2019	11:00 PM	13024-0	SPINACH	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	5.5500	Pounds	7.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366372	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006S	BORZINI RANCH 1	3/25/2019	11:00 PM	13024-0	SPINACH	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.1700	Gallon	7.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366372	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006S	BORZINI RANCH 1	3/25/2019	11:00 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.1400	Gallon	7.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366372	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SE	BORZINI RANCH 1	3/25/2019	11:45 PM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.0900	Pounds	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366428	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:37 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SE	BORZINI RANCH 1	3/25/2019	11:45 PM	13024-0	SPINACH	220.0000	ACRES	55146-83-AA	PHOSTROL	1.0500	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366428	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:37 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SE	BORZINI RANCH 1	3/25/2019	11:45 PM	13024-0	SPINACH	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	1.5700	Pounds	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366428	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:37 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SE	BORZINI RANCH 1	3/25/2019	11:45 PM	13024-0	SPINACH	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0400	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366428	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:37 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SE	BORZINI RANCH 1	3/25/2019	11:45 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366428	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:37 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SF	BORZINI RANCH 1	3/25/2019	11:46 PM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.0900	Pounds	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366429	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:37 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SF	BORZINI RANCH 1	3/25/2019	11:46 PM	13024-0	SPINACH	220.0000	ACRES	55146-83-AA	PHOSTROL	1.0500	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366429	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:37 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SF	BORZINI RANCH 1	3/25/2019	11:46 PM	13024-0	SPINACH	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	1.5700	Pounds	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366429	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:37 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SF	BORZINI RANCH 1	3/25/2019	11:46 PM	13024-0	SPINACH	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0400	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366429	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:37 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SF	BORZINI RANCH 1	3/25/2019	11:46 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8366429	PINNACLE APPLICATION	3/26/2019	agrian_data	3/26/2019	8:37 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007D	BORZINI RANCH 1	3/28/2019	2:48 AM	13501-0	CILANTRO	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.1400	Gallon	2.9500	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372792	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007D	BORZINI RANCH 1	3/28/2019	2:48 AM	13501-0	CILANTRO	220.0000	ACRES	80289-12-AA-10163	BADGE X2 FUNGICIDE/B	4.4200	Pounds	2.9500	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372792	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007D	BORZINI RANCH 1	3/28/2019	2:48 AM	13501-0	CILANTRO	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0600	Gallon	2.9500	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372792	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007D	BORZINI RANCH 1	3/28/2019	2:48 AM	13501-0	CILANTRO	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0700	Gallon	2.9500	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372792	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007E	BORZINI RANCH 1	3/28/2019	2:49 AM	13501-0	CILANTRO	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.1400	Gallon	2.9500	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372793	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007E	BORZINI RANCH 1	3/28/2019	2:49 AM	13501-0	CILANTRO	220.0000	ACRES	80289-12-AA-10163	BADGE X2 FUNGICIDE/B	4.4200	Pounds	2.9500	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372793	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007E	BORZINI RANCH 1	3/28/2019	2:49 AM	13501-0	CILANTRO	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0600	Gallon	2.9500	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372793	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:30 AM	ACC	DPR	Required

Permit #	Permitee	Source	Full Site Number	Site Location	Application Date	Application Time	Commodity Code	Commodity	Planted Amount	Planted Units	EPA Reg No	Product Name	Quantity Used	Quantity Units	Treated Amount	Treated Units	Appl. Method	Applicator Name	Applicator License #	Applicator Address	Document #	Submitted By	Submitted Date	Entered By	Time Stamp Date	Time Stamp Time	Rpt Status	Sub Status	School Notify
2700061	BORZINI FARMS INC.	webbatch	01007E	BORZINI RANCH 1	3/28/2019	2:49 AM	13501-0	CILANTRO	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0700	Gallon	2.9500	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372793	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007F	BORZINI RANCH 1	3/28/2019	2:50 AM	13501-0	CILANTRO	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.1500	Gallon	3.1100	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372794	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007F	BORZINI RANCH 1	3/28/2019	2:50 AM	13501-0	CILANTRO	220.0000	ACRES	80289-12-AA-10163	BADGE X2 FUNGICIDE/B	4.6600	Pounds	3.1100	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372794	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007F	BORZINI RANCH 1	3/28/2019	2:50 AM	13501-0	CILANTRO	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0600	Gallon	3.1100	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372794	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007F	BORZINI RANCH 1	3/28/2019	2:50 AM	13501-0	CILANTRO	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0700	Gallon	3.1100	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372794	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106NE	BORZINI RANCH 1	3/28/2019	12:35 AM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.1700	Pounds	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372825	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106NE	BORZINI RANCH 1	3/28/2019	12:35 AM	13024-0	SPINACH	220.0000	ACRES	55146-83-AA	PHOSTROL	1.8000	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372825	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106NE	BORZINI RANCH 1	3/28/2019	12:35 AM	13024-0	SPINACH	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	2.7000	Pounds	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372825	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106NE	BORZINI RANCH 1	3/28/2019	12:35 AM	13024-0	SPINACH	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0800	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372825	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106NE	BORZINI RANCH 1	3/28/2019	12:35 AM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0700	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8372825	PINNACLE APPLICATION	3/28/2019	agrian_data	3/28/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SB	BORZINI RANCH 1	3/31/2019	9:45 PM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0800	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382898	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:34 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SB	BORZINI RANCH 1	3/31/2019	9:45 PM	13056-0	ARUGULA	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0600	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382898	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:34 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SB	BORZINI RANCH 1	3/31/2019	9:45 PM	13056-0	ARUGULA	220.0000	ACRES	55146-83-AA	PHOSTROL	0.6200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382898	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:34 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SB	BORZINI RANCH 1	3/31/2019	9:45 PM	13056-0	ARUGULA	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	0.7500	Pounds	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382898	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:34 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SB	BORZINI RANCH 1	3/31/2019	9:45 PM	13056-0	ARUGULA	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382898	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:34 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SB	BORZINI RANCH 1	3/31/2019	9:45 PM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382898	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:34 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SC	BORZINI RANCH 1	3/31/2019	9:46 PM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0800	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382899	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:34 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SC	BORZINI RANCH 1	3/31/2019	9:46 PM	13056-0	ARUGULA	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0600	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382899	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:34 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SC	BORZINI RANCH 1	3/31/2019	9:46 PM	13056-0	ARUGULA	220.0000	ACRES	55146-83-AA	PHOSTROL	0.6200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382899	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:34 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SC	BORZINI RANCH 1	3/31/2019	9:46 PM	13056-0	ARUGULA	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	0.7500	Pounds	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382899	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:34 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SC	BORZINI RANCH 1	3/31/2019	9:46 PM	13056-0	ARUGULA	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382899	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:34 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SC	BORZINI RANCH 1	3/31/2019	9:46 PM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382899	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:34 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006C	BORZINI RANCH 1	3/31/2019	10:15 PM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0800	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382922	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006C	BORZINI RANCH 1	3/31/2019	10:15 PM	13056-0	ARUGULA	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0600	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382922	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006C	BORZINI RANCH 1	3/31/2019	10:15 PM	13056-0	ARUGULA	220.0000	ACRES	55146-83-AA	PHOSTROL	0.6200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382922	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006C	BORZINI RANCH 1	3/31/2019	10:15 PM	13056-0	ARUGULA	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	0.7500	Pounds	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382922	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006C	BORZINI RANCH 1	3/31/2019	10:15 PM	13056-0	ARUGULA	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382922	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006C	BORZINI RANCH 1	3/31/2019	10:15 PM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382922	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006D	BORZINI RANCH 1	3/31/2019	10:16 PM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0800	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382923	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006D	BORZINI RANCH 1	3/31/2019	10:16 PM	13056-0	ARUGULA	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0600	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382923	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006D	BORZINI RANCH 1	3/31/2019	10:16 PM	13056-0	ARUGULA	220.0000	ACRES	55146-83-AA	PHOSTROL	0.6200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382923	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006D	BORZINI RANCH 1	3/31/2019	10:16 PM	13056-0	ARUGULA	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	0.7500	Pounds	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382923	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006D	BORZINI RANCH 1	3/31/2019	10:16 PM	13056-0	ARUGULA	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382923	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006D	BORZINI RANCH 1	3/31/2019	10:16 PM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382923	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:36 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SA	BORZINI RANCH 1	3/31/2019	10:50 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.1500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382973	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SA	BORZINI RANCH 1	3/31/2019	10:50 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.1200	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382973	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SA	BORZINI RANCH 1	3/31/2019	10:50 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	55146-83-AA	PHOSTROL	1.2500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382973	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SA	BORZINI RANCH 1	3/31/2019	10:50 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	1.5000	Pounds	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382973	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SA	BORZINI RANCH 1	3/31/2019	10:50 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382973	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SA	BORZINI RANCH 1	3/31/2019	10:50 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382973	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SD	BORZINI RANCH 1	3/31/2019	10:51 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.1500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382974	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SD	BORZINI RANCH 1	3/31/2019	10:51 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.1200	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382974	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SD	BORZINI RANCH 1	3/31/2019	10:51 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	55146-83-AA	PHOSTROL	1.2500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382974	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SD	BORZINI RANCH 1	3/31/2019	10:51 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	1.5000	Pounds	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382974	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SD	BORZINI RANCH 1	3/31/2019	10:51 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382974	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SD	BORZINI RANCH 1	3/31/2019	10:51 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382974	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006A	BORZINI RANCH 1	3/31/2019	11:20 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.1500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382990	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:46 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006A	BORZINI RANCH 1	3/31/2019	11:20 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.1200	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382990	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:46 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006A	BORZINI RANCH 1	3/31/2019	11:20 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	55146-83-AA	PHOSTROL	1.2500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382990	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:46 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006A	BORZINI RANCH 1	3/31/2019	11:20 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	1.5000	Pounds	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382990	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:46 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006A	BORZINI RANCH 1	3/31/2019	11:20 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382990	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:46 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006A	BORZINI RANCH 1	3/31/2019	11:20 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382990	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:46 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006B	BORZINI RANCH 1	3/31/2019	11:21 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.1500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382991	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:47 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006B	BORZINI RANCH 1	3/31/2019	11:21 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.1200	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382991	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:47 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006B	BORZINI RANCH 1	3/31/2019	11:21 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	55146-83-AA	PHOSTROL	1.2500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382991	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:47 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006B	BORZINI RANCH 1	3/31/2019	11:21 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	1.5000	Pounds	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382991	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:47 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006B	BORZINI RANCH 1	3/31/2019	11:21 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382991	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:47 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006B	BORZINI RANCH 1	3/31/2019	11:21 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8382991	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:47 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	4/1/2019	1:40 AM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.3700	Gallon	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8383056	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	4/1/2019	1:40 AM	14010-0	LEEK	220.0000	ACRES	7969-187-AA	CABRIO(R) EG FUNGICI	2.9200	Pounds	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8383056	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	4/1/2019	1:40 AM	14010-0	LEEK	220.0000	ACRES	8033-36-AA-70506	ASSAIL 30SG	0.4800	Pounds	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8383056	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009A	BORZINI RANCH 1	4/1/2019	1:40 AM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0900	Gallon	3.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8383056	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	4/1/2019	1:41 AM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.3000	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8383057	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	4/1/2019	1:41 AM	14010-0	LEEK	220.0000	ACRES	7969-187-AA	CABRIO(R) EG FUNGICI	2.4300	Pounds	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8383057	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	4/1/2019	1:41 AM	14010-0	LEEK	220.0000	ACRES	8033-36-AA-70506	ASSAIL 30SG	0.4000	Pounds	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8383057	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	4/1/2019	1:41 AM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0800	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8383057	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	4/1/2019	1:42 AM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.2500	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8383058	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	4/1/2019	1:42 AM	14010-0	LEEK	220.0000	ACRES	7969-187-AA	CABRIO(R) EG FUNGICI	2.0000	Pounds	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8383058	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	4/1/2019	1:42 AM	14010-0	LEEK	220.0000	ACRES	8033-36-AA-70506	ASSAIL 30SG	0.3300	Pounds	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8383058	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	4/1/2019	1:42 AM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0600	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8383058	PINNACLE APPLICATION	4/1/2019	agrian_data	4/1/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006S	BORZINI RANCH 1	4/2/2019	1:00 AM	13024-0	SPINACH	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.4600	Gallon	7.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8386569	PINNACLE APPLICATION	4/2/2019	agrian_data	4/2/2019	8:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006S	BORZINI RANCH 1	4/2/2019	1:00 AM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.2500	Gallon	7.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8386569	PINNACLE APPLICATION	4/2/2019	agrian_data	4/2/2019	8:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006S	BORZINI RANCH 1	4/2/2019	1:00 AM	13024-0	SPINACH	220.0000	ACRES	71512-10-AA-279	BELEAF 50 SG (CA)	1.3000	Pounds	7.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8386569	PINNACLE APPLICATION	4/2/2019	agrian_data	4/2/2019	8:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006S	BORZINI RANCH 1	4/2/2019	1:00 AM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.1400	Gallon	7.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8386569	PINNACLE APPLICATION	4/2/2019	agrian_data	4/2/2019	8:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SE	BORZINI RANCH 1	4/1/2019	10:58 PM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.0900	Pounds	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8386586	PINNACLE APPLICATION	4/2/2019	agrian_data	4/2/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SE	BORZINI RANCH 1	4/1/2019	10:58 PM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0700	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8386586	PINNACLE APPLICATION	4/2/2019	agrian_data	4/2/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SE	BORZINI RANCH 1	4/1/2019	10:58 PM	13024-0	SPINACH	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0400	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8386586	PINNACLE APPLICATION	4/2/2019	agrian_data	4/2/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SE	BORZINI RANCH 1	4/1/2019	10:58 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8386586	PINNACLE APPLICATION	4/2/2019	agrian_data	4/2/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SF	BORZINI RANCH 1	4/1/2019	10:59 PM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.0900	Pounds	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8386587	PINNACLE APPLICATION	4/2/2019	agrian_data	4/2/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SF	BORZINI RANCH 1	4/1/2019	10:59 PM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0700	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8386587	PINNACLE APPLICATION	4/2/2019	agrian_data	4/2/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SF	BORZINI RANCH 1	4/1/2019	10:59 PM	13024-0	SPINACH	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0400	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8386587	PINNACLE APPLICATION	4/2/2019	agrian_data	4/2/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106SF	BORZINI RANCH 1	4/1/2019	10:59 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8386587	PINNACLE APPLICATION	4/2/2019	agrian_data	4/2/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	4/3/2019	10:30 PM	13024-0	SPINACH	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.1700	Gallon	2.8400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8395752	PINNACLE APPLICATION	4/4/2019	agrian_data	4/4/2019	10:00 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	4/3/2019	10:30 PM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0900	Gallon	2.8400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8395752	PINNACLE APPLICATION	4/4/2019	agrian_data	4/4/2019	10:00 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	4/3/2019	10:30 PM	13024-0	SPINACH	220.0000	ACRES	71512-10-AA-279	BELEAF 50 SG (CA)	0.4900	Pounds	2.8400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8395752	PINNACLE APPLICATION	4/4/2019	agrian_data	4/4/2019	10:00 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	4/3/2019	10:30 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0500	Gallon	2.8400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8395752	PINNACLE APPLICATION	4/4/2019	agrian_data	4/4/2019	10:00 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	4/3/2019	10:31 PM	13024-0	SPINACH	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.2200	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8395753	PINNACLE APPLICATION	4/4/2019	agrian_data	4/4/2019	10:00 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	4/3/2019	10:31 PM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.1200	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8395753	PINNACLE APPLICATION	4/4/2019	agrian_data	4/4/2019	10:00 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	4/3/2019	10:31 PM	13024-0	SPINACH	220.0000	ACRES	71512-10-AA-279	BELEAF 50 SG (CA)	0.6300	Pounds	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8395753	PINNACLE APPLICATION	4/4/2019	agrian_data	4/4/2019	10:00 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	4/3/2019	10:31 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0700	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8395753	PINNACLE APPLICATION	4/4/2019	agrian_data	4/4/2019	10:00 AM	ACC	DPR	Required

Permit #	Permitee	Source	Full Site Number	Site Location	Application Date	Application Time	Commodity Code	Commodity	Planted Amount	Planted Units	EPA Reg No	Product Name	Quantity Used	Quantity Units	Treated Amount	Treated Units	Appl. Method	Applicator Name	Applicator License #	Applicator Address	Document #	Submitted By	Submitted Date	Entered By	Time Stamp Date	Time Stamp Time	Rpt Status	Sub Status	School Notify
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	4/3/2019	10:32 PM	13024-0	SPINACH	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.2700	Gallon	4.3200	ACRES	Ground	PINNACLE APPLICATION	31566	950	8395754	PINNACLE APPLICATION	4/4/2019	agrian_data	4/4/2019	10:00 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	4/3/2019	10:32 PM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.1400	Gallon	4.3200	ACRES	Ground	PINNACLE APPLICATION	31566	950	8395754	PINNACLE APPLICATION	4/4/2019	agrian_data	4/4/2019	10:00 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	4/3/2019	10:32 PM	13024-0	SPINACH	220.0000	ACRES	71512-10-AA-279	BELEAF 50 SG (CA)	0.7500	Pounds	4.3200	ACRES	Ground	PINNACLE APPLICATION	31566	950	8395754	PINNACLE APPLICATION	4/4/2019	agrian_data	4/4/2019	10:00 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007C	BORZINI RANCH 1	4/3/2019	10:32 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0800	Gallon	4.3200	ACRES	Ground	PINNACLE APPLICATION	31566	950	8395754	PINNACLE APPLICATION	4/4/2019	agrian_data	4/4/2019	10:00 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106NE	BORZINI RANCH 1	4/5/2019	1:00 AM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.1600	Pounds	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8399095	PINNACLE APPLICATION	4/5/2019	agrian_data	4/5/2019	7:39 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106NE	BORZINI RANCH 1	4/5/2019	1:00 AM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.1200	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8399095	PINNACLE APPLICATION	4/5/2019	agrian_data	4/5/2019	7:39 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106NE	BORZINI RANCH 1	4/5/2019	1:00 AM	13024-0	SPINACH	220.0000	ACRES	83100-7-AA-83979	MONTANA 2F INSECTICI	0.0800	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8399095	PINNACLE APPLICATION	4/5/2019	agrian_data	4/5/2019	7:39 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106NE	BORZINI RANCH 1	4/5/2019	1:00 AM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0700	Gallon	3.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8399095	PINNACLE APPLICATION	4/5/2019	agrian_data	4/5/2019	7:39 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	01006A-1	BORZINI RANCH 1	4/7/2019	7:35 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	100-1254-ZA	REVUS	16.0000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215053			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	01006A-1	BORZINI RANCH 1	4/7/2019	7:35 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	32.0000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215053			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	01006A-1	BORZINI RANCH 1	4/7/2019	7:35 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG INSECTICIDE	8.6000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215053			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	01006A-1	BORZINI RANCH 1	4/7/2019	7:35 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	71512-10-AA-279	BELEAF 50 SG INSECTICIDE	0.3500	Pounds	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215053			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	01006D-1	BORZINI RANCH 1	4/7/2019	7:44 AM	13056-0	ARUGULA	220.0000	ACRES	100-1254-ZA	REVUS	8.0000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215057			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	01006D-1	BORZINI RANCH 1	4/7/2019	7:44 AM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	16.0000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215057			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	01006D-1	BORZINI RANCH 1	4/7/2019	7:44 AM	13056-0	ARUGULA	220.0000	ACRES	279-3126-ZB	MUSTANG INSECTICIDE	4.3000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215057			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	01006B-1	BORZINI RANCH 1	4/7/2019	7:40 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	100-1254-ZA	REVUS	16.0000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215052			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	01006B-1	BORZINI RANCH 1	4/7/2019	7:40 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	32.0000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215052			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	01006B-1	BORZINI RANCH 1	4/7/2019	7:40 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG INSECTICIDE	8.6000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215052			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	01006B-1	BORZINI RANCH 1	4/7/2019	7:40 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	71512-10-AA-279	BELEAF 50 SG INSECTICIDE	0.3500	Pounds	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215052			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	7:46 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	100-1254-ZA	REVUS	16.0000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215059			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	7:46 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	32.0000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215059			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	7:46 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG INSECTICIDE	8.6000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215059			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	7:46 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	71512-10-AA-279	BELEAF 50 SG INSECTICIDE	0.3500	Pounds	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215059			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	7:50 AM	13056-0	ARUGULA	220.0000	ACRES	100-1254-ZA	REVUS	8.0000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215064			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	7:50 AM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	16.0000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215064			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	7:50 AM	13056-0	ARUGULA	220.0000	ACRES	279-3126-ZB	MUSTANG INSECTICIDE	4.3000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215064			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	8:00 AM	13024-0	SPINACH	220.0000	ACRES	55146-83-AA	PHOSTROL AGRICULTURAL	2.2500	Gallon	3.6000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215072			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	8:00 AM	13024-0	SPINACH	220.0000	ACRES	59639-140-AA	PRESIDIO FUNGICIDE	14.4000	Ounce	3.6000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215072			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	7:48 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	100-1254-ZA	REVUS	16.0000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215058			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	7:48 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	32.0000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215058			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	7:48 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG INSECTICIDE	8.6000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215058			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	7:48 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	71512-10-AA-279	BELEAF 50 SG INSECTICIDE	0.3500	Pounds	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215058			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	7:52 AM	13056-0	ARUGULA	220.0000	ACRES	100-1254-ZA	REVUS	8.0000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215063			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	7:52 AM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	16.0000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215063			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/7/2019	7:52 AM	13056-0	ARUGULA	220.0000	ACRES	279-3126-ZB	MUSTANG INSECTICIDE	4.3000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215063			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	01006C-1	BORZINI RANCH 1	4/7/2019	7:42 AM	13056-0	ARUGULA	220.0000	ACRES	100-1254-ZA	REVUS	8.0000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215056			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	01006C-1	BORZINI RANCH 1	4/7/2019	7:42 AM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	16.0000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215056			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	01006C-1	BORZINI RANCH 1	4/7/2019	7:42 AM	13056-0	ARUGULA	220.0000	ACRES	279-3126-ZB	MUSTANG INSECTICIDE	4.3000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1215056			wilburellis_dat	4/8/2019	8:33 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006S	BORZINI RANCH 1	4/8/2019	10:00 PM	13024-0	SPINACH	220.0000	ACRES	264-516-ZB	ALIETTE WDG FUNGICID	14.8000	Pounds	7.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8413755	PINNACLE APPLICATION	4/9/2019	agrian_data	4/9/2019	9:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006S	BORZINI RANCH 1	4/8/2019	10:00 PM	13024-0	SPINACH	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.4600	Gallon	7.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8413755	PINNACLE APPLICATION	4/9/2019	agrian_data	4/9/2019	9:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006S	BORZINI RANCH 1	4/8/2019	10:00 PM	13024-0	SPINACH	220.0000	ACRES	279-3051-AA	POUNCE 25 WP	5.9200	Pounds	7.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8413755	PINNACLE APPLICATION	4/9/2019	agrian_data	4/9/2019	9:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01006S	BORZINI RANCH 1	4/8/2019	10:00 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.2300	Gallon	7.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8413755	PINNACLE APPLICATION	4/9/2019	agrian_data	4/9/2019	9:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	4/12/2019	5:10 AM	13045-0	LETTUCE HEAD	220.0000	ACRES	100-1291-AA	PLATINUM 75 SG	2.1600	Pounds	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8429182	PINNACLE APPLICATION	4/12/2019	agrian_data	4/12/2019	8:06 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	4/12/2019	5:10 AM	13045-0	LETTUCE HEAD	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.8100	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8429182	PINNACLE APPLICATION	4/12/2019	agrian_data	4/12/2019	8:06 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	4/12/2019	5:10 AM	13045-0	LETTUCE HEAD	220.0000	ACRES	70506-194-ZC	MANZATE MAX	4.8700	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8429182	PINNACLE APPLICATION	4/12/2019	agrian_data	4/12/2019	8:06 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	4/12/2019	5:10 AM	13045-0	LETTUCE HEAD	220.0000	ACRES	70506-243-AA	METEOR	2.4300	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8429182	PINNACLE APPLICATION	4/12/2019	agrian_data	4/12/2019	8:06 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	4/12/2019	5:10 AM	13045-0	LETTUCE HEAD	220.0000	ACRES	70506-8-AA	ACEPHATE 97UP	13.0000	Pounds	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8429182	PINNACLE APPLICATION	4/12/2019	agrian_data	4/12/2019	8:06 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	4/12/2019	5:10 AM	13045-0	LETTUCE HEAD	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.2000	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8429182	PINNACLE APPLICATION	4/12/2019	agrian_data	4/12/2019	8:06 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:42 AM	13056-0	ARUGULA	220.0000	ACRES	100-1254-ZA	REVUS	8.0000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219858			wilburellis_dat	4/20/2019	11:52 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:42 AM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	3.2000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219858			wilburellis_dat	4/20/2019	11:52 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:42 AM	13056-0	ARUGULA	220.0000	ACRES	55146-83-AA	PHOSTROL AGRICULTURAL	80.0000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219858			wilburellis_dat	4/20/2019	11:52 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:42 AM	13056-0	ARUGULA	220.0000	ACRES	70506-66-ZA	PERM-UP 25 DF INSECTICID	0.7500	Pounds	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219858			wilburellis_dat	4/20/2019	11:52 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:45 AM	13056-0	ARUGULA	220.0000	ACRES	100-1254-ZA	REVUS	8.0000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219857			wilburellis_dat	4/20/2019	11:52 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:45 AM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	3.2000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219857			wilburellis_dat	4/20/2019	11:52 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:45 AM	13056-0	ARUGULA	220.0000	ACRES	55146-83-AA	PHOSTROL AGRICULTURAL	80.0000	Ounce	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219857			wilburellis_dat	4/20/2019	11:52 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:45 AM	13056-0	ARUGULA	220.0000	ACRES	70506-66-ZA	PERM-UP 25 DF INSECTICID	0.7500	Pounds	1.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219857			wilburellis_dat	4/20/2019	11:52 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:55 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	100-1254-ZA	REVUS	16.0000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219860			wilburellis_dat	4/20/2019	11:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:55 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	6.4000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219860			wilburellis_dat	4/20/2019	11:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:55 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	55146-83-AA	PHOSTROL AGRICULTURAL	1.2500	Gallon	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219860			wilburellis_dat	4/20/2019	11:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:55 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	70506-66-ZA	PERM-UP 25 DF INSECTICID	1.5000	Pounds	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219860			wilburellis_dat	4/20/2019	11:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:50 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	100-1254-ZA	REVUS	16.0000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219859			wilburellis_dat	4/20/2019	11:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:50 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	6.4000	Ounce	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219859			wilburellis_dat	4/20/2019	11:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:50 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	55146-83-AA	PHOSTROL AGRICULTURAL	1.2500	Gallon	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219859			wilburellis_dat	4/20/2019	11:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	4/20/2019	8:50 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	70506-66-ZA	PERM-UP 25 DF INSECTICID	1.5000	Pounds	2.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1219859			wilburellis_dat	4/20/2019	11:53 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	4/21/2019	4:45 AM	13045-0	LETTUCE HEAD	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.9800	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8458263	PINNACLE APPLICATION	4/22/2019	agrian_data	4/22/2019	9:46 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	4/21/2019	4:45 AM	13045-0	LETTUCE HEAD	220.0000	ACRES	264-1050-AA	MOVENTO	0.4100	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8458263	PINNACLE APPLICATION	4/22/2019	agrian_data	4/22/2019	9:46 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	4/21/2019	4:45 AM	13045-0	LETTUCE HEAD	220.0000	ACRES	55146-83-AA	PHOSTROL	8.1300	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8458263	PINNACLE APPLICATION	4/22/2019	agrian_data	4/22/2019	9:46 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	4/21/2019	4:45 AM	13045-0	LETTUCE HEAD	220.0000	ACRES	70506-194-ZC	MANZATE MAX	4.8800	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8458263	PINNACLE APPLICATION	4/22/2019	agrian_data	4/22/2019	9:46 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	4/21/2019	4:45 AM	13045-0	LETTUCE HEAD	220.0000	ACRES	70506-8-AA	ACEPHATE 97UP	13.0000	Pounds	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8458263	PINNACLE APPLICATION	4/22/2019	agrian_data	4/22/2019	9:46 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	4/21/2019	4:45 AM	13045-0	LETTUCE HEAD	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.2400	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8458263	PINNACLE APPLICATION	4/22/2019	agrian_data	4/22/2019	9:46 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SC2	BORZINI RANCH 1	4/24/2019	5:16 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.3000	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8467348	PINNACLE APPLICATION	4/24/2019	agrian_data	4/24/2019	9:47 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SC2	BORZINI RANCH 1	4/24/2019	5:16 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.0900	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8467348	PINNACLE APPLICATION	4/24/2019	agrian_data	4/24/2019	9:47 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SC2	BORZINI RANCH 1	4/24/2019	5:16 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8467348	PINNACLE APPLICATION	4/24/2019	agrian_data	4/24/2019	9:47 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SD2	BORZINI RANCH 1	4/24/2019	5:17 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.3000	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8467349	PINNACLE APPLICATION	4/24/2019	agrian_data	4/24/2019	9:47 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SD2	BORZINI RANCH 1	4/24/2019	5:17 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.0900	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8467349	PINNACLE APPLICATION	4/24/2019	agrian_data	4/24/2019	9:47 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SD2	BORZINI RANCH 1	4/24/2019	5:17 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8467349	PINNACLE APPLICATION	4/24/2019	agrian_data	4/24/2019	9:47 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA2	BORZINI RANCH 1	4/24/2019	5:06 AM	13056-0	ARUGULA	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.4000	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8467373	PINNACLE APPLICATION	4/24/2019	agrian_data	4/24/2019	9:51 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA2	BORZINI RANCH 1	4/24/2019	5:06 AM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8467373	PINNACLE APPLICATION	4/24/2019	agrian_data	4/24/2019	9:51 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SB2	BORZINI RANCH 1	4/24/2019	5:07 AM	13056-0	ARUGULA	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.4000	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8467375	PINNACLE APPLICATION	4/24/2019	agrian_data	4/24/2019	9:51 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SB2	BORZINI RANCH 1	4/24/2019	5:07 AM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8467375	PINNACLE APPLICATION	4/24/2019	agrian_data	4/24/2019	9:51 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	4/29/2019	12:30 AM	14010-0	LEEK	220.0000	ACRES	100-1098-ZD	AFRAME (CA & HI)	0.3900	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8483359	PINNACLE APPLICATION	4/29/2019	agrian_data	4/29/2019	9:09 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	4/29/2019	12:30 AM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.4100	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8483359	PINNACLE APPLICATION	4/29/2019	agrian_data	4/29/2019	9:09 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009B	BORZINI RANCH 1	4/29/2019	12:30 AM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.1000	Gallon	3.2400	ACRES	Ground	PINNACLE APPLICATION	31566	950	8483359	PINNACLE APPLICATION	4/29/2019	agrian_data	4/29/2019	9:09 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	4/29/2019	12:31 AM	14010-0	LEEK	220.0000	ACRES	100-1098-ZD	AFRAME (CA & HI)	0.3200	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8483360	PINNACLE APPLICATION	4/29/2019	agrian_data	4/29/2019	9:09 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	4/29/2019	12:31 AM	14010-0	LEEK	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.3300	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8483360	PINNACLE APPLICATION	4/29/2019	agrian_data	4/29/2019	9:09 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01009C	BORZINI RANCH 1	4/29/2019	12:31 AM	14010-0	LEEK	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0800	Gallon	2.6700	ACRES	Ground	PINNACLE APPLICATION	31566	950	8483360	PINNACLE APPLICATION	4/29/2019	agrian_data	4/29/2019	9:09 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SE2	BORZINI RANCH 1	5/1/2019	12:25 AM	13056-0	ARUGULA	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.6000	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8493233	PINNACLE APPLICATION	5/1/2019	agrian_data	5/1/2019	7:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SE2	BORZINI RANCH 1	5/1/2019	12:25 AM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8493233	PINNACLE APPLICATION	5/1/2019	agrian_data	5/1/2019	7:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SF2	BORZINI RANCH 1	5/1/2019	12:26 AM	13056-0	ARUGULA	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.6600	Gallon	0.8900	ACRES	Ground	PINNACLE APPLICATION	31566	950	8493235	PINNACLE APPLICATION	5/1/2019	agrian_data	5/1/2019	7:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SF2	BORZINI RANCH 1	5/1/2019	12:26 AM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0200	Gallon	0.8900	ACRES	Ground	PINNACLE APPLICATION	31566	950	8493235	PINNACLE APPLICATION	5/1/2019	agrian_data	5/1/2019	7:57 AM	ACC	DPR	Required

Permit #	Permitee	Source	Full Site Number	Site Location	Application Date	Application Time	Commodity Code	Commodity	Planted Amount	Planted Units	EPA Reg No	Product Name	Quantity Used	Quantity Units	Treated Amount	Treated Units	Appl. Method	Applicator Name	Applicator License #	Applicator Address	Document #	Submitted By	Submitted Date	Entered By	Time Stamp Date	Time Stamp Time	Rpt Status	Sub Status	School Notify
2700061	BORZINI FARMS INC.	webbatch	016SG2	BORZINI RANCH 1	5/1/2019	12:45 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.3000	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8493252	PINNACLE APPLICATION	5/1/2019	agrian_data	5/1/2019	7:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SG2	BORZINI RANCH 1	5/1/2019	12:45 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.0900	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8493252	PINNACLE APPLICATION	5/1/2019	agrian_data	5/1/2019	7:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SG2	BORZINI RANCH 1	5/1/2019	12:45 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8493252	PINNACLE APPLICATION	5/1/2019	agrian_data	5/1/2019	7:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SH2	BORZINI RANCH 1	5/1/2019	12:46 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.3000	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8493253	PINNACLE APPLICATION	5/1/2019	agrian_data	5/1/2019	7:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SH2	BORZINI RANCH 1	5/1/2019	12:46 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.0900	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8493253	PINNACLE APPLICATION	5/1/2019	agrian_data	5/1/2019	7:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SH2	BORZINI RANCH 1	5/1/2019	12:46 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8493253	PINNACLE APPLICATION	5/1/2019	agrian_data	5/1/2019	7:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SK2	BORZINI RANCH 1	5/8/2019	2:15 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.3000	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8529486	PINNACLE APPLICATION	5/8/2019	agrian_data	5/8/2019	9:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SK2	BORZINI RANCH 1	5/8/2019	2:15 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.0900	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8529486	PINNACLE APPLICATION	5/8/2019	agrian_data	5/8/2019	9:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SK2	BORZINI RANCH 1	5/8/2019	2:15 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8529486	PINNACLE APPLICATION	5/8/2019	agrian_data	5/8/2019	9:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SL2	BORZINI RANCH 1	5/8/2019	2:16 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.3000	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8529487	PINNACLE APPLICATION	5/8/2019	agrian_data	5/8/2019	9:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SL2	BORZINI RANCH 1	5/8/2019	2:16 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.0900	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8529487	PINNACLE APPLICATION	5/8/2019	agrian_data	5/8/2019	9:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SL2	BORZINI RANCH 1	5/8/2019	2:16 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8529487	PINNACLE APPLICATION	5/8/2019	agrian_data	5/8/2019	9:30 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SI2	BORZINI RANCH 1	5/8/2019	2:00 AM	13056-0	ARUGULA	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.5000	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8529509	PINNACLE APPLICATION	5/8/2019	agrian_data	5/8/2019	9:32 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SI2	BORZINI RANCH 1	5/8/2019	2:00 AM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0200	Gallon	1.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8529509	PINNACLE APPLICATION	5/8/2019	agrian_data	5/8/2019	9:32 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SJ2	BORZINI RANCH 1	5/8/2019	2:01 AM	13056-0	ARUGULA	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.4500	Gallon	0.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8529510	PINNACLE APPLICATION	5/8/2019	agrian_data	5/8/2019	9:32 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SJ2	BORZINI RANCH 1	5/8/2019	2:01 AM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0200	Gallon	0.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8529510	PINNACLE APPLICATION	5/8/2019	agrian_data	5/8/2019	9:32 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	5/13/2019	11:30 PM	13045-0	LETTUCE HEAD	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	1.2200	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8561640	PINNACLE APPLICATION	5/14/2019	agrian_data	5/14/2019	9:52 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	5/13/2019	11:30 PM	13045-0	LETTUCE HEAD	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.3000	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8561640	PINNACLE APPLICATION	5/14/2019	agrian_data	5/14/2019	9:52 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	5/13/2019	11:30 PM	13045-0	LETTUCE HEAD	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.8100	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8561640	PINNACLE APPLICATION	5/14/2019	agrian_data	5/14/2019	9:52 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	5/13/2019	11:30 PM	13045-0	LETTUCE HEAD	220.0000	ACRES	70506-121-AA	LAMBDA-CY EC AGRICUL	0.3800	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8561640	PINNACLE APPLICATION	5/14/2019	agrian_data	5/14/2019	9:52 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	5/13/2019	11:30 PM	13045-0	LETTUCE HEAD	220.0000	ACRES	81803-6-AA	JET-AG	0.5400	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8561640	PINNACLE APPLICATION	5/14/2019	agrian_data	5/14/2019	9:52 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	010010	BORZINI RANCH 1	5/13/2019	11:30 PM	13045-0	LETTUCE HEAD	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.3000	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8561640	PINNACLE APPLICATION	5/14/2019	agrian_data	5/14/2019	9:52 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SO2	BORZINI RANCH 1	5/14/2019	11:01 PM	13056-0	ARUGULA	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.3000	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8567597	PINNACLE APPLICATION	5/15/2019	agrian_data	5/15/2019	9:19 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SO2	BORZINI RANCH 1	5/14/2019	11:01 PM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8567597	PINNACLE APPLICATION	5/15/2019	agrian_data	5/15/2019	9:19 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SP2	BORZINI RANCH 1	5/14/2019	11:02 PM	13056-0	ARUGULA	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.2000	Gallon	0.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8567598	PINNACLE APPLICATION	5/15/2019	agrian_data	5/15/2019	9:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SP2	BORZINI RANCH 1	5/14/2019	11:02 PM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8567598	PINNACLE APPLICATION	5/15/2019	agrian_data	5/15/2019	9:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SM2	BORZINI RANCH 1	5/14/2019	10:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.3000	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8567635	PINNACLE APPLICATION	5/15/2019	agrian_data	5/15/2019	9:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SM2	BORZINI RANCH 1	5/14/2019	10:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.0900	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8567635	PINNACLE APPLICATION	5/15/2019	agrian_data	5/15/2019	9:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SM2	BORZINI RANCH 1	5/14/2019	10:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8567635	PINNACLE APPLICATION	5/15/2019	agrian_data	5/15/2019	9:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SN2	BORZINI RANCH 1	5/14/2019	10:02 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.3000	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8567636	PINNACLE APPLICATION	5/15/2019	agrian_data	5/15/2019	9:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SN2	BORZINI RANCH 1	5/14/2019	10:02 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.0900	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8567636	PINNACLE APPLICATION	5/15/2019	agrian_data	5/15/2019	9:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SN2	BORZINI RANCH 1	5/14/2019	10:02 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8567636	PINNACLE APPLICATION	5/15/2019	agrian_data	5/15/2019	9:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SQ2	BORZINI RANCH 1	5/15/2019	8:15 PM	13024-0	SPINACH	220.0000	ACRES	100-1202-ZA	RIDOMIL GOLD SL	0.5500	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8573194	PINNACLE APPLICATION	5/16/2019	agrian_data	5/16/2019	8:14 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SQ2	BORZINI RANCH 1	5/15/2019	8:15 PM	13024-0	SPINACH	220.0000	ACRES	74530-16-AA	RO-NEET HERBICIDE	0.5500	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8573194	PINNACLE APPLICATION	5/16/2019	agrian_data	5/16/2019	8:14 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SQ2	BORZINI RANCH 1	5/15/2019	8:15 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8573194	PINNACLE APPLICATION	5/16/2019	agrian_data	5/16/2019	8:14 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SR2	BORZINI RANCH 1	5/15/2019	8:16 PM	13024-0	SPINACH	220.0000	ACRES	100-1202-ZA	RIDOMIL GOLD SL	0.5500	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8573195	PINNACLE APPLICATION	5/16/2019	agrian_data	5/16/2019	8:14 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SR2	BORZINI RANCH 1	5/15/2019	8:16 PM	13024-0	SPINACH	220.0000	ACRES	74530-16-AA	RO-NEET HERBICIDE	0.5500	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8573195	PINNACLE APPLICATION	5/16/2019	agrian_data	5/16/2019	8:14 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SR2	BORZINI RANCH 1	5/15/2019	8:16 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8573195	PINNACLE APPLICATION	5/16/2019	agrian_data	5/16/2019	8:14 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SS2	BORZINI RANCH 1	5/15/2019	8:17 PM	13024-0	SPINACH	220.0000	ACRES	100-1202-ZA	RIDOMIL GOLD SL	0.5000	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8573196	PINNACLE APPLICATION	5/16/2019	agrian_data	5/16/2019	8:14 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SS2	BORZINI RANCH 1	5/15/2019	8:17 PM	13024-0	SPINACH	220.0000	ACRES	74530-16-AA	RO-NEET HERBICIDE	0.5000	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8573196	PINNACLE APPLICATION	5/16/2019	agrian_data	5/16/2019	8:14 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SS2	BORZINI RANCH 1	5/15/2019	8:17 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8573196	PINNACLE APPLICATION	5/16/2019	agrian_data	5/16/2019	8:14 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA2	BORZINI RANCH 1	5/17/2019	11:15 PM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0600	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584296	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA2	BORZINI RANCH 1	5/17/2019	11:15 PM	13056-0	ARUGULA	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0100	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584296	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA2	BORZINI RANCH 1	5/17/2019	11:15 PM	13056-0	ARUGULA	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0500	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584296	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA2	BORZINI RANCH 1	5/17/2019	11:15 PM	13056-0	ARUGULA	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0200	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584296	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA2	BORZINI RANCH 1	5/17/2019	11:15 PM	13056-0	ARUGULA	220.0000	ACRES	55146-83-AA	PHOSTROL	0.5000	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584296	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA2	BORZINI RANCH 1	5/17/2019	11:15 PM	13056-0	ARUGULA	220.0000	ACRES	81803-6-AA	JET-AG	0.0300	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584296	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA2	BORZINI RANCH 1	5/17/2019	11:15 PM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584296	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SB2	BORZINI RANCH 1	5/17/2019	11:16 PM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0600	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584297	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SB2	BORZINI RANCH 1	5/17/2019	11:16 PM	13056-0	ARUGULA	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0100	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584297	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SB2	BORZINI RANCH 1	5/17/2019	11:16 PM	13056-0	ARUGULA	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0500	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584297	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SB2	BORZINI RANCH 1	5/17/2019	11:16 PM	13056-0	ARUGULA	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0200	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584297	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SB2	BORZINI RANCH 1	5/17/2019	11:16 PM	13056-0	ARUGULA	220.0000	ACRES	55146-83-AA	PHOSTROL	0.5000	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584297	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SB2	BORZINI RANCH 1	5/17/2019	11:16 PM	13056-0	ARUGULA	220.0000	ACRES	81803-6-AA	JET-AG	0.0300	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584297	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SB2	BORZINI RANCH 1	5/17/2019	11:16 PM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584297	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:44 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SC2	BORZINI RANCH 1	5/17/2019	11:00 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0500	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584424	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SC2	BORZINI RANCH 1	5/17/2019	11:00 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584424	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SC2	BORZINI RANCH 1	5/17/2019	11:00 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0300	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584424	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SC2	BORZINI RANCH 1	5/17/2019	11:00 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584424	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SC2	BORZINI RANCH 1	5/17/2019	11:00 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	55146-83-AA	PHOSTROL	0.3700	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584424	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SC2	BORZINI RANCH 1	5/17/2019	11:00 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	81803-6-AA	JET-AG	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584424	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SC2	BORZINI RANCH 1	5/17/2019	11:00 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584424	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SD2	BORZINI RANCH 1	5/17/2019	11:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0500	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584425	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SD2	BORZINI RANCH 1	5/17/2019	11:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584425	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SD2	BORZINI RANCH 1	5/17/2019	11:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0300	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584425	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SD2	BORZINI RANCH 1	5/17/2019	11:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584425	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SD2	BORZINI RANCH 1	5/17/2019	11:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	55146-83-AA	PHOSTROL	0.3700	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584425	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SD2	BORZINI RANCH 1	5/17/2019	11:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	81803-6-AA	JET-AG	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584425	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SD2	BORZINI RANCH 1	5/17/2019	11:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8584425	PINNACLE APPLICATION	5/18/2019	agrian_data	5/18/2019	10:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SE2	BORZINI RANCH 1	5/22/2019	2:00 AM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0600	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599712	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SE2	BORZINI RANCH 1	5/22/2019	2:00 AM	13056-0	ARUGULA	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0100	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599712	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SE2	BORZINI RANCH 1	5/22/2019	2:00 AM	13056-0	ARUGULA	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0500	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599712	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SE2	BORZINI RANCH 1	5/22/2019	2:00 AM	13056-0	ARUGULA	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0200	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599712	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SE2	BORZINI RANCH 1	5/22/2019	2:00 AM	13056-0	ARUGULA	220.0000	ACRES	81803-6-AA	JET-AG	0.0300	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599712	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SE2	BORZINI RANCH 1	5/22/2019	2:00 AM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.8000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599712	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SF2	BORZINI RANCH 1	5/22/2019	2:01 AM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0700	Gallon	0.8900	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599714	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SF2	BORZINI RANCH 1	5/22/2019	2:01 AM	13056-0	ARUGULA	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0200	Gallon	0.8900	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599714	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SF2	BORZINI RANCH 1	5/22/2019	2:01 AM	13056-0	ARUGULA	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0500	Gallon	0.8900	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599714	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SF2	BORZINI RANCH 1	5/22/2019	2:01 AM	13056-0	ARUGULA	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0300	Gallon	0.8900	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599714	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SF2	BORZINI RANCH 1	5/22/2019	2:01 AM	13056-0	ARUGULA	220.0000	ACRES	81803-6-AA	JET-AG	0.0300	Gallon	0.8900	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599714	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SF2	BORZINI RANCH 1	5/22/2019	2:01 AM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0200	Gallon	0.8900	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599714	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SG2	BORZINI RANCH 1	5/22/2019	2:00 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0500	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599760	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SG2	BORZINI RANCH 1	5/22/2019	2:00 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599760	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SG2	BORZINI RANCH 1	5/22/2019	2:00 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0300	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599760	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SG2	BORZINI RANCH 1	5/22/2019	2:00 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599760	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SG2	BORZINI RANCH 1	5/22/2019	2:00 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	81803-6-AA	JET-AG	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599760	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SG2	BORZINI RANCH 1	5/22/2019	2:00 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599760	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SH2	BORZINI RANCH 1	5/22/2019	2:01 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0500	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599761	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SH2	BORZINI RANCH 1	5/22/2019	2:01 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599761	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SH2	BORZINI RANCH 1	5/22/2019	2:01 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0300	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599761	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required

Permit #	Permitee	Source	Full Site Number	Site Location	Application Date	Application Time	Commodity Code	Commodity	Planted Amount	Planted Units	EPA Reg No	Product Name	Quantity Used	Quantity Units	Treated Amount	Treated Units	Appl. Method	Applicator Name	Applicator License #	Applicator Address	Document #	Submitted By	Submitted Date	Entered By	Time Stamp Date	Time Stamp Time	Rpt Status	Sub Status	School Notify
2700061	BORZINI FARMS INC.	webbatch	016SH2	BORZINI RANCH 1	5/22/2019	2:01 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599761	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SH2	BORZINI RANCH 1	5/22/2019	2:01 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	81803-6-AA	JET-AG	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599761	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SH2	BORZINI RANCH 1	5/22/2019	2:01 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599761	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SK2	BORZINI RANCH 1	5/22/2019	2:02 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0500	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599762	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SK2	BORZINI RANCH 1	5/22/2019	2:02 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599762	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SK2	BORZINI RANCH 1	5/22/2019	2:02 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0300	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599762	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SK2	BORZINI RANCH 1	5/22/2019	2:02 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599762	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SK2	BORZINI RANCH 1	5/22/2019	2:02 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	81803-6-AA	JET-AG	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599762	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SK2	BORZINI RANCH 1	5/22/2019	2:02 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599762	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SL2	BORZINI RANCH 1	5/22/2019	2:03 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0500	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599763	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SL2	BORZINI RANCH 1	5/22/2019	2:03 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599763	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SL2	BORZINI RANCH 1	5/22/2019	2:03 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0300	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599763	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SL2	BORZINI RANCH 1	5/22/2019	2:03 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599763	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SL2	BORZINI RANCH 1	5/22/2019	2:03 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	81803-6-AA	JET-AG	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599763	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SL2	BORZINI RANCH 1	5/22/2019	2:03 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8599763	PINNACLE APPLICATION	5/22/2019	agrian_data	5/22/2019	8:24 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016ST2	BORZINI RANCH 1	5/23/2019	9:45 PM	13056-0	ARUGULA	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.3000	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8610521	PINNACLE APPLICATION	5/24/2019	agrian_data	5/24/2019	9:03 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016ST2	BORZINI RANCH 1	5/23/2019	9:45 PM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8610521	PINNACLE APPLICATION	5/24/2019	agrian_data	5/24/2019	9:03 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SU2	BORZINI RANCH 1	5/23/2019	9:46 PM	13056-0	ARUGULA	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.3000	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8610522	PINNACLE APPLICATION	5/24/2019	agrian_data	5/24/2019	9:03 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SU2	BORZINI RANCH 1	5/23/2019	9:46 PM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8610522	PINNACLE APPLICATION	5/24/2019	agrian_data	5/24/2019	9:03 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016NA2	BORZINI RANCH 1	5/23/2019	10:15 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.3000	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8610548	PINNACLE APPLICATION	5/24/2019	agrian_data	5/24/2019	9:06 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016NA2	BORZINI RANCH 1	5/23/2019	10:15 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.0900	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8610548	PINNACLE APPLICATION	5/24/2019	agrian_data	5/24/2019	9:06 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016NA2	BORZINI RANCH 1	5/23/2019	10:15 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8610548	PINNACLE APPLICATION	5/24/2019	agrian_data	5/24/2019	9:06 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016NB2	BORZINI RANCH 1	5/23/2019	10:16 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	10163-200-AA	PREFAR 4-E	0.3000	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8610549	PINNACLE APPLICATION	5/24/2019	agrian_data	5/24/2019	9:06 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016NB2	BORZINI RANCH 1	5/23/2019	10:16 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.0900	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8610549	PINNACLE APPLICATION	5/24/2019	agrian_data	5/24/2019	9:06 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016NB2	BORZINI RANCH 1	5/23/2019	10:16 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8610549	PINNACLE APPLICATION	5/24/2019	agrian_data	5/24/2019	9:06 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016NF2	BORZINI RANCH 1	5/29/2019	10:50 PM	13024-0	SPINACH	220.0000	ACRES	100-1202-ZA	RIDOMIL GOLD SL	0.4200	Gallon	1.7000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8634306	PINNACLE APPLICATION	5/30/2019	agrian_data	5/30/2019	7:23 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016NF2	BORZINI RANCH 1	5/29/2019	10:50 PM	13024-0	SPINACH	220.0000	ACRES	74530-16-AA	RO-NEET HERBICIDE	0.4200	Gallon	1.7000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8634306	PINNACLE APPLICATION	5/30/2019	agrian_data	5/30/2019	7:23 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016NF2	BORZINI RANCH 1	5/29/2019	10:50 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0300	Gallon	1.7000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8634306	PINNACLE APPLICATION	5/30/2019	agrian_data	5/30/2019	7:23 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SQ2	BORZINI RANCH 1	6/2/2019	11:00 PM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.1000	Pounds	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650941	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:56 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SQ2	BORZINI RANCH 1	6/2/2019	11:00 PM	13024-0	SPINACH	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0500	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650941	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:56 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SQ2	BORZINI RANCH 1	6/2/2019	11:00 PM	13024-0	SPINACH	220.0000	ACRES	228-734-AA	ABAMEX	0.1300	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650941	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:56 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SQ2	BORZINI RANCH 1	6/2/2019	11:00 PM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0700	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650941	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:56 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SQ2	BORZINI RANCH 1	6/2/2019	11:00 PM	13024-0	SPINACH	220.0000	ACRES	81803-6-AA	JET-AG	0.0900	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650941	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:56 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SQ2	BORZINI RANCH 1	6/2/2019	11:00 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0500	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650941	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:56 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SR2	BORZINI RANCH 1	6/2/2019	11:01 PM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.1000	Pounds	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650942	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SR2	BORZINI RANCH 1	6/2/2019	11:01 PM	13024-0	SPINACH	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0500	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650942	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SR2	BORZINI RANCH 1	6/2/2019	11:01 PM	13024-0	SPINACH	220.0000	ACRES	228-734-AA	ABAMEX	0.1300	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650942	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SR2	BORZINI RANCH 1	6/2/2019	11:01 PM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0700	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650942	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SR2	BORZINI RANCH 1	6/2/2019	11:01 PM	13024-0	SPINACH	220.0000	ACRES	81803-6-AA	JET-AG	0.0900	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650942	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SR2	BORZINI RANCH 1	6/2/2019	11:01 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0500	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650942	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SS2	BORZINI RANCH 1	6/2/2019	11:02 PM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.0900	Pounds	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650943	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SS2	BORZINI RANCH 1	6/2/2019	11:02 PM	13024-0	SPINACH	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0400	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650943	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SS2	BORZINI RANCH 1	6/2/2019	11:02 PM	13024-0	SPINACH	220.0000	ACRES	228-734-AA	ABAMEX	0.1200	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650943	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SS2	BORZINI RANCH 1	6/2/2019	11:02 PM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0600	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650943	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SS2	BORZINI RANCH 1	6/2/2019	11:02 PM	13024-0	SPINACH	220.0000	ACRES	81803-6-AA	JET-AG	0.0800	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650943	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SS2	BORZINI RANCH 1	6/2/2019	11:02 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0500	Gallon	2.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650943	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:57 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SO2	BORZINI RANCH 1	6/1/2019	10:00 PM	13056-0	ARUGULA	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.0500	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650972	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SO2	BORZINI RANCH 1	6/1/2019	10:00 PM	13056-0	ARUGULA	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650972	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SO2	BORZINI RANCH 1	6/1/2019	10:00 PM	13056-0	ARUGULA	220.0000	ACRES	228-734-AA	ABAMEX	0.0300	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650972	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SO2	BORZINI RANCH 1	6/1/2019	10:00 PM	13056-0	ARUGULA	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.0300	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650972	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SO2	BORZINI RANCH 1	6/1/2019	10:00 PM	13056-0	ARUGULA	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650972	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SO2	BORZINI RANCH 1	6/1/2019	10:00 PM	13056-0	ARUGULA	220.0000	ACRES	81803-6-AA	JET-AG	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650972	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SO2	BORZINI RANCH 1	6/1/2019	10:00 PM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8650972	PINNACLE APPLICATION	6/3/2019	agrian_data	6/3/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SG2	BORZINI RANCH 1	6/4/2019	10:00 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-516-ZB	ALIETTE WDG FUNGICID	1.5000	Pounds	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8663867	PINNACLE APPLICATION	6/5/2019	agrian_data	6/5/2019	8:35 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SG2	BORZINI RANCH 1	6/4/2019	10:00 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8663867	PINNACLE APPLICATION	6/5/2019	agrian_data	6/5/2019	8:35 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SG2	BORZINI RANCH 1	6/4/2019	10:00 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8663867	PINNACLE APPLICATION	6/5/2019	agrian_data	6/5/2019	8:35 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SH2	BORZINI RANCH 1	6/4/2019	10:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-516-ZB	ALIETTE WDG FUNGICID	1.5000	Pounds	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8663869	PINNACLE APPLICATION	6/5/2019	agrian_data	6/5/2019	8:35 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SH2	BORZINI RANCH 1	6/4/2019	10:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8663869	PINNACLE APPLICATION	6/5/2019	agrian_data	6/5/2019	8:35 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SH2	BORZINI RANCH 1	6/4/2019	10:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8663869	PINNACLE APPLICATION	6/5/2019	agrian_data	6/5/2019	8:35 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SM2	BORZINI RANCH 1	6/4/2019	10:02 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-516-ZB	ALIETTE WDG FUNGICID	1.5000	Pounds	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8663870	PINNACLE APPLICATION	6/5/2019	agrian_data	6/5/2019	8:35 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SM2	BORZINI RANCH 1	6/4/2019	10:02 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8663870	PINNACLE APPLICATION	6/5/2019	agrian_data	6/5/2019	8:35 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SM2	BORZINI RANCH 1	6/4/2019	10:02 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8663870	PINNACLE APPLICATION	6/5/2019	agrian_data	6/5/2019	8:35 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SN2	BORZINI RANCH 1	6/4/2019	10:03 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-516-ZB	ALIETTE WDG FUNGICID	1.5000	Pounds	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8663872	PINNACLE APPLICATION	6/5/2019	agrian_data	6/5/2019	8:35 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SN2	BORZINI RANCH 1	6/4/2019	10:03 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0200	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8663872	PINNACLE APPLICATION	6/5/2019	agrian_data	6/5/2019	8:35 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SN2	BORZINI RANCH 1	6/4/2019	10:03 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.6000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8663872	PINNACLE APPLICATION	6/5/2019	agrian_data	6/5/2019	8:35 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SF2	BORZINI RANCH 1	6/4/2019	10:20 PM	13056-0	ARUGULA	220.0000	ACRES	264-516-ZB	ALIETTE WDG FUNGICID	2.2300	Pounds	0.8900	ACRES	Ground	PINNACLE APPLICATION	31566	950	8664011	PINNACLE APPLICATION	6/5/2019	agrian_data	6/5/2019	8:48 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SF2	BORZINI RANCH 1	6/4/2019	10:20 PM	13056-0	ARUGULA	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0300	Gallon	0.8900	ACRES	Ground	PINNACLE APPLICATION	31566	950	8664011	PINNACLE APPLICATION	6/5/2019	agrian_data	6/5/2019	8:48 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SF2	BORZINI RANCH 1	6/4/2019	10:20 PM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0200	Gallon	0.8900	ACRES	Ground	PINNACLE APPLICATION	31566	950	8664011	PINNACLE APPLICATION	6/5/2019	agrian_data	6/5/2019	8:48 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016NF2	BORZINI RANCH 1	6/16/2019	3:10 AM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.0800	Pounds	1.7000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8724937	PINNACLE APPLICATION	6/17/2019	agrian_data	6/17/2019	8:38 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016NF2	BORZINI RANCH 1	6/16/2019	3:10 AM	13024-0	SPINACH	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0400	Gallon	1.7000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8724937	PINNACLE APPLICATION	6/17/2019	agrian_data	6/17/2019	8:38 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016NF2	BORZINI RANCH 1	6/16/2019	3:10 AM	13024-0	SPINACH	220.0000	ACRES	228-734-AA	ABAMEX	0.1100	Gallon	1.7000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8724937	PINNACLE APPLICATION	6/17/2019	agrian_data	6/17/2019	8:38 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016NF2	BORZINI RANCH 1	6/16/2019	3:10 AM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0600	Gallon	1.7000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8724937	PINNACLE APPLICATION	6/17/2019	agrian_data	6/17/2019	8:38 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016NF2	BORZINI RANCH 1	6/16/2019	3:10 AM	13024-0	SPINACH	220.0000	ACRES	62719-545-AA	RADIANT SC	0.1100	Gallon	1.7000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8724937	PINNACLE APPLICATION	6/17/2019	agrian_data	6/17/2019	8:38 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016NF2	BORZINI RANCH 1	6/16/2019	3:10 AM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0300	Gallon	1.7000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8724937	PINNACLE APPLICATION	6/17/2019	agrian_data	6/17/2019	8:38 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109A2	BORZINI RANCH 1	6/22/2019	2:15 AM	13024-0	SPINACH	220.0000	ACRES	100-1202-ZA	RIDOMIL GOLD SL	0.5500	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8755827	PINNACLE APPLICATION	6/24/2019	agrian_data	6/24/2019	7:23 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109A2	BORZINI RANCH 1	6/22/2019	2:15 AM	13024-0	SPINACH	220.0000	ACRES	74530-16-AA	RO-NEET HERBICIDE	0.4100	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8755827	PINNACLE APPLICATION	6/24/2019	agrian_data	6/24/2019	7:23 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109A2	BORZINI RANCH 1	6/22/2019	2:15 AM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8755827	PINNACLE APPLICATION	6/24/2019	agrian_data	6/24/2019	7:23 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109B2	BORZINI RANCH 1	6/22/2019	2:16 AM	13024-0	SPINACH	220.0000	ACRES	100-1202-ZA	RIDOMIL GOLD SL	0.5500	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8755828	PINNACLE APPLICATION	6/24/2019	agrian_data	6/24/2019	7:23 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109B2	BORZINI RANCH 1	6/22/2019	2:16 AM	13024-0	SPINACH	220.0000	ACRES	74530-16-AA	RO-NEET HERBICIDE	0.4100	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8755828	PINNACLE APPLICATION	6/24/2019	agrian_data	6/24/2019	7:23 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109B2	BORZINI RANCH 1	6/22/2019	2:16 AM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8755828	PINNACLE APPLICATION	6/24/2019	agrian_data	6/24/2019	7:23 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109C2	BORZINI RANCH 1	6/22/2019	2:17 AM	13024-0	SPINACH	220.0000	ACRES	100-1202-ZA	RIDOMIL GOLD SL	0.5200	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8755829	PINNACLE APPLICATION	6/24/2019	agrian_data	6/24/2019	7:23 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109C2	BORZINI RANCH 1	6/22/2019	2:17 AM	13024-0	SPINACH	220.0000	ACRES	74530-16-AA	RO-NEET HERBICIDE	0.3900	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8755829	PINNACLE APPLICATION	6/24/2019	agrian_data	6/24/2019	7:23 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109C2	BORZINI RANCH 1	6/22/2019	2:17 AM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8755829	PINNACLE APPLICATION	6/24/2019	agrian_data	6/24/2019	7:23 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	0106NF-1	BORZINI RANCH 1	6/23/2019	6:34 AM	13024-0	SPINACH	220.0000	ACRES	100-1254-ZA	REVUS	13.6000	Ounce	1.7000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1262052			wilburellis_dat	6/24/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	0106NF-1	BORZINI RANCH 1	6/23/2019	6:34 AM	13024-0	SPINACH	220.0000	ACRES	70506-66-ZA	PERM-UP 25 DF INSECTICID	1.2700	Pounds	1.7000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1262052			wilburellis_dat	6/24/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	desktop	016SP2	BORZINI RANCH 1	6/1/2019	10:01 PM	13056-0	ARUGULA	220.0000	ACRES	228-572-AA	NUPRID 2SC SOIL/FOLIAR IN	0.0090	Gallon	0.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	5285366			JonesKM	6/25/2019	4:30 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	desktop	016SP2	BORZINI RANCH 1	6/1/2019	10:01 PM	13056-0	ARUGULA	220.0000	ACRES	228-734-AA	ABAMEX MITICIDE/INSECTIC	0.0250	Gallon	0.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	5285366			JonesKM	6/25/2019	4:30 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	desktop	016SP2	BORZINI RANCH 1	6/1/2019	10:01 PM	13056-0	ARUGULA	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGICIDE	0.0250	Gallon	0.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	5285366			JonesKM	6/25/2019	4:30 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	desktop	016SP2	BORZINI RANCH 1	6/1/2019	10:01 PM	13056-0	ARUGULA	220.0000	ACRES	279-3126-ZB	MUSTANG INSECTICIDE	0.0140	Gallon	0.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	5285366			JonesKM	6/25/2019	4:30 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	desktop	016SP2	BORZINI RANCH 1	6/1/2019	10:01 PM	13056-0	ARUGULA	220.0000	ACRES	81803-6-AA	JET-AG	0.0100	Gallon	0.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	5285366			JonesKM	6/25/2019	4:30 PM	ACC	DPR	Required

Permit #	Permitee	Source	Full Site Number	Site Location	Application Date	Application Time	Commodity Code	Commodity	Planted Amount	Planted Units	EPA Reg No	Product Name	Quantity Used	Quantity Units	Treated Amount	Treated Units	Appl. Method	Applicator Name	Applicator License #	Applicator Address	Document #	Submitted By	Submitted Date	Entered By	Time Stamp Date	Time Stamp Time	Rpt Status	Sub Status	School Notify
2700061	BORZINI FARMS INC.	desktop	016SP2	BORZINI RANCH 1	6/1/2019	10:01 PM	13056-0	ARUGULA	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0100	Gallon	0.4000	ACRES	Ground	PINNACLE APPLICATION	31566	950	5285366			JonesKM	6/25/2019	4:30 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	7/3/2019	5:00 AM	29113-0	CELERY	220.0000	ACRES	100-620-ZB	CAPAROL 4L	2.2500	Gallon	6.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8811420	PINNACLE APPLICATION	7/3/2019	agrian_data	7/3/2019	4:58 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	7/3/2019	5:00 AM	29113-0	CELERY	220.0000	ACRES	1051080-50009-AA	NEW CENTURY OIL SPRE	0.5600	Gallon	6.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8811420	PINNACLE APPLICATION	7/3/2019	agrian_data	7/3/2019	4:58 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	7/3/2019	5:00 AM	29113-0	CELERY	220.0000	ACRES	228-734-AA	ABAMEX	0.3700	Gallon	6.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8811420	PINNACLE APPLICATION	7/3/2019	agrian_data	7/3/2019	4:58 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	7/3/2019	5:00 AM	29113-0	CELERY	220.0000	ACRES	70506-8-AA	ACEPHATE 97UP	6.0000	Pounds	6.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8811420	PINNACLE APPLICATION	7/3/2019	agrian_data	7/3/2019	4:58 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007A	BORZINI RANCH 1	7/3/2019	5:00 AM	29113-0	CELERY	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.1400	Gallon	6.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8811420	PINNACLE APPLICATION	7/3/2019	agrian_data	7/3/2019	4:58 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	7/3/2019	5:01 AM	29113-0	CELERY	220.0000	ACRES	100-620-ZB	CAPAROL 4L	4.1200	Gallon	11.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8811421	PINNACLE APPLICATION	7/3/2019	agrian_data	7/3/2019	4:58 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	7/3/2019	5:01 AM	29113-0	CELERY	220.0000	ACRES	1051080-50009-AA	NEW CENTURY OIL SPRE	1.0300	Gallon	11.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8811421	PINNACLE APPLICATION	7/3/2019	agrian_data	7/3/2019	4:58 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	7/3/2019	5:01 AM	29113-0	CELERY	220.0000	ACRES	228-734-AA	ABAMEX	0.6800	Gallon	11.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8811421	PINNACLE APPLICATION	7/3/2019	agrian_data	7/3/2019	4:58 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	7/3/2019	5:01 AM	29113-0	CELERY	220.0000	ACRES	70506-8-AA	ACEPHATE 97UP	11.0000	Pounds	11.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8811421	PINNACLE APPLICATION	7/3/2019	agrian_data	7/3/2019	4:58 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	01007B	BORZINI RANCH 1	7/3/2019	5:01 AM	29113-0	CELERY	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.2600	Gallon	11.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8811421	PINNACLE APPLICATION	7/3/2019	agrian_data	7/3/2019	4:58 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109A2	BORZINI RANCH 1	7/7/2019	1:30 AM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.1000	Pounds	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824022	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109A2	BORZINI RANCH 1	7/7/2019	1:30 AM	13024-0	SPINACH	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0500	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824022	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109A2	BORZINI RANCH 1	7/7/2019	1:30 AM	13024-0	SPINACH	220.0000	ACRES	228-734-AA	ABAMEX	0.1300	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824022	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109A2	BORZINI RANCH 1	7/7/2019	1:30 AM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0700	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824022	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109A2	BORZINI RANCH 1	7/7/2019	1:30 AM	13024-0	SPINACH	220.0000	ACRES	62719-545-AA	RADIANT SC	0.1300	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824022	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109A2	BORZINI RANCH 1	7/7/2019	1:30 AM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824022	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109B2	BORZINI RANCH 1	7/7/2019	1:31 AM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.1000	Pounds	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824023	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109B2	BORZINI RANCH 1	7/7/2019	1:31 AM	13024-0	SPINACH	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0500	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824023	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109B2	BORZINI RANCH 1	7/7/2019	1:31 AM	13024-0	SPINACH	220.0000	ACRES	228-734-AA	ABAMEX	0.1300	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824023	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109B2	BORZINI RANCH 1	7/7/2019	1:31 AM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0700	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824023	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109B2	BORZINI RANCH 1	7/7/2019	1:31 AM	13024-0	SPINACH	220.0000	ACRES	62719-545-AA	RADIANT SC	0.1300	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824023	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109B2	BORZINI RANCH 1	7/7/2019	1:31 AM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824023	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109C2	BORZINI RANCH 1	7/7/2019	1:32 AM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.0900	Pounds	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824024	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109C2	BORZINI RANCH 1	7/7/2019	1:32 AM	13024-0	SPINACH	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0400	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824024	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109C2	BORZINI RANCH 1	7/7/2019	1:32 AM	13024-0	SPINACH	220.0000	ACRES	228-734-AA	ABAMEX	0.1300	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824024	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109C2	BORZINI RANCH 1	7/7/2019	1:32 AM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0700	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824024	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109C2	BORZINI RANCH 1	7/7/2019	1:32 AM	13024-0	SPINACH	220.0000	ACRES	62719-545-AA	RADIANT SC	0.1300	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824024	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109C2	BORZINI RANCH 1	7/7/2019	1:32 AM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8824024	PINNACLE APPLICATION	7/8/2019	agrian_data	7/8/2019	8:20 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SB3	BORZINI RANCH 1	7/11/2019	4:40 AM	13031-10	LETTUCE ROMAI	220.0000	ACRES	10163-200-AA	PREFAR 4-E	6.5000	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8852473	PINNACLE APPLICATION	7/11/2019	agrian_data	7/11/2019	10:21 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SB3	BORZINI RANCH 1	7/11/2019	4:40 AM	13031-10	LETTUCE ROMAI	220.0000	ACRES	62719-578-AA	KERB SC	4.0600	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8852473	PINNACLE APPLICATION	7/11/2019	agrian_data	7/11/2019	10:21 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SB3	BORZINI RANCH 1	7/11/2019	4:40 AM	13031-10	LETTUCE ROMAI	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.2400	Gallon	13.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8852473	PINNACLE APPLICATION	7/11/2019	agrian_data	7/11/2019	10:21 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA3	BORZINI RANCH 1	7/11/2019	2:30 AM	13024-0	SPINACH	220.0000	ACRES	100-1202-ZA	RIDOMIL GOLD SL	0.4800	Gallon	1.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8852490	PINNACLE APPLICATION	7/11/2019	agrian_data	7/11/2019	10:23 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA3	BORZINI RANCH 1	7/11/2019	2:30 AM	13024-0	SPINACH	220.0000	ACRES	74530-16-AA	RO-NEET HERBICIDE	0.2400	Gallon	1.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8852490	PINNACLE APPLICATION	7/11/2019	agrian_data	7/11/2019	10:23 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109B2	BORZINI RANCH 1	7/13/2019	1:15 AM	13024-0	SPINACH	220.0000	ACRES	264-516-ZB	ALIETTE WDG FUNGICID	6.6000	Pounds	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8865767	PINNACLE APPLICATION	7/15/2019	agrian_data	7/15/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109B2	BORZINI RANCH 1	7/13/2019	1:15 AM	13024-0	SPINACH	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.1400	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8865767	PINNACLE APPLICATION	7/15/2019	agrian_data	7/15/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109B2	BORZINI RANCH 1	7/13/2019	1:15 AM	13024-0	SPINACH	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	1.6500	Pounds	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8865767	PINNACLE APPLICATION	7/15/2019	agrian_data	7/15/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109B2	BORZINI RANCH 1	7/13/2019	1:15 AM	13024-0	SPINACH	220.0000	ACRES	71512-10-AA-279	BELEAF 50 SG	0.3900	Pounds	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8865767	PINNACLE APPLICATION	7/15/2019	agrian_data	7/15/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109B2	BORZINI RANCH 1	7/13/2019	1:15 AM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0700	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8865767	PINNACLE APPLICATION	7/15/2019	agrian_data	7/15/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109C2	BORZINI RANCH 1	7/13/2019	1:16 AM	13024-0	SPINACH	220.0000	ACRES	264-516-ZB	ALIETTE WDG FUNGICID	6.3000	Pounds	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8865768	PINNACLE APPLICATION	7/15/2019	agrian_data	7/15/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109C2	BORZINI RANCH 1	7/13/2019	1:16 AM	13024-0	SPINACH	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.1300	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8865768	PINNACLE APPLICATION	7/15/2019	agrian_data	7/15/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109C2	BORZINI RANCH 1	7/13/2019	1:16 AM	13024-0	SPINACH	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	1.5800	Pounds	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8865768	PINNACLE APPLICATION	7/15/2019	agrian_data	7/15/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109C2	BORZINI RANCH 1	7/13/2019	1:16 AM	13024-0	SPINACH	220.0000	ACRES	71512-10-AA-279	BELEAF 50 SG	0.3700	Pounds	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8865768	PINNACLE APPLICATION	7/15/2019	agrian_data	7/15/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109C2	BORZINI RANCH 1	7/13/2019	1:16 AM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0700	Gallon	2.1000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8865768	PINNACLE APPLICATION	7/15/2019	agrian_data	7/15/2019	8:59 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109A2	BORZINI RANCH 1	7/12/2019	11:45 PM	13024-0	SPINACH	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.1300	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8865799	PINNACLE APPLICATION	7/15/2019	agrian_data	7/15/2019	9:02 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109A2	BORZINI RANCH 1	7/12/2019	11:45 PM	13024-0	SPINACH	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	1.6500	Pounds	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8865799	PINNACLE APPLICATION	7/15/2019	agrian_data	7/15/2019	9:02 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109A2	BORZINI RANCH 1	7/12/2019	11:45 PM	13024-0	SPINACH	220.0000	ACRES	71512-10-AA-279	BELEAF 50 SG	0.3800	Pounds	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8865799	PINNACLE APPLICATION	7/15/2019	agrian_data	7/15/2019	9:02 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0109A2	BORZINI RANCH 1	7/12/2019	11:45 PM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0400	Gallon	2.2000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8865799	PINNACLE APPLICATION	7/15/2019	agrian_data	7/15/2019	9:02 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SB3	BORZINI RANCH 1	7/18/2019	3:25 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	10163-200-AA	PREFAR 4-E	3.0000	Gallon	4.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8885247	PINNACLE APPLICATION	7/18/2019	agrian_data	7/18/2019	7:37 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SB3	BORZINI RANCH 1	7/18/2019	3:25 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.9000	Gallon	4.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8885247	PINNACLE APPLICATION	7/18/2019	agrian_data	7/18/2019	7:37 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SB3	BORZINI RANCH 1	7/18/2019	3:25 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0700	Gallon	4.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8885247	PINNACLE APPLICATION	7/18/2019	agrian_data	7/18/2019	7:37 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106B3	BORZINI RANCH 1	7/18/2019	10:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	10163-200-AA	PREFAR 4-E	4.5000	Gallon	6.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8891833	PINNACLE APPLICATION	7/19/2019	agrian_data	7/19/2019	7:35 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106B3	BORZINI RANCH 1	7/18/2019	10:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	1.3500	Gallon	6.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8891833	PINNACLE APPLICATION	7/19/2019	agrian_data	7/19/2019	7:35 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0106B3	BORZINI RANCH 1	7/18/2019	10:01 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.1100	Gallon	6.0000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8891833	PINNACLE APPLICATION	7/19/2019	agrian_data	7/19/2019	7:35 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	7/24/2019	12:20 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	10163-200-AA	PREFAR 4-E	2.6300	Gallon	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8914073	PINNACLE APPLICATION	7/24/2019	agrian_data	7/24/2019	9:03 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	7/24/2019	12:20 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-578-AA	KERB SC	0.7900	Gallon	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8914073	PINNACLE APPLICATION	7/24/2019	agrian_data	7/24/2019	9:03 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	7/24/2019	12:20 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0500	Gallon	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8914073	PINNACLE APPLICATION	7/24/2019	agrian_data	7/24/2019	9:03 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA3	BORZINI RANCH 1	7/24/2019	2:10 AM	13024-0	SPINACH	220.0000	ACRES	100-922-ZD	ACTIGARD 50WG	0.0900	Pounds	1.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8917239	PINNACLE APPLICATION	7/24/2019	agrian_data	7/24/2019	5:07 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA3	BORZINI RANCH 1	7/24/2019	2:10 AM	13024-0	SPINACH	220.0000	ACRES	228-572-AA	NUPRID 2SC	0.0400	Gallon	1.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8917239	PINNACLE APPLICATION	7/24/2019	agrian_data	7/24/2019	5:07 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA3	BORZINI RANCH 1	7/24/2019	2:10 AM	13024-0	SPINACH	220.0000	ACRES	228-734-AA	ABAMEX	0.1200	Gallon	1.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8917239	PINNACLE APPLICATION	7/24/2019	agrian_data	7/24/2019	5:07 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA3	BORZINI RANCH 1	7/24/2019	2:10 AM	13024-0	SPINACH	220.0000	ACRES	264-516-ZB	ALIETTE WDG FUNGICID	4.7500	Pounds	1.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8917239	PINNACLE APPLICATION	7/24/2019	agrian_data	7/24/2019	5:07 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA3	BORZINI RANCH 1	7/24/2019	2:10 AM	13024-0	SPINACH	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.0600	Gallon	1.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8917239	PINNACLE APPLICATION	7/24/2019	agrian_data	7/24/2019	5:07 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	016SA3	BORZINI RANCH 1	7/24/2019	2:10 AM	13024-0	SPINACH	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.0600	Gallon	1.9000	ACRES	Ground	PINNACLE APPLICATION	31566	950	8917239	PINNACLE APPLICATION	7/24/2019	agrian_data	7/24/2019	5:07 PM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	0106SA	BORZINI RANCH 1	8/4/2019	7:32 AM	13024-0	SPINACH	220.0000	ACRES	7969-302-AA	ZAMPRO FUNGICIDE	26.6000	Ounce	1.9000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1295475			wilburellis_dat	8/5/2019	8:17 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	9/1/2019	7:55 AM	13031-10	LETTUCE ROMAI	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	20.8000	Ounce	13.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1315928			wilburellis_dat	9/2/2019	8:41 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	9/1/2019	7:55 AM	13031-10	LETTUCE ROMAI	220.0000	ACRES	352-592-AA	DU PONT CURZATE 60DF FU	4.0600	Pounds	13.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1315928			wilburellis_dat	9/2/2019	8:41 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	9/1/2019	7:55 AM	13031-10	LETTUCE ROMAI	220.0000	ACRES	55146-83-AA	PHOSTROL AGRICULTURAL	8.1200	Gallon	13.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1315928			wilburellis_dat	9/2/2019	8:41 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webxml	010006	BORZINI RANCH 1	9/1/2019	7:55 AM	13031-10	LETTUCE ROMAI	220.0000	ACRES	70506-66-ZA	PERM-UP 25 DF INSECTICID	9.7500	Pounds	13.0000	ACRES	Air	WILBUR-ELLIS: KING CIT	30794	BITTERWA	1315928			wilburellis_dat	9/2/2019	8:41 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	9/6/2019	12:30 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-1050-AA	MOVENTO	0.1100	Gallon	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	9178725	PINNACLE APPLICATION	9/6/2019	agrian_data	9/6/2019	9:05 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	9/6/2019	12:30 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-516-ZB	ALIETTE WDG FUNGICID	10.5000	Pounds	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	9178725	PINNACLE APPLICATION	9/6/2019	agrian_data	9/6/2019	9:05 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	9/6/2019	12:30 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-695-AA	REASON 500 SC FUNGIC	0.2200	Gallon	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	9178725	PINNACLE APPLICATION	9/6/2019	agrian_data	9/6/2019	9:05 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	9/6/2019	12:30 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	279-3126-ZB	MUSTANG (CA & NY)	0.1200	Gallon	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	9178725	PINNACLE APPLICATION	9/6/2019	agrian_data	9/6/2019	9:05 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	9/6/2019	12:30 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	352-342-ZB	DUPONT LANNATE SP IN	3.5000	Pounds	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	9178725	PINNACLE APPLICATION	9/6/2019	agrian_data	9/6/2019	9:05 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	9/6/2019	12:30 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-442-AA	INTREPID 2F	0.2200	Gallon	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	9178725	PINNACLE APPLICATION	9/6/2019	agrian_data	9/6/2019	9:05 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	9/6/2019	12:30 AM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.1100	Gallon	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	9178725	PINNACLE APPLICATION	9/6/2019	agrian_data	9/6/2019	9:05 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	9/10/2019	11:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	1051080-50016-AA	MULTI-SPRED	0.4400	Gallon	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	9198322	PINNACLE APPLICATION	9/11/2019	agrian_data	9/11/2019	8:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	9/10/2019	11:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	264-678-AA	PREVICUR FLEX FUNGIC	0.8800	Gallon	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	9198322	PINNACLE APPLICATION	9/11/2019	agrian_data	9/11/2019	8:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	9/10/2019	11:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	55146-83-AA	PHOSTROL	2.1900	Gallon	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	9198322	PINNACLE APPLICATION	9/11/2019	agrian_data	9/11/2019	8:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	9/10/2019	11:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	62719-545-AA	RADIANT SC	0.1600	Gallon	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	9198322	PINNACLE APPLICATION	9/11/2019	agrian_data	9/11/2019	8:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	9/10/2019	11:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	70506-66-ZA	PERM-UP 25DF	2.6300	Pounds	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	9198322	PINNACLE APPLICATION	9/11/2019	agrian_data	9/11/2019	8:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	9/10/2019	11:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	71512-10-AA-279	BELEAF 50 SG	0.6100	Pounds	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	9198322	PINNACLE APPLICATION	9/11/2019	agrian_data	9/11/2019	8:22 AM	ACC	DPR	Required
2700061	BORZINI FARMS INC.	webbatch	0116D3	BORZINI RANCH 1	9/10/2019	11:30 PM	13031-0	LETTUCE LEAF	220.0000	ACRES	90930-50005-AA	MILLER FOAM FIGHTER	0.1100	Gallon	3.5000	ACRES	Ground	PINNACLE APPLICATION	31566	950	9198322	PINNACLE APPLICATION	9/11/2019	agrian_data	9/11/2019	8:22 AM	ACC	DPR	Required

Attachment D
Safety Data Sheets (SDS)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Trade name	ALIETTE®
Product code (UVP)	79386508, 80910347
SDS Number	102000019662
EPA Registration No.	432-890

Relevant identified uses of the substance or mixture and uses advised against

Use	Fungicide
Restrictions on use	See product label for restrictions.

Information on supplier

Supplier	Bayer Environmental Science A division of Bayer CropScience LP 500 Centregreen Way, Suite 400 Cary, NC 27513 USA
Responsible Department	Email: SDSINFO.BCS-NA@bayer.com

Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days)	1-800-334-7577
Product Information Telephone Number	1-800-331-2867

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Hazards Not Otherwise Classified (HNOC)
No physical hazards not otherwise classified.
No health hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Fosetyl-Aluminium	39148-24-8	80.0
Nonylphenol ethoxylate, branched	68412-54-4	5.2
Lignosulfonic acid, sodium salt, sulfomethylated	68512-34-5	4.4
Nonylphenol ethoxylate	68412-54-4	1.0

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Inhalation Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Skin contact Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Eye contact Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms The following symptoms may occur:, The product causes irritation of eyes, skin and mucous membranes.

Indication of any immediate medical attention and special treatment needed

Treatment Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Foam, Dry powder, Carbon dioxide (CO2)

Unsuitable High volume water jet

Special hazards arising from the substance or mixture	In the event of fire the following may be released:, Carbon monoxide (CO), Nitrogen oxides (NOx), Oxides of phosphorus
Advice for firefighters	
Special protective equipment for firefighters	Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
	In the event of fire and/or explosion do not breathe fumes. Wear self-contained breathing apparatus and protective suit.
Further information	Keep out of smoke. Fight fire from upwind position. Do not allow run-off from fire fighting to enter drains or water courses. Contain the spread of the fire-fighting media.
Flash point	Not applicable
Auto-ignition temperature	No data available
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Explosivity	No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up	Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations. Decontaminate tools and equipment following cleanup.
Additional advice	Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal.
Reference to other sections	Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Use only in area provided with appropriate exhaust ventilation. Handle and open container in a manner as to prevent spillage.

Hygiene measures Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.
Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Fosetyl-Aluminium (Respirable fraction.)	39148-24-8	1 mg/m3 (TWA)	02 2012	ACGIH
Fosetyl-Aluminium	39148-24-8	5 mg/m3 (TWA)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

Exposure controls

Personal protective equipment
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Hand protection Chemical resistant nitrile rubber gloves

Eye protection Safety glasses with side-shields

Skin and body protection Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water.
Keep and wash PPE separately from other laundry.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	grey to tan
Physical State	dry, free flowing granules
Odor	characteristic
Odour Threshold	No data available
pH	3.0 - 4.0 (5.0 %)
Viscosity, kinematic	No data available
Vapor Pressure	Not applicable
Vapor Density (Air = 1)	Not applicable
Density	No data available
Bulk density	0.45 - 0.56 g/ml (loose)
Evaporation rate	Not applicable
Boiling Point	Not applicable
Melting / Freezing Point	Not applicable
Water solubility	dispersible
Minimum Ignition Energy	No data available
Decomposition temperature	Stable under normal conditions.
Self-accelarating decomposition temperature (SADT)	No data available
Partition coefficient: n-octanol/water	No data available
Flammability	No data available
Flash point	Not applicable
Auto-ignition temperature	No data available
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Explosivity	No data available
Particle size	No data available
Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition	Stable under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid	Extremes of temperature and direct sunlight. Exposure to moisture.
Incompatible materials	Strong acids, Strong bases, Strong oxidizing agents, Strong reducing agents
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Skin Absorption, Ingestion, Inhalation
Immediate Effects	
Eye	Causes irritation, redness.
Skin	Harmful if absorbed through skin. May cause irritation, redness, swelling.
Ingestion	Harmful if swallowed.
Inhalation	May cause upper respiratory tract irritation.Harmful if inhaled.

Information on toxicological effects

Acute oral toxicity	LD50 (male/female combined Rat) 2,860 mg/kg
Acute inhalation toxicity	LC50 (male/female combined Rat) > 5.0 mg/l Exposure time: 4 h Determined in the form of dust.
Acute dermal toxicity	LD50 (Rabbit) > 2,020 mg/kg
Skin corrosion/irritation	Slight irritant effect - does not require labelling. (Rabbit)
Serious eye damage/eye irritation	Mild eye irritation. (Rabbit)
Respiratory or skin sensitisation	Skin: Non-sensitizing. (Guinea pig)

Assessment STOT Specific target organ toxicity – single exposure

Fosetyl Aluminium: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

Fosetyl Aluminium did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Fosetyl Aluminium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Fosetyl Aluminium was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

Fosetyl-Aluminium	39148-24-8	Group A4

NTP

None.

IARC

None.

OSHA

None.

Assessment toxicity to reproduction

Fosetyl Aluminium did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Fosetyl Aluminium did not cause developmental toxicity in rats and rabbits.

Aspiration hazard

Based on available data, the classification criteria are not met.

Further information

Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) > 120 mg/l Exposure time: 96 h Test conducted with a similar formulation.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 37 mg/l Exposure time: 48 h Test conducted with a similar formulation.
Toxicity to aquatic plants	EC50 (Desmodesmus subspicatus (green algae)) 27.7 mg/l Growth rate; Exposure time: 72 h Test conducted with a similar formulation.
Biodegradability	Fosetyl Aluminium: rapidly biodegradable

Koc	Fosetyl Aluminium: Koc: 0.1
Bioaccumulation	Fosetyl Aluminium: Does not bioaccumulate.
Mobility in soil	Fosetyl Aluminium: Highly mobile in soils
Additional ecological information	No other effects to be mentioned.
Environmental precautions	Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Dispose of contents/container in accordance with local regulation.
Contaminated packaging	Do not re-use empty containers. Triple rinse containers. Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke. Follow advice on product label and/or leaflet.
RCRA Information	Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

According to national and international transport regulations this material is not classified as dangerous goods / hazardous material.

Freight Classification: INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 432-890

US Federal Regulations
TSCA list

Nonylphenol, branched, polyethoxylate	68412-54-4
Lignosulfonic acid, sodium salt, sulfomethylated	68512-34-5
Water	7732-18-5
Sodium acetate – anhydrous	127-09-3

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
No export notification needs to be made.
SARA Title III - Section 302 - Notification and Information
Not applicable.
SARA Title III - Section 313 - Toxic Chemical Release Reporting
Yes

US States Regulatory Reporting
CA Prop65
WARNING: This product contains a chemical known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Crystalline quartz (respirable)	14808-60-7

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients

Crystalline quartz (respirable)	14808-60-7	MN, RI

None.

EPA/FIFRA Information:
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

Signal word: Caution!

Hazard statements: Harmful if swallowed, inhaled or absorbed through the skin.
Causes moderate eye injury.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act

EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

NFPA 704 (National Fire Protection Association):

Health - 1	Flammability - 0	Instability - 0	Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1	Flammability - 0	Physical Hazard - 0	PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: The following sections have been revised: Section 2: Hazards Identification. Section 3: Composition / Information on Ingredients. Section 15: Regulatory information. Reviewed and updated for general editorial purposes.

Revision Date: 04/13/2020

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.

Safety Data Sheet

NEW CENTURY OIL SPREADER

SDS Number: 116 **Revision:** February 1, 2017

Section 1 · *IDENTIFICATION*

Product Name New Century Oil Spreader

Other Identification Paraffinic Oil. Copolymer.

Recommended Use Agricultural Industry – Spray adjuvant

Manufacturer

Company Name Custom Ag Formulators, Inc.

Address 3430 S Willow Ave, Fresno, CA 93725, United States

Telephone (800) 355-4457

Website www.4caf.com

Emergency Contacts

Custom Ag Formulators, Inc.	(559) 435-1052
CHEMTREC	(800) 424-9300 (Domestic) (703) 527-3887 (International)

Section 2 · *HAZARD(S) IDENTIFICATION*

Signal Word Warning

Label

Physical Hazards Not Classified.

Health Hazards Category 1

Reactivity Hazards Category 0

Environmental Hazards Category 0

Flammability Hazards Category 1

OSHA Defined Hazards Not Classified.

Hazard Statement KEEP OUT OF REACH OF CHILDREN. May be harmful if swallowed. May be harmful in contact with skin. Causes eye irritation. Causes mild skin irritation. Harmful if inhaled.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local, regional, national, and international regulations.

Section 3 · *COMPOSITION/INFORMATION ON INGREDIENTS*

Mixtures

Chemical Name	*Common Name & Synonyms*	*CAS Number*	*%*

Heavy range paraffinic oil, Polyol fatty acid esters	N/A	Proprietary
Polyethoxylated derivatives	N/A	Proprietary

Section 4 · *FIRST-AID MEASURES*

Inhalation	When symptoms occur: go into open air and ventilate suspected area. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin Contact	Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash contaminated clothing before reuse. Obtain medical attention if irritation develops or persists.
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Obtain medical attention.
Ingestion	Rinse mouth. Do not induce vomiting. Call a POISON CENTER or doctor/physician.
General Information	Never give anything by mouth to an unconscious person. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

Section 5 · *FIRE-FIGHTING MEASURES*

Suitable extinguishing	Not flammable, use media suitable for combustibles involved in fire.
Unsuitable extinguishing	None known.
Specific hazards arising from the chemical	Not considered flammable but may burn at high temperatures.
Special protective equipment and precautions for firefighters	Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Carbon dioxide, Carbon Monoxide Silicon oxides. Measurements at temperatures above150° C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.

Section 6 · *ACCIDENTAL RELEASE MEASURES*

Personal precautions, protective equipment	Avoid all eyes and skin contact and do not breathe vapor and mist.

and emergency procedures

Methods and materials for containment and cleaning up

Large Spills Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as: saw dust or cellulosic material. If spilled directly onto the ground, remove sufficient soil to ensure material is fully recovered. Contact competent authorities after a spill.

Small Spills Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Environmental precautions Do not allow runoff to sewer, waterway or ground.

Section 7 · *HANDELING & STORAGE*

Precautions for safe handling Do not handle until all safety precautions have been read and understood. Use appropriate personal protection equipment (PPE). Avoid contact with skin, eyes and clothing. Avoid breathing vapors, mist, and spray. *Hygiene Measures:* Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product. Wash hands and forearms thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Always wash your hands immediately after handling this product, and once again before leaving the workplace.

Conditions for safe storage, including any incompatibilities Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers. Acetaldehyde. Chlorine. Ethylene oxide. Isocyanates. Peroxides. Bromine.

Incompatible Materials: Heat sources.

Section 8 · *EXPOSURE CONTROLS/PERSONAL PROTECTION*

Occupational exposure limits No exposure limits noted for ingredient(s).

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal protective equipment (PPE)

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection Neoprene rubber gloves and apron should be worn to prevent repeated or prolonged contact with the liquid. Wash contaminated clothing prior to reuse.

Hand protection Wear appropriate chemical resistant gloves.

Respiratory protection	None generally required. If conditions exist where mist may be generated, a NIOSH/MSHA approved mist respirator should be worn.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	There are no known hazards associated with this product when use as recommended, however common good industrial hygiene practices should be followed, such as washing thoroughly after handling and before eating or drinking.

Section 9 · *PHYSICAL & CHEMICAL PROPERTIES*

Appearance	Clear amber, liquid.
Odor	Possible slight acrylic odor.
Odor threshold	N/A
pH	N/A
Melting point/freezing point	N/A
Initial boiling point and boiling range	> 620 °F (> 288 °C)
Flash point	> 200 °F (> 93.3 °C)
Evaporation rate	N/A
Flammability (solid, gas)	N/A
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	N/A
Flammability limit - upper (%)	N/A
Explosive limit - lower (%)	N/A
Explosive limit - upper (%)	N/A
Vapor density	10+
Relative density	7.34 lb/gal
Specific Gravity	0.88
Solubility(ies)	
Solubility (water)	100%
Partition coefficient (n-octanol/water)	N/A
Auto-ignition temperature	N/A
Decomposition temperature	N/A
Viscosity	N/A

Section 10 · *STABILITY & REACTIVITY*

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions
Possibility of hazardous reactions	Hazardous polymerization will not occur
Conditions to avoid	Direct sunlight. Extremely high or low temperatures. Sources of ignition. Incompatible materials.
Incompatible materials	Strong acids. Strong bases. Strong oxidizers. Acetaldehyde. Chlorine. Ethylene oxide. Isocyanates. Peroxides. Bromine.
Hazardous decomposition products	May release flammable gases. Carbon oxides (CO, CO 2). Nitrogen oxides. Hydrocarbons. Carbonyl compounds.

Section 11 · *TOXICOLOGICAL INFORMATION*

Information on likely routes of exposure:

Ingestion	Not determined.
Inhalation	Not determined.
Skin Contact	Not determined.
Eye Contact	Not determined.

Symptoms related to the physical, chemical and toxicological characteristics	Not determined.

Information on toxicological effects:

Acute toxicity	Not determined.
Skin corrosion/irritation	Not determined.
Serious eye damage/eye irritation	Not determined.

Respiratory or skin sensitization

Respiratory sensitization	Not determined.
Skin sensitization	Not determined.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic
Carcinogenicity	Suspected of causing cancer. This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
OSHA Specifically Regulated Substances	Not listed.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not available.

Section 12 · *ECOLOGICAL INFORMATION*

Ecotoxicity	Not determined.
Persistence and degradability	
Bio accumulative potential	Not determined.
Mobility in soil	No data available.

Other adverse effects	Avoid release to the environment. No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Section 13 · *DISPOSAL CONSIDERATION*

Disposal instructions	Consult federal, state and local regulations for disposal requirements.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Section 14 · *TRANSPORT INFORMATION*

General	Not DOT regulated in domestic (USA ground) transportation in package sizes less than 3,550 lbs (317 gallons); 1,610 kg (1,200 liters). The DOT transportation information below is for shipments with package sizes equal to or exceeding this value. IMDG Regulated Marine Pollutant.

DOT - Basic shipping requirements:

UN number	Not regulated for transport
DOT Label	Not regulated for transport
Proper shipping name	Not regulated for transport
Hazard class	Not regulated for transport
Packing group	Not regulated for transport

IMGD - Basic shipping requirements:

UN number	Not regulated for transport
IMGD Label	Not regulated for transport
Proper shipping name	Not regulated for transport
Hazard class	Not regulated for transport
Packing group	Not regulated for transport
EMS NO	Not regulated for transport

IATA - Basic shipping requirements:

UN number	Not regulated for transport
Proper shipping name	Not regulated for transport
Hazard class	Not regulated for transport
Packing group	Not regulated for transport
OCAP	Not regulated for transport

Environmental hazards

Marine pollutant	Yes
Special precautions	Read safety instructions, SDS and emergency procedures before handling.

Section 15 · *REGULATORY INFORMATION*

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List. This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
Proposition 65 (CA)	Warning: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)		Not regulated
CERCLA Hazardous Substance List (40 CFR 302.4)		
	Reportable Quantity	Not applicable
SARA 304 Emergency release notification		Not regulated
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		Not listed
Superfund Amendments and Reauthorization Act of 1986 (SARA)		
	Hazard categories Immediate Hazard	Yes
	Delayed Hazard	No
	Fire Hazard	No
	Pressure Hazard	No
	Reactivity Hazard	No
SARA 302 Extremely hazardous substance		Not listed
SARA 311/312 Hazardous chemical		No Immediate (acute) health hazard

Section 16 · *OTHER INFORMATION*

Issue date February 1, 2017

Disclaimer The above information is based on data of which the manufacturer is aware and is believed to be correct as of the date hereon. Since the information contained herein may be applied under conditions beyond the manufacturer's control and which may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, the manufacturer does not assume any responsibility for the results of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

United Phosphorus, Inc.

Safety Data Sheet

Preparation Date 15-Apr-2015 **Revision date** 15-Apr-2015 **Revision Number:** 1

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier

Product Description: Acephate 97UP Insecticide

Other means of identification

Item#: 12U-102
UN-No UN3077
Synonyms Not Available
Registration number(s) 70506-8

Recommended use of the chemical and restrictions on use

Recommended use Insecticide.
Uses advised against Activties contrary to label recomendation

Details of the Supplier of the Safety Data Sheet

Supplier Address
UPI
630 Freedom Business Center
Suite 402
King of Prussia, PA 19406

Emergency telephone number

Company Phone Number 1-800-438-6071
Emergency telephone number Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 673-6671 (24hrs)

2. Hazards Identification

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4

Label elements

EMERGENCY OVERVIEW

WARNING

hazard statements
HARMFUL IF SWALLOWED
Harmful in contact with skin
HARMFUL IF INHALED
May cause long lasting harmful effects to aquatic life

appearance Fine, white **Physical state** powder Highly hydroscopic **Odor** rotten Cabbage

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Do not get in eyes, on skin, or on clothing
Use only outdoors or in a well-ventilated area

IF ON SKIN: Wash with plenty of soap and water
Call a POISON CENTER or doctor if you feel unwell
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor if you feel unwell
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)
OTHER INFORMATION
• Toxic to aquatic life

3. Composition/information on Ingredients

Chemical name	CAS-No	Weight %	Trade secret
Acephate	30560-19-1	97	

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. Remove from exposure, lie down.

Eye contact Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. Call poison control center or doctor for treatment advice.

Inhalation Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Never give anything by mouth to an

unconscious person. Clean mouth with water.

Protection of First-aiders Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Most Important Symptoms and Effects, Both Acute and Delayed

Most Important Symptoms and Effects No information available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician Cholinesterase inhibitor. Atropine is antidotal. PAM may alos be used in conjunction with atropine but should not be used alone.

5. Fire-fighting measures

Suitable extinguishing media
Carbon dioxide (CO2). Water spray. Dry chemical. Foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical
No information available.

Hazardous combustion products Carbon dioxide (CO2). Sulfur oxides. Oxides of nitrogen. Oxides of phosphorous.

Explosion data
Protective equipment and precautions for firefighters
Use personal protective equipment. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with the skin and the eyes. Provide adequate ventilation. Take precautionary measures against static discharges. Use personal protective equipment.

Environmental Precautions

Environmental precautions Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinenet environmental permits. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Methods for Clean-Up Sweep up and shovel into suitable containers for disposal. Reduce dust spreading with water spray, collect rinsate. Shovel or sweep up.

7. Handling and Storage

Precautions for safe handling

Handling Wear personal protective equipment. Avoid contact with skin and eyes. Avoid dust formation in confined areas. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a cool, well-ventilated place. Keep out of the reach of children. Store in an area where cross-contamination with pesticides, fertilizers, food or feed could not occur.

incompatible materials Alkaline.

8. Exposure Controls/Personal Protection

Exposure guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering controls Investigate engineering techniques to reduce exposures. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Personal protective equipment

Eye/Face Protection Use eye protection to avoid eye contact. Where there is potential for eye contact have eye flushing equipment available. Safety glasses with side-shields.

Skin protection Long sleeved clothing. Chemical resistant apron. Impervious butyl rubber gloves. Break through time. .?.

Respiratory protection Wear a positive-pressure supplied-air respirator.

General hygiene considerations

Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wear suitable gloves and eye/face protection. Wash hands and face before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state	powder Highly hydroscopic		
appearance	Fine, white	**Odor**	rotten Cabbage
color	No information available		

Property	**VALUES**	**Remarks/ • Method**
pH	4	
Melting point/freezing point	5 °C / 41 °F	
Boiling Point/Range	No information available	
Flash Point		
Evaporation Rate	No information available	
flammability (solid, gas)	No information available	
Flammability limit in air		
Upper Flammability Limit	No information available	
Lower Flammability Limit	No information available	
vapor pressure	1.7 X 10-6 mmHG @24 C (acephate)	
Vapor Density	No information available	
Specific gravity	No information available	
Water solubility	No information available	
Solubility in Other Solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	No information available	
decomposition temperature	No information available	
Viscosity, kinematic	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

OTHER INFORMATION

Softening point	No information available
molecular weight	No information available
VOC Content	No information available

density	No information available
Bulk density	0.55 g/cc

10. Stability and Reactivity

Reactivity
no data available

Chemical stability
Stable under recommended storage conditions.
Possibility of hazardous reactions
None under normal processing.
Conditions to avoid
Not known. Excess moisture.
incompatible materials
Alkaline.
Hazardous decomposition products
Oxides of sulfur. Oxides of nitrogen. Oxides of phosphorous.

11. Toxicological Information

Information on Likely Routes of Exposure

Product information	Acephate 97UP Eye irritation - minimal with clearing within 24 hrs Skin irritation - non-irritating Dermal toxicity - LD50 (rabbit) >2 g/kg Oral toxicity - LD50 (male rat) 688mg/kg. LD50 (female rat) 1127 mg/kg LD50 (combined sexes) 846 mg/kg Inahalation tox - LC50 4hr (rats) >2.13 mg/L
Inhalation	May be harmful if inhaled.
Eye contact	Mild eye irritant.
Skin contact	Not a skin irritant or sensitizer.
Ingestion	There is no data available for this product.

Information on Toxicological Effects

Symptoms	No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

sensitization	No information available.
Mutagenic effects	No information available.
Carcinogenicity	The information below indicates whether any agency has listed any ingredient as a carcinogen.
Reproductive effects	Not Available.
STOT - Single Exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

Numerical Measures of Toxicity - Product information

LD50 Oral	688 mg/kg (rat)
LD50 Dermal	2000 mg/kg (rat)
LC50 Inhalation:	> 2.13 mg/l (rat)

12. Ecological Information

Marine Pollutant.

ecotoxicity

Acephate = Highly toxic to bees (1.2 ug/bee)
Toxic to birds.
Rainbow trout LC50 (96 hr) = >1000 ug/L
Bluegill LC50 (96 hr) = >2000 mg/L
Mallard duck Oral LD50 = 350 mg/kg

Persistence/Degradability
No information available.

Bioaccumulation/ Accumulation
No information available.

Other Adverse Effects

Acephate tech in diet causes adverse effects on reproduction in Mallard ducks (NOEL >5 ppm <20 ppm) and in Bobwhite quail (NOEL >20 ppm <80 ppm) .

13. Disposal Considerations

Waste Treatment Methods

Waste Disposal Method Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If the wastes cannot be disposed of by use or according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. Dispose of in accordance with all applicable federal, state, and local laws and regulations.

Contaminated packaging Non refillable container. Do not reuse this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Refer to product label.

14. Transport Information

DOT When shipped domestically by highway in non-bulk containers this product can be shipped as not regulated.

UN-No	UN3077
Proper shipping name	Environmentally hazardous substances, solid, n.o.s (Acephate)
Hazard class	9
Packing group	PG III
Marine Pollutant	Marine Pollutant.

ICAO

UN-No	UN3077
Proper shipping name	Environmentally hazardous substance, solid, n.o.s (Acephate)
Hazard class	9
Packing group	PG III

IATA

UN-No	UN3077
Proper shipping name	Environmentally hazardous substances, solid, n.o.s (Acephate)
Hazard class	9
Packing group	PG III

IMDG/IMO

UN-No	UN3077
Proper shipping name	Environmentally hazardous substances, solid, n.o.s (Acephate)
Hazard class	9
Packing group	PG III
EmS No.	F-A, S-F

15. Regulatory Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

signal word	CAUTION
Ventilation Control	PESTICIDE APPLICATORS & WORKERS THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170.

International Inventories

USINV	Not determined
DSL/NDSL	Not determined
EINECS/ ELINCS	Complies
ENCS	Does not comply
China	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
TSCA	Does not comply

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372:

Chemical name	SARA 313 - Threshold Values
Acephate - 30560-19-1	1.0

SARA 311/312 Hazardous Categorization

Acute health hazard	yes
Chronic health hazard	No

Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CERCLA

SARA Product RQ 0

RCRA

Pesticide Information

Component	FIFRA - Restricted Use	FIFRA - Pesticide Product Other Ingredients	FIFRA - Listing of Pesticide Chemicals	California Pesticides - Restricted Materials
Acephate 30560-19-1 (97)			X	

State Regulations

State Right-to-Know

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Acephate		X		X	

International regulations

U.S. EPA Label information

EPA Pesticide registration number 70506-8

16. Other Information

NFPA **HEALTH** 1 **flammability** 0 **Instability** 0 **Physical hazard** -

Preparation Date 15-Apr-2015
Revision date 15-Apr-2015
Revision Summary
Update to GHS format

End of MSDS

SAFETY DATA SHEET

REASON® 500SC FUNGICIDE SUSPENSION CONCENTRATE

Version 4.0 / CDN
102000003216

Revision Date: 10/03/2016
Print Date: 10/04/2016

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Trade name	REASON® 500SC FUNGICIDE SUSPENSION CONCENTRATE
Product code (UVP)	05947073
SDS Number	102000003216
PCP Registration No.	27462

Relevant identified uses of the substance or mixture and uses advised against

Use	Fungicide
Restrictions on use	See product label for restrictions.

Information on supplier

Supplier	Bayer CropScience Inc #200, 160 Quarry Park Blvd, SE Calgary, Alberta T2C 3G3 Canada
Responsible Department	Email: SDSINFO.BCS-NA@bayer.com

Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days)	1-800-334-7577
Product Information Telephone Number	1-888-283-6847

SECTION 2: HAZARDS IDENTIFICATION

Classified in accordance with Part 2 of the Hazardous Products Regulations
Eye irritation: Category 2B

Labelling in accordance with Part 3 of the Hazardous Products Regulations
Signal word: Warning

Hazard statements
Causes eye irritation.

Precautionary statements
Wash face, hands and any exposed skin thoroughly after handling.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.

Hazards Not Otherwise Classified (HNOC)
No physical hazards not otherwise classified.
No health hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Fenamidone	161326-34-7	44.4

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice
When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Inhalation
Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Skin contact
Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Eye contact
Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

Ingestion
Call a physician or poison control center immediately. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Rinse out mouth and give water in small sips to drink. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms
To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

Treatment
There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable
High volume water jet

Special hazards arising from the substance or mixture	In the event of fire the following may be released:, Carbon monoxide (CO), Nitrogen oxides (NOx), Sulphur oxides
Advice for firefighters	
Special protective equipment for firefighters	Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
Further information	Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.
Flash point	> 100 °C
Auto-ignition temperature	510 °C / 950 °F
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not explosive

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.
Additional advice	If material is accidentally spilled, do not allow to enter soil, waterways or waste water canal. Do not allow product to contact non-target plants.
Reference to other sections	Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation.

Advice on protection against fire and explosion	Keep away from heat and sources of ignition.
Hygiene measures	Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	Store in a place accessible by authorized persons only. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Keep away from direct sunlight. Protect from freezing.
Advice on common storage	Keep away from food, drink and animal feedingstuffs.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Fenamidone	161326-34-7	1 mg/m3 (TWA)		OES BCS*
1,2-Propanediol (Aerosol.)	57-55-6	10 mg/m3 (TWAEV)	11 2010	CAD ON OEL
1,2-Propanediol (Vapor and aerosol.)	57-55-6	155 mg/m3/50 ppm (TWAEV)	06 2015	CAD ON OEL

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

Exposure controls

Personal protective equipment
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection	When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.
Hand protection	Chemical resistant nitrile rubber gloves
Eye protection	Chemical resistant goggles must be worn.
Skin and body protection	Wear long-sleeved shirt and long pants and shoes plus socks.
General protective measures	Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid

water.
Keep and wash PPE separately from other laundry.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	white to light beige
Physical State	suspension
Odor	slight
Odour Threshold	No data available
pH	6.5 - 8.0 at 100 % (23 °C)
Vapor Pressure	No data available
Vapor Density (Air = 1)	No data available
Density	1.13 g/cm³ at 20 °C
Evaporation rate	No data available
Boiling Point	No data available
Melting / Freezing Point	No data available
Water solubility	dispersible
Minimum Ignition Energy	No data available
Decomposition temperature	> 500 °C
Partition coefficient: n-octanol/water	No data available
Viscosity	500 - 900 mPa×s
Flash point	> 100 °C
Auto-ignition temperature	510 °C / 950 °F
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not explosive

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition	> 500 °C
Chemical stability	Stable under recommended storage conditions.

Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	freezing Heat, flames and sparks.
Incompatible materials	No data available
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Skin contact, Inhalation
Immediate Effects	
Eye	Causes substantial but temporary eye injury.
Skin	May cause slight irritation.
Inhalation	Harmful if inhaled.

Information on toxicological effects

Acute oral toxicity	LD50 (Rat) > 5,000 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 0.9 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration. No deaths
Acute dermal toxicity	LD50 (Rabbit) > 5,000 mg/kg
Skin irritation	slight irritation (Rabbit)
Eye irritation	Mild eye irritation. (Rabbit)
Sensitisation	Non-sensitizing. (Guinea pig)

Assessment STOT Specific target organ toxicity – repeated exposure

Fenamidone did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Fenamidone was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Fenamidone was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Assessment toxicity to reproduction

Fenamidone did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Fenamidone did not cause developmental toxicity in rats and rabbits.

Further information

Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) 0.74 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient fenamidone.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 0.055 mg/l static test; Exposure time: 48 h The value mentioned relates to the active ingredient fenamidone.
Toxicity to aquatic plants	IC50 (Desmodesmus subspicatus (green algae)) 3.4 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient fenamidone.
Biodegradability	Fenamidone: Not rapidly biodegradable
Koc	Fenamidone: Koc: 387
Bioaccumulation	Fenamidone: Does not bioaccumulate.
Mobility in soil	Fenamidone: Moderately mobile in soils
Environmental precautions	Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Dispose in accordance with all local, state/provincial and federal regulations. Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility. Follow advice on product label and/or leaflet.
Contaminated packaging	Triple rinse containers. Puncture container to avoid re-use. Follow advice on product label and/or leaflet.

SECTION 14: TRANSPORT INFORMATION

TDG

UN number	**3082**
Labels	9
Packaging group	III
Marine pollutant	Marine pollutant
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FENAMIDONE)

49CFR Not dangerous goods / not hazardous material

IMDG

UN number	**3082**
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FENAMIDONE SOLUTION)

IATA

UN number	**3082**
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FENAMIDONE SOLUTION)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Further Information	Exempt from regulation when transported by road or rail, in accordance with TDG Regulations 1.45.1. This exemption provides that this product does not require dangerous goods shipping documentation or safety marks when transported on land by road or rail.
Freight Classification:	INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

SECTION 15: REGULATORY INFORMATION

PCP Registration No. 27462
US Federal Regulations
TSCA list
None.
US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
None.
SARA Title III - Section 302 - Notification and Information
None.
SARA Title III - Section 313 - Toxic Chemical Release Reporting
None.
US States Regulatory Reporting
CA Prop65
This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients
None.

Canadian Regulations
Canadian Domestic Substance List
None.

Environmental
CERCLA
None.
Clean Water Section 307 Priority Pollutants
None.
Safe Drinking Water Act Maximum Contaminant Levels
None.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

NFPA 704 (National Fire Protection Association):

Health - 2	Flammability - 1	Instability - 0	Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1	Flammability - 1	Physical Hazard - 0	PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: Revised according to the current Canadian WHMIS standard (WHMIS 2015).

Prepared by the HSE Department of Bayer CropScience Inc. (306)-721-0310.

Revision Date: 10/03/2016

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Abamex Miticide/Insecticide**
EPA Reg. No.: 228-734
Product Type: Miticide/Insecticide
Company Name: Nufarm Americas, Inc.
11901 S. Austin Avenue
Alsip, IL 60803
1-800-345-3330

Telephone Numbers: **For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,**
Call CHEMTREC Day or Night: 1-800-424-9300
For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not exactly the same as on the FIFRA label. Certain sections are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION

For EPA FIFRA-Specific Information see Section 15

HEALTH HAZARDS:

Acute Toxicity, Oral	Category 4
Acute Toxicity, Inhalation	Category 3

ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute	Category 1
Hazardous to aquatic environment, chronic	Category 1

SIGNAL WORD:
DANGER

HAZARD STATEMENTS:
Harmful if swallowed. Toxic if inhaled. Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid breathing mist, vapors, or spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor. Collect spillage.

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Dispose of contents in accordance with local, state, and federal regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Abamectin	65195-56-4/65195-55-3	1.9 – 2.1
Butylated hydroxytoluene (BHT)	128-37-0	1.9 – 2.1
Other Ingredients	Trade Secret	Trade Secret

Synonyms: Abamectin

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for several minutes. Remove contact lenses, if present, then continue rinsing eye. Call a poison control center or doctor for treatment advice if irritation occurs and persists.
If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.
If Swallowed: Call a poison control center or doctor for treatment advice. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
If on Skin or Clothing: Take off contaminated clothing. Rinse skin with plenty of water for several minutes. Call a poison control center or doctor for treatment advice if irritation occurs and persists.
Most Important symptoms/effects, acute and delayed: May be toxic if inhaled. Harmful if swallowed.
Indication of Immediate medical attention and special treatment if needed, if necessary: Immediate medical attention should not be required.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media suitable for surrounding materials. Dry chemical, carbon dioxide, foam, water spray or fog.
Special Fire Fighting Procedures: Firefighters should wear NIOSH approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.
Unusual Fire and Explosion Hazards: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.
Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as oxides of carbon and nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.
Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.
Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.
Methods for Cleanup and Disposal: Avoid creation of dusty conditions. Scrape up and place in appropriate closed container. Wash entire spill area with a detergent slurry, absorb and sweep into container for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.
Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

HANDLING: Do not get in eyes or on clothing or skin. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/Personal Protective Equipment (PPE) immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal

Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

STORAGE: Store in a tightly closed container in a cool, dry place. Do not contaminate water, food, or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:
Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Eye/Face Protection: Not normally required. To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, chemical resistant gloves, socks and shoes. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

	OSHA		ACGIH		
Component	**TWA**	**STEL**	**TWA**	**STEL**	**Unit**
Abamectin	NE	NE	NE	NE	
Butylated hydroxytoluene	NE	NE	10	NE	mg/m^3
Other Ingredients	NE	NE	NE	NE	

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Amber liquid
Odor:	Moderate petroleum
Odor threshold:	No data available
pH:	7.28 (@ 25°C)
Melting point/freezing point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	> 230°F (110°C)
Evaporation rate:	No data available
Flammability (solid, gas):	Not applicable
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	1.030 g/cm^3 (@ 25°C) and 1.020 g/cm^3 (@ 38°C)
Solubility(ies):	Soluble
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	19.3 cPs (25°C) and 12.1 cPs (38°C)
VOC Emission Potential (%)	14.783

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not normally reactive.
Chemical Stability: This material is stable under normal handling and storage conditions**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
Conditions to Avoid: None known.
Incompatible Materials: Strong oxidizing agents: bases and acids.
Hazardous Decomposition Products: May produce gases such as oxides of carbon and nitrogen.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Dermal, inhalation
Symptoms of Exposure:
Eye Contact: Mildly irritating based on toxicity studies.
Skin Contact: Minimally toxic and slightly irritating based on toxicity studies.
Ingestion: Slightly toxic if ingested based on toxicity studies.
Inhalation: Toxic based on toxicity studies.
Delayed, immediate and chronic effects of exposure:
Toxicological Data:
Data from laboratory studies conducted are summarized below:
Oral: Rat LD_{50}: 550 mg/kg (female)
Dermal: Rat LD_{50}: >2,000 mg/kg
Inhalation: Rat 4-hr LC_{50}: >2.07 mg/L
Eye Irritation: Rabbit: Mildly irritating (MMTS = 21.7)
Skin Irritation: Rabbit: Slightly irritating (PDII = 0.3)
Skin Sensitization: Not a contact sensitizer in mice following repeated skin exposure.
Subchronic (Target Organ) Effects: None known.
Carcinogenicity / Chronic Health Effects: None of the ingredients of this product are listed as carcinogens by IARC, NTP, OSHA, or the EPA.
Reproductive Toxicity: No reproductive effects known.
Developmental Toxicity: No developmental effects known.
Genotoxicity: No genetic effects known.
Assessment Carcinogenicity: This product contains substances considered to be probable or suspected human carcinogens as follows:

	Regulatory Agency Listing As Carcinogen			
Component	**ACGIH**	**IARC**	**NTP**	**OSHA**
Abamectin	No	No	No	No
Butylated hydroxytoluene	No	3	No	No
Other ingredients	No	No	No	No

12. ECOLOGICAL INFORMATION

Ecotoxicity:
Data on Abamectin Technical:

96-hour LC_{50} Bluegill:	9.6 ppb	Bobwhite Quail Oral LD_{50}:	>2000 mg/kg
96-hour LC_{50} Rainbow Trout:	3.6 ppb	Bobwhite Quail 8-day Dietary LC_{50}:	3,102 ppm
48-hour EC_{50} Daphnia:	0.34 ppb	Mallard Duck 5-day Dietary LC_{50}:	383 ppm
48-hour Honey Bee Contact LD_{50}:	0.022 μg/bee		

Environmental Fate:
Abamectin is nearly insoluble in water and has a strong tendency to bind to soil particles. Abamectin is rapidly degraded by photolysis in both the soil and water. The average half-life in soil is 5 – 10 hours and in water 18 hours. Hydrolysis is not an important degradation mechanism.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:
Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide is a violation of Federal law.
Container Handling and Disposal: Nonrefillable container. DO NOT reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this SDS.

DOT
< 119 gallons per complete package
Compound insecticide, liquid, not DOT regulated
≥ 119 gallons per complete package
UN3082, Environmentally hazardous substances, liquid, n.o.s., (Abamectin), 9, III, Marine pollutant

IMDG
UN3082, Environmentally hazardous substances, liquid, n.o.s., (Abamectin), 9, III, Marine pollutant

IATA
UN3082, Environmentally hazardous substances, liquid, n.o.s., (Abamectin), 9, III, Marine pollutant

15. REGULATORY INFORMATION

EPA FIFRA INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

U.S. FEDERAL REGULATIONS

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:
Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):
Acute Health

Section 313 Toxic Chemical(s):
None

Reportable Quantity (RQ) under U.S. CERCLA:
None

RCRA Waste Code:
Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

State Information:
Other state regulations may apply. Check individual state requirements.

California Proposition 65: ⚠ **ATTENTION**. This product can expose you to chemicals including abamectin which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

16. OTHER INFORMATION

National Fire Protection Association (NFPA) Hazard Rating:
Rating for this product: Health: 2 **Flammability:** 1 **Reactivity:** 0
Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter “Information”) are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND ALL SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

Date of Issue: July 17, 2018 **Supersedes:** November 13, 2017

Safety Data Sheet

ACTIGARD® 50WG

Date: 7/13/2015
Replaces: 3/24/2015

1. PRODUCT IDENTIFICATION

Product identifier on label: **ACTIGARD® 50WG**

Product No.: A9180A

Use: Plant Activator

Manufacturer: Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro NC 27419

Manufacturer Phone: 1-800-334-9481

Emergency Phone: 1-800-888-8372

2. HAZARDS IDENTIFICATION

Classifications:
Skin Corrosion/Irritation: Category 2
Specific Target Organ Toxicity: Repeated Category 2
Specific Target Organ Toxicity: Respiratory Irritation Category 3
Eye Damage/Irritation: Category 2B
Skin Sensitizer: Category 1A
Carcinogenicity: Category 1A

Signal Word (OSHA): Danger

Hazard Statements:
Causes skin irritation
May cause an allergic skin reaction
Causes eye irritation
May cause respiratory irritation
May cause cancer
May cause damage to organs through prolonged or repeated exposure

Hazard Symbols:

Precautionary Statements:
Contaminated work clothing must not be allowed out of the workplace.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice.
Wash contaminated clothing before reuse.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust.

Wash hands and face thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing, eye protection.

If on skin: Wash with plenty of soap and water.

If skin irritation occurs: Get medical advice.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

If exposed or concerned: Get medical advice/attention.

Call a poison center, doctor or Syngenta if you feel unwell.

See Section 4 First Aid Measures.

Take off contaminated clothing and wash it before reuse.

Store locked up.

Dispose of contents and container in accordance with local regulations.

Other Hazard Statements: May form combustible dust concentrations in air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Concentration
Crystalline Silica, Quartz and Cristobalite	Crystalline Silica, Quartz and Cristobalite	14808-60-7	Trade Secret
Diatomaceous Earth	Diatomaceous Earth	61790-53-2	Trade Secret
Other ingredients	Other ingredients	Trade Secret	<50.0%
1,2,3-Benzothiadiazole-7-carbothioic acid S-methyl ester	Acibenzolar-S-Methyl	135158-54-2	50.0%

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

Have the product container, label or Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison contol center or doctor, or going for treatment.

Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Most important symptoms/effects:

Eye irritation

Skin irritation

Allergic skin reaction

Respiratory irritation

Indication of immediate medical attention and special treatment needed:

There is no specific antidote if this product is ingested.

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use dry chemical, foam or CO2 extinguishing media. If water is used to fight fire, dike and collect runoff.

Specific Hazards:

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

See also Sec. 7.

Special protective equipment and precautions for firefighters:

Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Follow exposure controls/personal protection outlined in Section 8.

Methods and materials for containment and cleaning up:

Avoid dust formation.

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions in Protective Equipment Section. Sweep up material and place in a compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Precautions for safe handling:

This material is capable of forming flammable dust clouds in air, which, if ignited, can produce a dust cloud explosion. Flames, hot surfaces, mechanical sparks and electrostatic discharges can serve as ignition sources for this material. Electrical equipment should be compatible with the flammability characteristics of this material. The flammability characteristics will be made worse if the material contains traces of flammable solvents or is handled in the presence of flammable solvents.

This material could become charged under certain conditions such as pneumatic conveying.

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Conditions for safe storage, including any incompatibilities:

Store locked up.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Occupational Exposure Limits:

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Crystalline Silica, Quartz and Cristobalite	10 mg/m³/(%SiO2+2) (respirable dust)	0.025 mg/m³ (respirable silica)	0.05 mg/m³ (respirable dust)	NIOSH
Diatomaceous Earth	80 mg/m³/%SiO2 (20 mppcf) TWA	Not Established	6 mg/m³ TWA	NIOSH
Other ingredients	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Acibenzolar-S-Methyl	Not Established	Not Established	5 mg/m³ TWA	Syngenta

Appropriate engineering controls:

Use effective engineering controls to comply with occupational exposure limits (if applicable).

Individual protection measures:

Ingestion:

Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye Contact:

Where eye contact is likely, use dust-proof chemical goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Skin Contact:

Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.

Inhalation:

A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

In case of emergency spills, use a NIOSH approved respirator with any N, R, or P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Light brown to dark brown granules

Odor: Moderate, sulfurous-like

Odor Threshold: Not Available

pH: 7 - 11 (1% in deionized water)

Melting point/freezing point: Not Available

Initial boiling point and boiling range: Not Applicable

Flash Point (Test Method): Not Applicable

Flammable Limits (% in Air): Not Available

Flammability: Combustible powder

Vapor Pressure: Acibenzolar-S-Methyl 0.00000165mmHg @ 68°F (20°C)

Vapor Density: Not Available

Relative Density: 0.61 g/cm³

Solubility (ies): Acibenzolar-S-Methyl 7.7 mg/l @ 68°F (20°C)

Partition coefficient: n-octanol/water: Not Available

Autoignition Temperature: Not Available

Decomposition Temperature: Not Available

Viscosity: Not Available

Other: None

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.

Chemical stability: Stable under normal use and storage conditions.

Possibility of hazardous reactions: Will not occur.

Conditions to Avoid: None known.

Incompatible materials: None known.

Hazardous Decomposition Products: None known.

11. TOXICOLOGICAL INFORMATION

Health effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Eye irritation, Skin irritation, Respiratory irritation

Delayed, immediate and chronic effects of exposure: Possible carcinogenicity, Eye irritation, Skin irritation, Allergic skin reaction, Respiratory irritation

Numerical measures of toxicity (acute toxicity/irritation studies (finished product))

Ingestion:	Oral (LD50 Rat) :	> 5000 mg/kg body weight
Dermal:	Dermal (LD50 Rat) :	> 2000 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	> 2.79 mg/l air - 4 hours
Eye Contact:	Irritating (Rabbit)	
Skin Contact:	Moderately Irritating (Rabbit)	
Skin Sensitization:	A skin sensitizer in animal tests (Guinea Pig)	

Reproductive/Developmental Effects

Acibenzolar-S-Methyl: Developmental toxicity and fetal malformations observed at high maternal doses (rats). Additional testing showed that these effects are not relevant to humans.

Chronic/Subchronic Toxicity Studies

Acibenzolar-S-Methyl: Slight hemolytic anemia at highest dose level (rats, mice and dogs). Liver and spleen effects observed in highest dose level (rats and dogs).

Carcinogenicity

Acibenzolar-S-Methyl: Not carcinogenic at dietary levels up to 7500 ppm (rat) and 6000 ppm (mouse).

Chemical Name	NTP/IARC/OSHA Carcinogen
Crystalline Silica, Quartz and Cristobalite	IARC 1; ACGIH A2
Diatomaceous Earth	IARC 3
Other ingredients	No
1,2,3-Benzothiadiazole-7-carbothioic acid S-methyl ester	No

Other Toxicity Information

None

Toxicity of Other Components

Crystalline Silica, Quartz and Cristobalite

Chronic inhalation exposure to crystalline silica is known to cause silicosis and pulmonary fibrosis in humans. Experimental animals exposed to crystalline silica developed respiratory tract cancers.

Diatomaceous Earth

The carrier in this product is naturally occurring diatomaceous earth. Natural diatomaceous earth contains a small percentage of naturally occurring crystalline silica, which is considered a human carcinogen. Chronic inhalation exposure to crystalline silica is known to cause silicosis and pulmonary fibrosis in humans. The amount of crystalline silica in this product is minimal and the potential for overexposure in manufacturing operations is low.

Other ingredients

Not Applicable

Target Organs

Active Ingredients

Acibenzolar-S-Methyl:	Blood, liver, spleen

Inert Ingredients

Crystalline Silica, Quartz and Cristobalite:	Respiratory tract
Diatomaceous Earth:	Respiratory tract
Other ingredients:	Not Applicable

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity

Acibenzolar-S-Methyl:

Fish (Rainbow Trout) 96-hour LC50 0.88 ppm

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 2.9 ppm

Green Algae 72-hour EC50 80.1 ppm

Bird (Bobwhite Quail) 14-day LD50 > 2000 mg/kg

Environmental Fate

Acibenzolar-S-Methyl:

The information presented here is for the active ingredient, acibenazolar-s-methyl.
Low bioaccumulation potential. Not persistent in soil or water. Low mobility in soil. Sinks in water (after 24 h).

13. DISPOSAL CONSIDERATIONS

Disposal:

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA
Not regulated

Comments

Water Transport - International
Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (Acibenzolar), Marine Pollutant
Hazard Class or Division: Class 9
Identification Number: UN 3077
Packing Group: PG III

Air Transport
Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (Acibenzolar)
Hazard Class or Division: Class 9
Identification Number: UN 3077
Packing Group: PG III

15. REGULATORY INFORMATION

Pesticide Registration:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Caution: Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

EPA Registration Number(s):

100-922

EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: None

CERCLA/SARA 304 Reportable Quantity (RQ):
None

RCRA Hazardous Waste Classification (40 CFR 261):
Not Applicable

TSCA Status:
Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings		HMIS Hazard Ratings	
Health:	2	Health:	2*
Flammability:	1	Flammability:	1
Instability:	0	Reactivity:	0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme
*	Chronic

Syngenta Hazard Category: D,S

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 3/2/1998
Revision Date: 7/13/2015 Replaces: 3/24/2015
Section(s) Revised: 2, 4, 11

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

Safety Data Sheet

AFRAME

Date: 5/10/2016
Replaces: 6/16/2015

1. PRODUCT IDENTIFICATION

Product identifier on label: **AFRAME**
Product No.: A12705T
Use: Fungicide
Manufacturer: Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro NC 27419

Manufacturer Phone: 1-800-334-9481

Emergency Phone: 1-800-888-8372

2. HAZARDS IDENTIFICATION

Classifications: Not Applicable
Signal Word (OSHA): Not Applicable
Hazard Statements: Not Applicable

Hazard Symbols:

Precautionary Statements: Not Applicable

Other Hazard Statements: None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Concentration
1,2-Propanediol	Propylene Glycol	57-55-6	Trade Secret
Other ingredients	Other ingredients	Trade Secret	77.1%
Methyl (E)-2-{2-[6-(2-cyanophenoxy)pyrimidin-4-yloxy]phenyl}-3-methoxyacrylate	Azoxystrobin	131860-33-8	22.9%

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

Have the product container, label or Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison control center or doctor, or going for treatment.

Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Most important symptoms/effects:

Not Applicable

Indication of immediate medical attention and special treatment needed:

There is no specific antidote if this product is ingested.

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use dry chemical, foam or CO2 extinguishing media. If water is used to fight fire, dike and collect runoff.

Specific Hazards:

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Special protective equipment and precautions for firefighters:

Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Follow exposure controls/personal protection outlined in Section 8.

Methods and materials for containment and cleaning up:

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Precautions for safe handling:

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Conditions for safe storage, including any incompatibilities:

Not Applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Occupational Exposure Limits:

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Propylene Glycol	Not Established	Not Established	10 mg/m³ TWA	AIHA
Other ingredients	Not Established	Not Established	Not Established	Not Applicable
Azoxystrobin	Not Established	Not Established	4 mg/m³ TWA	Syngenta

Appropriate engineering controls:

Use effective engineering controls to comply with occupational exposure limits (if applicable).

Individual protection measures:

Ingestion:

Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye Contact:

Where eye contact is likely, use chemical splash goggles.

Skin Contact:

Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.

Inhalation:

A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

In case of emergency spills, use a NIOSH certified respirator with any N, R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Off-white to yellow suspension

Odor: Not Available

Odor Threshold: Not Available

pH: 6.8 - 8.8 (neat)

Melting point/freezing point: Not Available

Initial boiling point and boiling range: Not Available

Flash Point (Test Method): Not Available
Flammable Limits (% in Air): Not Available
Flammability: Not Available
Vapor Pressure: Azoxystrobin 8.25 x 10(-13) mmHg @ 68°F (20°C)
Vapor Density: Not Available
Relative Density: 1.07 - 1.11 g/ml @ 68°F (20°C)
Solubility (ies): Azoxystrobin 6 mg/l in water @ 68°F (20°C)
Partition coefficient: n-octanol/water: Not Available
Autoignition Temperature: Not Available
Decomposition Temperature: Not Available
Viscosity: Not Available
Other: None

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.
Chemical stability: Stable under normal use and storage conditions.
Possibility of hazardous reactions: Will not occur.
Conditions to Avoid: Not Available
Incompatible materials: None known.
Hazardous Decomposition Products: Not Available

11. TOXICOLOGICAL INFORMATION

Health effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Not Applicable

Delayed, immediate and chronic effects of exposure: Not Applicable

Numerical measures of toxicity (acute toxicity/irritation studies (finished product))

Ingestion:	Oral (LD50 Rat) :	> 5000 mg/kg body weight (based on a substantially similar formulation)
Dermal:	Dermal (LD50 Rat) :	> 4000 mg/kg body weight (based on a substantially similar formulation)
Inhalation:	Inhalation (LC50 Rat) :	> 6.32 mg/l air - 4 hours (based on a substantially similar formulation)
Eye Contact:	Mildly Irritating (Rabbit) (based on a substantially similar formulation)	
Skin Contact:	Non-Irritating (Rabbit) (based on a substantially similar formulation)	

Skin Sensitization: Not a Sensitizer (Guinea Pig) (based on a substantially similar formulation)

Reproductive/Developmental Effects

Azoxystrobin : Did not show reproductive toxicity effects in animal experiments.

Chronic/Subchronic Toxicity Studies

Azoxystrobin : No adverse effect has been observed in chronic toxicity tests.

Carcinogenicity

Azoxystrobin : Did not show carcinogenic effects in animal experiments.

Chemical Name	NTP/IARC/OSHA Carcinogen
1,2-Propanediol	No
Other ingredients	No
Methyl (E)-2-{2-[6-(2-cyanophenoxy)pyrimidin-4-yloxy]phenyl}-3-methoxyacrylate	No

Other Toxicity Information

None

Toxicity of Other Components

Other ingredients

Not Established

Propylene Glycol

Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea. Also, eye irritation may occur with lacrimation but no residual discomfort or injury. Prolonged contact to skin may cause mild to moderate irritation and possible allergic reactions. Chronic dietary exposure caused kidney and liver injury in experimental animals.

Target Organs

Active Ingredients

Azoxystrobin : Liver

Inert Ingredients

Other ingredients: Not Established

Propylene Glycol: CNS, kidney, liver

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity

Azoxystrobin :

Fish (Rainbow Trout) 96-hour LC50 470 ppb

Green Algae 5-day EC50 106 ppb

Invertebrate (Water Flea) 48-hour EC50 259 ppb

Bird (Mallard Duck) 14-day LD50 > 250 mg/kg

Environmental Fate

Azoxystrobin :

The information presented here is for the active ingredient, azoxystrobin.
Low bioaccumulation potential. Not persistent in soil. Stable in water. Moderate mobility in soil. Sinks in water (after 24 h).

13. DISPOSAL CONSIDERATIONS

Disposal:

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA
Not regulated

Comments

Water Transport - International
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Azoxystrobin), Marine Pollutant
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

Air Transport
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Azoxystrobin)
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

15. REGULATORY INFORMATION

Pesticide Registration:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Caution: Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Wear long-sleeved shirt and long pants, socks and choes and chemical-resistant gloves made of any waterproof material such as polyvinyl chloride, nitrile rubber or butyl rubber.

EPA Registration Number(s):

100-1098

EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: None

CERCLA/SARA 304 Reportable Quantity (RQ):
None

RCRA Hazardous Waste Classification (40 CFR 261):
Not Applicable

TSCA Status:
Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings		HMIS Hazard Ratings	
Health:	1	Health:	1
Flammability:	1	Flammability:	1
Instability:	0	Reactivity:	0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme
*	Chronic

Syngenta Hazard Category: A

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 3/16/2015
Revision Date: 5/10/2016 Replaces: 6/16/2015
Section(s) Revised: 15

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

Safety Data Sheet

Preparation Date 17-Apr-2015 **Revision date** 31-Dec-2018 **Revision Number:** 4

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier
Product Description: Assail® 30 SG Insecticide

Other means of identification
Product code 30SG
Registration number(s) 8033-36-70506

Recommended use of the chemical and restrictions on use
Recommended use Insecticide.
Uses advised against Activities contrary to label recommendation

Details of the Supplier of the Safety Data Sheet
Supplier Address
UPL NA Inc.
630 Freedom Business Center
Suite 402
King of Prussia, PA 19406

Emergency telephone number
Company Phone Number 1-800-438-6071
Emergency telephone number Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 673-6671 (24hrs)

2. Hazards Identification

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Dermal	Category 4

Label elements

EMERGENCY OVERVIEW

WARNING

Hazard Statements
Harmful in contact with skin

Appearance Tan To brown **Physical state** solid powder **Odor** no data available

Precautionary Statements - Prevention
Wear protective gloves/protective clothing/eye protection/face protection

IF ON SKIN: Wash with plenty of soap and water

Call a POISON CENTER or doctor if you feel unwell
Wash contaminated clothing before reuse

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)
OTHER INFORMATION
• Harmful to aquatic life with long lasting effects

3. Composition/information on Ingredients

Chemical name	CAS No	Weight-%
Acetamiprid	135410-20-7	>30

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES

Eye contact Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin contact Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Inhalation Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Clean mouth with water. Never give anything by mouth to an unconscious person.

Most Important Symptoms and Effects, Both Acute and Delayed

Most Important Symptoms and Effects no data available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician No information available.

5. Fire-fighting measures

Suitable extinguishing media
Carbon dioxide (CO2). Foam. Dry chemical. Water spray.

Unsuitable extinguishing media no data available.

Specific hazards arising from the chemical
No information available.

Hazardous combustion products Dust clouds generated during handling and/or storage can form explosive mixtures with air. Dust explosion characteristics vary with the particle size, particle shape, moisture content, contaminants, and other variables.

As with any dry material, pouring this material or allowing it to free fall or be conveyed through chutes or pipes can accumulate and generate electrostatic sparks, potentially

causing ignition of the material itself, or any flammable materials which may come into contacft with the material or its contianer. Check that all equipment is properly grounded and installed to satisfy electrical classification requirements.

Explosion data

Protective equipment and precautions for firefighters

Use personal protective equipment. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with skin and eyes. Use personal protective equipment. Avoid dust formation.

Environmental Precautions

Environmental precautions Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Methods and material for containment and cleaning up

Methods for Clean-Up Avoid dust formation. Sweep up and shovel into suitable containers for disposal. Reduce dust spreading with water spray, collect rinsate.

7. Handling and Storage

Precautions for safe handling

Handling Keep out of reach of children. Avoid dust formation. Avoid breathing dust. Fine dust dispersed in air may ignite. Provide appropriate exhaust ventilation at places where dust is formed. Check that all equipment is properly bonded and grounded. Do not cut grind or weld on or near containers - explosion hazard. - Bad transaltion. Use spark resistant tools. Use explosion proof equipment. Keep container tightly closed. Flush container clean before discarding. Do not reuse container as it may retain hazardous product residue. Prevent dust accumulation. Avoid spray drift. Do not apply when weather conditions may cause drift. Do not allow this product to drift to non-target areas. Do not apply aerially when wind speed is greater than 10 mph or during periods of temperature inversions.

Conditions for safe storage, including any incompatibilities

Storage Keep away from open flames, hot surfaces and sources of ignition. Static electricity may accumulate when transferring material. All containers must be bonded and grounded during filling and emptying operations.

incompatible materials Strong oxidizing agents.

8. Exposure Controls/Personal Protection

Exposure guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering controls Investigate engineering techniques to reduce exposures. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Personal protective equipment

Eye/Face Protection Use eye protection to avoid eye contact. Where there is potential for eye contact have eye flushing equipment available. If splashes are likely to occur, wear:. Goggles.

Skin protection Long sleeved clothing. Long pants. waterproof gloves. Socks and footwear.

Respiratory protection Avoid breathing dust. Where airborne exposure is likely, use NIOSH approved respiratory

protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus. Respiratory protection programs must comply with 29 CFR 1910.134.

General hygiene considerations
Do not eat, drink or smoke when using this product. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state	solid powder		
Appearance	Tan To brown	**Odor**	no data available
color	No information available		

Property	**VALUES**	**Remarks/ • Method**
pH	No information available	
Melting point/freezing point	98.9 °C (Acetamiprid)	
Boiling Point/Range	No information available	
Flash Point		
Evaporation Rate	No information available	
Flammability (solid, gas)	No information available	
Flammability limit in air		
Upper Flammability Limit	No information available	
Lower Flammability Limit	No information available	
vapor pressure	No information available	
Vapor Density	No information available	
Specific gravity	No information available	
Water solubility	No information available	
Solubility in Other Solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	no data available	
Decomposition temperature	No information available	
Viscosity, kinematic	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

OTHER INFORMATION

Softening point	No information available
molecular weight	No information available
VOC Content	No information available
Liquid Density	No information available
Bulk density	0.71 g/cm3 (Tap)

10. Stability and Reactivity

Reactivity
no data available

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid
Avoid dust formation.

incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
Carbon oxides. Nitrogen oxides (NOx).

11. Toxicological Information

Information on Likely Routes of Exposure

Product information

AcetamipridSingle exposure studies indicate: Oral - Slightly toxic to rats(LD50 male 886 mg/kg; female 805 mg/kg) and moderately toxic to mice (LD50 male 153 mg/kg; female 133 mg/kg) Dermal - No more than slightly toxic to rats (LD50>2,000 mg/kg) Eye irritation - Moderately irritating to rabbitsSkin irritation - Slightly irritating to rabbitsNo skin allergy was observed in guinea pigs following repeated exposure. No genetic changes were observed in standard tests using Ames, UDS, Micronulcleus (mouse) Positive responses have been reported in generic tests using the chromosomal aberration test.

Inhalation There is no data available for this product.

Eye contact Moderately irritating to the eyes.

Skin contact Slightly irritating.

Ingestion HARMFUL IF SWALLOWED.

Information on Toxicological Effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Mutagenic effects no data available.
Carcinogenicity There are no known carcinogenic chemicals in this product.
Reproductive effects Not Available.
STOT - Single Exposure no data available.
STOT - Repeated Exposure no data available.
Aspiration hazard No information available.

Numerical Measures of Toxicity - Product information

LD50 Oral 805-886 mg/kg (rat)
LD50 Dermal > 2000 mg/kg

12. Ecological Information

ecotoxicity

Assail 30 SG
Non toxic
Rainbow trout 96 hr LC50 = >120 mg/L
Daphnia magna 48 hr EC50 = >120 mg/L

Green Algae 72 hr EC50 = 880 mg/L

Persistence/Degradability
no data available.

Bioaccumulation/ Accumulation
No information available.

Other Adverse Effects
Toxic to bees

13. Disposal Considerations

Waste Treatment Methods

Waste Disposal Method Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If the wastes cannot be disposed of by use or according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Contaminated packaging Non refillable container. Do not reuse this container. Refer to product label.

14. Transport Information

DOT
NOT REGULATED

TDG
NOT REGULATED

IATA
NOT REGULATED

IMDG
NOT REGULATED

15. Regulatory Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

signal word CAUTION

Keep out of Reach of Children. Harmful if swallowed or absorbed through the skin. Causes moderate eye irritation. This pesticide is highly toxic to bees, birds, and aquatic invertebrates.

International Inventories

USINV	Not present
DSL/NDSL	Not present
EINECS/	Not Present

ELINCS	
ENCS	Not Present
China	Not Present
KECL	Not Present
PICCS	Not Present
AICS	Not Present
TSCA	Not Present

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

CERCLA
Not applicable

CERCLA
RCRA

Pesticide Information

State Regulations

State Right-to-Know
Not applicable

International regulations

U.S. EPA Label information
EPA Pesticide registration number 8033-36-70506

16. Other Information

NFPA **HEALTH** 1 **flammability** 0 **Instability** 0 **Physical hazard** -

Preparation Date 17-Apr-2015
Revision date 31-Dec-2018
Revision Summary
Update logo Update section 1 Update Section 16***
Disclaimer
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End of SDS

Gowan
The Go To Company

Safety Data Sheet
acc. to OSHA

Printing date 12/14/2015 Reviewed on 12/14/2015

*

1 Identification

· **Product identifier**

· **Trade name: Badge® X2 Fungicide / Bactericide**
EPA Registration No.:80289-12-10163

· **CAS Number:**
Acitve Ingredients: Copper Oxychloride (23.82%), CAS:1332-40-7
Copper Hydroxide (21.49%), CAS: 20427-59-2

· **Application of the substance / the mixture** Agricultural Fungicide / Bactericide

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**
Isagro S.p.A. (d/b/a Isagro USA, Inc.)
430 Davis Drive, Suite 240
Morrisville, NC 27560
Tel: 919-321-5200

Distributed by:
Gowan Company
P.O. Box 5569
Yuma, Arizona 85366-5569
Tel. (928) 783-8844

· **Information department:** sds@gowanco.com

· **Emergency telephone number:**
Chemtrec® Emergency Telephone 24 - Hours: (Spills, leak or fire) Inside U.S. & Canada: (800) 424-9300
Outside the U.S. & Canada: +011 (703) 527-3887

For medical emergency: (800) 222-1222

*

2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS07

Acute Tox. 4 H332 Harmful if inhaled.

· **Label elements**

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS07

· **Signal word** Warning

· **Hazard-determining components of labeling:**
Copper hydroxide

· **Hazard statements**
Harmful if inhaled.

· **Precautionary statements**
Avoid breathing dust.
Wear protective gloves / eye protection / face protection.

(Contd. on page 2)

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Trade name: Badge® X2 Fungicide / Bactericide
EPA Registration No.:80289-12-10163

(Contd. of page 1)

Wash thoroughly after handling.

· **Hazard description:**
May be fatal if swallowed. Causes substantial but temporary eye injury. Harmful if absorbed through skin. Harmful if inhaled.Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Remove and wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing. Wear long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves (such as Natural Rubber, Selection Category A). Avoid breathing dust.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**

Health = 1
Fire = 0
Reactivity = 0

HAZARD INDEX:
4 Severe Hazard
3 Serious Hazard
2 Moderate Hazard
1 Slight Hazard
0 Minimal Hazard

· **HMIS-ratings (scale 0 - 4)**

Health = 1
Fire = 0
Reactivity = 0

HAZARD INDEX:
4 Severe Hazard
3 Serious Hazard
2 Moderate Hazard
1 Slight Hazard
0 Minimal Hazard

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable in US.

· **vPvB:** Not applicable in US.

*
3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**			
1332-40-7	Copper oxychloride	Acute Tox. 3, H301	23.82%
20427-59-2	Copper hydroxide	Acute Tox. 4, H332	21.49%

(Contd. on page 3)

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Trade name: Badge® X2 Fungicide / Bactericide
EPA Registration No.:80289-12-10163

(Contd. of page 2)

*
4 First-aid measures

· **Description of first aid measures**
· **General information:**
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
You may also contact 1-888-222-1222 for emergency medical treatment information.
· **After inhalation:**
• Move person to fresh air.
• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.
• Call poison control center or doctor for further treatment advice.
· **After skin contact:**
• Take off contaminated clothing.
• Rinse skin immediately with plenty of water for 15-20 minutes.
• Call a poison control center or doctor for treatment advice.
· **After eye contact:**
• Hold eye open and rinse slowly and gently with water for 15-20 minutes.
• Remove contact lenses, if present, after first 5 minutes, then continue rinsing eyes.
• Call a poison control center or doctor for treatment advice.
· **After swallowing:**
• Call a poison control center or doctor immediately for treatment advice.
• Have person sip a glass of water if able to swallow.
• Do not induce vomiting unless told to do so by a poison control center or doctor.
• Do not give anything by mouth to an unconscious person.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** Unknown
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture** Hydrogen chloride (HCl)
· **Advice for firefighters**
· **Protective equipment:** Wear self-contained respiratory protective device.

*
6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:** Do not allow product to reach sewage system or any water course.
· **Methods and material for containment and cleaning up:** Pick up mechanically.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA

Printing date 12/14/2015 Reviewed on 12/14/2015

Trade name: Badge® X2 Fungicide / Bactericide
EPA Registration No.:80289-12-10163

(Contd. of page 3)

*
7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
May be fatal if swallowed. Causes substantial but temporary eye injury. Harmful if absorbed through skin. Harmful if inhaled. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Remove and wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing. Wear long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves (such as Natural Rubber, Selection Category A). Avoid breathing dust.
· **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store under well-vented, cool and dry storage conditions. Do not store under moist conditions.
· **Information about storage in one common storage facility:** Store away from foodstuffs.
· **Further information about storage conditions:**
Store under well-vented, cool and dry storage conditions. Do not store under moist conditions.
· **Specific end use(s)** No further relevant information available.

*
8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:**
Harmful if swallowed. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing. Wash the outside of gloves before removing.
· **Breathing equipment:** Not required.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 5)

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Trade name: Badge® X2 Fungicide / Bactericide
EPA Registration No.:80289-12-10163

(Contd. of page 4)

· **Eye protection:**

Safety glasses

· **Body protection:**
Protective work clothing
Mixers, loaders, applicators, and other handlers must wear the following:
– long-sleeved shirt and long pants
– shoes plus socks
_ protective eyewear (goggles, safety glasses, or face shield)
– chemical-resistant gloves such as Natural Rubber

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

*

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
· **Form:**	Granulate
· **Color:**	Light blue
· **Odor:**	Faint aromatic
· **Odor threshold:**	Not determined.
· **pH-value at 20 °C (68 °F):**	7.67
· **Change in condition**	
· **Melting point/Melting range:**	Undetermined.
· **Boiling point/Boiling range:**	Undetermined.
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not self-igniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Vapor pressure:**	Not determined.
· **Density at 20 °C (68 °F):**	1.11 g/cm³ (9.263 lbs/gal)
· **Relative density**	Not determined.
· **Vapor density**	Not determined.
· **Evaporation rate**	Not determined.

(Contd. on page 6)

Safety Data Sheet
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Trade name: Badge® X2 Fungicide / Bactericide
EPA Registration No.:80289-12-10163

(Contd. of page 5)

· **Solubility in / Miscibility with**
· **Water:** Dispersible.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**
· **Dynamic:** Not determined.
· **Kinematic:** Not determined.
· **Other information** No further relevant information available.

*
10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability** Stable under normal conditions
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** None in particular. Store under well-vented, cool and dry storage conditions.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

*
11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

Oral	LD50	>3000 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** Mild irritation
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**
None of the ingredients are listed.

· **NTP (National Toxicology Program)**
None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients are listed.

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA

Printing date 12/14/2015 Reviewed on 12/14/2015

Trade name: Badge® X2 Fungicide / Bactericide
EPA Registration No.:80289-12-10163

(Contd. of page 6)

*
12 Ecological information

· **Toxicity**
This pesticide is toxic to fish and aquatic invertebrates and may contaminate water through runoff. This product has a potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.
· **Aquatic toxicity:** *No further relevant information available.*
· **Persistence and degradability** *No further relevant information available.*
· **Other information:**
Data referred to technical Copper Oxychloride CAS: 1332-40-7
Fish (Onchorincus mykiss): LC50 (96h): 0.217 mg Cu/L
Freshwater invertibrate (Daphnia magna): LC50 (48h): 0.29 mg Cu/L
Algae (Scenedesmus Subspicatus): EC50 (72h): 56.3 mg Cu/L

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Data referred to technical Copper Hydroxide CAS: 20427-59-2
Fish (Onchorincus mykiss): LC50 (96h): 0.0165 mg Cu/L
Freshwater invertibrate (Daphnia magna): LC50 (48h): 0.0422 mg Cu/L
Algae (Scenedesmus Subspicatus): EC50 (72h): 22.5 mg Cu/L

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** *No further relevant information available.*
· **Mobility in soil** *No further relevant information available.*
· **Additional ecological information:**
· **General notes:** *Not known to be hazardous to water.*
· **Results of PBT and vPvB assessment**
· **PBT:** *Not applicable.*
· **vPvB:** *Not applicable.*
· **Other adverse effects** *No further relevant information available.*

*
13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

· **Uncleaned packagings:**
· **Recommendation:**
Empty the package completely. Then dispose of the empty container according to state and local regulations. Place in trash or offer for recycling if available or return it to the Seller, or, if allowed by state and local authorities, by burning. If burned stay out of smoke.

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Safety Data Sheet
acc. to OSHA

Printing date 12/14/2015 Reviewed on 12/14/2015

Trade name: Badge® X2 Fungicide / Bactericide
EPA Registration No.:80289-12-10163

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*
14 Transport information

· **UN-Number**
· **DOT** Void
· **ADR, IMDG, IATA** UN3077

· **UN proper shipping name**
· **ADR, IMDG, IATA** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.,(Copper Oxychloride, Copper Hydroxide)

· **Transport hazard class(es)**

· **ADR, IATA**

· **Class** 9 Miscellaneous dangerous substances and articles

· **IMDG**
· **Class** 9 Miscellaneous dangerous substances and articles

· **Packing group**
· **ADR, IMDG, IATA** III

· **Environmental hazards:**
· **Marine pollutant:** No
· **Special marking (ADR):** Symbol (fish and tree)
· **Special marking (IATA):** Symbol (fish and tree)

· **Special precautions for user** Warning: Miscellaneous dangerous substances and articles
· **EMS Number:** F-A,S-F

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable

· **Transport/Additional information:**

· **ADR**
· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 gr
Maximum net quantity per outer packaging: 1000 gr

· **UN "Model Regulation":** US DOT:
Not regulated

OTHERS MODE OF TRANSPORTATION:
UN3082, Environmentally hazardous substances, Solid, n.o.s.,(Copper Oxychloride, Copper Hydroxide), 9, III

*
15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **SARA Title III**

· **Section 355 (extremely hazardous substances):**
None of the ingredients are listed.

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Safety Data Sheet
acc. to OSHA

Printing date 12/14/2015 Reviewed on 12/14/2015

Trade name: Badge® X2 Fungicide / Bactericide
EPA Registration No.:80289-12-10163

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· **Section 313 (Specific toxic chemical listings):**

20427-59-2	Copper hydroxide

· **TSCA (Toxic Substances Control Act):**

20427-59-2	Copper hydroxide

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients are listed.

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**
Not applicable

· **Signal word**
(USA EPA) WARNING

· **Hazard-determining components of labeling:**
Copper hydroxide

· **Hazard statements**
Not applicable
Harmful if inhaled.

· **Precautionary statements**
May be fatal if swallowed. Causes substantial but temporary eye injury. Harmful if absorbed through skin. Harmful if inhaled.Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Remove and wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing. Wear long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves (such as Natural Rubber, Selection Category A). Avoid breathing dust.
Avoid breathing dust.
Wear protective gloves / eye protection / face protection.

(Contd. on page 10)

Safety Data Sheet
acc. to OSHA

Printing date 12/14/2015 *Reviewed on 12/14/2015*

Trade name: Badge® X2 Fungicide / Bactericide
EPA Registration No.:80289-12-10163

(Contd. of page 9)

Wash thoroughly after handling.

· ***Chemical safety assessment:*** *A Chemical Safety Assessment has not been carried out.*

*
16 Other information

Notice: The information and recommendations contained herein are provided in good faith and are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information herein.

· ***Department issuing SDS:*** *Supply Chain*
· ***Contact:*** *sds@gowanco.com*
· ***Date of preparation / last revision*** *12/14/2015 / 9*
· ***Abbreviations and acronyms:***
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4
· ***Sources*** *Badge® is a registered trademark of Isagro USA, Inc.*
· **** Data compared to the previous version altered.***

SAFETY DATA SHEET

Beleaf® 50 SG Insecticide

SDS # : 6225-A
Revision date: 2016-05-26
Format: NA
Version 1.08

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Beleaf® 50 SG Insecticide

Other means of identification

Product Code(s) 6225-A

Synonyms FLONICAMID: N-cyanomethyl-4-(trifluoromethyl)nicotinamide (IUPAC name); N-(cyanomethyl)-4-(trifluoromethyl)-3-pyridinecarboxamide (CAS name)

Active Ingredient(s) Flonicamid

Chemical Family Pyridinecarboxamide Insecticide

Recommended use of the chemical and restrictions on use

Recommended Use: Insecticide

Restrictions on Use: Use as recommended by the label

Manufacturer Address

FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104
(215) 299-6000 (General Information)
msdsinfo@fmc.com (E-Mail General Information)

Emergency telephone number

Medical Emergencies:
1 800 / 331-3148 (PROSAR - U.S.A. & Canada)
1 651 / 632-6793 (PROSAR - All Other Countries - Collect)

For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Specific target organ toxicity (single exposure)	Category 2

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Warning

Hazard Statements
H371 - May cause damage to organs

Precautionary Statements - Prevention
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
Precautionary Statements - Response
P308 + P311 - If exposed or concerned: Call a POISON CENTER or doctor

Precautionary Statements - Storage
P405 - Store locked up

Precautionary Statements - Disposal
P501 - Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
No hazards not otherwise classified were identified.

Other Information
May cause moderate eye irritation. May form combustible dust concentrations in air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Pyridinecarboxamide Insecticide.

Chemical name	CAS-No	Weight %
Flonicamid	158062-67-0	50

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

Eye Contact Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for further treatment advice.

Skin Contact Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.

Inhalation Move to fresh air. If person is not breathing, call 911 (within the U.S. and Canada) or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Ingestion Call a poison control center or doctor immediately for treatment advice Have person sip a

glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor Do not give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not induce vomiting or give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed None known.

Indication of immediate medical attention and special treatment needed, if necessary Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Carbon dioxide (CO_2). Foam. Dry chemical. If necessary: Use water spray or fog; do not use straight streams.

Specific Hazards Arising from the Chemical Combustible material

Hazardous Combustion Products Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data
Sensitivity to Mechanical Impact Not sensitive.
Sensitivity to Static Discharge Not sensitive.

Protective equipment and precautions for firefighters Wear self-contained breathing apparatus and protective suit. Isolate fire area. Evaluate downwind.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions For personal protection see section 8. Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection.

Other For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

Environmental Precautions Keep people and animals away from and upwind of spill/leak.

Methods for Containment Cover powder spill with plastic sheet or tarp to minimize spreading. Use a wet sweeping compound or water to prevent dust formation. Dike far ahead of spill to collect runoff water. Vacuum, shovel or pump waste into a drum and label contents for disposal.

Methods for cleaning up Clean and neutralize spill area, tools and equipment by washing with bleach water and soap. Absorb rinsate and add to the collected waste. Waste must be classified and labeled prior to recycling or disposal. Dispose of waste as indicated in Section 13.

7. HANDLING AND STORAGE

Handling Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal. Reference to other sections.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep/store only in original container.

Incompatible products None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering measures	Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	For dust, splash, mist or spray exposure, wear chemical protective goggles.
Skin and Body Protection	Wear long-sleeved shirt, long pants, socks, and shoes.
Hand Protection	Protective gloves
Respiratory Protection	For dust, splash, mist or spray exposures wear a filtering mask.
Hygiene measures	Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Remove and wash contaminated clothing before re-use. Launder work clothing separately from regular household laundry.
General information	If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Granules, Light brown
Physical State	Dry powder
Color	Light brown
Odor	Mild
Odor threshold	No information available
pH	6.0 @ 25 °C (1% solution)
Melting point/freezing point	Not applicable
Boiling Point/Range	No information available
Flash point	Not applicable
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Density	33.5 lb/cu ft (loose); 37.2 lb/cu ft (tapped)
Specific gravity	No information available
Water solubility	Soluble in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Molecular weight	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	None under normal use conditions.

Chemical Stability Stable under recommended storage conditions.
Possibility of Hazardous Reactions None under normal processing.
Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid Heat, flames and sparks
Incompatible materials None known.
Hazardous Decomposition Products Thermal decomposition can lead to release of irritating gases and vapors.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral > 2,000 mg/kg (rat)
LD50 Dermal Similar material: > 2,000 mg/kg (rat)
LC50 Inhalation > 5.36 mg/L 4 hr (rat)

Serious eye damage/eye irritation Moderately irritating.
Skin corrosion/irritation Non-irritating during normal use (rabbit).
Sensitization Based on a similar formulation, this product is not expected to produce skin sensitization.

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity Flonicamid: Repeated contact may cause allergic reactions in very susceptible persons.
Mutagenicity Flonicamid: Not genotoxic in laboratory studies.
Carcinogenicity Flonicamid: Suggestive evidence of carcinogenicity (mouse bronchioloalveolar tumors), but not sufficient to assess human carcinogenic potential.
Neurological effects Flonicamid: Not neurotoxic.
Reproductive toxicity Flonicamid: No toxicity to reproduction in animal studies.
Developmental toxicity Flonicamid: Not teratogenic in animal studies.
STOT - single exposure May cause damage to organs: See listed target organs below.
STOT - repeated exposure Not classified.
Target organ effects Flonicamid: Liver, kidney, Hematopoietic system.
Neurological effects Flonicamid: Not neurotoxic.
Aspiration hazard No information available.

Chemical name	ACGIH	IARC	NTP	OSHA
Flonicamid 158062-67-0		Group 2A		

Legend:
IARC (International Agency for Research on Cancer)
Group 2A - Probably Carcinogenic to Humans

12. ECOLOGICAL INFORMATION

Ecotoxicity

Flonicamid (158062-67-0)				
Active Ingredient(s)	Duration	Species	Value	Units
Flonicamid Technical	96 h LC50	Fish	>100	mg/L
	48 h EC50	Crustacea	>100	mg/L
	96 h EC50	Algae	>100	mg/L
	21 d NOEC	Fish	10	mg/L
	21 d NOEC	Crustacea	3.1	mg/L

Persistence and degradability Flonicamid: Non-persistent. Does not readily hydrolyze. Readily biodegradable (meets the >70% reduction in ≤ 28 days).

Bioaccumulation Flonicamid: The substance does not have a potential for bioconcentration.

Mobility Flonicamid: Very mobile; has potential to reach groundwater.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods Can be incinerated, when in compliance with local regulations. The appropriate regulatory agencies should be contacted prior to disposal. Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance.

Contaminated Packaging Dispose of in accordance with local regulations. Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. When completely empty, offer for recycling if available, or dispose of bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions. Do not reuse or refill this container.

14. TRANSPORT INFORMATION

DOT This material is not a hazardous material as defined by U.S. Department of Transportation at 49 CFR Parts 100 through 185.

TDG Not regulated in transportation.

ICAO/IATA Not regulated in transportation.
IMDG/IMO Not regulated in transportation.

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic health hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Formaldehyde 50-00-0	100 lb			X
Naphthalene 91-20-3	100 lb	X	X	X

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Formaldehyde 50-00-0	100 lb 45.4 kg	100 lb
Naphthalene 91-20-3	100 lb 45.4 kg	

FIFRA Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION
Harmful if swallowed or absorbed through the skin. Causes moderate eye irritation.

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

International Inventories

Chemical name	Mexico - Pollutant Release and Transfer Register - Reporting Emissions for Fabrication, Process or Use -Threshold Quantities	Pollutant Release and Transfer Register - Reporting Emissions - Threshold Quantities
Formaldehyde	100 2500 kg/yr	100 kg/yr

WHMIS Statement
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class Non-controlled

16. OTHER INFORMATION

NFPA	**Health Hazards** 1	**Flammability** 1	**Instability** 0	**Special Hazards** -
HMIS	**Health Hazards** 1	**Flammability** 1	**Physical hazard** 0	**Personal Protection** X

Revision date: 2016-05-26
Reason for revision: (M)SDS sections updated

Disclaimer

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Prepared By:

FMC Corporation

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End of Safety Data Sheet

SAFETY DATA SHEET

1. Identification

Product identifier	**Brandt M.S.O.**
Other means of identification	
Product code	05001
Recommended use	Agricultural/ Horticultural Use- Adjuvant- Refer to product label
Recommended restrictions	Refer to product label.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	Brandt Consolidated, Inc.	
Address	2935 South Koke Mill Road Springfield, IL 62711 United States	
Telephone	Corporate Office	1-217-547-5800
Website	www.brandt.co	
E-mail	msds@brandt.co	
Contact person	EH&S / Regulatory Department	
Emergency phone number	CHEMTREC (24 hours):	
	USA, Canada, Puerto Rico	1-800-424-9300
	Virgin Islands	1-800-424-9300
	International Maritime	+1 (703) 527-3887

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label elements

Signal word	Warning
Hazard statement	Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. Harmful if inhaled.
Precautionary statement	
Prevention	Avoid breathing vapors. Wear protective gloves and eye/face protection. Use only outdoors or in a well-ventilated area.
Response	If swallowed: Call a poison center/doctor if you feel unwell. If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (see this label). If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Storage	Store in accordance with local/regional/national regulations.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause redness and pain. Severe eye irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors and spray mists. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Prevent entry into waterways, sewer, basements or confined areas. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not taste or swallow. Avoid inhalation of vapors and spray mists. Avoid contact with eyes. Avoid contact with eyes, skin, and clothing. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Keep container tightly closed. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Chemical respirator with organic vapor cartridge.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Liquid.
Physical state	Liquid.
Form	Liquid.
Color	Clear. to Pale yellow
Odor	Slight. Alcoholic.
Odor threshold	Not available.
pH	4.5 - 7 in 5% aqueous solution
Salt-Out / Crystallization Temp	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	> 199.4 °F (> 93.0 °C) Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	0.88 - 0.915 g/cm3 (typical)
Solubility(ies)	
Solubility (water)	Dispersible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.

Viscosity	9 cP
Other information	
Flammability class	Combustible IIIA estimated
Pounds per gallon	7.34 - 7.63 lb/gal (typical)

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Harmful if swallowed.
Inhalation	Harmful if inhaled.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. Severe eye irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity In high concentrations, vapors are anesthetic and may cause headache, fatigue, dizziness and central nervous system effects. Harmful if inhaled. Harmful if swallowed.

Product	Species	Test Results
Brandt M.S.O. (CAS Mixture)		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg, 14 days
Oral		
LD50	Rat	> 5000 mg/kg, 14 days

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Corneal opacity value	1.0000
Conjunctival reddening value	1.0000
Recover days	2
Respiratory or skin sensitization	
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not available.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
Brandt M.S.O. (CAS Mixture)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	96 mg/l, 48 hours
Fish	LC50	Rainbow Trout	24 mg/l, 96 hours
	NOEC	Rainbow Trout	4.6 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential Not available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 02-02-2016

Version # 01

Disclaimer	The information provided in this Safety Data Sheet is correct to the best of Manufacturer's knowledge, information and belief at the date of its publication; however, it is provided only as a guidance for safe handling, use, processing, storage, transportation, disposal and release of the Product. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made with respect to the Product or the information provided herein, or that the Product or information herein may be used without infringing the intellectual property rights of others. The information provided in this Safety Data Sheet relates only to the specific Product designated and may not be valid if the Product is used in combination with other materials or in any other process, unless specified herein. The user assumes all risk and liability for loss, injury, damage or expense due to any use, handling, storage or disposal of the Product, and Manufacturer recommends that the user conducts its owns tests of the Product to determine suitability of the Product for user's particular use.
Revision Information	Toxicological Information: Toxicological Data

We create chemistry

Safety Data Sheet
Cabrio EG Fungicide

1. Identification

Product identifier used on the label

Cabrio EG Fungicide

Recommended use of the chemical and restriction on use

Recommended use*: crop protection product, fungicide
Recommended use*: fungicide

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY

Contact address:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932
USA
Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Substance number:	84915
EPA Registration number:	7969-187
Molecular formula:	C19 H18 Cl N3 O4
Chemical family:	strobilurine
Synonyms:	pyraclostrobin

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Acute Tox.	4 (Inhalation - dust)	Acute toxicity
STOT SE	3 (irritating to	Specific target organ toxicity — single exposure

	respiratory system)	
Aquatic Acute	1	Hazardous to the aquatic environment - acute
Aquatic Chronic	1	Hazardous to the aquatic environment - chronic

Label elements

Pictogram:

Signal Word:
Warning

Hazard Statement:

H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P261	Avoid breathing dust.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.

Precautionary Statements (Response):

P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P391	Collect spillage.

Precautionary Statements (Storage):

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

Labeling of special preparations (GHS):
This product is not combustible in the form in which it is shipped by the manufacturer, but may form a combustible dust through downstream activities (e.g. grinding, pulverizing) that reduce its particle size.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS Number	Weight %	Chemical name
175013-18-0	< 20.0%	Pyraclostrobin
1332-58-7	<= 7.0%	Kaolin
7631-86-9	<= 0.5%	Silicon dioxide
7783-20-2	15.0 - 20.0%	Ammonium sulphate

4. First-Aid Measures

Description of first aid measures

General advice:
First aid providers should wear personal protective equipment to prevent exposure. Remove contaminated clothing. Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. In case of intoxication, call a poison control center or physician for treatment advice, taking the packaging or the label of the product.

If inhaled:
Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary.

If on skin:
Rinse skin immediately with plenty of water for 15 - 20 minutes.

If in eyes:
Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing.

If swallowed:
Have person sip a glass of water if able to swallow. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Do not induce vomiting.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., (Further) symptoms and / or effects are not known so far

Indication of any immediate medical attention and special treatment needed

Note to physician

Antidote:	No known specific antidote.
Treatment:	Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
dry powder, foam, water spray

Unsuitable extinguishing media for safety reasons:
carbon dioxide

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, ammonia, nitrogen dioxide, nitrogen oxide, Hydrogen chloride, halogenated hydrocarbons, Ammonium sulphate, To be archived: Hydrocarbons, acid halides

The substances/groups of substances mentioned can be released if the product is involved in a fire. If product is heated above decomposition temperature, toxic vapours will be released.

Advice for fire-fighters
Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways. Dusty conditions may ignite explosively in the presence of an ignition source causing flash fire.

6. Accidental release measures

Further accidental release measures:
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Avoid the formation and build-up of dust - danger of dust explosion. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

Personal precautions, protective equipment and emergency procedures
Use personal protective clothing. Avoid contact with the skin, eyes and clothing. Avoid dust formation.

Environmental precautions
Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up
Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and Storage

Precautions for safe handling
RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:
The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept well clear.

Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition. Avoid dust formation. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids (2013 Edition) for safe handling.

Dust explosion class: Dust explosion class 1 (Kst-value >0 up to 200 bar m s-1).

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.
Protect from temperatures above: 40 °C
Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls/Personal Protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapours. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:
Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:
Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:
Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form:	low dusting fine granules	
Odour:	faint odour, smoky	
Odour threshold:	Not determined since harmful by inhalation.	
Colour:	grey-brown	
pH value:	6.5 - 7.5	
Melting temperature:	approx. 64 °C The data given are those of the active ingredient.	
Flash point:	not applicable, the product is a solid	
Flammability:	not highly flammable	(Directive 92/69/EEC, A.10)
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Vapour pressure:	The product has not been tested.	
Density:	approx. 1.68 g/cm3 (20 °C) approx. 14.0203 Lb/USg (68 °F)	(OECD Guideline 109)
Vapour density:	not applicable	
Partitioning coefficient n-octanol/water (log Pow):	not applicable	
Self-ignition temperature:	296 °C	(Directive 92/69/EEC, A.16)
Thermal decomposition:	carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, ammonia, Hydrogen chloride, halogenated hydrocarbons, To be archived: Hydrocarbons Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released.	
Viscosity, dynamic:	not applicable, the product is a solid	
Solubility in water:	dispersible	
Molar mass:	387.83 g/mol	
Evaporation rate:	not applicable	

10. Stability and Reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Oxidizing properties:
Not an oxidizer.

Dust explosion class:
Dust explosion class 1 (Kst-value >0 up to 200 bar m s-1) (St 1)

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
The product is chemically stable.
Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid
Avoid all sources of ignition: heat, sparks, open flame. Avoid extreme temperatures. Avoid prolonged exposure to extreme heat. Avoid contamination. Avoid electro-static discharge. Avoid prolonged storage. This product may form an explosive mixture if: 1. the dust is suspended in the atmosphere as a dust cloud AND 2. the concentration of the dust is above the lower explosion limit (LEL) AND 3. the limiting oxygen concentration (LOC) is exceeded.

Incompatible materials
strong acids, strong bases, strong oxidizing agents

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:
Possible thermal decomposition products:
carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, ammonia, Hydrogen chloride, halogenated hydrocarbons, To be archived: Hydrocarbons
Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Slightly toxic after single ingestion. Slightly toxic after short-term skin contact. Relatively nontoxic after short-term inhalation.

Oral
Type of value: LD50
Species: rat (male/female)
Value: > 2,000 mg/kg (OECD Guideline 401)

Inhalation
Type of value: LC50
Species: rat (male)
Value: approx. 4.5 mg/l (OECD Guideline 403)
Exposure time: 4 h

Type of value: LC50
Species: rat
Value: 18.8 mg/l
Exposure time: 1 h

Dermal
Type of value: LD50
Species: rat (male/female)
Value: > 2,000 mg/kg (OECD Guideline 402)
No mortality was observed.

Assessment other acute effects
Assessment of STOT single:
Causes temporary irritation of the respiratory tract.

The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation / corrosion
Assessment of irritating effects: May cause slight but temporary irritation to the eyes. May cause slight irritation to the skin.

Skin
Species: rabbit
Result: Slightly irritating.
Method: Primary skin irritation test

Eye
Species: rabbit
Result: non-irritant
Method: OECD Guideline 405

Sensitization
Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Buehler test
Species: guinea pig
Result: Skin sensitizing effects were not observed in animal studies.
Method: OECD Guideline 406

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Pyraclostrobin

Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation. The substance may cause damage to the olfactory epithelium after repeated inhalation.

Information on: Kaolin
Assessment of repeated dose toxicity: Repeated inhalative uptake of particles/dust reaching the alveoli may cause damage to the lungs.

Information on: Silica gel, precipitated, crystalline free
Assessment of repeated dose toxicity: The substance may cause damage to the lung after repeated inhalation of high doses.

Genetic toxicity
Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity
Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of various animal studies gave no indication of a carcinogenic effect.

Reproductive toxicity
Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity
Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Other Information
Misuse can be harmful to health.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., (Further) symptoms and / or effects are not known so far

Medical conditions aggravated by overexposure
Individuals with pre-existing diseases of the respiratory system, skin or eyes may have increased susceptibility to excessive exposures.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
Very toxic (acute effect) to aquatic organisms.

Toxicity to fish
LC50 (96 h) 0.033 mg/l, Oncorhynchus mykiss (OECD Guideline 203, static)

Aquatic invertebrates

EC50 (48 h) 0.0382 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Aquatic plants
EC50 (72 h) 17.39 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201)

EC50 (72 h) 1.4 mg/l (biomass), Pseudokirchneriella subcapitata (OECD Guideline 201)

Assessment of terrestrial toxicity
With high probability not acutely harmful to terrestrial organisms.

Other terrestrial non-mammals

Information on: pyraclostrobin
LD50 > 2,000 mg/kg, Colinus virginianus
Colinus virginianus
LC50, Anas platyrhynchos
LD50 > 100 ug/bee, Apis mellifera

Bioaccumulative potential

Bioaccumulation potential

Information on: Pyraclostrobin

Bioconcentration factor: 379 - 507, Oncorhynchus mykiss (OECD-Guideline 305)
Accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments
The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Pyraclostrobin

Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

Additional information

Other ecotoxicological advice:
The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

13. Disposal considerations

Waste disposal of substance:
Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:
Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

RCRA:
This product is not regulated by RCRA.

14. Transport Information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Hazard class:	9
Packing group:	III
ID number:	UN 3077
Hazard label:	9, EHSM
Marine pollutant:	YES
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains PYRACLOSTROBIN)

Air transport
IATA/ICAO

Hazard class:	9
Packing group:	III
ID number:	UN 3077
Hazard label:	9, EHSM
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains PYRACLOSTROBIN)

Further information
The following provisions may apply for product in packages containing a net quantity of 5 kg or less
ADR, RID, ADN: Special Provision 375;
IMDG: 2.10.2.7;
IATA: A197;
TDG: Special Provision 99(2);
49CFR: §171.4 (c) (2).

15. Regulatory Information

Federal Regulations

Registration status:

Crop Protection	TSCA, US	released / exempt
Chemical	TSCA, US	blocked / not listed

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

State regulations

State RTK	CAS Number	Chemical name
PA	7757-82-6	Sodium sulfate
	7783-20-2	Ammonium sulphate

Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:

BASF Risk Assessment, CA Prop. 65:

Based on an evaluation of the product's composition and the use(s), this product does not require a California Proposition 65 Warning.

NFPA Hazard codes:
Health: 1 Fire: 2 Reactivity: 0 Special:

Labeling requirements under FIFRA

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

CAUTION:
KEEP OUT OF REACH OF CHILDREN.
HARMFUL IF SWALLOWED.
HARMFUL IF ABSORBED THROUGH SKIN.
Causes eye irritation.
Avoid contact with the skin, eyes and clothing.

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2019/04/30

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

END OF DATA SHEET

Safety Data Sheet

CAPAROL® 4L

Date: 7/9/2015
Replaces: 2/3/2015

1. PRODUCT IDENTIFICATION

Product identifier on label: **CAPAROL® 4L**
Product No.: A8564A
Use: Herbicide
Manufacturer: Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro NC 27419

Manufacturer Phone: 1-800-334-9481

Emergency Phone: 1-800-888-8372

2. HAZARDS IDENTIFICATION

Classifications: Not Applicable
Signal Word (OSHA): Not Applicable
Hazard Statements: Not Applicable

Hazard Symbols:

Precautionary Statements: Not Applicable

Other Hazard Statements: None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Concentration
Ethylene Glycol	Ethylene Glycol	107-21-1	<10.0%
Glycerin	Glycerin	56-81-5	Trade Secret
Other ingredients	Other ingredients	Trade Secret	>45.6%
2,4-bis(isopropylamino)-6-(methylthio)-s-triazine	Prometryn	7287-19-6	44.4%

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

Have the product container, label or Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison contol center or doctor, or going for treatment.

Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Most important symptoms/effects:

Not Applicable

Indication of immediate medical attention and special treatment needed:

There is no specific antidote if this product is ingested.

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use dry chemical, foam or CO2 extinguishing media. If water is used to fight fire, dike and collect runoff.

Specific Hazards:

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Special protective equipment and precautions for firefighters:

Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Follow exposure controls/personal protection outlined in Section 8.

Methods and materials for containment and cleaning up:

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Precautions for safe handling:

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Conditions for safe storage, including any incompatibilities:

Not Applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Occupational Exposure Limits:

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Ethylene Glycol	Not Established	100 mg/m³ (ceiling) [aerosol]	Not Established	Not Applicable
Glycerin	15 mg/m³ TWA (total); 5 mg/m³ TWA (respirable)	Not Established	Not Established	Not Applicable
Other ingredients	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Prometryn	Not Established	Not Established	5 mg/m³ TWA	Syngenta

Appropriate engineering controls:

Use effective engineering controls to comply with occupational exposure limits (if applicable).

Individual protection measures:

Ingestion:

Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye Contact:

Where eye contact is likely, use chemical splash goggles.

Skin Contact:

Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.

Inhalation:

A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

In case of emergency spills, use a NIOSH approved respirator with any N, R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White liquid
Odor: Paint
Odor Threshold: Not Available
pH: 7.5 (1% solution in H2O @ 68°F (20°C)
Melting point/freezing point: Not Applicable
Initial boiling point and boiling range: 212 - 230 °F
Flash Point (Test Method): > 200°F
Flammable Limits (% in Air): Not Available
Flammability: Not Applicable
Vapor Pressure: Prometryn 1.24 x 10(-6) mmHg @ 77°F (25°C)
Vapor Density: Not Available
Relative Density: 1.08 g/cm³ @ 68°F (20°C)
Solubility (ies): Prometryn 33 mg/l @ 72°F (22°C)
Partition coefficient: n-octanol/water: Not Available
Autoignition Temperature: Not Available
Decomposition Temperature: Not Available
Viscosity: Not Available
Other: None

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.
Chemical stability: Stable under normal use and storage conditions.
Possibility of hazardous reactions: Will not occur.
Conditions to Avoid: None known.
Incompatible materials: None known.
Hazardous Decomposition Products: None known.

11. TOXICOLOGICAL INFORMATION

Health effects information
Likely routes of exposure: Dermal, Inhalation
Symptoms of exposure: Not Applicable
Delayed, immediate and chronic effects of exposure: Not Applicable

Numerical measures of toxicity (acute toxicity/irritation studies (finished product))

Ingestion: Oral (LD50 Rabbit) : > 5000 mg/kg body weight

Dermal:	Dermal (LD50 Rat) :	> 5000 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	> 2.2 mg/l air - 4 hours
Eye Contact:	Mildly Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects

Prometryn: None observed.

Chronic/Subchronic Toxicity Studies

Prometryn: Liver, kidney and bone marrow changes at highest dose (dogs); Kidney effects (rats).

Carcinogenicity

Prometryn: None observed.

Chemical Name	NTP/IARC/OSHA Carcinogen
Ethylene Glycol	No
Glycerin	No
Other ingredients	No
2,4-bis(isopropylamino)-6-(methylthio)-s-triazine	No

Other Toxicity Information

None

Toxicity of Other Components

Ethylene Glycol

Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice. Exposure to high concentrations of mists or aerosols may result in effects on the hematopoietic system and central nervous system with headache, dizziness and drowsiness. Severe kidney damage results from swallowing large amounts of ethylene glycol.

Glycerin

Repeated or prolonged exposure to concentrated solutions may result in dermatitis.

Other ingredients

Not Applicable

Target Organs

Active Ingredients

Prometryn:	Liver, kidney, bone marrow

Inert Ingredients

Ethylene Glycol:	Blood, kidney, CNS
Glycerin:	Skin
Other ingredients:	Not Applicable

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity

Prometryn:

Fish (Rainbow Trout) 96-hour LC50 2.9 ppb

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 18.59 ppm

Bird (Bobwhite Quail) 8-day LD50 > 4640 mg/kg

Green Algae 4-day EC50 12 ppb

Environmental Fate

Prometryn:

The information presented here is for the active ingredient, prometryn.
Low bioaccumulation potential. Persistent in soil. Stable in water. Moderate mobility in soil. Sinks in water (after 24 h).

13. DISPOSAL CONSIDERATIONS

Disposal:

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA
Not regulated

Comments

Water Transport - International
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Prometryn), Marine Pollutant
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

Air Transport
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Prometryn)
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III
Note: This product is currently not regulated for airfreight within the NAFTA region. However, effective 01/01/2011 the classification above must be used.

15. REGULATORY INFORMATION

Pesticide Registration:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Caution: Keep out of reach of children.

EPA Registration Number(s):
100-620

EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: Prometryn 44.4% (CAS No. 7287-19-6)
Ethylene Glycol <10.0% (CAS No. 107-21-1)

CERCLA/SARA 304 Reportable Quantity (RQ):
Report product spills > 8,300 gal. (based on ethylene glycol [RQ = 5,000 lbs.] content in the formulation)

RCRA Hazardous Waste Classification (40 CFR 261):
Not Applicable

TSCA Status:
Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings		HMIS Hazard Ratings	
Health:	2	Health:	1
Flammability:	1	Flammability:	1
Instability:	0	Reactivity:	0

Syngenta Hazard Category: A

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme
*	Chronic

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 11/25/1985
Revision Date: 7/9/2015 Replaces: 2/3/2015
Section(s) Revised: 2, 4, 11, 16

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Champ® Formula 2 Flowable**
EPA Reg. No.: 55146-64
Product Type: Fungicide/Bactericide
Company Name: Nufarm Inc.
11901 S. Austin Avenue
Alsip, IL 60803
1-800-345-3330

Telephone Numbers: **For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,**
Call CHEMTREC Day or Night: 1-800-424-9300
For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not exactly the same as on the FIFRA label. Certain sections are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION

PHYSICAL HAZARDS
None

HEALTH HAZARDS:

Acute toxicity, inhalation	Category 4
Skin irritation	Category 2
Eye irritation	Category 2B
Specific target organ toxicity – Repeated exposure	Category 2

ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute	Category 1
Hazardous to aquatic environment, chronic	Category 1

SIGNAL WORD:
WARNING

HAZARD STATEMENTS:
Harmful if inhaled. Causes skin irritation. Causes eye irritation. May cause damage to organs (upper respiratory tract, liver, and kidney) through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:
Do not breathe vapor/mist/spray. Use only outdoors or in well-ventilated area. Wear protective gloves/eye protection/face protection.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.

IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Avoid unintended release to the environment. Collect spillage.

Dispose of contents/container in accordance with local/regional/national/international regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Copper hydroxide	20427-59-2	41.3 – 43.7
Trisodium phosphate	7601-54-9	0.9 – 1.1
Propylene glycol	57-55-6	5.7 – 6.3
Sodium hydroxide	1310-73-2	0.7 – 0.9
Other Ingredients	Trade Secret	Trade Secret

Synonyms: Copper Hydrate, Cupric Hydroxide

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

Most Important symptoms/effects, acute and delayed: May cause mild eye irritation. May cause slight skin irritation.

Indication of Immediate medical attention and special treatment if needed, if necessary: Respiratory distress, itchy skin, skin or eye irritation.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media suitable for surrounding materials. Dry chemical, carbon dioxide, foam, water spray or fog.

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of None

Unusual Fire and Explosion Hazards: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

Hazardous Decomposition Materials (Under Fire Conditions): Decomposes to CuO and water above 140°F (60°C).

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Cleanup and Disposal: Avoid creation of dusty conditions. Scrape up and place in appropriate closed container. Wash entire spill area with a detergent slurry, absorb and sweep into container for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

HANDLING: Do not get in eyes or on clothing or skin. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/Personal Protective Equipment (PPE) immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

STORAGE: Store in a cool dry place. Do not contaminate water, food, or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:
Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.
Eye/Face Protection: To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.
Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks and shoes. An emergency shower or water supply should be readily accessible to the work area.
Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.
General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

	OSHA		ACGIH		
Component	**TWA**	**STEL**	**TWA**	**STEL**	**Unit**
Copper hydroxide	1*	NE	1*	NE	mg/m^3
Trisodium phosphate	NE	5 (WEEL)	NE	NE	mg/m^3
Propylene glycol	10 (WEEL)	NE	NE	NE	mg/m^3
Sodium hydroxide	2	NE	NE	2 (C)	mg/m^3
Other Ingredients	NE	NE	NE	NE	

*As copper dusts or mists (CAS No. 7440-50-8) NE = Not Established
WEEL = Workplace Environmental Exposure Levels
C = Ceiling

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light blue liquid
Odor:	Mild odor
Odor threshold:	No data available
pH:	8.58
Melting point/freezing point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	>225°F (107°C)
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	1.43 g/cm^3
Solubility(ies):	Dispersible
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available

Viscosity: No data available

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.
Chemical Stability: This material is stable under normal handling and storage conditions.
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Conditions to Avoid: Excessive heat.
Incompatible Materials: Acids and sulfur.
Hazardous Decomposition Products: Decomposes to CuO and water above 140°F (60°C).

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Dermal, inhalation
Symptoms of Exposure:
Eye Contact: Mildly irritating based on toxicity studies.
Skin Contact: Minimally toxic and slightly irritating based on toxicity studies.
Ingestion: Slightly toxic if ingested based on toxicity studies.
Inhalation: Low inhalation toxicity based on toxicity studies.
Delayed, immediate and chronic effects of exposure: None reported.

Toxicological Data:
Data from laboratory studies conducted are summarized below:
Oral: Rat LD_{50}: > 2,000 mg/kg (females)
Dermal: Rat LD_{50}: >5,000 mg/kg
Inhalation: Rat 4-hr LC_{50}: >2.06 mg/L
Eye Irritation: Rabbit: Mildly irritating
Skin Irritation: Rabbit: Slightly irritating (PDII = 0.7)
Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: Repeated ingestion of copper salts may result in anemia, liver, and kidney damage. Chronic inhalation exposure may cause a metallic taste in the mouth, irritation of the upper respiratory tract such as the nasal mucosa that may progress to perforation of the nasal septum. Chronic cough may also occur. Copper hydroxide, which comprises 37.5% of this product, governs the toxicity of the product. The remaining components have low to negligible toxicity.
Carcinogenicity / Chronic Health Effects: Low chronic toxicity unless excessive exposure is encountered. Excessive exposure to copper by inhalation may result in irritation of the upper respiratory tract which, if severe, may lead to perforation of the nasal septum after long periods of exposure.
Reproductive Toxicity: Copper hydroxide is not known to exhibit reproductive effects.
Developmental Toxicity: Copper hydroxide is not known to exhibit teratogenic (birth defect) effects.
Genotoxicity: There was no evidence of mutagenicity in *in vitro* and *in vivo* studies.
Assessment of Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicity:
Data on Copper Hydroxide:

96-hour LC_{50} Bluegill:	180 mg/l	Bobwhite Quail Oral LC_{50}:	>3400 mg/kg
96-hour LC_{50} Rainbow Trout:	0.023 mg/l	Mallard Duck 8-day Dietary LD_{50}:	>10,000 ppm
48-hour EC_{50} Daphnia:	0.0065 mg/l		

Environmental Fate:
Copper is a chemical element and therefore cannot be degraded or transformed into related metabolites. The degree of mobility of copper in the environment depends upon the pH of ambient soils and waters. The higher the acidity, the more soluble copper salts are and, hence, the more mobile. Partitioning of copper into the air is negligible due to the low vapor pressure of copper salts.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:
Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest Environmental Protection Agency Regional Office for guidance.

Container Handling and Disposal:
Nonrefillable Containers 5 Gallons or Less: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke
Nonrefillable containers larger than 5 gallons: Nonrefillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure-rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.
Refillable containers: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

14. TRANSPORTATION INFORMATION

DOT
< 119 gallons per completed package:
Not regulated by DOT unless shipped by water. See IMO / IMDG description.

≥ 119 gallons per completed package:
UN3082, Environmentally hazardous substance, liquid, n.o.s.,
(Copper Hydroxide), 9, III, Marine Pollutant

IMO / IMDG
UN3082, Environmentally hazardous substance, liquid, n.o.s.,
(Copper Hydroxide), 9, III, Marine Pollutant

IATA
Not regulated

15. REGULATORY INFORMATION

EPA FIFRA INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

WARNING. Causes substantial but temporary eye injury. Harmful if swallowed.

U.S. FEDERAL REGULATIONS

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:
Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):
Immediate and delayed

Section 313 Toxic Chemical(s):
None

Reportable Quantity (RQ) under U.S. CERCLA:
Trisodium phosphate (CAS No. 7601-54-9) 500 lb
Sodium hydroxide (CAS No. 1310-73-2) 1,000 pounds

RCRA Waste Code:
Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

State Information:
Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not Listed.

16. OTHER INFORMATION

National Fire Protection Association (NFPA) Hazard Rating:
Rating for this product: Health: 2 Flammability: 1 Reactivity: 0
Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter “Information”) are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND ALL SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

Date of Issue: June 11, 2015 **Supersedes:** April 21, 2015

Safety Data Sheet

DUAL MAGNUM® HERBICIDE

Date: 8/4/2015
Replaces: 4/9/2015

1. PRODUCT IDENTIFICATION

Product identifier on label: **DUAL MAGNUM® HERBICIDE**
Product No.: A9793D
Use: Herbicide
Manufacturer: Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro NC 27419
Manufacturer Phone: 1-800-334-9481

Emergency Phone: 1-800-888-8372

2. HAZARDS IDENTIFICATION

Classifications:
Inhalation: Category 4
Skin Sensitizer: Category 1B
Specific Target Organ Toxicity: Repeated Category 2
Specific Target Organ Toxicity: Respiratory Irritation Category 3
Eye Damage/Irritation: Category 2B
Carcinogenicity: Category 1B

Signal Word (OSHA): Danger

Hazard Statements:
May cause an allergic skin reaction
Causes eye irritation
Harmful if inhaled
May cause respiratory irritation
May cause cancer
May cause damage to organs through prolonged or repeated exposure

Hazard Symbols:

Precautionary Statements:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe mist, vapors, spray.
Wash hands and face thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves, protective clothing, eye protection.
If on skin: Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice.

If exposed or concerned: Get medical advice/attention.

Call a poison center, doctor or Syngenta if you feel unwell.

See Section 4 First Aid Measures.

Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents and container in accordance with local regulations.

Other Hazard Statements: None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Concentration
Naphthalene	Naphthalene	91-20-3	<1.0%
Petroleum Solvent	Petroleum Solvent	64742-94-5	<10.0%
Other ingredients	Other ingredients	Trade Secret	<5.3%
Acetamide, 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl]-,(S)	S-Metolachlor	87392-12-9	83.7%

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

Have the product container, label or Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison contol center or doctor, or going for treatment.

Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Most important symptoms/effects:

Eye irritation

Allergic skin reaction

Respiratory irritation

Indication of immediate medical attention and special treatment needed:

There is no specific antidote if this product is ingested.

Treat symptomatically.

Persons suffering a temporary allergic reaction may respond to treatment with antihistamines or steroid creams and/or systemic steroids.

Contains petroleum distillate - vomiting may cause aspiration pneumonia.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use dry chemical, foam or CO2 extinguishing media. If water is used to fight fire, dike and collect runoff.

Specific Hazards:

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Special protective equipment and precautions for firefighters:

Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Follow exposure controls/personal protection outlined in Section 8.

Methods and materials for containment and cleaning up:

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Precautions for safe handling:

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Conditions for safe storage, including any incompatibilities:

Store locked up.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Occupational Exposure Limits:

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Naphthalene	10 ppm TWA	10 ppm TWA (skin)	10 ppm TWA	NIOSH

Petroleum Solvent	Not Established	Not Established	100 mg/m³ (15-17 ppm) TWA	Manufacturer
Other ingredients	Not Applicable	Not Applicable	Not Applicable	Not Applicable
S-Metolachlor	Not Established	Not Established	5 mg/m³ TWA	Syngenta

Appropriate engineering controls:

Use effective engineering controls to comply with occupational exposure limits (if applicable).

Individual protection measures:

Ingestion:

Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye Contact:

Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Skin Contact:

Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber or Viton), coveralls, socks and chemical-resistant footwear.

Inhalation:

A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

In case of emergency spills, use a NIOSH approved respirator with any R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Golden brown liquid

Odor: Sweet

Odor Threshold: Not Available

pH: 5 - 7 (1% solution in H2O @ 77°F (25°C))

Melting point/freezing point: Not Applicable

Initial boiling point and boiling range: Not Available

Flash Point (Test Method): > 200°F (Setaflash)

Flammable Limits (% in Air): Not Available

Flammability: Not Applicable

Vapor Pressure: S-Metolachlor 2.8 x 10(-5) mmHg @ 77°F (25°C)

Vapor Density: Not Available

Relative Density: 1.09 g/cm³ @ 68°F (20°C)

Solubility (ies): S-Metolachlor 0.48 g/l @ 77°F (25°C)

Partition coefficient: n-octanol/water: Not Available

Autoignition Temperature: Not Available

Decomposition Temperature: Not Available

Viscosity: Not Available

Other: None

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.

Chemical stability: Stable under normal use and storage conditions.

Possibility of hazardous reactions: Will not occur.

Conditions to Avoid: None known.

Incompatible materials: None known.

Hazardous Decomposition Products: Not Available

11. TOXICOLOGICAL INFORMATION

Health effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Eye irritation, Respiratory irritation

Delayed, immediate and chronic effects of exposure: Possible carcinogenicity, Eye irritation, Allergic skin reaction, Respiratory irritation

Numerical measures of toxicity (acute toxicity/irritation studies (finished product))

Ingestion:	Oral (LD50 Rat) :	3425 mg/kg body weight
Dermal:	Dermal (LD50 Rabbit) :	> 2000 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	> 2.61 mg/l air - 4 hours
Eye Contact:	Moderately Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Sensitizing (Guinea Pig)	

Reproductive/Developmental Effects

S-Metolachlor: Did not show reproductive effects in animal experiments.

Chronic/Subchronic Toxicity Studies

S-Metolachlor: No adverse effect has been observed in chronic toxicity tests.

Carcinogenicity

S-Metolachlor: Did not show carcinogenic effects in animal experiments.

Chemical Name	NTP/IARC/OSHA Carcinogen
Naphthalene	See "Toxicity", Sec. 11
Petroleum Solvent	No
Other ingredients	No

Acetamide, 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl]-,(S)	No

Other Toxicity Information

None

Toxicity of Other Components

Naphthalene

Exposure to naphthalene can cause cataracts, liver damage, kidney failure, respiratory failure, hematuria, anemia, damage to red blood cells, leukocytosis, or coma.
Carcinogen Status:
NTP: Anticipated Carcinogen
IARC: Group 2B Possible Human Carcinogen

Other ingredients

Not Applicable

Petroleum Solvent

May cause irritation to the eyes, skin and respiratory system. Excessive inhalation causes headache, dizziness, nausea and loss of motor skills.

Target Organs

Active Ingredients

S-Metolachlor:	Liver

Inert Ingredients

Naphthalene:	Eye, liver, kidney, respiratory tract, blood, CNS
Other ingredients:	Not Applicable
Petroleum Solvent:	Eye, skin, respiratory system, central nervous system

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity

S-Metolachlor:

Fish (Rainbow Trout) 96-hour LC50 1.23 mg/l

Green Algae 96-hour ErC50 0.077 mg/l

Invertebrate (Water Flea) 48-hour EC50 11.24 mg/l

Environmental Fate

S-Metolachlor:

The information presented here is for the active ingredient, S-Metolachlor.
Low bioaccumulation potential. Not persistent in soil. Stable in water. Sinks in water (after 24 h).

13. DISPOSAL CONSIDERATIONS

Disposal:

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA
Packages < 1700 gal. - Not regulated

Packages > 1700 gal.
Proper Shipping Name: RQ Other Regulated Substances, Liquid, N.O.S. (Naphthalene)
Hazard Class: Class 9
Identification Number: NA 3082
Packing Group: PG III

Comments

Water Transport - International
Proper Shipping Name:
< 1700 gal.
Environmentally Hazardous Substance, Liquid, N.O.S. (s-Metolachlor), Marine Pollutant
> 1700 gal.
RQ Environmentally Hazardous Substance, Liquid, N.O.S. (s-Metolachlor, Naphthalene), Marine Pollutant
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

Air Transport
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (s-Metolachlor)
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

15. REGULATORY INFORMATION

Pesticide Registration:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Caution: Causes moderate eye irritation. Harmful if swallowed or absorbed through skin. Avoid contact with eyes, skin, or clothing. May cause skin sensitization reactions in certain individuals.

EPA Registration Number(s):

100-816

EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: Naphthalene <1.0% (CAS No. 91-20-3)

California Proposition 65:

This product contains a chemical known to the State of California to cause cancer.

CERCLA/SARA 304 Reportable Quantity (RQ):

Report product spills > 1,700 gal. (based on naphthalene [RQ = 100 lbs.] content in the formulation)

RCRA Hazardous Waste Classification (40 CFR 261):

Not Applicable

TSCA Status:
Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings		HMIS Hazard Ratings	
Health:	2	Health:	2
Flammability:	1	Flammability:	1
Instability:	0	Reactivity:	0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme
*	Chronic

Syngenta Hazard Category: D,S

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 9/26/1996
Revision Date: 8/4/2015 Replaces: 4/9/2015
Section(s) Revised: 2, 4, 11

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

DuPont™ Fontelis® Fungicide

Version 2.0

Revision Date 07/13/2015 Ref. 130000012055

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	DuPont™ Fontelis® Fungicide
Tradename/Synonym	:	DPX-LEM17 200 g/L SC DPX-LEM17 20SC PENTHIOPYRAD (RS)-N-[2-(1,3-dimethylbutyl)thiophen-3-yl]-1-methyl-3-trifluoromethyl-1H-pyrazole-4-carboxamide
Product Use	:	Fungicide
Restrictions on use	:	Do not use product for anything outside of the above specified uses
Manufacturer/Supplier	:	DuPont 4417 Lancaster Pike Wilmington, DE 19805, USA
Product Information	:	1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency	:	1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency	:	CHEMTREC: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Product hazard category

Skin sensitisation Category 1

Label content

Pictogram :

Signal word : Warning

Hazardous warnings : May cause an allergic skin reaction.

Hazardous prevention measures : Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/ attention.
Wash contaminated clothing before reuse.
Dispose of contents/ container to an approved waste disposal plant.

Other hazards

No applicable data available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Penthiopyrad	183675-82-3	20.4 %
Other Ingredients		79.6 %

SECTION 4. FIRST AID MEASURES

General advice	:	Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergencies involving this product, call toll free 1-800-441-3637. See Label for Additional Precautions and Directions for Use.
Inhalation	:	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
Skin contact	:	Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
Eye contact	:	No specific intervention is indicated as the compound is not likely to be hazardous. Consult a physician if necessary.
Ingestion	:	Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Do not give anything by mouth to an unconscious person.
Most important symptoms/effects, acute and delayed	:	No applicable data available.
Protection of first-aiders	:	No applicable data available.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray, Dry chemical, Carbon dioxide (CO2), Foam
Unsuitable extinguishing media	:	High volume water jet, (contamination risk)
Specific hazards	:	Hazardous combustion products: Carbon oxides Nitrogen oxides (NOx) sulphur oxides Fluorinated compounds

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Wear full protective equipment.
Further information	:	Prevent fire extinguishing water from contaminating surface water or the ground water system. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. (on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers/tanks with water spray.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel)	:	Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Use personal protective equipment.
Environmental precautions	:	Prevent material from entering sewers, waterways, or low areas.
Spill Cleanup	:	Clean-up methods - small spillage Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal. Clean-up methods - large spillage Prevent further leakage or spillage. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Large spills should be collected mechanically (remove by pumping) for disposal. Collect leaking liquid in sealable (metal/plastic) containers. Collect and contain contaminated absorbent and dike material for disposal.
Accidental Release Measures	:	Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel)	:	Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove

clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Handling (Physical Aspects) : Keep away from heat and sources of ignition.

Dust explosion class : No applicable data available.

Storage : Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store product in original container only in a location inaccessible to children and pets. Keep in properly labelled containers. Keep in a dry, cool and well-ventilated place. Avoid extreme heat or cold. Keep container closed when not in use. Keep locked up or in an area accessible only to qualified or authorised persons. Keep out of the reach of children. Observe label precautions.

Storage period : No applicable data available.

Storage temperature : No applicable data available.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls : When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Personal protective equipment

Skin and body protection : Mixers, loaders, applicators and other handlers must wear:
Long sleeved shirt and long pants
Shoes plus socks
Personal protective equipment required for early entry:
Coveralls
Shoes plus socks
Chemical resistant gloves made of any waterproof material

Protective measures : Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.
Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. Use this product in accordance with its label.

Exposure Guidelines

Exposure Limit Values

Penthiopyrad
No applicable data available.

White mineral oil (petroleum)

Permissible exposure limit:	(OSHA)	5 mg/m3	8 hr. TWA Mist.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance		
Physical state	:	liquid
Form	:	liquid
Color	:	off-white
Odor	:	slight, ester-like
Odor threshold	:	not determined
pH	:	6.66 at 10 g/l
Melting point/range	:	No applicable data available.
Boiling point/boiling range	:	No applicable data available.
Flash point	:	> 105 °C
Evaporation rate	:	Not available for this mixture.
Flammability (solid, gas)	:	No applicable data available.
Upper explosion limit	:	No applicable data available.
Lower explosion limit	:	No applicable data available.
Vapour Pressure	:	No applicable data available.

Vapour density	:	No applicable data available.
Specific gravity (Relative density)	:	0.9789
Water solubility	:	dispersible
Solubility(ies)	:	No applicable data available.
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No applicable data available.
Ignition temperature	:	385 °C
Decomposition temperature	:	No applicable data available.
Viscosity, kinematic	:	No applicable data available.
Viscosity, dynamic	:	No applicable data available.
Oxidizing Substance	:	The product is not oxidizing.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No applicable data available.
Chemical stability	:	Stable at normal temperatures and storage conditions.
Possibility of hazardous reactions	:	No applicable data available.
Conditions to avoid	:	Protect from frost. Heat Direct sunlight.
Incompatible materials	:	No applicable data available.
Hazardous decomposition products	:	Carbon oxides, Nitrogen oxides (NOx), sulphur oxides, Fluorinated compounds

SECTION 11. TOXICOLOGICAL INFORMATION

DuPont™ Fontelis® Fungicide

Inhalation 4 h LC50 : > 3.5 mg/l , Rat

Dermal LD50	:	> 5,000 mg/kg , Rat
Oral LD50	:	> 5,000 mg/kg , Rat
Skin irritation	:	No skin irritation, Rabbit
Eye irritation	:	No eye irritation, Rabbit
Sensitisation	:	May cause sensitisation by skin contact., Guinea pig

Penthiopyrad

Repeated dose toxicity	:	No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification., The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions. Oral multiple species - Reduced body weight gain, Liver effects, Thyroid effects, Spleen effects, Gallbladder effects, Liver enlargement, Immune system effects, altered blood chemistry, altered hematology, Organ weight changes, Decreased spleen weight, Increased liver weight
Carcinogenicity	:	Not classifiable as a human carcinogen. The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions. A slight increased incidence in tumors was observed in animal studies. Liver Thyroid
Mutagenicity	:	Animal testing did not show any mutagenic effects. Did not cause genetic damage in cultured bacterial cells. Genetic damage in cultured mammalian cells was observed in one laboratory test but was not observed in others.
Reproductive toxicity	:	No toxicity to reproduction
Teratogenicity	:	No toxicity to reproduction The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions. Animal testing showed effects on embryo-fetal development at levels

equal to or above those causing maternal toxicity.

Carcinogenicity

The carcinogenicity classifications for this product and/or its ingredients have been determined according to HazCom 2012, Appendix A.6. The classifications may differ from those listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or those found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition).

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity

DuPont™ Fontelis® Fungicide

96 h LC50	:	Oncorhynchus mykiss (rainbow trout) 0.36 mg/l
72 h EbC50	:	Pseudokirchneriella subcapitata (green algae) 1.5 mg/l
72 h ErC50	:	Pseudokirchneriella subcapitata (green algae) > 2.1 mg/l
48 h EC50	:	Daphnia magna (Water flea) 0.060 mg/l
Additional ecological information	:	Environmental Hazards: This product is toxic to fish. Toxic to aquatic organisms. For Terrestrial Uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. See product label for additional application instructions relating to environmental precautions.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods - Product	:	Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Waste disposal methods - Container	:	Refer to the product label for instructions. Do not transport if this container is damaged or leaking. In the event of a major spill, fire or other emergency, call 1-800-441-3637 day or night.
Contaminated packaging	:	No applicable data available.

SECTION 14. TRANSPORT INFORMATION

IATA_C	UN number	:	3082
	Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (Penthiopyrad)
	Class	:	9
	Packing group	:	III
	Labelling No.	:	9MI
IMDG	UN number	:	3082
	Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Penthiopyrad)
	Class	:	9
	Packing group	:	III
	Labelling No.	:	9

Not regulated by DOT/49 CFR unless shipped in bulk package or by water.
Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA special provision A197, and ADR/RID special provision 375.

SECTION 15. REGULATORY INFORMATION

Other regulations	:	This Safety Data Sheet is for a pesticide product registered by the US Environmental Protection Agency (USEPA) and is therefore also subject to certain labeling requirements under US pesticide law (FIFRA). These requirements differ from the classification criteria and hazard information required by OSHA for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the mandatory hazard information

required by USEPA on the pesticide label:

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. May be harmful if swallowed. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. This product is toxic to fish. This product is toxic to: Aquatic invertebrates

SARA 313 Regulated Chemical(s)	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
PA Right to Know Regulated Chemical(s)	:	Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances): White mineral oil (petroleum) highly refined, Propane-1,2-diol
EPA Reg. No.	:	352-834 In the United States this product is regulated by the US Environmental Protection Agency (EPA) under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

SECTION 16. OTHER INFORMATION

™ Trademark of E.I. du Pont de Nemours and Company.
® Registered trademark of E.I. du Pont de Nemours and Company

Revision Date : 07/13/2015

Contact person : DuPont Crop Protection, Wilmington, DE, 19898, Phone: 1-888-638-7668

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Significant change from previous version is denoted with a double bar.

DuPont™ Fontelis® Fungicide

Version 2.0

Revision Date 07/13/2015 Ref. 130000012055

Material Safety Data Sheet

DuPont™ Lannate® SP Insecticide

Version 2.1

Revision Date 01/14/2016 Ref. 130000000505

This SDS adheres to the standards and regulatory requirements of Canada and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	DuPont™ Lannate® SP Insecticide
Tradename/Synonym	:	B10029800 DPX-X1179 90SP Yugo Lannate SP Methomyl 90SP Lannate 90WD 90WD METHOMYL (S-methyl N-[(methylcarbamoyl)oxy]thioacetimidate)
SDS Number	:	130000000505
Product Use	:	Insecticide
Manufacturer	:	E.I. du Pont Canada Company P.O. Box 2200, Streetsville Mississauga, ON L5M 2H3 Canada
Product Information	:	1-800-387-2122
Medical Emergency	:	1-800-441-3637 (24 hours)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Warning symptoms:
Poisoning produces effects associated with anticholinesterase activity which may include: Weakness, Blurred vision, Headache, Nausea, Abdominal pain, discomfort in the chest, constriction of pupils, Sweating, slow pulse, muscle twitching

Potential Health Effects
Skin

Methomyl : May cause acute acetyl cholinesterase depression. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness., Nausea, Abdominal pain, Abnormal tearing, Abnormal salivation, constriction of pupils, Blurred vision, muscle twitching, Convulsions, Respiratory effects.

Eyes

Methomyl : May irritate eyes. May cause acute acetyl cholinesterase depression., Abnormal tearing, constriction of pupils, Blurred vision.

Inhalation

Methomyl : May cause acute acetyl cholinesterase depression. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness., Nausea, Abdominal pain, Abnormal tearing, Abnormal salivation, constriction of pupils, Blurred vision, muscle twitching, Convulsions, Respiratory effects.

Ingestion

Methomyl : May cause acute acetyl cholinesterase depression. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness., Nausea, Abdominal pain, Abnormal tearing, Abnormal salivation, constriction of pupils, Blurred vision, muscle twitching, Convulsions, Respiratory effects.

Target Organ

Methomyl : Central nervous system

Carcinogenicity

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Methomyl	16752-77-5	90 %

Other Ingredients		10 %

SECTION 4. FIRST AID MEASURES

Skin contact : Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Eye contact : Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Inhalation : Move to fresh air. Artificial respiration and/or oxygen may be necessary. Call a poison control center or doctor for treatment advice.

Ingestion : Call a physician or poison control centre immediately. If swallowed, drink 1 or 2 glasses of water and try once or twice to induce vomiting by touching the back of throat with finger. Induce vomiting if person is conscious. Never give anything by mouth to an unconscious person.

General advice : ATROPINE IS AN ANTIDOTE - SEEK MEDICAL ATTENTION AT ONCE IN ALL CASES OF SUSPECTED POISONINGS. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
For medical emergencies involving this product, call toll free 1-800-441-3637.
See Label for Additional Precautions and Directions for Use.

Notes to physician : This product is an acetyl cholinesterase inhibiting carbamate insecticide.
Morphine therapy is contra-indicated.
Probable mucosal damage may contraindicate the use of gastric lavage.
Morphine, 2-PAM and oxime therapy are contra-indicated.
Administer atropine sulphate as an antidote until complete atropinisation (1.2-2.0 mg i.v. every 10-30 minutes). However, for exposure to methomyl in combination with organophosphorous insecticides, 2-PAM (1-2 g slow i.v.) may be used as required to supplement the atropine sulfate treatment as described above. Artificial respiration and/or oxygen may be necessary. Allow no further exposure to any cholinesterase inhibitor until full recovery is assured.

SECTION 5. FIREFIGHTING MEASURES

Flammable Properties Flash point	:	Not applicable
Lower explosion limit/ lower flammability limit	:	0.096 g/l
Fire and Explosion Hazard	:	Fire or intense heat may cause violent rupture of packages. Dust may form explosive mixture in air.
Suitable extinguishing media	:	Water spray, Foam, Dry chemical, Carbon dioxide (CO2)
Unsuitable extinguishing media	:	High volume water jet, (contamination risk)
Firefighting Instructions	:	In the event of fire, wear self-contained breathing apparatus. Wear full protective equipment. If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers/tanks with water spray.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel)	:	Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Use personal protective equipment.
Spill Cleanup	:	Sweep up and shovel into suitable containers for disposal. Soak up with sawdust, sand, oil dry or other absorbent material. If product enters crevices and can not be removed , treat with a sodium hydroxide solution and allow to stand 4 hours. Note: Sodium hydroxide is caustic and causes burns. Do not get in eyes, skin or clothing.
Accidental Release Measures	:	Prevent material from entering sewers, waterways, or low areas. Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel)	:	Do not breathe dust or spray mist. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing.
Handling (Physical Aspects)	:	Keep away from heat and sources of ignition. Use only in well-ventilated areas.
Storage	:	Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Handle this package carefully to prevent breakage of inner bag when stored at low temperatures. Allow to warm above 10ºC (50ºF) for normal handling. Store in original container. Keep container tightly closed in a dry and well-ventilated place. Not for use or storage in or around the home. Keep out of the reach of children.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls	:	Use only with adequate ventilation. Refer to the product label for additional Engineering Controls.
Personal protective equipment		
Respiratory protection	:	For exposures in enclosed areas: A respirator with an organic vapor-removing cartridge with a prefilter approved for pesticides (NIOSH approval number prefix TC-23C), or a canister approved for pesticides (NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P, or HE prefilter. For exposures outdoors: A NIOSH approved dust/mist filtering respirator with any R, P, or HE filter or with approval number prefix TC-21C.
Skin and body protection	:	Applicators and other handlers exposed to the diluted material must wear: Long sleeved shirt and long pants Chemical-resistant gloves Shoes plus socks Protective eyewear

Mixers, loaders, applicators and other handlers who may be exposed to the concentrate must wear:
Long sleeved shirt and long pants
Chemical-resistant gloves
Chemical resistant footwear plus socks
Protective eyewear
Chemical resistant apron
PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:
Coveralls
Chemical-resistant gloves, Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all greater than or equal to 14 mils
Shoes plus socks
Protective eyewear

Protective measures : Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Exposure Guidelines
Exposure Limit Values

Methomyl				
TLV	(ACGIH)	0.2 mg/m3	TWA	Inhalable fraction and vapor.

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	solid, powder
Color	:	white, or, blue
Odor	:	slight, sulphurous
Specific gravity	:	1.2946 at 25 °C (77 °F)
Water solubility	:	58 g/l at 25 °C (77 °F)

SECTION 10. STABILITY AND REACTIVITY

Stability	:	Stable at normal temperatures and storage conditions.
Incompatibility	:	No materials to be especially mentioned. Incompatible products Strong bases
Hazardous decomposition products	:	Hazardous thermal decomposition products:: Sulphur oxides, Methyl isocyanate, Hydrogen cyanide (hydrocyanic acid)

SECTION 11. TOXICOLOGICAL INFORMATION

DuPont™ Lannate® SP Insecticide

Oral LD50	:	23 mg/kg , Rat
Skin irritation	:	No skin irritation, Rabbit
Eye irritation	:	slight irritation, Rabbit
Sensitisation	:	Animal test did not cause sensitization by skin contact., Guinea pig
Further information	:	May be lethal if absorbed through eyes: a rabbit died via ocular exposure. This exposure was within the equivalent range that produced mortalities via oral administration.

Methomyl

Dermal LD50	:	> 2,000 mg/kg , Rabbit
Inhalation 4 h LC50	:	0.258 mg/l , Rat
Carcinogenicity	:	Did not show carcinogenic effects in animal experiments. Not classifiable as a human carcinogen.
Mutagenicity	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Animal testing did not show any mutagenic effects.
Reproductive toxicity	:	Animal testing showed no reproductive toxicity. No toxicity to reproduction
Teratogenicity	:	Animal testing showed no developmental toxicity.

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity
DuPont™ Lannate® SP Insecticide

96 h LC50	:	Lepomis macrochirus (Bluegill sunfish) 0.63 mg/l
72 h ErC50	:	Pseudokirchneriella subcapitata (microalgae) > 100 mg/l
48 h EC50	:	Daphnia (water flea) 0.017 mg/l
Additional ecological information	:	Environmental Hazards: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. Do not apply this product if bees are visiting the treatment area. See product label for additional application instructions relating to environmental precautions. No data is available on the product itself.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal	:	In accordance with local and national regulations. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not contaminate ponds, waterways or ditches with chemical or used container.
Waste Disposal	:	Do not contaminate water, food or feed by disposal. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
Container disposal:	:	Container Refilling and Disposal: Refer to the product label for instructions. If the container is to be refilled, do not rinse with any material or introduce any pesticide other than this product. DO NO REUSE THE CONTAINER FOR ANY OTHER PURPOSE.

DuPont™ Lannate® SP Insecticide

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Do not transport if this container is damaged or leaking.

SECTION 14. TRANSPORT INFORMATION

TDG_ROAD	UN number	:	2757
	Proper shipping name	:	CARBAMATE PESTICIDE, SOLID, TOXIC (Methomyl)
	Class	:	6.1
	Packing group	:	II
	Labelling No.	:	6.1
TDG_RAIL	UN number	:	2757
	Proper shipping name	:	CARBAMATE PESTICIDE, SOLID, TOXIC (Methomyl)
	Class	:	6.1
	Packing group	:	II
	Labelling No.	:	6.1
IATA_C	UN number	:	2757
	Proper shipping name	:	Carbamate pesticide, solid, toxic (Methomyl)
	Class	:	6.1
	Packing group	:	II
	Labelling No.	:	6.1
IMDG	UN number	:	2757
	Proper shipping name	:	CARBAMATE PESTICIDE, SOLID, TOXIC (Methomyl)
	Class	:	6.1
	Packing group	:	II
	Labelling No.	:	6.1

SECTION 15. REGULATORY INFORMATION

EPA Reg. No. : 352-342

In the United States this product is regulated by the US Environmental Protection Agency (EPA) under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read and follow all label directions.

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This product is excluded from listing requirements under EPA/TSCA.

PCP Registration # : 10868
Remarks : Regulated under the Pest Control Products Act - WHMIS exempt.

SECTION 16. OTHER INFORMATION

MSDS preparation date : 01/14/2016

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® Registered trademark of E.I. du Pont de Nemours and Company

Contact person : E.I. DuPont Canada Company, Mississauga, Ontario, L5M 2H3

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Significant change from previous version is denoted with a double bar.

CHEMICAL & FERTILIZER CORPORATION

Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Product Name: Foam Fighter®
Chemical Name: Adjuvant
Common Name, Synonym: Proprietary
Material Uses: Agricultural Adjuvant
Manufacturer/Manufactured For: Miller Chemical and Fertilizer Corporation
Phone: (717) 632-8921 FAX: (717) 646-1104 CHEMTREC: (800) 424-9300

Section 2 – Composition/Information on Ingredients

Ingredient Name	CAS Number	%
The proprietary ingredients in Foam Fighter® are non-hazardous		

PA Right to Know: This product contains proprietary ingredients

This product contains the following chemicals subject to the reporting requirements of Section 13Title III of the Superfund Amendments and Reauthorization act of 1986 and 40 CFR part 372 (the corresponding CAS numbers and typical percent by weight are also provided).

None

Section 3 – Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Primary Entry Routes: Eye and skin contact is the most likely exposure. Ingestion is possible.
Target Organs: Eyes, skin and stomach.
Potential Health Effects
Inhalation: My cause slight irritation if mist occurs.
Eye: May cause eye irritation.
Skin: May cause skin irritation.
Ingestion: Large doses may cause nausea, vomiting, and stomach pain or cramps.
Acute Effects: Irritation
Chronic Effects: Non known
Signs and Symptoms of exposure: Eye contact may produce irritation and/redness.
Medical Condition Aggravated by Long-Term Exposure: None known
Physical Hazards: Refer to MSDS section 7 for handling and storage
Signal Word: Not applicable/non-hazardous

Section 4 – First Aid Measures

EYE CONTACT
Immediately flush eyes with plenty of water for at least 15 minutes, while holding eyelids apart to ensure flushing of entire surface. Call a physician.

SKIN CONTACT
Immediately flush skin with plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Thoroughly clean clothing and shoes before reuse. Call a physician.

INHALATION
Remove to fresh air. If not breathing give artificial respiration, preferably mouth to mouth. If breathing is difficult give oxygen. Call a physician.

INGESTION
If swallowed, DO NOT induce vomiting. Rinse mouth with water. Dilute stomach contents by drinking water. If vomiting occurs spontaneously, keep head bellow hips to prevent breathing vomit into lungs. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Call a physician immediately!

Section 5 – Fire-Fighting Measures

Flash Point (METHOD):	>100°C (TCC)
Auto-Ignition:	Not Available
Flammable Limits:	Not Available
Extinguishing Media:	Dry chemical, carbon dioxide (CO_2), and foam
Special Fire Fighting Procedures:	None currently known.
Unusual Fire and Explosion Hazards:	Evacuate people downwind from fire and control runoff water

Section 6 – Accidental Release Measures

Personal precautions
Evacuate non-essential personnel, eliminate ignition sources, and wear protective equipment (See Section VIII). Shut off source of leak only if safe to do so. Wear respiratory equipment if exposure limits are exceeded.

Contain spill
Recover free product. To clean up residue, flush sparingly with water or use an absorbent. Avoid runoff to ground water, surface waters, and sewers. It may be necessary to remove contaminated soil. If product is flammable or combustible, use non-sparking tools. If acidity (low pH) is a problem, neutralize with hydrated lime, soda ash, or sodium bicarbonate. If alkalinity (high pH) is a problem neutralize with dilute acetic acid or dilute hydrochloric (muriatic) acid. If required, notify state and local authorities.

Section 6 – Accidental Release Measures *continued*

Disposal Method
Solids must be disposed of in a permitted waste management facility. Recovered liquids may be reprocessed or incinerated. Incineration must be handled in a permitted facility. Dispose of material in accordance with all Federal, State and Local regulations. Local regulations may be more stringent than Federal or State.

Section 7 – Handling and Storage

Handling: Wear protective equipment when handling. Wash thoroughly after handling. Do not get in eyes. Do not breathe vapor, mist, or dust. Avoid prolonged or repeated contact with skin. Do not swallow.

Storage: For industrial use only. Keep container closed when not in use. Store in a cool dry place at temperatures between 41°F and 104°F (5°C and 40°C). Keep out of reach of children.

Section 8 – Exposure Controls/Personal Protection

Engineering Controls:
Mechanical: Mechanical ventilation is preferred.

Respiratory Protection: If exposure limits are exceeded, or if exposure may occur, use a NIOSHA/MSHA respirator approved for your conditions of exposure. Refer to the most recent NIOSHA publications concerning chemical hazards, or consult your safety equipment supplier. Respiratory protection programs must be in compliance with OSHA requirements in 29 CFR 1910.134. For emergencies, a NIOSHA/MSHA approved positive pressure-breathing apparatus should be readily available.

Eye Protection: Chemical goggles or face shield. Always wear eye protection when working with chemicals. Never wear contact lenses when working with chemicals.

Skin Protection: Rubber gloves. Clean protective body covering, rubber apron, and rubber boots.

Work Hygienic Practices: Avoid contact with skin, eyes, and clothing. After handling this product, wash hands before eating, drinking or smoking. If contact occurs, remove contaminated clothing. If needed, take First Aid action shown in Section IV. Launder contaminated clothing before use.

Other Protective Equipment: Safety shower, eye wash fountain, and washing facilities should be readily available.

Section 9 – Physical and Chemical Properties

Appearance:	White creamy liquid
Odor:	Moderate
pH (aqueous approx. 5% in DW):	3.5 to 4.0 @ 20°C
Boiling point/Boiling range:	Not Determined
Freeze Point:	Not Determined
Flash Point:	Not Determined
Vapor Pressure (mmHg):	Not Determined
Vapor Density (Air=1):	Not Determined
Solubility in Water:	Dispersible
Specific Gravity (H_2O=1 @ 4°C):	0.95 – 1.05 g/mL @ 68°F (20°C)
Evaporation Rate (NA=1):	Not Determined
Percent Volatile by Volume:	Not Determined

Section 10 – Stability and Reactivity

Chemical Stability:	Stable
Materials to Avoid:	Strong Oxidizing Agents
Hazardous Decomposition or Byproducts:	Oxides of carbon
Hazardous Polymerization:	None Known

Section 11- Toxicological Information

Toxicity Data:

Acute Eye Irritation: May Cause Irritation
Acute Dermal Effects: May Cause Irritation
Acute Oral Effects: May Cause Irritation
Acute Inhalation Effects: May Cause Irritation
Skin Sensitization: Data not available
Acute Dermal Irritation: Data not available
Mutagenicity: Data not available
Teratogenicity: Data not available

Section 12 – Ecological Information

Ecotoxicity: This product is a spray adjuvant. Large spills could possibly damage vegetation. Contamination of waterways could possibly cause fish kills. Prevent spread and runoff into drains, storm sewers, and ditches that lead to waterways.
Aquatic Toxicity: Data not available
Environmental Fate: Data not available

Section 13 – Disposal Considerations

Disposal:	If uncontaminated, recover and reuse as product. If contaminated with other materials, the nature and extent of contamination may require use of specialized disposal methods. Consult local, county, state, or federal regulatory agencies for acceptable disposal procedures and disposal locations
Disposal Regulatory Requirements:	Consult local, county, state, or federal regulatory agencies for acceptable disposal procedures and disposal locations
Container Cleaning and Disposal:	Consult local, county, state, or federal regulatory agencies for acceptable disposal procedures and disposal locations

Section 14 – Transport Information

U.S. DEPARTMENT OF TRANSPORTATION
PROPER SHIPPING NAME:
PACKING GROUP:
HAZARD CLASS:
LABEL/PLACARD REQUIRED:
UN/NA No.:

WATER TRANSPORTATION
PROPER SHIPPING NAME:
PACKING GROUP:
HAZARD CLASS:
LABEL/PLACARD REQUIRED:
UN/NA No.:

AIR TRANSPORTATION
PROPER SHIPPING NAME:
PACKING GROUP:
HAZARD CLASS:
LABEL/PLACARD REQUIRED:
UN/NA No.:

OTHER AGENCIES:

SECTION 14 NOTES: This product is not considered a hazard

Section 15 – Regulatory Information

EPA Regulations:

Reportable Quantity –CERCLA: Not applicable
SARA Title III (EPCRA): Not applicable
RCRA Waste Code: Not applicable

State Regulations:

CA Proposition 65: Not applicable

EPA National Response Center (800) 424-8802

Section 16 – Other Information

Preparation Date: 03/22/2012
Prepared By: Miller Chemical Compliance Officer
Revision Date:
Revision Notes:

NOTICE TO READER: THE INFORMATION CONTAINED IN THIS MATERIAL SAFETY DATA SHEET ("MSDS") RELATES ONLY TO THE SPECIFIC PRODUCT(S) DESIGNATED HEREIN (THE "PRODUCT"). THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED UPON DATA BELIEVED TO BE CURRENT AND CORRECT AS OF THE DATE OF THIS MSDS, AND OBTAINED FROM SOURCES THAT ARE BELIEVED TO BE RELIABLE. HOWEVER, THIS INFORMATION IS FURNISHED WITHOUT WARRANTY, REPRESENTATIONS OR LICENSE OF ANY KIND, EXPRESS OR IMPLIED, WITH RESPECT TO ACCURACY, CORRECTNESS, OR COMPLETENESS, AND NEITHER MILLER CHEMICAL AND FERTILIZER CORPORATION. NOR ITS MARKETING AFFILIATES (EACH, A "SELLER") ASSUME ANY LEGAL RESPONSIBILITY FOR THE USE OR RELIANCE UPON SAME.

SAFETY DATA SHEET
DOW AGROSCIENCES LLC

Product name: INTREPID™ 2F Insecticide (GF-837)

Issue Date: 05/14/2015
Print Date: 05/18/2015

DOW AGROSCIENCES LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: INTREPID™ 2F Insecticide (GF-837)

Recommended use of the chemical and restrictions on use
Identified uses: End use insecticide product

COMPANY IDENTIFICATION
DOW AGROSCIENCES LLC
9330 ZIONSVILLE RD
INDIANAPOLIS IN 46268-1053
UNITED STATES

Customer Information Number: 800-992-5994
info@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 800-992-5994
Local Emergency Contact: 352-323-3500

2. HAZARDS IDENTIFICATION

Hazard classification
This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Other hazards
no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Concentration
Methoxyfenozide	161050-58-4	22.6%

Propylene glycol	57-55-6	8.4%
Balance	Not available	69.0%

4. FIRST AID MEASURES

Description of first aid measures
General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

Skin contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: This material does not burn. If exposed to fire from another source, use suitable extinguishing agent for that fire.

Unsuitable extinguishing media: no data available

Special hazards arising from the substance or mixture
Hazardous combustion products: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: If exposed to fire from another source and water is evaporated, exposure to high temperatures may cause toxic fumes.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. This material does not burn. Fight fire for other material that is burning. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Wash thoroughly after handling. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Methoxyfenozide	Dow IHG	TWA Respirable fraction	3 mg/m3
	Dow IHG	TWA Inhalable fraction	10 mg/m3
Propylene glycol	US WEEL	TWA	10 mg/m3

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure

limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Wear clean, body-covering clothing.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.
The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Liquid.
Color	Tan
Odor	Mild
Odor Threshold	No test data available
pH	7
Melting point/range	Not applicable
Freezing point	No test data available
Boiling point (760 mmHg)	No test data available
Flash point	**closed cup** > 100 °C (> 212 °F) *Pensky-Martens Closed Cup ASTM D 93*
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not applicable to liquids
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	No test data available
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	No test data available
Water solubility	Not applicable

Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Kinematic Viscosity	No test data available
Explosive properties	No
Oxidizing properties	No
Liquid Density	1.06 g/cm3 at 20 °C (68 °F)
Molecular weight	no data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical stability: Stable.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: None known.

Incompatible materials: None known.

Hazardous decomposition products: Does not decompose.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity
Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product:
LD50, Rat, > 5,000 mg/kg No deaths occurred at this concentration.

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product:
LD50, Rat, male and female, > 2,000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity
At room temperature, exposure to vapor is minimal due to low volatility. No adverse effects are anticipated from single exposure to mist. Based on the available data, respiratory irritation was not observed.

As product:
LC50, Rat, 4 Hour, Aerosol, > 0.9 mg/l The LC50 value is greater than the Maximum Attainable Concentration. No deaths occurred at this concentration.

Skin corrosion/irritation
Brief contact is essentially nonirritating to skin.

Serious eye damage/eye irritation
Essentially nonirritating to eyes.

Sensitization
As product:
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
For the active ingredient(s):
May cause methemoglobinemia, thereby impairing the blood's ability to transport oxygen.
In animals, effects have been reported on the following organs:
Blood.
Liver.
Kidney.
Thyroid.
For the minor component(s):
In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

Carcinogenicity
Active ingredient did not cause cancer in laboratory animals.

Teratogenicity
For the active ingredient(s): Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity
In animal studies, active ingredient did not interfere with reproduction.

Mutagenicity
As product: In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Aspiration Hazard
Based on available information, aspiration hazard could not be determined.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Acute toxicity to fish
LC50, Lepomis macrochirus (Bluegill sunfish), flow-through test, 96 Hour, > 130 mg/l, OECD Test Guideline 203 or Equivalent

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate inhibition, > 100 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to Above Ground Organisms
Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

As product:

oral LD50, Colinus virginianus (Bobwhite quail), > 2,250 mg/kg

Toxicity to soil-dwelling organisms
LC50, Eisenia fetida (earthworms), 14 d, > 1,250 mg/kg

Persistence and degradability

Methoxyfenozide

Biodegradability: Biodegradation rate may increase in soil and/or water with acclimation.

Stability in Water (1/2-life)
, 802 d, pH 7, Half-life Temperature 25 °C

Propylene glycol

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).
10-day Window: Pass
Biodegradation: 81 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent
10-day Window: Not applicable
Biodegradation: 96 %
Exposure time: 64 d
Method: OECD Test Guideline 306 or Equivalent

Theoretical Oxygen Demand: 1.68 mg/mg

Chemical Oxygen Demand: 1.53 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	69.000 %
10 d	70.000 %
20 d	86.000 %

Photodegradation
Atmospheric half-life: 10 Hour
Method: Estimated.

Balance
Biodegradability: No relevant data found.

Bioaccumulative potential

Methoxyfenozide
Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
Partition coefficient: n-octanol/water(log Pow): 3.72 at 25 °C OECD Test Guideline 107 or Equivalent
Bioconcentration factor (BCF): 11.0 Fish. 28 d Measured

Propylene glycol
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -1.07 Measured
Bioconcentration factor (BCF): 0.09 Estimated.

Balance
Bioaccumulation: No relevant data found.

Mobility in soil

Methoxyfenozide
Potential for mobility in soil is medium (Koc between 150 and 500).

Propylene glycol
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): < 1 Estimated.

Balance
No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The

identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Not regulated for transport

Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code: Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is not a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Chronic Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

Pennsylvania (Worker and Community Right-To-KnowAct): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:
The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Components	**CASRN**
Propylene glycol	57-55-6

Pennsylvania (Worker and Community Right-To-KnowAct): Pennsylvania Special Hazardous Substances List:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

United States TSCA Inventory (TSCA)
This product contains chemical substance(s) exempt from U.S. EPA TSCA Inventory requirements. It is regulated as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.

Federal Insecticide, Fungicide and Rodenticide Act
EPA Registration Number: 62719-442
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

Harmful if absorbed through skin or inhaled

16. OTHER INFORMATION

Hazard Rating System
NFPA

Health	Fire	Reactivity
0	0	0

Revision
Identification Number: 101193314 / A211 / Issue Date: 05/14/2015 / Version: 4.0
DAS Code: GF-837
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

Dow IHG	Dow Industrial Hygiene Guideline
TWA	8-hr TWA
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW AGROSCIENCES LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

SAFETY DATA SHEET

1. Identification

1.1. Product identifier

Trade name	**Jet-Ag® 5% Peracetic Acid**

1.2. Recommended use of the chemical and restrictions on use

Relevant applications identified	Irrigation systems, crop applications
Function	A fungicide, bactericide, and algaecide for agricultural uses

1.3. Details of the supplier of the safety data sheet

Company	Jet Harvest Solutions P.O. Box 915139 Longwood, FL 32791
Telephone	407-523-7842
Telefax	407-298-2377
Email address	products@bio-save.com

1.4. 24 HOUR EMERGENCY TELEPHONE NUMBERS:

CHEMTREC - US & CANADA:	800-424-9300
Product Regulatory Services	407-523-7842

2. Hazard(s) identification

According to Hazardous Product Regulations

Physical Hazards

Organic peroxides	Type F
Corrosive to metal	Category 1

Health Hazards

Acute toxicity (Oral)	Category 4
Acute toxicity (Inhalation)	Category 4
Acute toxicity (Dermal)	Category 4
Skin corrosion	Sub-category 1A
Serious Eye Damage/Eye Irritation	Category 1
Specific Target Organ Toxicity - Single Exposure	Category 3[1.]

Target Organs

1. Respiratory system

Environmental Hazards

Acute hazards to the aquatic environment	Category 2
Chronic hazards to the aquatic environment	Category 1

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement:
Heating may cause a fire.
May be corrosive to metals.
Harmful if swallowed, in contact with skin or if inhaled.
Causes severe skin burns and eye damage.
May cause respiratory irritation.
Toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep only in original packaging. Ground and bond container and receiving equipment. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Take off contaminated clothing and wash it before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. Absorb spillage to prevent material damage. Collect spillage.

Storage: Store in a well-ventilated place. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Store at temperatures not exceeding … oC/…oF. Store separately.

Disposal: Dispose of contents/ container to an approved waste disposal plant.

Other hazards: Risk of decomposition in contact with incompatible substances, impurities, metals, alkalis, reducing agents. Danger of decomposition if exposed to heat Release of oxygen may support combustion. This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3. Composition/information on ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
Peracetic acid		79-21-0	4,5 - 5,4%
hydrogen peroxide solution		7722-84-1	>=25 - <30%
Acetic acid		64-19-7	>=5 - <10%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition Comments: Preparation of perethanoic acid, hydrogen peroxide, ethanoic acid and water in balance.

4. First-aid measures

Description of necessary first-aid measures

General information: Pay attention to self-protection. Remove victims from hazardous area. Immediately remove soiled or soaked clothing and remove it to a safe distance. Keep victim warm, in a stabilized position and covered. Do not leave victims unattended. If the casualty is unconscious: Place the victim in the recovery position.

Inhalation: Potential for exposure by inhalation if aerosols or mists are generated. Move victims into fresh air. With labored breathing: Provide with oxygen. Consult a doctor. If the casualty is not breathing: Perform mouth-to-mouth resuscitation, notify emergency physician immediately.

Skin Contact: Take off all contaminated clothing immediately. Wash off affected area immediately with plenty of water for at least 15 minutes. If symptoms persist, consult a physician for treatment.

Eye contact: With eye held open, thoroughly rinse immediately with plenty of water for at least 10 minutes. Consult an ophthalmologist immediately if the symptoms persist. When dealing with caustic substances, notify emergency physician immediately (key words: burns in eye).

Ingestion: Rinse mouth. Immediately give large quantities of water to drink. Do NOT induce vomiting. Do not administer activated charcoal. Obtain medical attention. When dealing with caustic substances, notify emergency physician immediately.

Personal Protection for First-aid Responders: In the case of fire, wear respiratory protective equipment independent of surrounding air and chemical protective suit.

Most important symptoms/effects, acute and delayed

Symptoms: Strongly irritating to corrosive. daze, headache, vertigo, somnolence (sleepiness), nausea.

Hazards: Strongly irritating to corrosive. Harmful by inhalation, in contact with skin and if swallowed. Vapors may cause drowsiness and dizziness.

Indication of immediate medical attention and special treatment needed

Treatment:	The initial focus is only on the local action, characterized by quickly progressing deep tissue damage. In the eye, caustic/ irritating and harmful liquids cause, depending on the intensity of exposure, various levels of irritation, destruction, and ablation of the epithelium of the conjunctiva and cornea, corneal clouding, edema and ulcerations. Danger! Possible loss of eyesight! Superficial irritations and damage up to ulcerations and scarring develop on the skin. After accidental absorption in the body, the pathology and clinical findings are dependent on the kinetics of the substance (quantity of absorbed substance, the absorption time, and the effectiveness of early elimination measures (first aid)/ excretion - metabolism). A specific action of the substance is unknown. In case of substances with high water solubility, irritations up to formation of necrosis in the upper respiratory tract may result after inhalation of caustic/ irritating aerosols and mists. The initial focus is on the local action: signs of irritation of the respiratory tract such as coughing, burning behind the sternum, tears, burning in the eyes or nose. There is a risk of pulmonary edema!

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Water spray, foam, dry powder or carbon dioxide. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media:	Do not use full-force water jet in order to avoid dispersal and spread of the fire. Organic compounds.
Specific hazards arising from the chemical:	Involved in fire, it may decompose yielding oxygen. Release of oxygen may support combustion. Risk of overpressure and burst due to decomposition in confined spaces and pipes. Hazardous substances might be released in case of fire. carbon monoxide, carbon dioxide

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	Evacuate personnel to safe areas. Keep out unprotected persons. Remove sources of ignition. In case of fire, remove the endangered containers and bring to a safe place, if this can be done safely. In the case of fire, cool the containers that are at risk with water or dilute with water (flooding). Ensure there are sufficient retaining facilities for water used to extinguish fire. Water used to extinguish fire should not enter drainage systems, soil or stretches of water. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters:	In the case of fire, wear respiratory protective equipment independent of surrounding air and chemical protective suit.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Keep out unprotected persons. Evacuate personnel to safe areas.
Accidental release measures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. Evacuate area and do not approach spilled product.

For emergency responders:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. Make safe or remove all sources of ignition. Do not inhale vapours / aerosols. Avoid contact with eyes, skin, and clothing. Isolate defective containers immediately, if possible and safe to do. Shut off leak, if possible and safe to do. Place defective containers in waste receptacle (waste packaging receptacle) made of plastic (not metal). Do not seal defective containers or waste receptacles airtight (danger of bursting due to product decomposition). Never return spilled product into its original container for re-use. (Risk of decomposition.). Release of oxygen may support combustion.
Methods and material for containment and cleaning up:	Absorb with liquid-binding material (e.g. inert absorbent universalbinder) pick up. Do not use: textiles, saw dust, combustible substances. Rinse away any residue with plenty of water. Dispose of absorbed material in accordance with the regulations. Pack and label wastes like the pure substance. Do not detach label from the delivery containers prior to disposal. Clean contaminated surface thoroughly. Recommended cleaning agent: water. Ventilate room.
Environmental Precautions:	Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

7. Handling and storage

Precautions for safe handling:	Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment. Check the proper condition of personal safety equipment before use. Observe ergonomic requirements when selecting personal safety equipment. Avoid contact with eyes, skin, and clothing. The work-place related airborne concentrations have to be kept below of the indicated exposure limits. If workplace exposure limits are exceeded and/or larger amounts are released (leakage, spilling, dust) the indicated respiratory protection should be used. Do not breathe in vapours, aerosols, sprays. Ensure there is good room ventilation. Immediately change moistened and saturated work clothes. Immediately rinse contaminated or saturated clothing with water. Avoid impurities and heat effect. Never return spilled product into its original container for re-use. (Risk of decomposition.). Provide for installation of emergency shower and eye bath. Set up safety and operation procedures.

Conditions for safe storage, including any incompatibilities:

Avoid sun rays, heat, heat effect. Temperature requirement during storage max. 40 °C. Store in original container. well ventilated, dry, clean, lockable. Use adequate venting devices on all packages, containers and tanks and check correct operation periodically. Do not confine product in unvented vessels or between closed valves. Risk of overpressure and burst due to decomposition in confined spaces and pipes. Check containers and tanks at regular intervals to detect any special changes such as pressure build-up (distension), damage, leakage. Transport and store container in upright position only. Do not empty container by means of pressure. Always close container tightly after removal of product. Do not keep the container sealed. Assure impermeability at all times. Avoid residues of the product on the containers. Store containers in such a manner that liquids released are collected in a catch vessel in case of leaks. Do not store together with: alkalis, reductants, metallic salts (risk of decomposition). Do not store together with: inflammable substances (risk of fire). Keep away from incompatible substances. Release of oxygen may support combustion. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Regularly verify the availability of water to deal with emergencies (for cooling, tank flooding, fire fighting) and check correct operation periodically. For detailed information on design specifications for the construction of tank- and dosing installations ask the producer for advice. Only use containers which are specially permitted for: Peracetic acid. For transport, storage and tank installations only use suitable materials. - Suitable container material: Polyethylene. polypropylene polytetrafluoroethylene Polyvinyl chloride (PVC). glass ceramics. , Inadequate materials are: Iron. Copper brass Bronze aluminium zinc Lead tin Mild steel.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Observe national threshold limit values.

Biological Limit Values

Observe national threshold limit values.

Appropriate Engineering Controls

Ensure suitable suction/aeration at the work place and with operational machinery. Suitable measuring processes are: Hydrogen peroxide (H2O2) OSHA method ID 006 OSHA method VI-6 Acetic acid NIOSH method 1603 OSHA method ID 186

Individual protection measures, such as personal protective equipment

General information: No data available.

Eye/face protection: wear basket-shaped glasses or safety goggles with side-shields. When handling larger quantities: protective screen

Skin Protection

Hand Protection:

Material: Polychloroprene (PCP)
Break-through time: > 480 min
Guideline: DIN EN 374Material: Natural Rubber/Natural latex (NR)
Break-through time: > 480 min
Guideline: DIN EN 374
Additional Information: disposable gloves

Other: Select materials and equipment for physical protection depending on the concentration and volume of hazardous substances and the workplace

	involved. Wear suitable protective clothing. acid-proof for example: Usual lab protective clothing Light-duty chemical protective clothing (type2) (DIN EN 943-1 / DIN EN 943-2) Foot protection: Wear safety boots, high, protection class S2 or S4 (DIN EN 20345) In case of larger quantities: If open handling is unavoidable: Heavy-duty chemical protective clothing (type1) (DIN EN 943-1 / DIN EN 943-2) Do not wear protective clothes containing cotton. Suitable materials are: PVC, neoprene, nitrile rubber, natural rubber.
Respiratory Protection:	If workplace exposure limit is exceeded apply Respiratory protective equipment. If necessary: Provide with fresh air. In case of larger quantities: If open handling is unavoidable: Wear respiratory protection for example: Full face mask with combination filter A2B2E2K1P2 (Draeger) Full face mask with combination filter OV/AG (3M) Full face mask with combination filter ABEK2P3 (3M) A self-contained breathing apparatus must be worn if the ambient oxygen content is < 17 % (v/v) or if the situation is uncertain. Self-contained breathing apparatus (EN 133) Observe limited wearing time of 30 minutes.
Hygiene measures:	Avoid contact with eyes, skin, and clothing. Do not inhale vapour, aerosols, mist. Ensure there is good room ventilation. Immediately rinse contaminated or saturated clothing with water. Immediately change moistened and saturated work clothes. Any contaminated protective equipment is to be cleaned after use. Contaminated work clothing should not be allowed out of the workplace. No eating, drinking, smoking, or snuffing tobacco at work. Wash face and/or hands before break and end of work. Preventive skin protection Use barrier cream regularly.

9. Physical and chemical properties

Appearance	
Physical state:	liquid
Form:	liquid
Color:	colourless
Odor:	stinging, vinegar-like
Odor Threshold:	No data available.
pH:	approx. 0,2 (20 °C) OECD TG 122
Freezing point:	No data available.
Boiling Point:	>= 60 °C Not applicable Decomposition
Flash Point:	(ISO 2719) not measureable (formation of foam)
Evaporation Rate:	No data available.
Flammability (solid, gas):	Not applicable liquid
Flammability Limit - Upper (%):	No data available.
Flammability Limit - Lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density (air=1):	No data available.
Density:	1,12 g/ml (20 °C) (OECD Test Guideline 109)
Relative density:	No data available.
Solubility(ies)	
Solubility in Water:	completely miscible
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	-0,26 (QSAR-Method) calculated pH 7
Autoignition Temperature:	The substance or mixture is not classified as pyrophoric. The substance or mixture is not classified as self heating.

Decomposition Temperature:	>= 60 °C Self-Accelerating decomposition temperature (SADT)
Kinematic viscosity:	1,208 mm2/s (20 °C, OECD TG 114) | 0,814 mm2/s (40 °C, DIN 51562)
Dynamic viscosity:	No data available.
Explosive properties:	Not explosive
Oxidizing properties:	The substance or mixture is not classified as oxidizing. UN Test O.2 (oxidizing liquids)

Other information

Molecular weight:	76,05 g/mol
Dust Explosion Limit, Upper:	No data available.
Dust Explosion Limit, Lower:	No data available.
Minimum ignition temperature:	435 °C (DIN 51 794)
Metal Corrosion:	Corrosive to metal Classification on the basis of missing data
Peroxides:	
Self Ignition Temperature:	The substance or mixture is not classified as pyrophoric. The substance or mixture is not classified as self heating.

10. Stability and reactivity

Reactivity:	Risk of self-accelerating, exothermic decomposition with the development of oxygen at Effect of thermal energy / heat. Product is a(n) oxidizing agent and reactive.
Chemical Stability:	Stable under recommended storage conditions. Product is supplied in stabilised form. Commercial products are stabilised to reduce risk of decomposition due to contamination.
Possibility of hazardous reactions:	Risk of overpressure and burst due to decomposition in confined spaces and pipes. Risk of decomposition in contact with incompatible substances, impurities, metals, alkalis, reducing agents. Release of oxygen may support combustion.
Conditions to avoid:	sun rays, heat, heat effect
Incompatible Materials:	impurities, decomposition catalysts metals, nonferrous heavy metal, aluminium, zinc. metallic salts, alkalis, reducing agents Possible hazardous reaction: decomposition. Flammable material. Possible hazardous reaction: Spontaneous ignition. Organic solvent. Possible hazardous reaction: Danger of explosion.
Hazardous Decomposition Products:	Steam Oxygen Acetic acid

11. Toxicological information

Information on likely routes of exposure

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

Ingestion: No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: LD 50 (Rat): 1.859 mg/kg

Dermal
Product: LD 50 (Rabbit): 1.147 mg/kg

Inhalation
Product: LC 50 (Rat): 4,08 mg/l

Repeated dose toxicity
Product: No data available.

Specified substance(s):
Acetic acid — NOAEL (Rat(male), Oral): 290 mg/kg literature
NOAEL (Pig, Oral, daily): 450 mg/kg literature

Skin Corrosion/Irritation
Product: Calculation method Corrosive

Serious Eye Damage/Eye Irritation
Product: Rabbit: Causes serious eye damage.

Respiratory or Skin Sensitization
Product: Magnusson & Kligman, OECD Test Guideline 406 (Guinea Pig): Not a skin sensitizer. peracetic acid 10 %

Carcinogenicity
Product: No data available.
Specified substance(s):
hydrogen peroxide solution — Clues to possible carcinogenic effects in animal experiments: Up to date there is no evidence of increased tumour risk. Hydrogen peroxide is not a carcinogenic substance according to MAK, IARC, NTP, OSHA, ACGIH.

Germ Cell Mutagenicity

In vitro
Product: Ames test (OECD 471): negative peracetic acid 5 %
In vitro mammalian cell gene mutation test (OECD 476): negative peracetic acid 11 %
Unscheduled DNA synthesis -test (UDS) (OECD TG 482): negative peracetic acid 42 %

In vivo
Product: In vivo micronucleus test (OECD TG 474) Oral (Mouse, male and female): negative peracetic acid 5 %
Unscheduled DNA synthesis -test (UDS) (OECD TG 486) Oral (Rat, male): negative peracetic acid 5 %
In vivo micronucleus test (OECD TG 474) Oral (Mouse, male and female): negative peracetic acid 11 %

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: Respiratory tract irritation.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Target Organs
Specific Target Organ Toxicity - Single Exposure: Respiratory system

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: 98 % (28 d, OECD TG 301 E) At non-bacteriotoxic concentrations peracetic acid
(3 h, OECD TG 209) peracetic acid

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: low

Partition Coefficient n-octanol / water (log Kow)
Product: Log Kow: -0,26 20 °C (QSAR-Method) calculated pH 7

Mobility in soil: No data available.

Other adverse effects: No data available.

13. Disposal considerations

Disposal methods: Disposal according to local authority regulations. Pack and label wastes like the pure substance. Do not detach label from the delivery containers prior to disposal. Do not return unused product to original container (risk of decomposition). Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated Packaging: Rinse empty containers before disposal; recommended cleaning agent: water. Offer rinsed packaging material to local recycling facilities. Do not reuse empty containers and dispose of in accordance with the regulations issued by the appropriate local authorities.

14. Transport information

International Regulations

IATA-DGR

UN/ID No.	:	UN 3149
Proper shipping name	:	Hydrogen peroxide and peroxyacetic acid mixture stabilized
Class	:	5.1
Subsidiary risk	:	8
Packing group	:	II
Labels	:	5.1 (8)
Packing instruction (cargo aircraft)	:	554
Packing instruction (passenger aircraft)	:	550
Remarks	:	FOR USA ONLY: When shipping in, by or via USA note of the Reportable Quantity-Regulation!

IMDG-Code

UN number	:	UN 3149
Proper shipping name	:	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED

Class	:	5.1
Subsidiary risk	:	8
Packing group	:	II
Labels	:	5.1 (8)
EmS Code	:	F-H, S-Q
Marine pollutant	:	yes
Remarks	:	Protect from heat. Separate from metal powders and permangan ates., "Separated from" permanganates and class 4.1., FOR USA ONLY: When shipping in, by or via USA note of the Reportable Quantity-Regulation!

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. Regulatory information

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

16.Other information, including date of preparation or last revision

Issue Date:	04.03.2019
Revision Date:	14.02.2019**:** ARGLO_SUBTYP14.02.2019**:** ARGLO_EXCOMP14.02.2019**:** ARGLO_REG
Version #:	1.0
Further Information:	Data for the production of the safety data sheet from the studies available and from the literature. Further information about the characteristics of the product can be found in the product code of practice or in the Product-Brochure .

Disclaimer:

This information and all further technical advice is based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.

SAFETY DATA SHEET
DOW AGROSCIENCES LLC

Product name: KERB™ SC Herbicide

Issue Date: 05/14/2015
Print Date: 05/17/2015

DOW AGROSCIENCES LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: KERB™ SC Herbicide

Recommended use of the chemical and restrictions on use
Identified uses: End use herbicide product

COMPANY IDENTIFICATION
DOW AGROSCIENCES LLC
9330 ZIONSVILLE RD
INDIANAPOLIS IN 46268-1053
UNITED STATES

Customer Information Number: 800-992-5994
info@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 800-992-5994
Local Emergency Contact: 352-323-3500

2. HAZARDS IDENTIFICATION

Hazard classification
This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.
Carcinogenicity - Category 2

Label elements
Hazard pictograms

Signal word: **WARNING!**

Hazards
Suspected of causing cancer.

Precautionary statements

Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use personal protective equipment as required.

Response
IF exposed or concerned: Get medical advice/ attention.

Storage
Store locked up.

Disposal
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Concentration
Propyzamide	23950-58-5	35.6%
Propylene glycol	57-55-6	3.6%
Balance	Not available	60.8%

4. FIRST AID MEASURES

Description of first aid measures
General advice: If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

Skin contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Suitable emergency safety shower facility should be available in work area.

Eye contact: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control

center or doctor for treatment advice. Suitable emergency eye wash facility should be available in work area.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

Unsuitable extinguishing media: no data available

Special hazards arising from the substance or mixture
Hazardous combustion products: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: This material will not burn until the water has evaporated. Residue can burn.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the “Accidental Release Measures” and the “Ecological Information” sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep out of reach of children. Do not swallow. Avoid breathing vapor or mist. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Propylene glycol	US WEEL	TWA	10 mg/m3

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber (“nitrile” or “NBR”). Polyvinyl chloride (“PVC” or “vinyl”). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as

respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.
The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Liquid.
Color	Tan
Odor	Mild
Odor Threshold	No test data available
pH	7.91 1% *pH Electrode*
Melting point/range	Not applicable
Freezing point	-20 °C (-4 °F)
Boiling point (760 mmHg)	No test data available
Flash point	**closed cup** > 100 °C (> 212 °F) *Closed Cup*
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not Applicable
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	No test data available
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	no data available
Water solubility	No test data available
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Dynamic Viscosity	No test data available
Kinematic Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available
Liquid Density	1.13 g/cm3 at 20 °C (68 °F) *Digital density meter*
Molecular weight	no data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: no data available

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Active ingredient decomposes at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible materials: Avoid contact with: Strong oxidizers.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Hydrogen chloride. Nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity
Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined. For similar material(s):
LD50, Rat, > 5,000 mg/kg

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined. For similar material(s):
LD50, Rat, male and female, > 5,000 mg/kg

Acute inhalation toxicity
No adverse effects are anticipated from single exposure to mist. Based on the available data, narcotic effects were not observed. Based on the available data, respiratory irritation was not observed.

As product: The LC50 has not been determined. For similar material(s):
LC50, Rat, male and female, 4 Hour, dust/mist, > 5.19 mg/l No deaths occurred at this concentration.

Skin corrosion/irritation
Brief contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation
May cause slight temporary eye irritation.
Corneal injury is unlikely.

Sensitization
For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
For the active ingredient(s):
In animals, effects have been reported on the following organs:
Adrenal gland.
Kidney.
Muscles.
Ovaries.
Pancreas.
Thyroid.

Carcinogenicity
For the active ingredient(s): Has caused cancer in laboratory animals.

Teratogenicity
For the active ingredient(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

Reproductive toxicity
For the active ingredient(s): In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Mutagenicity
For the active ingredient(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Aspiration Hazard
Based on physical properties, not likely to be an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Acute toxicity to fish
For similar material(s):
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

For similar material(s):
LC50, Oncorhynchus mykiss (rainbow trout), flow-through test, 96 Hour, 53.6 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
For similar material(s):
EC50, Daphnia magna (Water flea), flow-through test, 48 Hour, > 99.2 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
For similar material(s):
EC50, Lemna minor (duckweed), 7 d, 1.0 - 10.0 mg/l

For similar material(s):
ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, 10.4 mg/l

Toxicity to Above Ground Organisms
Based on information for a similar material:

oral LD50, Apis mellifera (bees), 48 Hour, mortality, > 100µg/bee

Based on information for a similar material:

contact LD50, Apis mellifera (bees), 48 Hour, mortality, > 100µg/bee

Toxicity to soil-dwelling organisms
LC50, Eisenia fetida (earthworms), 14 d, > 10,000 mg/kg

Persistence and degradability

Propyzamide

Biodegradability: Biodegradation may occur under aerobic conditions (in the presence of oxygen).
no data available

Stability in Water (1/2-life)
Hydrolysis, pH 5 - 9, Stable

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 4.2 Hour
Method: Estimated.

Propylene glycol

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).
10-day Window: Pass
Biodegradation: 81 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent
10-day Window: Not applicable
Biodegradation: 96 %
Exposure time: 64 d
Method: OECD Test Guideline 306 or Equivalent

Theoretical Oxygen Demand: 1.68 mg/mg

Chemical Oxygen Demand: 1.53 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	69.000 %
10 d	70.000 %
20 d	86.000 %

Photodegradation
Atmospheric half-life: 10 Hour
Method: Estimated.

Balance
Biodegradability: No relevant data found.

Bioaccumulative potential
Bioaccumulation: No data available.

Mobility in soil

Propyzamide
Potential for mobility in soil is low (Koc between 500 and 2000).
Partition coefficient(Koc): 840 Measured

Propylene glycol
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): < 1 Estimated.

Balance
No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.(Propyzamide)
UN number	UN 3082
Class	9

Packing group	III
Reportable Quantity	Propyzamide

Classification for SEA transport (IMO-IMDG):

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Propyzamide)
UN number	UN 3082
Class	9
Packing group	III
Marine pollutant	Propyzamide
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.(Propyzamide)
UN number	UN 3082
Class	9
Packing group	III

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Chronic Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

Components	**CASRN**
Propyzamide	23950-58-5

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

Pennsylvania (Worker and Community Right-To-KnowAct): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:
The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Components	**CASRN**
Propyzamide	23950-58-5
Propylene glycol	57-55-6

Pennsylvania (Worker and Community Right-To-KnowAct): Pennsylvania Special Hazardous Substances List:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

United States TSCA Inventory (TSCA)
This product contains chemical substance(s) exempt from U.S. EPA TSCA Inventory requirements. It is regulated as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.

Federal Insecticide, Fungicide and Rodenticide Act
EPA Registration Number: 62719-578
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

Causes moderate eye irritation

16. OTHER INFORMATION

Hazard Rating System
NFPA

Health	Fire	Reactivity
3	1	0

Revision
Identification Number: 101188308 / A211 / Issue Date: 05/14/2015 / Version: 2.0
DAS Code: GF-2014
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

TWA	8-hr TWA
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW AGROSCIENCES LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

RESTRICTED USE PESTICIDE
Due to Toxicity to Fish and Aquatic Organisms
For retail sale to and use only to Certified Applicators, or persons under their direct supervision, and only for those uses covered by the Certified Applicator's certification.

GROUP **3A** INSECTICIDE

LAMBDA-CY AG

For the Control of a Variety of Insect Pests on Selected Crops
Contains the same active ingredient as Karate® Insecticide.

Active Ingredient:
Lambda-cyhalothrin……..11.4%
Other Ingredients:……88.6%
Total 100.0%
Contains petroleum distillates.
Contains 1 lb. of active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN

WARNING/AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
If swallowed	• Call a poison control center or doctor immediately for treatment advice. • Do not give any liquid to the person. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If in eyes	• Hold eye open and rinse slowly and gently with water 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continuing rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. Contact 1-877-424-7452 for emergency medical treatment information.	
Note to Physician – Contains petroleum distillate – vomiting may cause aspiration pneumonia.	

SEE BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS, COMPLETE DIRECTIONS FOR USE, WARRANTY DISCLAIMER AND LIMITATION OF LIABILITY.

EPA Reg. No. 83222-42 EPA Est. No. 070989-MO-001

Manufactured By:
Winfield Solutions, LLC
P.O. Box 64589
St. Paul, MN 55164-0589

Net Contents: Gallons

1/0912/6

WINFIELD

PRECAUTIONARY STATEMENTS
Hazards to Humans and Domestic Animals

WARNING-AVISO: May be fatal if swallowed. Harmful if inhaled or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash clothing before reuse.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category G on an EPA chemical resistant category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as barrier laminate or viton ≥14 mils
- Shoes plus socks
- Protective eyewear
-

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS STATEMENT

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

This pesticide is extremely toxic to fish and aquatic organisms and toxic to wildlife. Do not apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas.

To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind and rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid runoff to water bodies or drainage systems.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

Physical and Chemical Hazards

Combustible liquid. Do not use or store near heat or open flame. Do not use this product in or on electrical equipment due to the possibility of shock hazard.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.
Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.
For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

This labeling must be in the possession of the user at the time of application.

AGRICULTURAL USE REQUIREMENTS
Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.
PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as barrier laminate or viton ≥14 mils
- Shoes plus socks

FAILURE TO FOLLOW THE DIRECTIOINS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR INSECT CONTROL, CROP INJURY, OR ILLEGAL RESIDUES.

SPRAY DRIFT PRECAUTIONS

BUFFER ZONES

Vegetative Buffer Strip
Construct and maintain a minimum 10-foot-wide vegetative filter strip of grass or other permanent vegetation between the field edge and down gradient aquatic habitat (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries; and commercial fish farm ponds).

Only apply products containing lambda-cyhalothrin onto fields where a maintained vegetative buffer strip of at least 10 feet exists between the field and down gradient aquatic habitat.

For guidance, refer to the following publication for information on constructing and maintaining effective buffers:
• Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services. USDA, NRCS. 2000. Fort Worth, Texas. 21 pp. http://www.in.nrcs.usda.gov/technical/agronomy/newconbuf.pdf.

Buffer Zone for Ground Application (groundboom, overhead chemigation, or airblast)
Do not apply within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marches, natural ponds, estuaries, and commercial fish ponds.

Buffer Zone for ULV Aerial Application
Do not apply within 450 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

Buffer Zone for Non-ULV Aerial Application
Do not apply within 150 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

SPRAY DRIFT REQUIREMENTS

Wind Direction and Speed
Only apply this product if the wind direction favors on-target deposition.
Do not apply when wind velocity exceeds 15 mph.

Temperature Inversions
Do not make aerial or ground applications into temperature inversions.
Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

Droplet size
Use only medium or coarse spray nozzles (for ground and non-ULV aerial application) according to ASAE (S572) definition for standard nozzles. In condition of low humidity and high temperature, applicators should use a coarser droplet size.

Additional Requirements for Ground Application
For ground applications, wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application.

For ground boom applications, apply using a nozzle height of no more than 4 feet above the ground or crop canopy.

For airblast applications, turn off outward pointing nozzles at row ends and when spraying the outer two rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

Additional Requirements for Aerial Application
The spray boom should be mounted on the aircraft so as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of wing span or 80% rotor diameter.

Flight speed and nozzle orientation must be considered in determining droplet size.

Spray must be released at the lowest height consistent with pest control and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.

When applications are made with a cross-wind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

In the state of New York, a 25 ft. vegetated, non-cropped buffer strip untraversed by drainage tiles must be maintained between a treated field and a coastal salt marsh or stream that drains into a coastal salt marsh, for both aerial and ground application. For aerial applications, the 25 ft. vegetated non-cropped buffer strip for runoff protection would be part of the larger 150 ft. buffer strip (or 450 ft. buffer strip for ULV application) required for spray drift.

CHEMIGATION

Sprinkler Irrigation Application

Apply Lambda-Cy AG at rates and timing described elsewhere in this label.
As local recommendations differ, consult your local State Extension Service or other local experts for recommendations on adjuvant or diluent types (see TANK MIX APPLICATION) rates and mixing instructions. These recommendations should be proven, through university and extension field trials, to be effective with Lambda-Cy AG applied by chemigation.

Check the irrigation system to insure uniform application of water to all areas. Thorough coverage of foliage is required for good control. Good agitation in the pesticide supply tank should be maintained prior to and during the entire application period.

Apply by injecting the specified rate of Lambda-Cy AG into the irrigation system using a metering device that will introduce a constant flow and by distributing the product to the target area in 0.1-0.2 acre-inch of water. In general, use the least amount of water required for proper distribution and coverage. It is recommended that the product be injected into the main irrigation line ahead of a right angle turn in the line to insure adequate dispersion or mixing in the irrigation water. Once the application is completed, flush the entire irrigation and injection system with clean water before stopping the system.

In addition to the above recommendations, if application is being made during a normal irrigation set of a stationary sprinkler, the specified rate of Lambda-Cy AG for the area covered should be injected into the system only during the end of the irrigation set for sufficient time to provide adequate coverage and product distribution.
It is not recommended that Lambda-Cy AG be applied through an irrigation system connected to a public water system. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year

Use Precautions - Sprinkler Irrigation Application

A. Apply this product only through (sprinkler including center pivot, lateral move, end tow, side [wheel] roll, traveler, big gun, solid set, or hand move) irrigation system(s). Do not apply this product through any other type of irrigation system.

B. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

C. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

D. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

E. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

F. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.

G. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

H. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

I. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

J. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

K. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

L. Any alternatives to the above required safety devices must conform to the list of EPA-approved alternative devices.

M. Do not apply when wind speed favors drift beyond the area intended for treatment or non-uniform distribution of treated water.

N. Do not apply through chemigation systems connected to public water systems.

PRODUCT INFORMATION

Initial and residual control is contingent upon thorough crop coverage. Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. Apply in a minimum of 2 gallons per acre by air or 10 gallons per acre by ground unless otherwise specified in this label. When foliage is dense or pest pressure is high (heavier insect or egg pressure, larger larval stages), use of higher application volumes and/or higher use rates may improve initial and residual control.

For cutworm control, Lambda-Cy AG may be applied before, during or after planting. For soil incorporated applications, use higher rates for improved control.

Resistance Management
Lambda-Cy AG contains a Group 3A insecticide. Insect/mite biotypes with acquired resistance to Group 3A may eventually dominate the insect/mite population if Group 3A insecticides/acaricides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by Lambda-Cy AG or other Group 3A insecticides/acaricides

To delay insecticide resistance consider:
•Avoiding the consecutive use of Lambda-Cy AG or other group 3A insecticides/acaricides that have a similar target site of action, on the same insect/mite species.
•Using tank-mixtures or premixes with insecticides/acaricides from a different target site of action Group as long as the involved products are all registered for the same use and have different sites of action.
•Basing insecticide/acaricide use on a comprehensive IPM program.
•Monitoring treated insect/mite populations for loss of field efficacy.
•Contacting your local extension specialist, certified crop advisors, and/or manufacturer for insecticide/acaricide resistance management and/or IPM recommendations for the specific site and resistant pest problems.

Tank Mix Applications

Lambda-Cy AG may be tank mixed with other currently registered pesticides unless expressly prohibited by the product label. Adjuvants such as spreader stickers, wetting agents, and penetrates may also be added. Use a small volume mixing test with the other products to confirm compatibility. If other chemicals are added to the applicator tank, Lambda-Cy AG should be added last. Fill tank to desired volume and continue to agitate while making applications. If mixed with EC formulations, use within 24 hours. Observe all restrictions and precautions found on labels of any products in the tank mix.

SPECIFIC USE DIRECTIONS – AGRICULTURAL USES

Crop	Target Pests	Rate		Remarks
		lb. a.i/A	fl. oz./A	
ALAFAFA AND ALFALFA GROWN FOR SEED	Alfalfa Caterpillar Army cutworm Cutworm spp. Green Cloverworm Leafhopper species Looper spp. Threecornered Alfalfa Hopper Velvetbean Caterpillar Webworm spp.	0.015-0.025	1.92 – 3.20	Apply only to fields planted to pure stands of alfalfa. Apply as required by scouting. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. Apply in a minimum of 2 gallons per acre by air or 10 gallons per acre by ground. When foliage is dense and/or pest populations are high 5-10 gallons per acre by air or 20 gallons per acre by ground and higher use rates are recommended. Use higher rates for increased residual control. Avoid application when bees are actively foraging by applying during the early morning or during the evening hours. Be aware of bee hazard resulting from a cool evening and/or morning dew. It may be advisable to remove bee shelters during and for 2-3 days following application. Avoid direct application to bee shelters. • Do not apply more than 0.03 lb. a.i. (0.24 pt. or 3.84 fl. oz. of product)/A per cutting. • Do not apply more than 0.12 lb. a.i. (0.96 pt. or 15.36 fl. oz. of product)/A per season. • Do not apply within 1 day of harvest for forage or within 7 days of harvest for hay. [1] Use higher rates for large larvae. [2] Suppression only. [3] See resistance statement under PRODUCT INFORMATION. [4] Does not include Western Flower
	Alfalfa Seed Chalcid (Adult) Alfalfa Weevil Armyworm Bean Leaf Beetle (Adult) Blister Beetle spp. Blue Alfalfa Aphid Clover Leaf Weevil spp. Clover Root Borer (Adult) Clover Root Curculio spp. (Adult) Clover Stem Borer (Adult) Corn Earworm Cowpea Aphid Cowpea Curculio (Adult) Cowpea Weevil (Adult) Cucumber Beetle Spp. (Adult) Egyptian Alfalfa Weevil Fall Armyworm[1] Grape Colaspis (Adult) Grasshopper spp. Green June Beetle (Adult) Green Peach Aphid[3] Japanese Beetle (Adult) Meadow Spittlebug Mexican Bean Beetle Pea Aphid	0.02-0.03	2.56 – 3.84	

	Pea Weevil (Adult) Plant Bug spp. Including Lygus spp.[3] Spotted Alfalfa Aphid Stink Bug spp. Sweet Clover Weevil (Adult) Thrips spp.[4] Western Yellow-striped Armyworm Whitefringed Beetle spp. (Adult) Yellow-striped Armyworm			Thrips.
	Beet Armyworm[1, 3] Blotch Leafminer[3] Spider Mites[1]	0.03	3.84	
CANOLA	Cutworm spp. Armyworm spp. Diamondback Moth Flea Beetle Cabbage Seedpod Weevil Lygus Bug Grasshoppers	0.015-0.03	1.92-3.84	Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold. Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply a minimum of 2 gals. of water/A. • Do not apply within 7 days of harvest • Do not apply more than 0.09 lb. a.i. (0.72 pt or 11.52 fl. oz. of product)/A per year.
	Cabbage Aphid	0.03	3.84	
CEREAL GRAINS: Corn (At-Plant): Field Corn Popcorn Seed Corn Sweet Corn	Corn Rootworm Larvae (Western, Northern, Southern, Mexican) Cutworm spp. Seed corn Maggot Seed corn Beetle Lesser Cornstalk Borer White Grub spp. Wireworm spp. Red Imported Fire Ant[1]	0.005 lb. ai per 1,000 ft. of row[2]	0.66 fl. oz. per 1,000 ft. of row[2]	Banded Applications: Apply at planting as a 5-7 inch T-band sprayed across the open seed furrow between the furrow openers and the press wheels or as a band application behind the press wheel. In-Furrow Applications: Apply into the seed furrow through spray nozzles or microtubes behind the planter furrow openers and in front of the press wheel. Apply a minimum of 3 gals. of finished spray/A. • Do not harvest or graze livestock or cut treated crops for feed within 21 days of at-plant application. • Do not apply more than 0.09 lb. a.i. (0.72 pt or 11.52 fl. oz. of product)/A per crop at-plant • For field corn, popcorn, and seed corn, do not apply more than 0.12 lb. a.i. (0.96 pt. or 15.36 fl. oz. of

				product/A per crop from at-plant and foliar applications. • For sweet corn do not apply more than 0.48 lb. a.i.. (3.84 pts. or 61.44 fl. oz. of product)/A per crop from at-plant and foliar applications. [1] Suppression only.

[2]Lbs. a.i. and fl. oz./A of Lambda-Cyhalothrin applied at 0.66 fl. oz./1000 ft. of row for various row spacings:						
Row Spacing	**40"**	**38"**	**36"**	**34"**	**32"**	**30"**
Linear Ft./A	13,068	13,756	14,520	15,374	16,335	17,424
Lbs. a.i./A	0.067	0.07	0.075	0.079	0.084	0.09
Fl. oz./A	8.6	9.1	9.6	10.1	10.8	11.5

		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
CEREAL GRAINS: Corn (Foliar): Field Corn Popcorn Seed Corn	Cutworm spp. Western Bean Cutworm[1] Corn Earworm[1] Green Cloverworm Meadow Spittlebug	0.015-0.025	1.92-3.20	Apply as required by scouting or locally prescribed corn growth stages, usually at intervals of 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds or other locally recommended methods. Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of target location. When applying by air, apply in a minimum of 2 gals. of water/A. For chinch bug control, begin applications when bugs migrate from small grains or grass weeds to small corn. Direct spray to the base of corn plants. Repeat applications at 3-5 day intervals if needed. Lambda-Cy AG may only suppress heavy infestations and/or subsequent migrations. For control of adult corn rootworm beetles *(Diabrotica* species) as part of an aerial-applied corn rootworm control program, use a minimum of 3.84 fl. oz/A (0.03 lb. a.i./A). • Do not apply within 21 days of harvest. • Do not allow livestock to graze in treated areas or harvest treat corn forage as feed for meat or dairy animals within 1 day after last treatment. Do not feed treated corn fodder or silage to meat or dairy animals within 21 days after last treatment. • Do not apply more than 0.12 lb. a.i.
	Tobacco Budworm[1],[4] European Corn Borer[1] Southwestern Corn Borer Stalk Borer[1] Hop Vine Borer[1] Armyworm[2] Fall Armyworm[2] Yellow-striped Armyworm[2] Webworm spp. Flea Beetle spp. Western Corn Rootworm Beetle (Adult) Northern Corn Rootworm Beetle (Adult) Southern Corn Rootworm Beetle (Adult) Mexican Corn Rootworm Beetle (Adult) Bean Leaf Beetle Cereal Leaf Beetle Japanese Beetle (Adult) Sap Beetle (Adult) Stink Bug spp. Grasshopper spp.	0.02-0.03	2.56-3.84	

	Corn Leaf Aphid[3] Bird Cherry-Oat Aphid[3] English Grain Aphid[3]			(0.96 pt. or 15.36 fl. oz. of product)/A per crop from at-plant and foliar applications. • Do not apply more than 0.06 lb. a.i. (0.48 pt. or 7.68 fl. oz. of product) after silk initiation. • Do not apply more than 0.03 lb. a.i. (0.24 pt. or 3.84 fl. oz. of product) after corn has reached the milk stage (yellow kernels with milky fluid). 'For control before the larva bores into the plant stalk or ear. [2] Use higher rates for large larvae. [3]Suppression only. [4]See resistance statement under PRODUCT INFORMATION.
	Beet Armyworm[2, 4] Chinch Bug Green Bug[3,4] Southern Corn Leaf Beetle Mexican Rice Borer[1] Rice Stalk Borer[1] Sugarcane Borer[1]	0.03	3.84	

		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
CEREAL GRAINS: Corn (Foliar): Sweet Corn	Corn Earworm Fall Armyworm[1] Southern Armyworm[1] Beet Armyworm[1,3] Yellow-Striped Armyworm[1] Cutworm spp. Western Bean Cutworm Webworm spp. European Corn Borer Southwestern Corn Borer Common Cornstalk Borer Western Corn Rootworm Beetle (Adult) Northern Corn Rootworm Beetle (Adult) Southern Corn Rootworm Beetle (Adult) Mexican Corn Rootworm Beetle (Adult) Japanese Beetle (Adult) Sap Beetle (Adult) Flea Beetle spp. Tarnished Plant Bug Stink Bug spp.	0.02-0.03	2.56-3.84	Apply as required by scouting, or locally prescribed corn growth stages, usually at intervals of 4 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds or other locally recommended methods and should be targeted for control before insects enter the stalk or ear. Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage and ears (if present). When applying by air, apply in a minimum of 2 gals. of water/A. For control of adult corn rootworm beetles *(Diabrotica* species) as part of an aerial applied corn rootworm control program, use a minimum of 3.2 fl. oz. of product/A (0.025 lb. a.i./A). • Do not apply within 1 day of harvest. • Do not allow livestock to graze in treated areas or harvest treated corn forage as feed for meat or dairy animals within 1 day after last treatment. • Do not feed treated corn fodder or silage to meat or dairy animals within 21 days after last treatment. • Do not apply more than 0.48 lb. a.i. (3.84 pts. or 61.44 fl. oz. of product)/A per season. [1] Use higher rates for large larvae.

	Chinch Bug Aster Leafhopper Grasshopper spp. Aphid spp.[2,3] Spider Mite spp.[2]			[2] Suppression only. [3] See resistance statement under PRODUCT INFORMATION.
	Corn Silkfly (Adult)[2]	0.03	3.84	

		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
CEREAL GRAINS: Rice Wild Rice	True Armyworm Fall Armyworm Yellow-striped Armyworm Rice Water Weevil (Adult) Rice Stink Bug Chinch Bug Grasshopper spp. Leafhopper spp. Bird Cherry-Oat Aphid Greenbug Sharpshooter spp. Yellow Sugarcane Aphid Riceworm	0.025-0.04	3.20-5.12	See additional instructions below. • Do not release floodwater within 7 days of an application. • Do not apply more than 0.12 lb. a.i. (0.96 pt. or 15.36 fl. oz. of product)/A per season. • Do not apply more than 0.04 lb. a.i. (0.32 pt.)/A within 21 to 27 days of harvest. • Do not apply within 21 days of harvest. • Do not use treated rice fields for the aquaculture of edible fish and crustacea. • Do not apply as an ultra-low volume (ULV) spray. [1] For control before the larvae bores into the plant stalk.
	European Corn Borer[1] Mexican Rice Borer[1] Rice Seed Midge[1] Rice Stalk Borer[1] Sugarcane Borer[1]	0.03-0.04	3.84-5.12	

REMARKS:

• Mixers/loaders supporting aerial applications to wild rice at a rate of 0.04 lb. a.i. per acre, and treating 1200 acres (or more) per day must wear dust-mist respirator.

• Apply as required by scouting. Timing and frequency of application should be based upon insect populations reaching locally determined economic thresholds. Determine the need for repeat applications, usually at intervals of 5- 7 days, by scouting.

• Lambda-Cy AG can be safely used when propanil products are being used for weed control.

• Apply by air or by ground equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water (or a total carrier volume)/A but ensure sufficient volume is used to provide adequate coverage. In addition, adding an emulsifiable crop oil (e.g., 1 pt./A) when lower aerial application volumes are used is recommended to help improve coverage, reduce evaporation, and improve efficacy. Apply a minimum of 10 gallons/A by ground.

• For control of rice water weevil in dry seeded rice, make a foliar application as indicated by scouting for the presence of adults and/or feeding scars, usually within a time frame of 0-5 days after permanent flood establishment. Do not exceed 10 days from starting permanent flood until insecticide application unless scouting indicates weevils have not been previously present. Adults may also be treated at later stages of rice development to reduce overwintering populations.

• For control of rice water weevil in water seeded rice, make the first foliar application after pinpoint flood as indicated by scouting for the presence of adults and/or feeding scars usually when rice has emerged 0.5 inch above the waterline. Under conditions of prolonged migration into the field, start field scouting for rice water weevil adults and/or feeding scars 3-5 days after the initial treatment and, if needed, apply a second application within 7-10 days of the first application. Adults may also be treated at later stages of rice development to reduce overwintering populations.

• California: In addition to above directions for control of rice water weevil in water seeded rice, Lambda-

Cy AG may be applied at the 1- to 3-leaf growth stage with the majority at the 2- leaf growth stage. Adults are vulnerable on levees and in the water. Larvae are vulnerable while feeding on the leaf prior to entering the soil. Monitor for adults, based upon field history and density of population. Monitor field edges and levee areas for adults. Treat in the following manner: (a) spray the inside perimeter of the field, or (b) spray the entire field.

• Greenbug is known to have many biotypes. Lambda-Cy AG may only provide suppression. If satisfactory control is not achieved with the first application of Lambda-Cy AG, a resistant biotype may be present. Use alternate chemistry for control.

• For control of stem borers, scout fields when rice growth is near panicle differentiation, for early symptoms of damaging populations exhibited as discoloration (orange-tan) around the junction of the leaf sheath and leaf blade which is caused by feeding of young larvae within the sheath. Applications must be made before larvae bore into rice stems. Make the first application at panicle differentiation to 2 inch panicle for partial control. Make the second application at boot to heading for maximum control. All rice varieties are susceptible to stem borer damage, but Cocodrie and Priscilla are particularly susceptible.

		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
CEREAL GRAINS: Sorghum (Grain)	Cutworm spp. Sorghum Midge	0.015-0.02	1.92-2.56	Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of target location. When applying by air, apply in a minimum of 2 gals. of water/A. For sorghum midge control, begin applications when 25% of the sorghum heads have emerged and are in tip bloom. Repeat applications at 5-day intervals if needed. For chinch bug control, begin
	Armyworm Beet Armyworm[1,3] Fall Armyworm[1] Yellow-striped Armyworm[1] Corn Earworm Webworm spp. European Corn Borer[2] Southwestern Corn Borer[2] Lesser Cornstalk Borer[2] Flea Beetle spp. Stink Bug spp. Grasshopper spp.	0.02-0.03	2.56-3.84	

	Chinch Bug Mexican Rice Borer[2] Rice Stalk Borer[2] Sugarcane Borer[2]	0.03	3.84	applications when bugs migrate from small grains or grass weeds to small sorghum. Direct spray to the base of sorghum plants. Repeat applications at 3- to 5-day intervals if needed. Lambda-Cy AG may only suppress heavy infestations and/or subsequent migrations. • Do not apply within 30 days of harvest. • Do not apply more than 0.08 lb. a.i. (0.64 pt. or 10.24 fl. oz. of product)/A per season. • Do not apply more than 0.06 lb. a.i. (0.48 pt. or 7.68 fl. oz. of product)/A per season after crop emergence. • Do not apply more than 0.02 lb. a.i. (0.16 pt. or 2.56 fl. oz. of product)/A per season once crop is in soft dough stage. [1] Use higher rates for large larvae only. [2] For control before the larva bores into the plant stalk. [3]See resistance statement under PRODUCT INFORMATION.

		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
CEREAL GRAINS: Barley Buckwheat Oats Rye Wheat Wheat Hay Triticale	Cutworm spp. Army Cutworm	0.015- 0.025	1.92-3.20	Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water/A. For chinch bug control. repeat applications at 3- to 5-day intervals if needed. Lambda-Cy AG may only suppress heavy infestations and/or migrations. Greenbug is known to have many biotypes. Lambda-Cy AG may provide suppression only. In this situation, a second application using an alternative chemistry may be needed. • Do not apply within 30 days of harvest. • Do not allow livestock to graze in treated areas or harvest treated wheat forage as feed for meat or dairy animals within 7 days after last treatment. Do not feed treated straw to meat or dairy animals within 30 days after last treatment. • Do not apply more than 0.06 lb. a.i. (0.48 pt. or 7.68 fl. oz. of product) /A per season. [1] Best control is obtained before insects begin to roll leaves. Once wheat has started to boot, Lambda-Cy AG may provide suppression only. Higher rates and increased coverage will be necessary. [2]Suppression only. [3]See resistance statement under PRODUCT INFORMATION. [4] Make applications when adults emerge.
	Armyworm Fall Armyworm Yellow-striped Armyworm Flea Beetle spp. Cereal Leaf Beetle Stink Bug spp. English Grain Aphid[1] Russian Wheat Aphid[1] Bird Cherry-Oat Aphid[1] Grasshopper spp. Orange Blossom Wheat Midge Hessian Fly[4]	0.02-0.03	2.56-3.84	
	Grass Sawfly	0.025-0.03	3.20-3.84	
	Chinch Bug Greenbug[1,2] Corn Leaf Aphid[2] Mite Spp.[2]	0.03	3.84	

		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
COLE CROPS: Broccoli Brussels Sprouts Cabbage Cavalo Broccolo Cauliflower Chinese Broccoli (gai lon) Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy) Kohlrabi	Alfalfa Looper Cabbage Looper Imported Cabbageworm Southern Cabbageworm Cutworm spp. Cabbage Webworm	0.015-0.025	1.92-3.20	Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water/A. • Do not apply within 1 day of harvest. • Do not apply more than 0.24 lb. a.i. (1.92 pts. or 30.72 fl. oz. of product)/A per season. [1]For control of first and second instar only. [2]Suppression only. [3]See resistance statement under PRODUCT INFORMATION.
	Diamondback Moth[3] Armyworm Beet Armyworm[1,3] Fall Armyworm[1] Yellow-striped Armyworm Corn Earworm Flea Beetle spp. Japanese Beetle (Adult) Vegetable Weevil (Adult) Grasshopper spp. Leafhopper spp. Plant Bug spp. including Lygus spp[3] Stink Bug spp. Meadow Spittlebug Aphid spp.[2,3] Whitefly spp.[2,3] Thrips spp.[2] Spider Mite spp.[2]	0.02-0.03	2.56-3.84	

		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
COTTON	Cutworm spp. Tobacco Thrips Soybean Thrips	0.015-0.02	1.92-2.56	Apply as required by scouting, usually at intervals of 5-7 days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. Applications may also be made with equipment adapted and calibrated for ULV sprays. Lambda-Cy AG may be mixed with once-refined vegetable oil and applied in a minimum of at least 1 qt. of finished spray/A. Under light bollworm/budworm infestation levels, 0.02 lb. a.i./A may be applied in conjunction with intense field monitoring, For boll weevil control spray on a 3- to 5-day schedule. When applied according to label directions for control of cotton bollworm and tobacco budworm, Lambda-Cy AG also provides ovicidal control of unhatched *Heliothis* spp, eggs. • Do not apply within 21 days of harvest. • Do not graze livestock in treated areas. • Do not apply more than 0.2 lb. a.i. (1.6 pts. or 25.6 fl. oz. of product)/A per season. • Do not make more than a total of 10 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing season. [1]For control of first and second instar only. [2]Suppression only. [3]See resistance statement under PRODUCT INFORMATION.
	Lygus Bug spp.[3] Pink Bollworm Cabbage Looper Cotton Leafperforator Saltmarsh Caterpillar Cotton Leafworm Cotton Fleahopper	0.02-0.03	2.56-3.84	
	Cotton Bollworm Tobacco Budworm[3] Boll Weevil Fall Armyworm Beet Armyworm[1,3] European Corn Borer Brown Stink Bug Green Stink Bug Southern Green Stink Bug Two-spotted Spider Mite[2] Cotton Aphid[2,3] Bandedwing Whitefly[2,3] Sweetpotato Whitefly[2,3]	0.025-0.04	3.20-5.12	

CROP	TARGET PESTS	RATE		REMARKS
		lb. a.i./A	**ft. oz./A**	
CUCURBIT VEGETABLES CROP GROUP **Including:** Chayote (fruit) Chinese Waxgourd (Chinese preserving melon Citron Melon Cucumber Gherkin Gourd (edible) *Lagenaria* spp. – Includes: hyotan, cucuzza *Luffa acutangula*, Includes: hechima, Chinese okra *Momordica spp.* Includes: balsam apple, balsam pear, bitter melon, Chinese cucumber Muskmelon (hybrids and/or cultivars of *Cucumis melo)* – Includes: true cantaloupe cantaloupe, casaba, crenshaw melon, golden pershaw melon honeydew melon, honey balls, mango melon Persian melon, pineappe melon, Santa Claus melon, snake melon Pumpkin Squash, summer *(Cucurbita pepe var. melopepo)* – Includes: crookneck squash straightneck squash vegetable marrow, zucchini	Armyworm spp.[1] Blister Beetle spp. Cabbage Looper Corn Earworm Cricket spp. Cucumber Beetle spp. (adults) Cutworm spp. Flea Beetle spp. Grasshopper spp. June Beetle spp. Leaffooted Bug Leafhopper spp. Lygus Bug spp.' Melonworm Pickleworm Plant Bug spp. Rindworm spp. complex Saltmarsh Caterpillar Squash Beetle Squash Bug spp. Squash Vine Borer spp. Stink Bug spp. Thrips spp. [1,2] Tobacco Budworm [1] Webworm spp.	0.02-0.03	2.56-3.84	Ground application: Apply in sufficient spray volume to obtain full coverage of the foliage or target area. When applied by ground, a minimum of 10 gal. Solution per acre is recommended. Air application: Apply in a minimum of 2 gals. Per acre or sufficient spray volume to obtain full coverage of the foliage or target area. Monitoring of insect populations should be used to determine timing and frequency of applications. Scout fields at a minimum of 5 days intervals. Apply in sufficient volume to ensure sufficient coverage of foliage. Insects that bore or tunnel into leaves, vines, stems or fruit must be controlled before penetration. Only exposed insects (larvae and/or adults) can be controlled with foliar applications of Lambda-Cy AG • Do not apply more than 0.18 lb. a.i. (1.44 pts. or 23 fl. oz. of product)/A per season. • Do not apply within 1 day of harvest. [1] See resistance statement under PRODUCT INFORMATION. [2] Does not include Western Flower Thrips. [3] Suppression only.
	Aphid spp. [1] Leafminer spp. [1,3] Spider Mite spp. [3] Whitefly spp. [1,3]	0.03	3.84	

Squash, winter *(Cucurbita maxima, C. moschata)* – Includes: Butternut squash, calabaza, hubbard squash (C. mixta: C. pepo) – Includes: acorn squash, spaghetti squash Watermelon – Includes: Hybrids and/or varieties of *Citrulius lanatus*				

		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
FRUITING VEGETABLES: Tomato and Tomatillo Peppers (bell and non-bell) Eggplant Ground Cherry Pepino	Cabbage Looper Cutworm spp. Hornworm spp.	0.015-0.025	1.92-3.20	Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water/A. • Do not apply within 5 days of harvest. • Do not apply more than 0.36 lb. a.i. (2.88 pts. or 46.08 fl. oz. of product)/A per season. [1]For control of first and second instar only. [2]Suppression only. [3]See resistance statement under PRODUCT INFORMATION. [4]For control before the larva bores into the plant stalk or fruit. [5]Does not include Western Flower Thrips.
	Tomato Fruitworm Tobacco Budworm[3] Tomato Pinworm Beet Armyworm[1,3] Southern Armyworm [1] Yellow-striped Armyworm [1] Fall Armyworm[1] European Corn Borer[4] Leafminer spp.[2] Colorado Potato Beetle[3] Flea Beetle spp. Grasshopper spp. Leafhopper spp. Aphid spp[2,3] Whitefly spp[2,3] Meadow Spittlebug Stink Bug spp. Plant Bug spp. Stalk Borer [4] Blister Beetle spp. Japanese Beetle (Adult) Pepper Weevil (Adult)[2] Vegetable Weevil (Adult) Tomato Psyllid[2,3] Spider Mite spp.[2] Thrips[5] Cucumber Beetle spp. (Adult)	0.02-0.03	2.56-3.84	

CROP	TARGET PESTS	RATE		REMARKS
		lb. a.i./A	fl. oz./A	
GRASS FORAGE, FODDER, AND HAY Pasture and Rangeland Grass, Grass Grown for Hay or Silage, Grass Grown for Seed	Army Cutworm Cutworm spp. Essex Skipper Range Caterpillar Striped Grass Looper	0.015-0.025	1.92-3.20	**Ground application:** Apply in sufficient spray volume to obtain full coverage of the foliage or target area. **Air application:** Apply in a minimum of 2 gals. per acre or sufficient spray volume to obtain full coverage or target area. Monitoring of insect populations should be used to determine timing and frequency of applications. Scout fields at a minimum of 5 day intervals. Apply in sufficient volume to ensure sufficient coverage of foliage. Chinch bugs: Lambda-Cy AG may only suppress heavy infestations and/or migrations. In this situation, a second application using an alternative chemistry may be needed. Greenbug: Greenbug is known to have many biotypes. Lambda-Cy AG may provide suppression only. In this situation, a second application using an alternative chemistry may be needed. Pasture and rangeland grass: May be used for grazing or cut for forage 0 days after application. Do not cut grass to be dried and harvested for hay until 7 days after the last application. Grass grown for seed: Straw and mature seed (seed screenings) may be used as feed 7 days after the last application. Regrowth of grass grown for seed may be used for grazing, cut for forage or cut to be dried and harvested for hay. [1] Best control is obtained before insects begin to roll leaves. [2] See resistance statement under PRODUCT
	Beet Armyworm Billbug spp.[3] Bird Cherry-Oat Aphid[1] Black Grass Bug Black Turfgrass Beetle (Adult) Blue Stem Midge Cereal Leaf Beetle Chinch Bug Crane Fly spp. Cricket spp. English Grain Aphid[1] Fall Armyworm Flea Beetle spp. Grass Mealybug Grass Sawfly (Adult) Grasshopper spp. Green June Beetle (Adult) Greenbug[1,2] Japanese Beetle (Adult) Katydid spp. Leafhopper spp. Mite spp. Russian Wheat Aphid[1] Southern Armyworm Spittlebug spp. Stink Bug spp. Sugarcane Aphid Thrips spp. Tick spp. True Armyworm Webworm spp. Yellowstriped Armyworm	0.02-0.03	2.56-3.84	

				INFORMATION [3] Suppression only.
	• Do not apply more than 0.03 lb. a.i. (0.24 pts. or 3.84 fl. oz. of product)/A per cutting for pasture, rangeland and grasses grown for seed. A minimum re-treatment interval (RTI) of 30 days is required for pastures and rangeland receiving 0.03 lb. a.i./A which have not been cut between applications. • Do not apply more than 0.09 lb. a.i. (0.72 pts. or 11.52 fl. oz. of product)/A per season.			

		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
LEGUME VEGETABLES (BEANS AND PEAS): **Edible Podded (only)** *Canavalia gladiata*- sword bean *Canavalia ensiformis* – jackbean *Glycine max* - Soybean (immature seed) **Edible Podded, Succulent Shelled or Dried Shelled** *Phaseolus* spp. - includes: field, kidney, lima, navy, pinto, runner, snap, tepary, and wax beans *Vigna* spp.- includes: adzuki, asparagus, moth, mung, rice, urd and yard long beans, black-eyed pea, catjang, Chinese longbean, cowpea, Crowder pea, and Southern pea *Pisum spp.* - includes: dwarf,	Cutworm spp. Green Cloverworm Imported Cabbageworm Saltmarsh Caterpillar Velvetleaf Caterpillar Mexican Bean Beetle	0.015-0.025	1.92-3.20	Apply as required by scouting. usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water/A. For edible podded and succulent shelled legume vegetables, do not apply within 7 days of harvest. For dried shelled legume vegetables, do not apply within 21 days of harvest. • Do not apply more than 0.12 lb. a.i. (0.96 pt. or 15.36 fl. oz. of product)/A per season. • For succulent and dried shelled peas and beans, do not graze livestock in treated areas or harvest vines for forage or hay. [1]For control before the larva bores into the plant stalk or pods. [2]Use higher rates for large larvae. [3]For suppression only. [4]See resistance statement under PRODUCT INFORMATION.

edible-pod, English, field, garden, green, snow and sugar snap peas *Cajanus cajan* - Pigeon pea **Succulent Shelled or Dried Shelled** *Vicia faba.*- broadbean (favabean) **Dried Shelled (only)** *Lupinus* spp. - includes: grain, sweet, white and sweet white lupines *Cicer arietimum* - Chickpea (garbanzo bean) *Cyamopsis tetragonoloba* - guar *Lablab pupureus* - Lablab bean (hyacinth bean) *Lens esculata* - Lentils	Corn Earworm Painted Lady Butterfly (larva) European Corn Borer Looper spp. Western Bean Cutworm Tobacco Budworm[4] Armyworm[2] Fall Armyworm[2] Yellow-striped Armyworm[2] Western Yellow-striped Armyworm[2] Bean Leaf skeletonizer Webworm spp. Leaftier spp. Alfalfa Caterpillar Stalk Borer[1] Cucumber Beetle spp. (Adult) Corn Rootworm Beetle spp. (Adult) Flea Beetle spp. (Adult) Curculio and Weevil spp.[1] (foliage and pod feeding adults and larvae) Blister Beetle spp. Bean Leaf Beetle Japanese Beetle (Adult) Leafhopper spp. Flea Hopper spp. Three-cornered Alfalfa Hopper Meadow Spittlebug Stink Bug spp. Plant Bug spp. Including Lygus spp.[4] Grasshopper spp. Thrips spp[4,5] Aphid spp[4]	0.02-0.03	2.56-3.84	[5]Does not include Western Flower Thrips.
	Beet Armyworm[3,4] Soybean Looper[3,4] Lesser Cornstalk Borer[3] Leafminer spp[3,4] Whitefly spp[3,4] Spider Mite Spp[3]	0.03	3.84	

		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
LEGUME VEGETABLES: Soybean	Corn Earworm Velvetbean Caterpillar Green Cloverworm Cabbage Looper Painted Lady (Thistle) Caterpillar Saltmarsh Caterpillar Woollybear Caterpillar Cutworm spp. Bean Leaf Beetle Mexican Bean Beetle Western Corn Rootworm Beetle (Adult) Northern Corn Rootworm Beetle (Adult) Southern Corn Rootworm Beetle (Adult) Mexican Corn Rootworm Beetle (Adult) Three-Cornered Alfalfa Hopper Potato Leafhopper Thrips spp. [5] Soybean Aphid[4]	0.015-0.025	1.92-3.20	Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Do not graze or harvest treated soybean forage, straw, or hay for livestock feed. Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water/A. For control of adult corn rootworm beetles *(Diabrotica* species) as part of an aerial applied corn rootworm control program, use a minimum of 2.56 fl. oz./A (0.02 lb. a.i./A). • Do not apply within 30 days of harvest. • Do not apply more than 0.06 lb. a.i. (0.48 pt.)/A per season. [1] Use higher rates for large larvae. [2]Suppression only. [3]See resistance statement under PRODUCT INFORMATION. [4]Use lower rates for early season applications and/or lighter populations. [5]Does not include Western Flower Thrips.
	Armyworm [1] Fall Armyworm[1] Yellow-striped Armyworm[1] Tobacco Budworm [3] Webworm spp. European Corn Borer Silverspotted Skipper Japanese Beetle (Adult) Blister Beetle spp. Stink Bug spp. Plant Bug spp. Grasshopper spp.	0.025-0.03	3.20-3.84	
	Beet Armyworm [2,3] Soybean Looper [2,3] Lesser Cornstalk Borer[2] Spider Mite spp.[2]	0.03	3.84	

		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
LETTUCE (HEAD AND LEAF)	Alfalfa Looper Cabbage Looper Imported Cabbageworm Cutworm spp. Saltmarsh Caterpillar Green Cloverworm	0.015-0.025	1.92-3.20	Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water/A. • Do not apply within 1 day of harvest. • Do not apply more than 0.3 lb. a.i. (2.4 pts. or 38.4 fl. oz. of product)/A per season. 'For control of first and second instar only. ²Suppression only. ³See resistance statement under PRODUCT INFORMATION.
	Diamondback Moth³ Armyworm Beet Armyworm[1,3] Fall Armyworm¹ Southern Armyworm Corn Earworm Tobacco Budworm[3] European Corn Borer Flea Beetle spp. Japanese Beetle (Adult) Vegetable Weevil (Adult) Grasshopper spp. Leafhopper spp. Plant Bug spp. including Lygus spp.³ Stink Bug spp. Meadow Spittlebug Aphid spp.[2,3] Whitefly spp.[2,3] Spider Mite spp.²	0.02-0.03	2.56-3.84	
ONION (BULB) AND GARLIC	Cutworm spp. Seedcorn Maggot (Adult) Onion Maggot (Adult) Leafminer spp. (Adult)	0.015-0.025	1.92-3.20	Apply as required by scouting, usually at intervals of 5 or more days, Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Use the higher label rates as thrips population increases and avoid rescue situations. Apply with ground or air equipment using sufficient water and application methods to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water/A. For thrips control by aerial application, the addition of 1 % COC v/v, 1/4% NIS v/v, or a silicone adjuvant (follow manufacturer's use directions) may enhance the deposition of the spray and increase plant coverage. • Do not apply within 14 days of
	Armyworm spp.¹ Onion Thrips [3] Tobacco Thrips [3] Western Flower Thrips[2,3] Flower Thrips[2,3] Aphid spp.² Plant Bug spp. Stink Bug spp.	0.02-0.03	2.56-3.84	

				harvest. • Do not apply more than 0.24 lb. a.i. (1.92 pts. or 30.72 fl. oz. of product)/A per season. [1]For control of the first and second instars only. [2]Suppression only. [3]See resistance statement under PRODUCT INFORMATION

		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
PEANUT	Cutworm spp. Green Cloverworm Velvetbean Caterpillar Red-necked Peanut Worm Potato Leafhopper	0.015-0.025	1.92-3.20	Apply as required by scouting, usually at intervals of 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Apply with ground or air equipment using sufficient water to obtain full coverage of foliage. When applying by air, apply in a minimum of 2 gals. of water/A. • Do not apply within 14 days of harvest. • Do not apply more than 0.12 lb. a.i. (0.96 pt. or 15.36 fl. oz. of product)/A per season. • Do not graze livestock in treated areas. Do not use treated vines or hay for animal feed. [1] Use higher rates for large larvae. [2]Suppression only. [3]See resistance statement under PRODUCT INFORMATION.
	Corn Earworm Fall Armyworm[1] Bean Leaf Beetle Southern Corn Rootworm (Adult) Vegetable Weevil Whitefringed Beetle (Adult) Stink Bug spp. Tobacco Thrips Grasshopper spp.	0.02-0.03	2.56-3.84	
	Beet Armyworm[2,3] Soybean Looper[2,3] Lesser Cornstalk Borer[2] Spider Mite spp.[2] Aphid spp.[2]	0.03	3.84	
POME FRUITS: Apple Crabapple Loquat Mayhaw Oriental Pear Pear Quince	Leafroller spp. Codling Moth Tufted Apple Budworm Oriental Fruit Moth Lesser Appleworm Green Fruitworm Tent Caterpillar spp. Tentiform Leaf Miner spp. Apple Maggot (Adult) Cherry Fruit Fly spp. (Adult) Pear Sawfly Plum Curculio Japanese Beetle Plant Bug spp. Stink Bug spp. Leafhopper spp. Periodical Cicada Apple Aphid	0.02-0.04	2.56-5.12	Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Apply with ground or air equipment using sufficient water to obtain full coverage of the foliage or target area. When applying by air, apply in a minimum of 5 gals. of water/A but use higher volumes as appropriate for thorough coverage. • Do not apply within 21 days of harvest. • Do not apply more than 0.2 lb. a.i. (1.6 pts. or 25.6 fl. oz. of product)/A per year. • Do not apply more than 0.16 lb. a.i. (1.28 pts. or 20.48 fl. oz. of

	Rosy Apple Aphid Pear Psylla[1] San Jose Scale (fruit infestations only) Orange Tortrix Omnivorous Leafroller Spirea Aphid[1] Tree Borer spp. Webworm spp.			product)/A per year post bloom. [1]Suppression only.

		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
STONE FRUITS: Apricot Sweet and Tart Cherry Nectarine Peach Plum Chickasaw Plum Damson Plum Japanese Plum Plumcot Prune	Leafroller spp. Peach Twig Borer Oriental Fruit Moth Peachtree Borer spp. Green Fruitworm Tent Caterpillar spp. American Plum Borer Cherry Fruit Fly spp. (Adult) Plum Curculio Rose Chafer Japanese Beetle Plant Bug spp. Stink Bug spp. Leafhopper spp. Periodical Cicada Black Cherry Aphid Apple Maggot (Adult) Codling Moth June Beetle Pear Sawfly Thrips spp.	0.02-0.04	2.56-5.12	Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds and IPM. Apply with ground or air equipment using sufficient water to obtain full coverage of the foliage or target area. When applying by air, apply in a minimum of 5 gals. of water/A, but use higher volumes as appropriate for thorough coverage. • Do not apply within 14 days of harvest. • Do not apply more than 0.2 lb. a.i. (1.6 pts. or 25.6 fl. oz. of product)/A per year. • Do not apply more than 0.16 lb. a.i. (1.28 pts. or 20.48 fl. oz. of product)/A per year post bloom.

SUGARCANE	Sugarcane Borer[1] Rice Stalk Borer [1] Sugarcane Beetle (Adult)[2] Yellow Sugarcane Aphid[3] Mexican Rice Borer[1] Pygmy Mole Cricket Sugarcane Aphid[3] West Indian Cranefly	0.025-0.04	3.20-5.12	Apply as required by scouting, usually at intervals of 7 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold. Apply with ground or air equipment using sufficient water to obtain full coverage of the foliage or target area. When applying by air, apply a minimum of 2 gals. of water/A. • Do not apply within 21 days of harvest. • Do not apply more than 0.16 lb. a.i. (1.28 pts. or 20.48 fl. oz. of product)/A per season. [1]For control before the larva bores into the plant stalk. [2]Suppression only of beetles active above ground. [3]See resistance statement under PRODUCT INFORMATION.
		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
SUNFLOWER	Sunflower Beetle Cutworm spp.	0.015-0.025	1.92-3.20	Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Apply with ground or air equipment using sufficient water to obtain full coverage of sunflower heads and/or foliage. When applying by air, apply in a minimum of 2 gals. of water/A. • Do not apply within 45 days of harvest. • Do not apply more than 0.12 lb. a.i. (0.96 pt. or 15.36 fl. oz. of product)/A per season. • Do not apply more than 0.09 lb. a.i. (0.72 pt. or 11.52 fl. oz. of product)/A per season after bloom initiation. • Do not apply as an ultra-low volume (ULV) spray. [1] Use higher rates for large larvae. [2]Suppression only. [3]See resistance statement under PRODUCT INFORMATION.
	Sunflower Moth Banded Sunflower Moth Fall Armyworm[1] Woollybear Caterpillar Spotted Cabbage Looper Painted Lady (Thistle) Caterpillar Seed Weevil (Adult) Stem Weevil (Adult) Head-Clipper Weevil (Adult) Japanese Beetle (Adult) Sunflower Maggot (Adult) Leafhopper spp. Meadow Spittlebug Stink Bug spp. Grasshopper spp.	0.02-0.03	2.56-3.84	
	Beet Armyworm[2,3] Spider Mite spp.[2]	0.03	3.84	
TOBACCO	Tobacco Budworm[2] Tobacco Hornworm Cabbage Looper	0.015-0.03	1.92-3.84	Apply as required by scouting, usually at intervals of 7 or more days. Timing and frequency of

	Corn Earworm Salt Marsh Caterpillar Armyworm spp.' Cutworm spp. Webworm spp. Tobacco Flea Beetle (Adult) Cucumber Beetle spp. (Adult) Blister Beetle spp. Vegetable Weevil (Adult) Japanese Beetle (Adult) Grasshopper spp. Tree Cricket spp. Katydid spp. Plant Bug spp.[3] Stinkbug spp. Tobacco Thrips spp.[2] Tobacco Aphid spp.[2,3] Tobacco Hornworm Potato Tuberworm			applications should be based upon insect populations reaching locally determined economic threshold. Apply with ground or air equipment using sufficient water to obtain full coverage of the foliage. When applying by air, apply in a minimum of 2 gals. of water/A • Do not apply within 40 days of harvest. • Do not apply more than 0.09 lb. a.i. (0.72 pt. or 11.52 fl. oz. of product)/A per year. [1]For control of first and second instar only. [2]Suppression only. [3]See resistance statement under PRODUCT INFORMATION.

		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
TREE NUTS: Almond Beech Nut Brazil Nut Butternut Cashew Chestnut Chinquapin Filbert (Hazelnut) Hickory Nut Macadamia Nut (Bush Nut) Pistachio Walnut, Black Walnut, English (Persian)	Leafroller spp. Navel Orangeworm Codling Moth Filbertworm Peach Twig Borer Walnut Husk Fly spp. (Adult) Ants Plant Bug spp. Stink Bug spp. Chinch Bug Leaffooted Bug Walnut Aphid	0.02-0.04	2.56-5.12	Apply as required by scouting, usually at intervals of 5 or more days. Timing and frequency of applications should be based upon insect populations reaching locally determined economic threshold. Apply with ground or air equipment using sufficient water to obtain full coverage of the foliage or target area. When applying by air, apply in a minimum of 5 gals. of water/A, but use higher rates as appropriate for thorough coverage. • Do not apply within 14 days of harvest. • Do not apply more than 0.16 lb. a.i. (1.28 pts. or 20.48 fl. oz. of product)/A per year. • Do not apply more than 0.12lb. a.i. (0.96 pt. or 15.36 fl. oz. of product)/A per year post bloom.
Pecan	Hickory Shuckworm Pecan Casebearer spp. Pecan Weevil Pecan Aphid spp. Pecan Spittlebug Pecan Phylloxera spp. Stink Bug spp.	0.02-0.04	2.56-5.12	

CROP	**TARGET PESTS**	**RATE**		**REMARKS**
		lb. a.i./A	**fl. oz./A**	
TUBEROUS AND CORM VEGETABLES CROP GROUP Including: Arracacha Arrowroot Artichoke (Chinese and Jerusalem only) Canna (edible) Cassava (bitter and sweet) Chayote (root) Chufa Dasheen Ginger Leren Potato Sweet Potato Tanier Turmeric	Cutworm spp. Leafhopper spp. Saltmarsh Caterpillar Sweet Potato Hornworm Woolybear Caterpillar spp.	0.015-0.025	1.92-3.20	**Ground application:** Apply in sufficient spray volume to obtain full coverage of the foliage or target area. **Air application:** Apply in a minimum of 2 gals. per acre or sufficient spray volume to obtain full coverage of the foliage or target area. Make applications when pests appear and repeat applications as necessary, usually at intervals of 7 or more days. Apply in sufficient volume to ensure sufficient coverage of foliage. Insects that bore or tunnel into leaves, vines, stems, tubers, or corms must be
	Aphid species[1] Armyworm spp.[1] Blister Beetle spp. Colorado Potato Beetle[1] Corn Earworm Cricket spp. Cucumber Beetle spp.(Adults) European Corn Borer Flea Beetle spp. (adults) Grasshopper spp.	0.02-0.03	2.56-3.84	

Yam (bean and true)	Looper spp.[1] Lygus Bug spp.[1] Plant Bug spp. Potato Psyllid Potato Tuberworn Stink Bug spp. Sweet Potato Leaf Beetle (Adults) Sweet Potato Vine Borer Thrips spp. [1,2] Tortoise Beetle spp. Webworm spp. Weevil spp. (Adults)			controlled before penetration. Only exposed insects (larvae and/or adults) can be controlled with foliar applications of Lambda-Cy AG. • Do not apply more than 0.12 lb. a.i. (0.96 pt. or 15.36 fl. oz. of product)/A per season. • Do not apply within 7 days of harvest.
	Leafminer spp. [1,3] Whitefly spp. [1,3] Spider Mite spp. [3]	0.03	3.84	[1] See resistance statement under PRODUCT INFORMATION [2] Does not include Western Flower Thrips. [3] Suppression only.

NON-AGRICULTURAL USES

		Rate		
Crop	**Target Pests**	**lb. a.i./A**	**fl. oz./A**	**Remarks**
CONIFER AND DECIDUOUS TREES: Plantations Nurseries	Pine Tip Moth spp. Spruce Budworm Bagworm Tent Caterpillar spp. Leafroller spp. Gypsy Moth Webworm spp. Tussock Moth spp. Pine Sawfly spp. Sawfly spp. Pine Chafer Japanese Beetle May Beetle spp. June Beetle spp. Pine Colaspis Beetle Leaf Beetle spp. Pales Weevil Pine Weevil spp. Pine Conelet Bug Spittlebug spp. Pine Leaf Chermid Balsam Wooly Aphid Balsam Twig Aphid Birch Leafminer Black Pine Weevil Elm Leaf Beetle European Elm Bark Beetle Mealybug spp.[1] Pine Needle Scale Pine Tortoise Scale Poplar Aphid spp.	0.02-0.04	2.56-5.12	To control exposed foliage, flower, cone, seed, and bark feeding insects, apply as required by scouting. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Apply with ground equipment using sufficient water to obtain full coverage of target site. When applying by air, apply a minimum of 2 gals. of water/A. • Do not apply more than 0.24 lb. a.i. (1.92 pts. or 30.72 fl. oz. of product)/A per year. [1] Suppression only.

CONIFER AND DECIDUOUS TREES: Seed Orchards	Coneworm spp. Seed Bug spp. Thrips spp.	See Remarks	See Remarks	For high volume sprayers, dilute 5.12 fl. oz. per 100 gals. of water and apply 5-10 gals. of finished spray per tree. For low volume sprayers, dilute 20 fl. oz. per 100 gals. of water and apply 100 gals. of finished spray per/A. For aerial applications, apply 15 fl. oz./A in a minimum of 10 gals. finished spray/A. • Do not apply more than 0.5 lb. a.i. (4 pts. or 64 fl. oz. of product)/A per year.
NON-CROPLAND (Excluding Public Land)	See Crop Outlets on this label for target pest and rates.	See Crop Outlets	See Crop Outlets	Spray non-cropland adjacent to agricultural areas to control migratory insects, which may threaten crops. Follow use directions, rates, and spray recommendations found elsewhere in this label for the adjacent crop outlet and target pests. Use highest labeled rates for dense/large foliage, high insect populations, and larger larval stages. Repeat as necessary to maintain control. • Do not exceed 0.2 lb. a.i. (1.6 pts. or 25.6 fl. oz. of product)/A per year. • Do not graze livestock in treated areas.

Rate Conversion Chart

Lb. A.I. Per Acre	Fl. Oz. Per Acre	Pints Per Acre	Treated Acres Per Gallon
0.015	1.92	0.12	66
0.02	2.56	0.16	50
0.025	3.20	0.20	40
0.03	3.84	0.24	33
0.04	5.12	0.32	25

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage: Store in original containers only. Keep container closed when not in use. Do not store near food or feed. In case of spill or leak on floor or paved surfaces, soak up with sand, earth, or synthetic absorbent. Remove to chemical waste area.

Pesticide Disposal: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

Container Handling: Nonrefillable Container – Do not reuse or refill container. Triple rinse container (or equivalent) promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Triple rinse as follows:

Containers 5 gallons or less: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Once cleaned, offer for recycling or reconditioning if appropriate.

Containers larger than 5 gallons: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip back and forth several times. Turn the container over onto its other end and tip back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Refillable Containers: Return container to point of purchase for reuse with seal intact and in salable condition. Refill this container with lambda-cyhalothrin only. Do not reuse this container for any other purpose. Before refilling, inspect thoroughly for damage such as cracks, punctures, bulges, dents, abrasions, and damaged or worn threads on closure devices.

After filling and before transporting, check for leaks. Do not refill or transport damaged or leaking container. Cleaning this container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

For Chemical Emergency: Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC 1-800-424-9300

WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED “AS IS” BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF

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If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.

Safety Data Sheet

1 IDENTIFICATION

Product Name: Lorox® DF Agricultural Herbicide

EPA Reg. No.: 61842-23
Chemical Family: Phenylurea herbicide

Manufacturer/Supplier:
Tessenderlo Kerley Inc.
2255 N. 44th Street, Suite 300
Phoenix, Arizona 85008-3279
Information:(602) 889-8300

For 24-Hour Emergency Assistance (Spill, Leak, Fire, or Exposure), Call CHEMTREC®:
(800) 424-9300 (CHEMTREC)
(866) 374-1975 (Tessenderlo Kerley)

2 HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

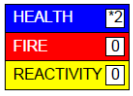
Pictogram	Hazard Statements	Precautionary Statements
	Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. If exposed or concerned: Get medical advice/attention. Store locked up. Dispose of contents/container in accordance with local and state regulations.
	Harmful if swallowed or inhaled.	Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. Use personal protective equipment as required.
	Toxic to aquatic life	Avoid release to the environment.

Signal word: Warning

NFPA Hazard Ratings

Health = 2
Fire = 0
Reactivity = 0

HMIS Ratings



Health = *2
Fire = 0
Reactivity = 0

3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization: **Mixture**
Description: Mixture of the substance(s) listed below with nonhazardous additions.

	Component	CAS No.	% by Weight
Active Ingredient:	Linuron (ISO)	330-55-2	25 - 50%

4 FIRST AID MEASURES

Description of first aid measures
General information:
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergencies involving this product, call toll free 1-866-374-1975. See Label for Additional Precautions and Directions for Use.

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

5 FIRE FIGHTING MEASURES

Extinguishing media
Suitable extinguishing agents:
Use firefighting measures that suit the environment.
Special hazards arising from the substance or mixture
No relevant information available.

Advice for firefighters
Protective equipment:
Full protective clothing and self-contained breathing apparatus should be worn.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Not required.

Environmental precautions:
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
Methods and material for containment and cleaning up:
Absorb with liquid-binding material (ie. sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.

7 HANDLING and STORAGE

Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Avoid prolonged or repeated exposure.
Personnel must refer to the Product Label and Directions For Use attached to the product for agricultural use requirements in accordance with the EPA Worker Protection Standard.

Information about protection against explosions and fires:
Keep protective respiratory device available.

Conditions for safe storage, including any incompatibilities
Store in a cool, dry place.
Store in a well ventilated place.
Keep away from any sources of heat or flame.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Components with occupational exposure limits: N/A
Additional information:
Personnel who handle this product in its end-use application should use this product only in accordance with its pesticide labeling and with the "Worker Protection Standard", 40 CFR 170.

Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Breathing equipment:
Use NIOSH approved, dual cartridge respirators for dusts or mists if local ventilation is inadequate (N, R or P class filter media with NIOSH approved prefix TC-84A).
Protection of hands:

Protective gloves
The glove material has to be impermeable and resistant to the product.
Material of gloves
Butyl rubber, BR
Natural rubber, NR
Nitrile rubber, NBR
Neoprene gloves
Penetration time of glove material
The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.
Eye protection:
Tightly sealed goggles
Face protection
Body protection:
Wear long-sleeved shirt and long pants, waterproof shoes and socks. Wash contaminated clothing before reuse.

9 PHYSICAL and CHEMICAL PROPERTIES

Appearance	Gray granules
Odor	Slight characteristic odor
Odor Threshold	N/A
pH	Not determined
Melting/Freezing Point	Not determined
Boiling Point	NA
Flash Point	N/A
Evaporation Rate	N/A
Flammability (Solid/Gas)	N/A
Upper/Lower Flammability or Explosive Limits	N/A
Vapor Pressure	NA
Vapor Density	NA
Relative Density	N/A
Bulk Density	38 lbs/ft^3 (609 kg/m^3)
Solubility (in Water)	Disperses. Solubility of Linuron in water is 75 ppm
Partition Coefficient: n-octanol/water	NA
Auto-ignition temperature	N/A
Decomposition temperature	N/A
Viscosity	N/A

10 STABILITY and REACTIVITY

Reactivity	N/A
Chemical stability	This is a stable material under normal temperature and storage conditions.
Possibility of hazardous reactions	Will not occur
Conditions to avoid	Ignition, heat, open flame and long exposure to high temperatures.
Incompatible materials	None known
Hazardous decomposition products:	None known

11 TOXICOLOGICAL INFORMATION

Acute toxicity:

LD/LC$_{50}$ values relevant for classification:

Oral	Rat LD$_{50}$	3,489 mg/kg (female)
Dermal	Rabbit LD$_{50}$:	>2,000 mg/kg
Inhalation	Rat LC$_{50}$:	5.08 mg/l (4 hr exposure)

Primary irritant effect:

on the skin

No irritant effect

on the eye

LOROX DF is a mild to moderate eye irritant

Sensitization Not a skin sensitizer in animals

This information is based on the active ingredient: Linuron

Mutagenicity/genotoxicity	Not mutagenic or genotoxic
Reproductive Toxicity	Not a developmental or reproductive toxin
Carcinogenicity Assessment	Category C without Q_1* (Possible Human Carcinogen) by USEPA Not listed by IARC (International Agency for Research on Cancer), NTP (National Toxicology Program) or OSHA-Ca (Occupational Safety & Health Administration)

12 ECOLOGICAL INFORMATION

This information is based on the active ingredient: Linuron

Aquatic Toxicity

96 hour LC_{50}	Bluegill sunfish:	9.6 mg/L
96 hour LC_{50}	Rainbow trout:	3.15 mg/L
48 hour EC_{50}	Water flea (*Daphnia magna*):	0.12mg/L
96 hour LC_{50}	Sheephead minnow:	0.89 mg/L
72 hour EC_{50}	Freshwater algae	0.016 mg/L
21-day NOEC	Rainbow trout:	0.10 mg/L
21-day NOEC	Water flea (*Daphnia magna*):	0.18 mg/L

Avian Toxicity

Acute Oral LD_{50}	Bobwhite quail	940 mg/Kg
Subacute Oral LC_{50}	Bobwhite quail	1250 ppm
Subacute Oral LC_{50}	Mallard duck	3083 ppm
Reproductive Toxicity, NOEC	Bobwhite quail	100 ppm[1]
Reproductive Toxicity, NOEC	Mallard duck	100 ppm[2]

[1]Treatment -related effects at 300 ppm were effects on adult weight, food consumption, egg production, and eggshell thickness
[2]Treatment -related effects at 300 ppm were effects on egg production, hatchability, and offspring survival

Persistence and Degradability

Plants: In plants, metabolism involves demethylation and demethoxylation

Soil & water: Microbial degradation is the primary factor in disappearance from soil. Half-life under field conditions is *c.* 2-5 months, F. Kempson-Jones and R. J. Hance *Pestic. Sci.*,1979, 10: 449. In soil, DT50 38-67 d. Soil adsorption K∞ 500-600.

Mobility

This chemical is known to leach through soil into ground water under certain conditions as a result of agricultural use.

13 DISPOSAL CONSIDERATIONS

PESTICIDE DISPOSAL: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.
CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

14 TRANSPORT INFORMATION

UN Number

DOT, ADR, IMDG, IATA UN3077

UN Proper shipping name:

DOT	Environmentally hazardous substance, solid, n.o.s
ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, solid, n.o.s.
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, solid, n.o.s. (linuron(ISO)), MARINE POLLUTANT
IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, solid, n.o.s.

14 TRANSPORT INFORMATION *(continued)*

Transport hazard class(es)

DOT

Class — 9 Miscellaneous dangerous substances and articles

ADR, IMDG

Class — 9 Miscellaneous dangerous substances and articles

Label — 9

IATA

Class — 9 Miscellaneous dangerous substances and articles

Label — 9

Packing group

DOT, ADR, IMDG, IATA — III

Environmental hazards: Product contains environmentally hazardous substances: linuron (ISO)

Marine pollutant: Yes

Symbol (fish and tree)

Special marking (ADR): Symbol (fish and tree)

Special marking (IATA): Symbol (fish and tree)

Special precautions for user Warning: Miscellaneous dangerous substances and articles

EMS Number: F-A,S-F

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

Transport/ Additional information: In accordance with 49 CFR 171.4(c), non-bulk packagings (*max capacity of 119 gal (450 L) or less for liquids or 882 lbs (400 kg) or less for solids)* transported by motor vehicle, rail car or aircraft are excepted from all Marine Pollutants regulations in 49 CFR and therefore treated as non-hazardous material. All bulk shipments or any shipment transported partially or entirely by vessel are treated as regulated Marine Pollutants and are shipped according to the requirements listed above.

15 REGULATORY INFORMATION

FIFRA: **Yes** **Product Name:** Lorox DF Herbicide **EPA Reg No.** 61842-23

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION
Harmful if swallowed or absorbed through the skin.
Causes moderate eye irritation.
Avoid contact with eyes, skin or clothing.

Safety, health and environmental regulations/legislation specific for the substance or mixture
Section 355 (extremely hazardous substances): None of the ingredients is listed.
Section 313 (Toxic Release Reporting-Form R):

Chemical name	CAS No.	Concentration
Linuron	330-55-2	50%

TSCA (Toxic Substances Control Act): Exempt from TSCA
Proposition 65
This product contains a chemical known to the state of California to cause developmental toxicity.

CERCLA/SUPERFUND:
RQ (Reportable Quantity) No

RCRA Classification
Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

16 OTHER INFORMATION

Issue Date: June 3, 2015

REVISIONS: SDS was reformatted in compliance with HCS 29 CFR 1910.1200, GHS, and ANSI Z400.1.

The information and recommendations contained herein are provided in good faith and are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information herein.

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Trade name	LUNA® TRANQUILITY
Product code (UVP)	84445908
SDS Number	102000017503
EPA Registration No.	264-1085

Relevant identified uses of the substance or mixture and uses advised against

Use	Fungicide
Restrictions on use	See product label for restrictions.

Information on supplier

Supplier	Bayer CropScience 2 T.W. Alexander Drive Research Triangle PK, NC 27709 USA
Responsible Department	Email: SDSINFO.BCS-NA@bayer.com

Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days)	1-800-334-7577
Product Information Telephone Number	1-866-99BAYER (1-866-992-2937)

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Hazards Not Otherwise Classified (HNOC)
No physical hazards not otherwise classified.
No health hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Fluopyram	658066-35-4	11.3
Pyrimethanil	53112-28-0	33.8

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Inhalation	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
Skin contact	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
Eye contact	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms	To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

Treatment	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable	High volume water jet
Special hazards arising from the substance or mixture	In the event of fire the following may be released:, Hydrogen cyanide (hydrocyanic acid), Hydrogen chloride (HCl), Hydrogen fluoride, Carbon monoxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx)

Advice for firefighters

Special protective equipment for firefighters	Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
Further information	Keep out of smoke. Fight fire from upwind position. Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

Flash point	No flash point - Determination conducted up to the boiling point.
Auto-ignition temperature	560 °C / 1040 °F
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Contaminated soil may have to be removed and disposed.
Additional advice	Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal.
Reference to other sections	Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Use only in area provided with appropriate exhaust ventilation. Handle and open container in a manner as to prevent spillage.
Hygiene measures	Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Keep away from direct sunlight. Store in original container. Protect from freezing.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Fluopyram	658066-35-4	0.34 mg/m3 (TWA)		OES BCS*
Pyrimethanil	53112-28-0	5.6 mg/m3 (TWA)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

Exposure controls

Personal protective equipment
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Hand protection Chemical resistant nitrile rubber gloves

Eye protection Tightly fitting safety goggles

Skin and body protection Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water.
Keep and wash PPE separately from other laundry.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance white to beige

Physical State suspension

Odor characteristic

Odour Threshold No data available

pH 5.0 - 8.5 (100 %) (23 °C)

Vapor Pressure No data available

Vapor Density (Air = 1) No data available

Density ca. 1.11 g/cm³ (20 °C)

Evaporation rate No data available

Boiling Point 99 °C / 210.2 °F (1,006 hPa)

Melting / Freezing Point	No data available
Water solubility	No data available
Minimum Ignition Energy	Not applicable
Decomposition temperature	No data available
Partition coefficient: n-octanol/water	No data available
Viscosity	220 - 350 mPa.s (20 °C) Velocity gradient 20 /s
Flash point	No flash point - Determination conducted up to the boiling point.
Auto-ignition temperature	560 °C / 1040 °F
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113
Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	
Thermal decomposition	No data available
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	No data available
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Ingestion, Inhalation, Skin contact
Immediate Effects	
Eye	May cause eye irritation.
Skin	Harmful if absorbed through skin.
Ingestion	Harmful if swallowed.

Inhalation	Harmful if inhaled.

Information on toxicological effects

Acute oral toxicity	LD50 (Rat) > 2,000 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 1.973 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration.
Acute dermal toxicity	LD50 (Rat) > 2,000 mg/kg
Skin corrosion/irritation	No skin irritation (Rabbit)
Serious eye damage/eye irritation	No eye irritation (Rabbit)
Respiratory or skin sensitisation	Skin: Non-sensitizing. (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

Assessment STOT Specific target organ toxicity – repeated exposure

Fluopyram did not cause specific target organ toxicity in experimental animal studies.
Pyrimethanil did not cause any significant specific adverse effects or target organ toxicity in subchronic toxicity studies.

Assessment mutagenicity

Fluopyram was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Pyrimethanil was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Fluopyram caused at high dose levels an increased incidence of tumours in rats in the following organ(s): Liver.
Fluopyram caused at high dose levels an increased incidence of tumours in mice in the following organ(s): Thyroid.
The tumours seen with Fluopyram were caused through a non-genotoxic mechanism, which is not relevant at low doses. The mechanism that triggers these tumours is not relevant to humans.
Pyrimethanil was not carcinogenic in lifetime feeding studies in mice. Pyrimethanil caused at high dose levels an increased incidence of tumours in rats in the following organ(s): Thyroid. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Assessment toxicity to reproduction

Fluopyram caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Fluopyram is related to parental toxicity.
Pyrimethanil did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Fluopyram caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Fluopyram are related to maternal toxicity.
Pyrimethanil did not cause developmental toxicity in rats and rabbits.

Further information

Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) 10.56 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient pyrimethanil. LC50 (Oncorhynchus mykiss (rainbow trout)) > 2 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient fluopyram. No acute toxicity was observed at its limit of water solubility.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 2.9 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient pyrimethanil. EC50 (Daphnia magna (Water flea)) > 20 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient fluopyram. No acute toxicity was observed at its limit of water solubility.
Toxicity to aquatic plants	EC50 (Raphidocelis subcapitata (freshwater green alga)) 8.9 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient fluopyram. IC50 (Raphidocelis subcapitata (freshwater green alga)) 1.2 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient pyrimethanil.
Biodegradability	Fluopyram: Not rapidly biodegradable Pyrimethanil: Not rapidly biodegradable
Koc	Fluopyram: Koc: 279 Pyrimethanil: Koc: 301
Bioaccumulation	Fluopyram: Bioconcentration factor (BCF) 18 Does not bioaccumulate. Pyrimethanil:

	Does not bioaccumulate.
Mobility in soil	Fluopyram: Moderately mobile in soils Pyrimethanil: Moderately mobile in soils
Environmental precautions	Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not apply when weather conditions favor runoff or drift. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Dispose in accordance with all local, state/provincial and federal regulations. Never place unused product down any indoor or outdoor drain.
Contaminated packaging	Do not re-use empty containers. Triple rinse containers. Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke. Follow advice on product label and/or leaflet.
RCRA Information	Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

49CFR	Not dangerous goods / not hazardous material

IMDG

UN number	**3082**
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PYRIMETHANIL SOLUTION)

IATA

UN number	**3082**
Class	9
Packaging group	III
Environm. Hazardous Mark	YES

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PYRIMETHANIL SOLUTION)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Freight Classification:	INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 264-1085
US Federal Regulations
TSCA list

Water	7732-18-5
1,2-Propanediol	57-55-6
Polyethylene-polypropylene copolymer	9003-11-6

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
Not applicable.
SARA Title III - Section 302 - Notification and Information
None.
SARA Title III - Section 313 - Toxic Chemical Release Reporting

Magnesium nitrate	10377-60-3

US States Regulatory Reporting
CA Prop65
This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients

1,2-Propanediol	57-55-6	MN, RI
Magnesium nitrate	10377-60-3	CT, NJ, RI
Glycerine	56-81-5	MN, RI
Sodium hydroxide	1310-73-2	CA, CT, IL, MN, NJ, RI
Glutaral	111-30-8	CA, MN, RI

EPA/FIFRA Information:
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

Signal word: Caution!

Hazard statements: Harmful if swallowed, inhaled or absorbed through the skin.
Avoid contact with skin, eyes and clothing.
Avoid breathing spray mist.
Remove and wash contaminated clothing before re-use.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Instability - 0 Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1 Flammability - 1 Physical Hazard - 0 PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: The following sections have been revised: Section 9: Physical and Chemical Properties. Reviewed and updated for general editorial purposes.

Revision Date: 05/20/2019

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.

Safety Data Sheet

Preparation Date 01-May-2015 **Revision date** 31-Dec-2018 **Revision Number:** 4

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier
Product Description: Manzate Max Fungicide

Other means of identification
Product code 12-394X
Registration number(s) 70506-194

Recommended use of the chemical and restrictions on use
Recommended use Fungicides.
Uses advised against Activities contrary to label recommendation

Details of the Supplier of the Safety Data Sheet
Supplier Address
UPL NA Inc.
630 Freedom Business Center
Suite 402
King of Prussia, PA 19406

Emergency telephone number
Company Phone Number 1-800-438-6071
Emergency telephone number Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 673-6671 (24hrs)

2. Hazards Identification

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Vapors)	Category 3
Skin sensitization	Category 1
Reproductive Toxicity	Category 1B

Label elements

EMERGENCY OVERVIEW

DANGER

Hazard Statements
Toxic if inhaled
May cause an allergic skin reaction
May damage fertility or the unborn child

Appearance Yellow Green **Physical state** Liquid **Odor** pungent

Precautionary Statements - Prevention
Do not handle until all safety precautions have been read and understood
Wear cold insulating gloves/face shield/eye protection
Do not get in eyes, on skin, or on clothing
Use only outdoors or in a well-ventilated area
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)
OTHER INFORMATION
• Very toxic to aquatic life
• May be harmful in contact with skin

3. Composition/information on Ingredients

Chemical name	CAS No	Weight-%
1,2-Benziosothiazolin-3-one (Proxel GXL)	2634-33-5	0.16
Zinc manganese ethylenebis dithiocarbamate	8018-01-7	37
Ethylene thiourea	96-45-7	0-0.5

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES

Eye contact Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin contact Remove and wash contaminated clothing before re-use. Wash off immediately with soap and plenty of water for at least 15 minutes. Call a poison control center or doctor for treatment advice.

Inhalation Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Protection of First-aiders Use personal protective equipment.

Most Important Symptoms and Effects, Both Acute and Delayed

Most Important Symptoms and Effects no data available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media
Carbon dioxide (CO2).
Use:. Dry chemical. Water spray. alcohol-resistant foam.

Unsuitable extinguishing media no data available.

Specific hazards arising from the chemical
Thermal decomposition can lead to release of irritating gases and vapours.

Hazardous combustion products Carbon disulfide, ethylene thiourea (ETU).

Explosion data
Protective equipment and precautions for firefighters
Use personal protective equipment. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid contact with skin and eyes. Wear protective gloves/protective clothing and eye/face protection. Wash thoroughly after handling.

Environmental Precautions

Environmental precautions Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Methods and material for containment and cleaning up

Methods for Clean-Up Soak up with inert absorbent material. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling

Handling Do not eat, drink or smoke when using this product. Avoid contact with skin and eyes. Wear personal protective equipment. Do not breathe vapours or spray mist. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a cool, well-ventilated place.

incompatible materials Strong oxidizing agents.

8. Exposure Controls/Personal Protection

Exposure guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering controls Investigate engineering techniques to reduce exposures. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Personal protective equipment

Eye/Face Protection Use eye protection to avoid eye contact. Where there is potential for eye contact have eye flushing equipment available. Safety glasses with side-shields. If splashes are likely to occur, wear:. Goggles. Face-shield.

Skin protection Long sleeved clothing. Chemical resistant gloves. Chemical resistant footwear plus socks.

Respiratory protection Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus. Respiratory protection programs must comply with 29 CFR 1910.134.

General hygiene considerations

Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	Yellow Green	**Odor**	pungent
color	No information available		

Property	**VALUES**	**Remarks/ • Method**
pH	8	
Melting point/freezing point	9 °C / 48 °F	
Boiling Point/Range	No information available	
Flash Point	No information available	
Evaporation Rate	No information available	
Flammability (solid, gas)	No information available	
Flammability limit in air		
Upper Flammability Limit	No information available	
Lower Flammability Limit	No information available	
vapor pressure	No information available	
Vapor Density	No information available	
Specific gravity	1.27-1.33	
Water solubility	No information available	
Solubility in Other Solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	no data available	
Decomposition temperature	No information available	
Viscosity, kinematic	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

OTHER INFORMATION

Softening point	No information available
molecular weight	No information available

VOC Content	No information available
Liquid Density	No information available
Bulk density	1270 kg/m^3

10. Stability and Reactivity

Reactivity
no data available

Chemical stability
Stable under normal conditions. Hazardous polymerisation does not occur.

Possibility of hazardous reactions
None under normal processing.

Hazardous polymerization Hazardous polymerisation does not occur.

Conditions to avoid
No information available.

incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
Carbon oxides.

11. Toxicological Information

Information on Likely Routes of Exposure

Product information

Manzate Max= oral LD50 = >5,000 mg/kgdermal LD50 = >5,000 mg/kginhalation LC50 = >2.02 mg/L No deathsirritation = Slight irritation = Slightsensitizer = Not a sensitizer

Inhalation Harmful by inhalation.

Eye contact May cause slight irritation.

Skin contact May be harmful if absorbed through the skin.

Ingestion HARMFUL IF SWALLOWED.

Information on Toxicological Effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	No information available.
Mutagenic effects	no data available.
Carcinogenicity	The information below indicates whether any agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Ethylene thiourea 96-45-7	-	Group 3	Reasonably Anticipated	X

Reproductive effects	Not Available.
STOT - Single Exposure	no data available.
STOT - Repeated Exposure	no data available.
Chronic toxicity	Avoid repeated exposure.
Aspiration hazard	No information available.

Numerical Measures of Toxicity - Product information

LD50 Oral	> 5000 mg/kg (rat)
LD50 Dermal	> 5000 mg/kg (rat)
LC50 Inhalation	> 2.02 mg/l

12. Ecological Information

ecotoxicity

Manzate:
96 hr LC50
Rainbow trout -= 0.73 mg/L
Fathead minnow = 0.57 mg/L
Bluegill sunfish = 0.84 mg/L
72 hr EC50
Freshwater algae = 0.43 mg/L

Persistence/Degradability
no data available.

Bioaccumulation/ Accumulation
Bioaccumulative potential.

Chemical name	Log Pow
1,2-Benziosothiazolin-3-one (Proxel GXL) 2634-33-5	1.3

Other Adverse Effects
no data available

13. Disposal Considerations

Waste Treatment Methods

Waste Disposal Method Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If the wastes cannot be disposed of by use or according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Contaminated packaging Refer to product label.

14. Transport Information

DOT Not regulated when shipped domestically by highway in non-buk containers as per 49 CFR 171.4

When shipped in bulk, by vessel, or internationally use the IMDG shipping description:

IATA

UN/ID no.	UN3082
Proper shipping name	Environmentally hazardous substances, liquid, n.o.s Mancozeb
Hazard class	9
Packing group	PG III

Description	Marine pollutant

IMDG

UN/ID no.	UN3082
Proper shipping name	Environmentally hazardous substances, liquid, n.o.s (Mancozeb)
Hazard class	9
Packing group	PG III
Environmental hazards	IMDG - Marine Pollutant

15. Regulatory Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

signal word	CAUTION
Ventilation Control	PESTICIDE APPLICATORS & WORKERS THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170.

Keep out of Reach of Children. Harmful if swallowed. Harmful if inhaled or absorbed through skin. Toxic to fish and aquatic organisms.

International Inventories

USINV	Present
DSL/NDSL	Not present
EINECS/ ELINCS	Not Present
ENCS	Not Present
China	Present
KECL	Present
PICCS	Present
AICS	Present
TSCA	Not Present

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

CERCLA
Not applicable

Chemical name	RQ	CERCLA EHS RQs	RQ
Ethylene thiourea 96-45-7	10 lb		RQ 10 lb final RQ RQ 4.54 kg final RQ

CERCLA

Component	RQ
Ethylene thiourea 96-45-7 (0-0.5)	10 lb

SARA Product RQ 0

RCRA

Component	RCRA - D Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ethylene thiourea 96-45-7 (0-0.5)			U116

Pesticide Information

State Regulations

Component	CAS No	CATEGORY
Zinc manganese ethylenebis dithiocarbamate 8018-01-7 (37)	8018-01-7	Carcinogen
Ethylene thiourea 96-45-7 (0-0.5)	96-45-7	Carcinogen

Prop 65 Pictogram

Prop 65 Warning Statement WARNING!
California Proposition 65 This product can expose you to chemicals including those listed below, which is [are] known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

Component	California Prop. 65	Non-additive, corrosive chemical type
Zinc manganese ethylenebis dithiocarbamate 8018-01-7 (37)	Carcinogen	
Ethylene thiourea 96-45-7 (0-0.5)	Carcinogen Developmental	

State Right-to-Know
Not applicable

International regulations

U.S. EPA Label information
EPA Pesticide registration number 70506-194

16. Other Information

NFPA **HEALTH** 1 **flammability** 0 **Instability** 0 **Physical hazard** -

Preparation Date 01-May-2015
Revision date 31-Dec-2018
Revision Summary
Update logo Update section 1 Update Section 16***

Disclaimer

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End of SDS

We create chemistry

Safety Data Sheet
MERIVON XEMIUM BRAND FUNGICIDE

1. Identification

Product identifier used on the label

MERIVON XEMIUM BRAND FUNGICIDE

Recommended use of the chemical and restriction on use
Recommended use*: fungicide

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification
Substance number: 619111
EPA Registration number: 7969-310
Synonyms: fluxapyroxad + pyraclostrobin

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Acute Tox.	3 (oral)	Acute toxicity
Acute Tox.	4 (Inhalation - mist)	Acute toxicity
Carc.	2	Carcinogenicity
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure

Label elements

Pictogram:

Signal Word:
Danger

Hazard Statement:

H332	Harmful if inhaled.
H301	Toxic if swallowed.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.

Precautionary Statements (Prevention):

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P271	Use only outdoors or in a well-ventilated area.
P201	Obtain special instructions before use.
P261	Avoid breathing mist.
P260	Do not breathe mist or vapour.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P311	IF exposed or concerned: Call a POISON CENTER or doctor/physician.
P330	Rinse mouth.

Precautionary Statements (Storage):

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

Labeling of special preparations (GHS):
The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 6 % dermal
The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 10 % Inhalation - vapour
The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 10 % Inhalation - mist

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Emergency overview

WARNING:
KEEP OUT OF REACH OF CHILDREN.
May be fatal if swallowed.
Avoid contact with the skin, eyes and clothing.

3. Composition / Information on Ingredients

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS Number	Weight %	Chemical name
907204-31-3	21.6 %	Fluxapyroxad
175013-18-0	21.6 %	Pyraclostrobin
57-55-6	5.0 - 15.0%	Propylene glycol
	41.0 - 51.0%	Proprietary ingredients

4. First-Aid Measures

Description of first aid measures

General advice:
First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.

If on skin:
Immediately wash thoroughly with soap and water, seek medical attention.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open.

If swallowed:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

Indication of any immediate medical attention and special treatment needed

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, carbon dioxide, foam, dry powder

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture
Hazards during fire-fighting:
carbon monoxide, carbon dioxide, nitrogen oxides, chlorides, organochloric compounds, halogenated hydrocarbons
The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters
Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Do not breathe vapour/spray. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

Environmental precautions
Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up
Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and Storage

Precautions for safe handling
RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect against heat. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:
No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

Conditions for safe storage, including any incompatibilities
Segregate from foods and animal feeds.

Further information on storage conditions: Keep away from heat. Protect from direct sunlight.
Protect from temperatures below: 0 °C
The product can crystallize below the limit temperature.
Protect from temperatures above: 40 °C
Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls/Personal Protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

No occupational exposure limits known.

Advice on system design:
Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:
Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:
Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:
Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if

necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form:	suspension	
Odour:	faint odour, fruity	
Odour threshold:	Not determined since harmful by inhalation.	
Colour:	beige	
pH value:	approx. 6 - 8 (1 %(m), 20 °C)	(pH Meter)
crystallization temperature:	approx. -6.7 °C	
Boiling point:	approx. 100 °C	
Flash point:	No flash point - Measurement made up to the boiling point.	
Flammability:	not highly flammable	(Directive 92/69/EEC, A.12)
Autoignition:	517 °C	(Directive 92/69/EEC, A.15)
Vapour pressure:	approx. 23 hPa (20 °C) Information applies to the solvent.	
Density:	approx. 1.18 g/cm3 (20 °C)	(OECD Guideline 109)
Vapour density:	not applicable	
Partitioning coefficient n-octanol/water (log Pow):	not applicable	
Thermal decomposition:	carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, Hydrocarbons Stable at ambient temperature. If product is heated above decomposition temperature, toxic vapours will be released.	
Viscosity, dynamic:	approx. 50 mPa.s (20 °C)	(OECD 114)
Solubility in water:	dispersible	
Evaporation rate:	not applicable	

10. Stability and Reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Oxidizing properties:
not fire-propagating (Directive 2004/73/EC, A.21)

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. Avoid extreme temperatures. Avoid prolonged exposure to extreme heat. Avoid contamination. Avoid electro-static discharge. Avoid prolonged storage.

Incompatible materials
strong oxidizing agents, strong bases, strong acids

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:
Possible thermal decomposition products:
carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, Hydrocarbons
Stable at ambient temperature. If product is heated above decomposition temperature, toxic vapours will be released.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Moderately toxic after single ingestion. Relatively nontoxic after short-term skin contact. Relatively nontoxic after short-term inhalation.

Oral
Type of value: LD50
Species: rat (female)
Value: > 50 - < 300 mg/kg (OECD Guideline 423)

Inhalation
Type of value: LC50
Species: rat (female)
Value: 2.81 mg/l (OECD Guideline 403)
Exposure time: 4 h
An aerosol was tested.

Dermal
Type of value: LD50
Species: rat (male/female)
Value: > 5,000 mg/kg (OECD Guideline 402)
No mortality was observed.

Assessment other acute effects
Assessment of STOT single:
Causes temporary irritation of the respiratory tract.

The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation / corrosion
Assessment of irritating effects: May cause slight but temporary irritation to the eyes. May cause moderate irritation to the skin.

Skin
Species: rabbit
Result: Irritant.
Method: OECD Guideline 404

Eye
Species: rabbit
Result: non-irritant
Method: OECD Guideline 405

Sensitization
Buehler test
Species: guinea pig
Result: Skin sensitizing effects were not observed in animal studies.
Method: OECD Guideline 406

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Pyraclostrobin
Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation. The substance may cause damage to the olfactory epithelium after repeated inhalation.

Genetic toxicity
Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity
Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Pyraclostrobin
Assessment of carcinogenicity: In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.

Information on: Fluxapyroxad
Assessment of carcinogenicity: Indication of possible carcinogenic effect in animal tests.

Reproductive toxicity
Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity

Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Other Information
Misuse can be harmful to health.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
Very toxic (acute effect) to fish. Very toxic (acute effect) to aquatic invertebrates. Acutely toxic for aquatic plants.

Toxicity to fish
LC50 (96 h) 0.032 mg/l, Oncorhynchus mykiss (OECD 203; ISO 7346; 92/69/EEC, C.1, static)

Aquatic invertebrates
EC50 (48 h) 0.068 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Aquatic plants
EC50 (72 h) 3.56 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)

Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control.

13. Disposal considerations

Waste disposal of substance:
Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:
Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport
USDOT

Hazard class: 6.1

Packing group:	III
ID number:	UN 2902
Hazard label:	6.1, EHSM
Proper shipping name:	PESTICIDE, LIQUID, TOXIC, N.O.S. (contains PYRACLOSTROBIN)

Sea transport
IMDG

Hazard class:	6.1
Packing group:	III
ID number:	UN 2902
Hazard label:	6.1, EHSM
Marine pollutant:	YES
Proper shipping name:	PESTICIDE, LIQUID, TOXIC, N.O.S. (contains PYRACLOSTROBIN)

Air transport
IATA/ICAO

Hazard class:	6.1
Packing group:	III
ID number:	UN 2902
Hazard label:	6.1
Proper shipping name:	PESTICIDE, LIQUID, TOXIC, N.O.S. (contains PYRACLOSTROBIN)

Further information
This product may be classified as limited quantity in selected package sizes.

15. Regulatory Information

Federal Regulations

Registration status:

Chemical	TSCA, US	blocked / not listed
Crop Protection	TSCA, US	released / exempt

EPCRA 311/312 (Hazard categories): Acute; Chronic

State regulations

State RTK	CAS Number	Chemical name
PA	57-55-6	Propylene glycol
NJ	57-55-6	Propylene glycol

CA Prop. 65:
WARNING: THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

Labeling requirements under FIFRA

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

WARNING:
KEEP OUT OF REACH OF CHILDREN.
May be fatal if swallowed.
Avoid contact with the skin, eyes and clothing.

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2016/05/06

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE , IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.
END OF DATA SHEET

Material Safety Data Sheet

WHMIS	TDG Road/Rail

Health Hazard	*	2
Fire Hazard		0
Reactivity		1
Personal Protection		C

Approved for use in Food & Beverage plants

1. Product and company identification

Product name : METEOR

Code : 05-10007

Date of issue (yyyy/mm/dd) : 2015-05-05.

Material uses : Industrial applications: Degreaser

Supplier : Sani-Marc Inc.
42 rue de l'Artisan
Victoriaville, Qc
G6P 7E3
1-819-758-1541

Manufacturer : Sani-Marc Inc.
42 rue de l'Artisan
Victoriaville, Qc
G6P 7E3
1-819-758-1541

In case of emergency : **Emergency phone: CANUTEC (613) 996-6666 (Collect calls accepted)**

2. Hazards identification

Potential hazards described in this section are not expected when manufacturer's direction for use and proper security measures are observed.

Physical state : Liquid. [Transparent liquid] **Odor** : Floral.

Emergency overview : **DANGER!**

Corrosive to the eyes, skin and digestive tract. Causes burns. May be harmful if swallowed. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : Not a usual way of absorbtion

Ingestion : Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

Skin : Corrosive to the skin. Causes burns.

Eyes : Corrosive to eyes. Causes burns.

See toxicological information (Section 11) for more details.

3. Composition/information on ingredients

Name	CAS number	% (w/w)
sodium hypochlorite, solution	7681-52-9	5 - 10
potassium hydroxide	1310-58-3	1 - 5
Lauryldimethylamine oxide	1643-20-5	1 - 5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Eye contact : Check for and remove any contact lenses. Flush eyes with water, occasionnaly lifting the upper and lower eyelids. Get medical attention if irritation persist or if symptoms develops.

Skin contact : In case of contact, flush with water. Get medical attention if irritation develops.

Inhalation : There are no specific inhalation hazard associated with this product when directions for uses are followed. No specific measures required.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

5. Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

5. Fire-fighting measures

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides
halogenated compounds
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Handling : Suggested personnal protection equipment should be worn at all time when handling the product.Handle in accordance with manufactuer direction for uses. Avoid contact with eye or skin.

Storage : Store product in a dry, cool ventilated area. Protect from freezing. Keep out oof reach of children.

8. Exposure controls/personal protection

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	**List name**	**ppm**	**mg/m³**	**Other**	**ppm**	**mg/m³**	**Other**	**ppm**	**mg/m³**	**Other**	**Notations**
sodium hypochlorite, solution	US AIHA 10/2011	-	-	-	-	2	-	-	-	-	
potassium hydroxide	US ACGIH 4/2014	-	-	-	-	-	-	-	2	-	
	AB 4/2009	-	-	-	-	-	-	-	2	-	[3]
	BC 4/2014	-	-	-	-	-	-	-	2	-	
	ON 1/2013	-	-	-	-	-	-	-	2	-	
	QC 1/2014	-	-	-	-	2	-	-	-	-	
[3]Skin sensitization											

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : No specific monitoring measures required.

Engineering measures : General room ventilation is adequate for the use of the product. No additionnal ventilation is required.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal protection

Respiratory : No specific respiratory protection required.

Hands : It is suggested to wear chemical impervious gloves when handling or using the product.

Eyes : It is suggested to wear safety glasses when handling or using the product.

Skin : No specific measure required.

Personal protective equipment (Pictograms) :

9. Physical and chemical properties

Physical state	: Liquid. [Transparent liquid]	**Molecular formula**	: Not applicable.	**Flammable limits**	: Not available.
Color	: Yellow. [Light]	**Molecular weight**	: Not applicable.	**Burning rate**	: Not applicable.
Odor	: Floral.	**Vapor pressure**	: Not available.	**Burning time**	: Not applicable.
Relative density	: 1.108	**Vapor density**	: Not available.	**Critical temperature**	: Not available.
pH	: 13.25	**Volatility**	: Not available.	**Auto-ignition temperature**	: Not available.
Viscosity	: Not available.	**Evaporation rate**	: Not available.	**Flash point**	: Closed cup: >93°C (>199.4°F) [Product does not sustain combustion.]
Odor threshold	: Not available.	**Ionicity (in water)**	: Non-ionic.	**Dispersibility properties**	: Not available.

9. Physical and chemical properties

Solubility : Easily soluble in the following materials: cold water and hot water.

Melting/freezing point : Not available.

Boiling/condensation point : Not available.

:

10. Stability and reactivity

Chemical stability : The product is stable.

Conditions to avoid : No specific data.

Materials to avoid : Reactive or incompatible with the following materials:
acids

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

The symptoms, hazards and situations described in this section are not expected when manufacturer's direction for use, proper security measures and given professionnal exposure limits are correctly followed.

Potential chronic health effects

Chronic effects :

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : Contains material which may cause damage to the following organs: mucous membranes, digestive system, upper respiratory tract, skin, eye, lens or cornea, throat.

Over-exposure signs/symptoms

Inhalation : Not a usual way of absorbtion

Ingestion : Adverse symptoms may include the following:
stomach pains

Skin : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Eyes : Adverse symptoms may include the following:
pain
watering
redness

Medical conditions aggravated by over-exposure :

Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
sodium hypochlorite, solution	LC50 Inhalation Gas.	Rat	>10500 mg/m³	1 hours
	LD50 Oral	Rat	8910 mg/kg	-
Lauryldimethylamine oxide	LD50 Oral	Mouse	2700 mg/kg	-
potassium hydroxide	LD50 Oral	Rat	273 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
sodium hypochlorite, solution	Eyes - Mild irritant	Rabbit	-	1.31 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
potassium hydroxide	Eyes - Moderate irritant	Rabbit	-	24 hours 1 milligrams	-
	Skin - Severe irritant	Guinea pig	-	24 hours 50 milligrams	-
	Skin - Severe irritant	Human	-	24 hours 50 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 50 milligrams	-

Carcinogenicity Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
sodium hypochlorite, solution	-	3	-	-	-	-

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Exposure	Species
sodium hypochlorite, solution	-	Acute EC50 46000 µg/l Marine water	4 days	Algae - Red algae - Gracilaria tenuistipitata
	US EPA	Acute EC50 0.04 ppm Fresh water	48 hours	Daphnia - Water flea - Daphnia magna
	-	Acute LC50 56400 to 77400 µg/l Marine water	48 hours	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio
	-	Acute LC50 70 µg/l Fresh water	96 hours	Fish - Channel catfish - Ictalurus punctatus - Fingerling
	-	Chronic NOEC 10000 µg/l Marine water	4 days	Algae - Red algae - Gracilaria tenuistipitata
	-	Chronic NOEC 0.1 ppm Fresh water	30 days	Fish - common carp - Cyprinus carpio - Young
potassium hydroxide	-	Acute LC50 80 ppm Fresh water	96 hours	Fish - Western mosquitofish - Gambusia affinis - Adult

Toxicity of the products of biodegradation : The products of degradation are more toxic than the product itself.

13. Disposal considerations

Waste disposal : Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1760	Corrosive liquid, n.o.s. (Potassium hydroxide , sodium hypochlorite, solution) RQ (sodium hypochlorite, solution, potassium hydroxide)	8	III		**Reportable quantity** 1993.6 lbs / 905.1 kg [215.8 gal / 816.88 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
TDG Classification	UN 1760	Corrosive Liquid, N.O.S. (Potassium hydroxide , sodium hypochlorite, solution)	8	III		**Remarks** Limited Qt Index 5L

PG* : Packing group

15. Regulatory information

United States inventory (TSCA 8b) : Not determined.

WHMIS (Canada) : Class E: Corrosive material

Canadian lists : **CEPA Toxic substances**: None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: None of the components are listed.
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

Canada inventory : At least one component is not listed.

Other certification :

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. Other information on the product

Label requirements : CAUSES DIGESTIVE TRACT, EYE AND SKIN BURNS. MAY BE HARMFUL IF SWALLOWED.

Date of printing (YYYY-MM-DD) : 2015-05-08.
Date of issue (YYYY-MM-DD) : **2015-05-05.**

Note: MSDS are valid for a 3 years period after the date of issue

Indicates information that has changed from previously issued version.

MSDS prepared by:
QA and Documentation Department
Sani-Marc Inc.
42 rue de l'Artisan
Victoriaville, Qc
G6P 7E3
1-819-758-1541

Notice to reader

There are potential hazards to people and goods associated with the use of this product which are detailed in the present Material Safety Data Sheet (MSDS). To minimize potential hazards associated with this product it is of users responsibility to conform the directions for use and all other instructions provided in the Material Safety Data Sheet (MSDS) of this product. The manufacturer, distributors and suppliers of this product are exonerating themselves and consequently shall not be liable for any prejudice or damage of any kind, resulting from the use of this product which may not be in accordance with the directions for use or all the instructions provided in the present Material Safety Data Sheet (MSDS) or resulting from an unadvised use of the present product..

Emergency phone: CANUTEC (613) 996-6666 (Collect calls accepted)

Montana 4F

Registrant: Rotam North America, Inc.

GENERAL

EPA Registration Number:	83100-21-83979	**Signal Word:**	CAUTION
CA Registration Number:	83100-21-AA-83979		
Active Ingredient:	40.6 - Imidacloprid,1-[(6-Chloro-3-pyridinyl) methyl]-N-nitro-2-imidazolidinimine	**Application Methods:**	Seed Treatment, Ground, Chemigation, Air
Label Version:	MON4-01-A12042013-revA02012014-1G	**Mode of Action:**	IRAC 4A
Physical State:	Liquid (9.7 lb / ga)	**Toxic To:**	Aquatic Invertebrates, Bees, Wildlife
Product Type:	Insecticide	**Rainfastness:**	
Formulation Type:	Emulsifiable Concentrate OR Emulsion Concentrate		

ADDITIONAL INFORMATION

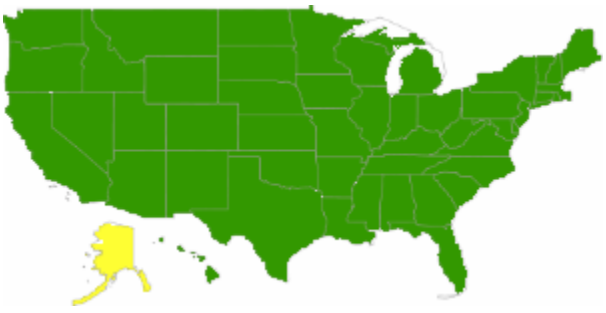
Federally Restricted:	No	**Organic Certifications:**	None
Posting Required:	No	**Closed Mixing System Required:**	All applications in All States/Provinces: Not required
Oral Notification Required:	No	**Avoid Grazing:**	Yes

CALIFORNIA

Registration #:	83100-21-AA-83979	**CA Restricted:**	No
CA NOI Required:	No		

REGISTERED FOR USE IN

AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, PR, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY



PACKAGE TYPES

1 GA Package(s) (4 / Case)

**Specific Notices will not be shown until a pest is selected.

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SAFETY

PPE Information:	Applicators and Other Handlers Must Wear: - Long-sleeved shirt and long pants - Chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton - Shoes plus socks
Re-Entry PPE Information:	PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: - Coveralls - Chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton - Shoes plus socks
Transport Information:	Not Regulated by US DOT or Canadian TDG for ground shipment Ground transport Not Regulated by US DOT Not Regulated by Canadian TDG Transport by sea (IMDG) UN 3082; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Imidacloprid); 9; III; Marine Pollutant Air transport (IATA) UN 3082; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Imidacloprid); 9; III UN-No. : 3082 Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Imidacloprid) Transport document description : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Imidacloprid), 9, III Class (UN) : 9 Hazard labels (UN) : 9 Packing group (UN) : III Marine Pollutant (Y/N) : Y Dangerous for the environment :
Response Number:	800-424-9300
Medical Number:	866-927-6826
SDS Hazard ID Signal Word:	Warning

GENERAL NOTICE 1

PROTECTION OF POLLINATORS APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS. Look for the bee hazard icon in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators. This product can kill bees and other insect pollinators. Bees and other insect pollinators will forage on plants when they lower, shed pollen, or produce nectar. Bees and other insect pollinators can be exposed to this pesticide from: - Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications - Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications. When Using This Product Take Steps To: - Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants around the application site. - Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills. Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at: http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx. Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to: www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov See individual crops for specific pollinator protection application restrictions. If none exist under the specific crop, for foliar applications, follow these application directions for crops that are contracted to have pollinator services or for food/feed & commercially grown ornamentals that are attractive to pollinators. 1. FOR CROPS UNDER CONTRACTED POLLINATION SERVICES Do not apply this product while bees are foraging. Do not apply this product until lowering is complete and all petals have fallen unless the following condition has been met. If an application must be made when managed bees are at the treatment site, the beekeeper providing the pollination services must be notified no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying. 2. FOR FOOD CROPS AND COMMERCIALLY GROWN ORNAMENTALS NOT UNDER CONTRACT FOR POLLINATION SERVICES BUT ARE ATTRACTIVE TO POLLINATORS Do not apply this product while bees are foraging. Do not apply this product until lowering is complete and all petals have fallen unless one of the following conditions is met: - The application is made to the target site after sunset - The application is made to the target site when temperatures are below 55"F - The application is made in accordance with a government-initiated public health response - The application is made in accordance with an active state-administered apiary registry program where beekeepers are notified no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying - The application is made due to an imminent threat of significant crop loss, and a documented determination consistent with an IPM plan or predetermined economic threshold is met. Every effort should be made to notify beekeepers no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.

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GENERAL NOTICE 2

ENVIRONMENTAL HAZARDS Do not apply directly to water, areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. This product is toxic to wildlife and highly toxic to aquatic invertebrates. This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. DIRECTIONS FOR USE It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

GENERAL NOTICE 3

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION Harmful if absorbed through skin or if swallowed. Avoid contact with skin, eyes or clothing. Wear long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves (such as Natural Rubber, Select Category A). PERSONAL PROTECTIVE EQUIPMENT (PPE) Applicators and Other Handlers Must Wear: - Long-sleeved shirt and long pants - Chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton - Shoes plus socks ENGINEERING CONTROLS STATEMENTS When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS. Important: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "Applicators and Other Handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown. User Safety Recommendations Users should: - Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. - Remove and wash contaminated clothing before reuse.

GENERAL NOTICE 4

AGRICULTURAL USE REQUIREMENTS Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontaminations, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard. Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: - Coveralls - Chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton - Shoes plus socks

GENERAL NOTICE 5

OBSERVE THE FOLLOWING PRECAUTIONS WHEN MIXING AND APPLYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES, RESERVOIRS, RIVERS, PERMANENT STREAMS, MARSHES OR NATURAL PONDS, ESTUARIES AND COMMERCIAL FISH FARM PONDS. Spray Drift Management: The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator. For Aerial Applications: The spray boom should be mounted on the aircraft so as to minimize drift caused by wing tip vortices. The minimum practical boom length should be used and must not exceed 75% of the wing span or rotor diameter. Importance of Droplet Size: An important factor influencing drift is droplet size. Small droplets (<150 - 200 microns) drift to a greater extent than large droplets. Within typical equipment specifications, applications should be made to deliver the largest droplet spectrum than provides sufficient control and coverage. Formation of very small droplets may be minimized by appropriate nozzle selection. Wind Speed Restrictions: Drift potential increases at wind speeds of less than 3 mph (due to inversion potencial) or more than 10 mph. However, many factors, including droplet size, canopy and equipment specifications, determine drift potencial at any given wind speed. Do not apply when winds are greater than 15 mph and avoid gusty and windless conditions. Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area. Restrictions During Temperature Inversions: Do not make aerial or ground applications during temperature inversions. Drift potential is high during temperature inversions. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical mixing.

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GENERAL NOTICE 6

Mixing and Loading Requirements: To avoid potential contamination of groundwater, the use of a properly designed and maintained containment pad for mixing and loading of any pesticide into application equipment is recommended. If containment pad is not used, maintain a minimum distance of 25 feet between mixing and loading area and potencial surface to groundwater conduits such as field sumps, uncased wellheads, sinkholes, or field drains. Airblast (Air Assist) Specific Requirements for Tree Crops and Vineyards: Airblast sprayers carry droplets into the canopy of trees/vines via a radially, or laterally directed air stream. Follow the following specific drift management practices: -Adjust deflectors and aiming devices so that spray is only directed into the canopy; - Block off upward pointed nozzles when there is no overhanging canopy; - Use only enough air volume to penetrate the canopy and provide good coverage; - Do not allow the spray to go beyond the edge of the cultivated area (i.e., turn off sprayer when turning at end rows); - Only spray inward, toward the orchard or vineyard, for applications to the outside rows. No-Spray Zone Requirements for Soil and Foliar Applications: Do not apply within 25 feet of lakes, reservoirs ,rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish farm ponds. Runoff Management: Do not cultivate within 10 feet of the aquatic areas to allow growth of a vegetative filter strip. When using MONTANA 4F INSECTICIDE on erodible soils. Best Management Practices for minimizing runoff should be employed. Consult your local Natural Resources Conservation Service for recommendations in your use area. Endangered Species Notice: Under the Endangered Species Act, it is a Federal Offense to use any pesticide in a manner that results in the death of a member of an endangered species. Consult your local county bulletin, County Extension Agent, or Pesticide State Lead Agency for information concerning endangered species in your area.

GENERAL NOTICE 7

RESISTANCE MANAGEMENT Some insects are known to develop resistance to insecticides after repeated use. As with any insecticide, the use of this product should conform to resistance management strategies established for the use area. MONTANA 4F INSECTICIDE contains a Group 4A insecticide. Insect biotypes with acquired or inherent resistance to Group 4A may eventually dominate the insect population if Group 4A insecticides are used repeatedly as the predominant method of control for targeted species. This may eventually result in partial or total loss of control of those species by MONTANA 4F INSECTICIDE and to other Group 4A products. The active ingredient in MONTANA 4F INSECTICIDE belongs to the neonicotinoid chemical class. When applying as a foliar treatment, avoid using a block of more than three consecutive applications of MONTANA 4F INSECTICIDE and/or other Group 4A products having the same or similar mode of action. Following a neonicotinoid block of treatments, Rotam strongly encourages the rotation to a block of applications with effective products of a different mode before using additional applications of neonicotinoid products. Using a block rotation or windowed approach, along with other IPM practices, is considered an effective use strategy for preventing or delaying an insect pest's ability to develop resistance to this class of chemistry. When applying as a soil treatment, do not apply more than one application of MONTANA 4F INSECTICIDE during a single growing season. Foliar applications of MONTANA 4F INSECTICIDE, or other Group 4A products from the neonicotinoid chemical class should not be made following a long residual, soil application of MONTANA 4F INSECTICIDE, or other neonicotinoid products. Other Group 4A, neonicotinoid products used as foliar treatments include: Actara(R), Admire(R), Assail(R), Calypso(R), Centric(R), Clutch(R), Couraze(R), Gallant(R), Impulse(R), Intruder(R), Leverage(R), Nuprid(R), Pasada(R), Provado(R), Trimax(R) Pro, and Venom(R). Other Group 4A, neonicotinoid products used as soil/seed treatments include: Admire Pro(R), Advise(R), Alias(R), Belay(R), Couraze(R), Cruiser(R), Gaucho(R), Macho(R), Macho(R) Max, Nuprid(R), Platinum(R), Venom(R) and Widow(R). Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations. Also, for more information on Insect Resistance Management (IRM), visit the Insecticide Resistance Action Committee (IRAC) on the web at http://www.irac-online.org/.

GENERAL NOTICE 8

APPLICATION INSTRUCTIONS Soil Application: Direct applications of MONTANA 4F INSECTICIDE into the seed or root-zone of crop. Failure to place MONTANA 4F INSECTICIDE into root-zone may result in loss of control or delay in onset of activity. Apply MONTANA 4F INSECTICIDE with properly calibrated ground or chemigation application equipment. Do not apply with aerial application equipment. Broadcast, foliar applications are only directed for use on seedling flats or trays, or where product is intended to be washes from foliage to soil prior to drying on foliage. Optimum activity of MONTANA 4F INSECTICIDE results from applications to the root-zone of plants to be protected. The earlier MONTANA 4F INSECTICIDE is available to a developing plant, the earlier the protection begins. MONTANA 4F INSECTICIDE is continuously taken into the roots over a long period of time and the systemic nature of MONTANA 4F INSECTICIDE allows movement from roots through the xylem tissue to all vegetative parts of the plant. The rate of MONTANA 4F INSECTICIDE applied affects the length of the plant protection period. Use higher rates within the specified rate range when infestations occur later in crop development, or where pest pressure is continuous. MONTANA 4F INSECTICIDE will generally not control insects infesting flowers, blooms or fruit. Additional crop protection mat be required for insects feeding in or on these plant parts and for insects not listed in the crop-specific, pests controlled sections of this label. Additional, specific MONTANA 4F INSECTICIDE application instructions are also provided in the crop-specific sections of this label. Suppression, or less than complete control of certain diseases and insect pests including reduced feeding, may also result from MONTANA 4F INSECTICIDE applications. Complete control of these pests/diseases may require supplemental control measures. MONTANA 4F INSECTICIDE is not allowed for use on crops grown for production of true seed intended for private or commercial planting unless issued under State specific 24 (c) labeling. As with any insecticide, care should be taken to minimize exposure of MONTANA 4F INSECTICIDE to honey bees and other pollinators. Additional information on MONTANA 4F INSECTICIDE uses for these crops and other questions may be obtained from the Cooperative Extension Service, PCAs, or a private consultant. Pre-mix MONTANA 4F INSECTICIDE with water or other appropriate diluent prior to application. Keep MONTANA 4F INSECTICIDE and water suspension agitated to avoid settling. Restriction: Do not apply more than 0.50 lbs. active ingredient per acre, per year regardless of formulation or method of application unless specified within a crop specific section for a given crop.

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GENERAL NOTICE 9

APPLICATION INSTRUCTIONS Foliar Application: Apply MONTANA 4F INSECTICIDE as a direct or broadcast foliar spray. Thorough coverage of foliage is necessary without runoff for insecticidal efficacy. Use adequate spray volumes, properly calibrated application equipment and spray adjuvant if necessary to obtain thorough coverage. Failure to provide adequate coverage and retention of MONTANA 4F INSECTICIDE on leaves and fruit may result in loss of insect control or delay in onset of activity. MONTANA 4F INSECTICIDE may be applied with properly calibrated ground or aerial application equipment. Use minimum labeled spray volumes unless otherwise specified on crop specific application sections are 10 Gallons/Acre by ground application and 5 gallons/Acre through aerial equipment. MONTANA 4F INSECTICIDE may also be applied by overhead chemigation (see additional CHEMIGATION DIRECTIONS FOR USE section below) if allowed in crop specific application section. MONTANA 4F INSECTICIDE is not directed for use on crops grown for production of true seed intended for private or commercial planting but may be allowed under state specific state-specific 24(c) labeling. Apply with any insecticide, care must be taken to minimize exposure of MONTANA 4F INSECTICIDE to honey bees and other pollinators. Restrictions: - Do not apply MONTANA 4F INSECTICIDE on crops requiring bee pollination during bloom and for a minimum of 10 days prior to bloom. Additional information on MONTANA 4F INSECTICIDE uses for these crops and other questions may be obtained from the Cooperative Extension Service, PCAs, or consultants. - Do not apply more than 0.5 lbs. active ingredient per acre, per crop season, regardless of formulation or method of application unless specified within a crop specific section for a given crop.

GENERAL NOTICE 10

CHEMIGATION USE DIRECTIONS Types of Irrigation Systems Chemigation applications of MONTANA 4F INSECTICIDE may only be made to crops through chemigation systems as specified in crop-specific Application section of this label. Uniform Water Distribution and System Calibration The irrigation system must provide uniform distribution of treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. Water Volume Overhead foliar chemigation applications should be made as concentrated as possible. Retention of MONTANA 4F INSECTICIDE on target site of insect infestation is necessary for optimum activity. Chemigation applications of MONTANA 4F INSECTICIDE should not be made in water volumes exceeding 0.1 inches/Acre. Chemigation Monitoring A person knowledgeable of the chemigation system, and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Drift Do not apply when wind speed favors drift beyond the area intended for treatment.

GENERAL NOTICE 11

Required System Safety Devices The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pieline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Using Water from Public Water Systems Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional automatic quick-closing check value to prevent the flow of fluid back toward the injection. The pesticide injection pipeline must contain a functional, normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or, in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

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GENERAL NOTICE 12

ROTATIONAL CROPS* Treated areas may be replanted with any crop specified on an imidacloprid label, or any crop for which a tolerance exists for the active ingredient, as soon as practical following the last application. For crops not listed on an imidacloprid label, or for crops for which no tolerances for the active ingredient have been established, a 12-month plant-back interval must be observed. IMMEDIATE PLANT-BACK: All crops on this label plus the following crops not on this label: barley, canola, corn (field, pop & sweet), rapeseed, sorghum, sugar beet and wheat. 30-DAY PLANT-BACK: Cereals (including buckwheat, millet, oats, rice, rye, and triticale), soybeans (soil applications only) and safflower. 10-MONTH PLANT-BACK: Onions and bulb vegetables. 12-MONTH PLANT-BACK: All Other Crops * Cover crops for soil building or erosion control may be planted any time, but do not graze or harvest for food or feed.

GENERAL NOTICE 13

MONTANA 4F Insecticide CONVERSION CHART FOR LINEAR APPLICATION RATE fluid RATE fluid ounces/1000 row-feet ounces/Acre Based on average row spacing (in inches): 10 15 20 25 30 35 40 45 5 0.10 0.14 0.19 0.24 0.28 0.33 0.38 0.43 6 0.12 0.17 0.23 0.28 0.34 0.40 0.46 0.51 7 0.14 0.20 0.26 0.33 0.40 0.47 0.54 0.60 8 0.16 0.23 0.30 0.38 0.46 0.54 0.61 0.69 9 0.17 0.26 0.34 0.43 0.51 0.60 0.69 0.78 10 0.19 0.28 0.38 0.48 0.58 0.67 0.77 0.86 11 0.21 0.32 0.42 0.52 0.63 0.74 0.84 0.94 12 0.23 0.34 0.46 0.58 0.69 0.80 0.92 1.04 13 0.25 0.38 0.50 0.62 0.74 0.87 0.99 1.12 14 0.27 0.40 0.54 0.67 0.80 0.94 1.07 1.21 15 0.28 0.43 0.58 0.72 0.86 1.00 1.14 1.29 16 0.30 0.46 0.61 0.76 0.92 1.07 1.22 1.38 Important Note: The MONTANA 4F Insecticide rate applied affects the length of control and to a considerable extent, the degree of control or effect. Row-spacing X MONTANA 4F Insecticide rate combinations in shaded blocks may not provide adequate residual pest control and are not recommended for long-term, residual control. Use higher labeled rates where infestations may occur later in crop development or where pest pressure is continuous. Rotam North America, Inc. offers no warranty for use of MONTANA 4F Insecticide at rates below 0.35 fluid ounces/1000 row-feet.

TANK MIX INFORMATION

Mixing Order
When pesticide mixtures are needed, add wettable powder first, MONTANA 4F INSECTICIDE and other flowable (suspension concentrate) products second, and emulsifiable concentrates last. Ensure good agitation as each component is added. Do not add an additional component until the previous is thoroughly mixed. If a fertilizer solution is added, a fertilizer/pesticide compatibility agent may be needed. Maintain constant agitation during both mixing and application to ensure uniformity of spray mixture.

Compatibility Note
Test compatibility of the intended mixture before adding MONTANA 4F INSECTICIDE to the spray or mix tank. Add proportionate amounts of each ingredient in the appropriate order to a pint or quart jar, cap, shake for 5 minutes, and let set for 5 minutes. Do not use poor mixing formulations or formulations that do not readily redisperse.

SPECIAL INSTRUCTIONS

Mixing Instructions
To prepare the application mixture, add a portion of the required amount of water to the tank and add MONTANA 4F INSECTICIDE. Complete filling mixing tank with balance of water needed. Maintain sufficient agitation during both mixing and application. MONTANA 4F INSECTICIDE may also be used with other pesticides and/or fertilizer solutions (please see COMPATIBILITY NOTE below.). When tank mixtures of MONTANA 4F INSECTICIDE and other pesticides are involved, prepare the tank mixture as directed above and follow suggested Mixing Order below.

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Trade name	MOVENTO®
Product code (UVP)	79273932
SDS Number	102000017161
EPA Registration No.	264-1050

Relevant identified uses of the substance or mixture and uses advised against

Use	Insecticide
Restrictions on use	See product label for restrictions.

Information on supplier

Supplier	Bayer CropScience 2 T.W. Alexander Drive Research Triangle PK, NC 27709 USA
Responsible Department	Email: SDSINFO.BCS-NA@bayer.com

Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days)	1-800-334-7577
Product Information Telephone Number	1-866-99BAYER (1-866-992-2937)

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
Skin sensitisation: Category 1B
Reproductive toxicity: Category 2
Specific target organ toxicity - single exposure: Category 3

Labelling in accordance with regulation HCS 29CFR §1910.1200

Signal word: Warning

Hazard statements
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
May cause respiratory irritation.

Precautionary statements
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Avoid breathing mist/ spray.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Call a POISON CENTER/doctor/physician if you feel unwell.
IF ON SKIN: Wash with plenty of water/ soap.
If skin irritation or rash occurs: Get medical advice/ attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Specific treatment (see supplemental first aid instructions on this label).
Wash contaminated clothing before reuse.
IF exposed or concerned: Get medical advice/ attention.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local regulation.

Hazards Not Otherwise Classified (HNOC)
No physical hazards not otherwise classified.
No health hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Spirotetramat	203313-25-1	22.40

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice
When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Inhalation
Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Skin contact
Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Eye contact
Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

Ingestion	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms	To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

Treatment	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable	Water spray, Carbon dioxide (CO2), Foam, Sand
Unsuitable	High volume water jet
Special hazards arising from the substance or mixture	In the event of fire the following may be released:, Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NOx)

Advice for firefighters

Special protective equipment for firefighters	Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
Further information	Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.
Flash point	> 100 °C
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.
Additional advice	Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal.
Reference to other sections	Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.
Hygiene measures	Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Spirotetramat	203313-25-1	1.4 mg/m3 (SK-SEN)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

Exposure controls

Personal protective equipment
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection	When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.
Hand protection	Chemical resistant nitrile rubber gloves
Eye protection	Safety glasses with side-shields
Skin and body protection	Wear long-sleeved shirt and long pants and shoes plus socks.
General protective measures	Remove contaminated clothing immediately and dispose of safely. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	white to light beige
Physical State	Liquid
Odor	weak chalk-like
Odour Threshold	No data available
pH	4.5
Vapor Pressure	No data available
Vapor Density (Air = 1)	No data available
Density	1.07 g/cm³ at 20 °C
Evaporation rate	No data available
Boiling Point	No data available
Melting / Freezing Point	No data available
Water solubility	dispersible
Minimum Ignition Energy	Not applicable
Decomposition temperature	Not applicable
Partition coefficient: n-octanol/water	No data available
Flash point	> 100 °C

Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not applicable

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition	Not applicable
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	freezing
Incompatible materials	No data available
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Skin contact, Skin Absorption, Ingestion
Immediate Effects	
Eye	May cause mild irritation to eyes.
Skin	Harmful if absorbed through skin.
Ingestion	Harmful if swallowed.

Information on toxicological effects

Acute oral toxicity	LD50 (female Rat) > 2,000 mg/kg
Acute inhalation toxicity	LC50 (male/female combined Rat) > 3.0 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration. No deaths
Acute dermal toxicity	LD50 (male/female combined Rat) > 4,000 mg/kg
Skin corrosion/irritation	No skin irritation (Rabbit)
Serious eye damage/eye irritation	Mild eye irritation. (Rabbit)
Respiratory or skin	Sensitising (Guinea pig)

sensitisation

Assessment STOT Specific target organ toxicity – repeated exposure

Spirotetramat did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Spirotetramat was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Spirotetramat was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Assessment toxicity to reproduction

Spirotetramat caused male reproductive toxicity in the presence of general toxicity in the rat at very high experimental dose levels. There were no effects on male fertility in mice and dogs. The reproductive toxicity seen with Spirotetramat is due to an overwhelmed elimination capacity at high doses. The high dose levels needed for this effect cannot be achieved even in a worst case exposure scenario.

Assessment developmental toxicity

Spirotetramat caused developmental toxicity only at dose levels toxic to the dams. Spirotetramat caused a delayed foetal growth, an increased incidence of variations.

Further information

Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish	LC50 (Lepomis macrochirus (Bluegill sunfish)) 2.20 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient spirotetramat.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) > 42.7 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient spirotetramat. EC50 (Chironomus riparius (non-biting midge)) 0.46 mg/l

Exposure time: 28 d
The value mentioned relates to the active ingredient spirotetramat.

NOEC (Chironomus riparius (non-biting midge)) 0.1 mg/l
Exposure time: 28 d
The value mentioned relates to the active ingredient spirotetramat.

Toxicity to aquatic plants
IC50 (Raphidocelis subcapitata (freshwater green alga)) 8.15 mg/l
Growth rate; Exposure time: 72 h
The value mentioned relates to the active ingredient spirotetramat.

Biodegradability
Spirotetramat:
Not rapidly biodegradable

Koc
Spirotetramat: Koc: 289

Bioaccumulation
Spirotetramat:
Does not bioaccumulate.

Mobility in soil
Spirotetramat: Moderately mobile in soils

Environmental precautions
Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.
Do not allow to get into surface water, drains and ground water.
Do not apply when weather conditions favor runoff or drift.
Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites.
Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.
Apply this product as specified on the label.
Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product
Dispose in accordance with all local, state/provincial and federal regulations.
Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law.
If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Contaminated packaging
Follow advice on product label and/or leaflet.
Do not re-use empty containers.
Triple rinse containers.
Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning.
If burned, stay out of smoke.

RCRA Information Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

49CFR Not dangerous goods / not hazardous material

IMDG

UN number	**3082**
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SPIROTETRAMAT SOLUTION)

IATA

UN number	**3082**
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (SPIROTETRAMAT SOLUTION)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Freight Classification: INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 264-1050
US Federal Regulations
TSCA list
Alkylarylpolyglycol ether 104376-75-2
US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
Not applicable.
SARA Title III - Section 302 - Notification and Information
None.
SARA Title III - Section 313 - Toxic Chemical Release Reporting
None.
US States Regulatory Reporting
CA Prop65

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients
None.

EPA/FIFRA Information:
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

Signal word: Caution!

Hazard statements: Harmful if swallowed or absorbed through skin.
Avoid contact with skin and clothing.
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
Wash thoroughly with soap and water after handling.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

NFPA 704 (National Fire Protection Association):

Health - 1	Flammability - 1	Instability - 0	Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1	Flammability - 1	Physical Hazard - 0	PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: The following sections have been revised: Section 2: Hazards Identification.

Revision Date: 07/10/2018

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.

Safety Data Sheet
MULTI-SPRED

SDS Number: 114 **Revision:** February 1, 2017

Section 1 · *IDENTIFICATION*

Product Name Multi-Spred

Other Identification Sorbitan tioleate, methyl soyate blend, linear primary alcohol ethoxylate and modified polydimethyl siloxane.

Recommended Use Agricultural spray adjuvant.

Manufacturer

Company Name Custom Ag Formulators, Inc.
Address 3430 S Willow Ave, Fresno, CA 93725, United States
Telephone (800) 355-4457
Website www.4caf.com

Emergency Contacts

Custom Ag Formulators, Inc.	(559) 435-1052
CHEMTREC	(800) 424-9300 (Domestic) (703) 527-3887 (International)

Section 2 · *HAZARD(S) IDENTIFICATION*

Signal Word Warning

Label

Physical Hazards Not Classified.

Health Hazards Category 4

Reactivity Hazards Category 0

Environmental Hazards Category 0

Flammability Hazards Category 0

OSHA Defined Hazards Not Classified.

Hazard Statement H319-Causes Serious Eye Irritation
H402-Harmful to aquatic life.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local, regional, national, and international regulations.

Section 3 · *COMPOSITION/INFORMATION ON INGREDIENTS*

Mixtures

Chemical Name	*Common Name & Synonyms*	*CAS Number*	*%*
Proprietary ethoxylated alcohol	N/A		Proprietary

Proprietary ingredient 2	N/A	Proprietary

Section 4 · *FIRST-AID MEASURES*

Inhalation	When symptoms occur: go into open air and ventilate suspected area. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin Contact	Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse.
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician.
Ingestion	Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor.
General Information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

Section 5 · *FIRE-FIGHTING MEASURES*

Suitable extinguishing	Not flammable, use media suitable for combustibles involved in fire.
Unsuitable extinguishing	None known.
Specific hazards arising from the chemical	*Fire Hazard:* Not considered flammable but may burn at high temperatures. *Explosion Hazard:* Product is not explosive. *Reactivity:* May react violently with oxidants, causing fire and explosion hazard.
Special protective equipment and precautions for firefighters	Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.
Fire-fighting equipment/instructions	Use water spray or fog for cooling exposed containers. Do not breathe fumes from fires or vapors from decomposition. Do not allow run-off from firefighting to enter drains or water courses.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Do not enter fire area without proper protective equipment, including respiratory protection.

Section 6 · *ACCIDENTAL RELEASE MEASURES*

Personal precautions, protective equipment	Avoid all contact with skin, eyes, or clothing. Avoid breathing vapor, mist, or spray. Use appropriate personal protection equipment (PPE). Evacuate unnecessary personnel.

and emergency procedures

Methods and materials for containment and cleaning up

Large Spills	Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as: saw dust or cellulosic material. If spilled directly onto the ground, remove sufficient soil to ensure material is fully recovered. Contact competent authorities after a spill.
Small Spills	Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Environmental precautions — Prevent entry to sewers and public waters.

Section 7 · *HANDELING & STORAGE*

Precautions for safe handling — Do not handle until all safety precautions have been read and understood. Use appropriate personal protection equipment (PPE). Avoid contact with skin, eyes and clothing. Avoid breathing vapors, mist, and spray. Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product. Wash hands and forearms thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Always wash your hands immediately after handling this product, and once again before leaving the workplace.

Conditions for safe storage, including any incompatibilities — *Storage Conditions:* Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers. Acetaldehyde. Chlorine. Ethylene oxide. Isocyanates. Peroxides. Bromine.

Section 8 · *EXPOSURE CONTROLS/PERSONAL PROTECTION*

Occupational exposure limits — No exposure limits noted for ingredient(s).

Biological limit values — No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls — Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal protective equipment (PPE)

Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	Neoprene rubber gloves and apron should be worn to prevent repeated or prolonged contact with the liquid. Wash contaminated clothing prior to reuse.
Hand protection	Wear appropriate chemical resistant gloves.

Respiratory protection	None generally required. If conditions exist where mist may be generated, a NIOSH/MSHA approved mist respirator should be worn.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	There are no known hazards associated with this product when use as recommended, however common good industrial hygiene practices should be followed, such as washing thoroughly after handling and before eating or drinking.

Section 9 · *PHYSICAL & CHEMICAL PROPERTIES*

Appearance	Amber, liquid.
Odor	Possible slight petroleum odor.
Odor threshold	N/A
pH	7.45
Melting point/freezing point	N/A / > 20 °F (> -6.67 °C)
Initial boiling point and boiling range	> 300 °F (> 148.9 °C)
Flash point	> 250 °F (> 121.1 °C)
Evaporation rate	1000x
Flammability (solid, gas)	N/A
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	N/A
Flammability limit - upper (%)	N/A
Explosive limit - lower (%)	N/A
Explosive limit - upper (%)	N/A
Vapor density	N/A
Relative density	7.58 lbs/gal
Specific gravity	0.92
Solubility(ies)	
Solubility (water)	100%
Partition coefficient (n-octanol/water)	N/A
Auto-ignition temperature	N/A
Decomposition temperature	N/A
Viscosity	115.5 centistokes @ 68 °F (20 °C)

Section 10 · *STABILITY & REACTIVITY*

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions
Possibility of hazardous reactions	Hazardous polymerization will not occur
Conditions to avoid	Direct sunlight. Extremely high or low temperatures. Sources of ignition. Incompatible materials.
Incompatible materials	Strong oxidants such as liquid chlorine, enriched oxygen and sodium or calcium hypochlorite. Strong acids. Strong bases.

Hazardous decomposition products	Thermal decomposition generates: Carbon oxides (CO, CO2). Nitrogen oxides. Silicon oxides. Formaldehyde. Formaldeyhde is a potential carcinogen and can act as a potential skin and respiratory sensitizer. Formaldehyde can also cause respiratory and eye irritation.

Section 11 · *TOXICOLOGICAL INFORMATION*

Information on likely routes of exposure:

Ingestion	Not determined.
Inhalation	Not determined.
Skin Contact	Not determined.
Eye Contact	Not determined.

Symptoms related to the physical, chemical and toxicological characteristics	Not determined.

Information on toxicological effects:

Acute toxicity	Not determined.
Skin corrosion/irritation	Not determined.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	May cause an allergic skin reaction
Skin sensitization	May cause an allergic skin reaction
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
OSHA Specifically Regulated Substances	Not listed.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not available.

Section 12 · *ECOLOGICAL INFORMATION*

Ecotoxicity	Harmful to aquatic life.
Persistence and degradability	No data available.

Bio accumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Section 13 · *DISPOSAL CONSIDERATION*

Disposal instructions	Consult federal, state and local regulations for disposal requirements.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Section 14 · *TRANSPORT INFORMATION*

General	Not DOT regulated in domestic (USA ground) transportation in package sizes less than 3,550 lbs (317 gallons); 1,610 kg (1,200 liters). The DOT transportation information below is for shipments with package sizes equal to or exceeding this value. IMDG Regulated Marine Pollutant.

DOT - Basic shipping requirements:

UN number	Not regulated for transport
DOT Label	Not regulated for transport
Proper shipping name	Not regulated for transport
Hazard class	Not regulated for transport
Packing group	Not regulated for transport

IMGD - Basic shipping requirements:

UN number	Not regulated for transport
IMGD Label	Not regulated for transport
Proper shipping name	Not regulated for transport
Hazard class	Not regulated for transport
Packing group	Not regulated for transport
EMS NO	Not regulated for transport

IATA - Basic shipping requirements:

UN number	Not regulated for transport
Proper shipping name	Not regulated for transport
Hazard class	Not regulated for transport
Packing group	Not regulated for transport
OCAP	Not regulated for transport

Environmental hazards

Marine pollutant	N/A
Special precautions	Read safety instructions, SDS and emergency procedures before handling.

Section 15 · *REGULATORY INFORMATION*

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List. This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Proposition 65 (CA) Warning: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)		Not regulated
CERCLA Hazardous Substance List (40 CFR 302.4)		
	Reportable Quantity	Not applicable
SARA 304 Emergency release notification		Not regulated
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		Not listed
Superfund Amendments and Reauthorization Act of 1986 (SARA)		
Hazard categories	Immediate Hazard	Yes
	Delayed Hazard	No
	Fire Hazard	No
	Pressure Hazard	No
	Reactivity Hazard	No
SARA 302 Extremely hazardous substance		Not listed
SARA 311/312 Hazardous chemical		Immediate (acute) health hazard

Section 16 · *OTHER INFORMATION*

Issue date February 1, 2017

Disclaimer The above information is based on data of which the manufacturer is aware and is believed to be correct as of the date hereon. Since the information contained herein may be applied under conditions beyond the manufacturer's control and which may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, the manufacturer does not assume any responsibility for the results of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

SAFETY DATA SHEET
MUSTANG® INSECTICIDE

SDS # : 1495-A
Revision date: 2015-04-20
Format: NA
Version 1.02

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name MUSTANG® INSECTICIDE

Other means of identification

Product Code(s) 1495-A

Synonyms FMC 56701; A mixture of the stereoisomers (S)-α-cyano-3-phenoxybenzyl (1RS,3RS;1RS,3SR)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate where the ratio of the (S);(1RS,3RS) isomeric pair to the (S); (1RS,3SR) isomeric pair lies in the ratio range 45–55 to 55–45; (S)-cyano(3-phenoxyphenyl)methyl (±)-cis-trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate

Active Ingredient(s) Zeta-cypermethrin (4s)

Chemical Family Pyrethroid Pesticide

Alternate Commercial Name Mustang 1.5 EW

Recommended use of the chemical and restrictions on use

Recommended Use: Insecticide

Restrictions on Use: Use as recommended by the label

Manufacturer Address

FMC Corporation
1735 Market Street
Philadelphia, PA 19103
(215) 299-6000 (General Information)
msdsinfo@fmc.com (E-Mail General Information)

Emergency telephone number

Medical Emergencies:
1 800 / 331-3148 (PROSAR - U.S.A. & Canada)
1 651 / 632-6793 (PROSAR - All Other Countries - Collect)
For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 3

Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Danger

Hazard Statements
H301 - Toxic if swallowed
H331 - Toxic if inhaled
H335 - May cause respiratory irritation
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements - Prevention
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
Precautionary Statements - Response
P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P311 - Call a POISON CENTER or doctor
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor
P330 - Rinse mouth

Precautionary Statements - Storage
P405 - Store locked up
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
P501 - Dispose of contents/ container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
No hazards not otherwise classified were identified.

Other Information
Very toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Pyrethroid Pesticide.

Chemical name	CAS-No	Weight %
Zeta-cypermethrin	52315-07-8	17.1
Propylene glycol	57-55-6	5-10

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

Eye Contact
Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.

Skin Contact
Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.

Inhalation
Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Ingestion
Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting or give anything by mouth to an unconscious person. Do not give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed
Central nervous system effects.

Indication of immediate medical attention and special treatment needed, if necessary
This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Foam, Carbon dioxide (CO_2), Dry chemical, Soft stream or water fog only if necessary.

Specific Hazards Arising from the Chemical
Hazardous Combustion Products
Carbon oxides (COx), Hydrogen cyanide, Hydrogen chloride, Chlorine.

Explosion data
Sensitivity to Mechanical Impact
Not sensitive.
Sensitivity to Static Discharge
Not sensitive.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.

Other
For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

Environmental Precautions
Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.

Methods for Containment
Dike to prevent runoff. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up
Clean and neutralize spill area, tools and equipment by washing with bleach water and soap. Absorb rinsate and add to the collected waste. Waste must be classified and labeled prior to recycling or disposal. Dispose of waste as indicated in Section 13.

7. HANDLING AND STORAGE

Handling
Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

Storage Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of reach of children and animals. Keep/store only in original container.

Incompatible products None known

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Propylene glycol 57-55-6	-	-	TWA: 10 mg/m^3 (aerosol only) TWA: 50 ppm (aerosol and vapor) TWA: 155 mg/m^3 (aerosol and vapor)	-

Appropriate engineering controls

Engineering measures Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Individual protection measures, such as personal protective equipment

Eye/Face Protection For dust, splash, mist or spray exposure, wear chemical protective goggles.

Skin and Body Protection Wear long-sleeved shirt, long pants, socks, and shoes.

Hand Protection Protective gloves

Respiratory Protection For dust, splash, mist or spray exposures wear a filtering facepiece respirator (N95, R95, or P95) which is approved for pesticides (U.S. NIOSH/MSHA, EU CEN or comparable certification organization).

Hygiene measures Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Remove and wash contaminated clothing before re-use. Launder work clothing separately from regular household laundry.

General information If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers These recommendations apply to the product as supplied

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance White, liquid
Physical State Liquid
Color White
Odor Sharp acrid
Odor threshold No information available
pH 4.4 - 4.5
Melting point/freezing point Not applicable
Boiling Point/Range No information available
Flash point Not applicable

Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Density	8.66 lb/gal
Specific gravity	1.04
Water solubility	Emulsifies
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Molecular weight	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity None under normal use conditions

Chemical Stability Stable under recommended storage conditions.

Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid Heat, flames and sparks.

Incompatible materials None known.

Hazardous Decomposition Products Carbon oxides (COx), Hydrogen cyanide, Hydrogen chloride, Chlorine.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral	234 mg/kg (rat)
LD50 Dermal	> 2,000 mg/kg (rabbit)
LC50 Inhalation	> 0.89 mg/L (4-hr) (rat)
Serious eye damage/eye irritation	Mildly irritating (rabbit).
Skin corrosion/irritation	Slightly or non-irritating (rabbit).
Sensitization	Sensitizer

Information on toxicological effects

Symptoms Signs of toxicity in laboratory animals included tremors, tonic - clonic convulsions, loss of muscle control, rales, bloody oral discharge, hypersensitivity to touch and ataxia.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity	Zeta-cypermethrin: Long-term exposure caused neurotoxicity (body tremors, decreased motor activity), decreased body weight and increased liver weight.
Mutagenicity	Zeta-cypermethrin: Not genotoxic in laboratory studies
Carcinogenicity	Cypermethrin caused an increase in benign lung tumors in mice, but not in rats. EPA has classified cypermethrin as a possible human carcinogen based on this information, but does not regulate based on its low cancer risk.

Neurological effects	Zeta-cypermethrin: Causes neurotoxicity (tremors and decreased motor activity) following acute, subchronic or chronic exposure.
Reproductive toxicity	Zeta-cypermethrin: No toxicity to reproduction in animal studies.
Developmental toxicity	Zeta-cypermethrin: Not teratogenic in animal studies.
STOT - single exposure	May cause respiratory irritation. See listed target organs below.
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure. See listed target organs below.
Target organ effects	Zeta-cypermethrin: Central Nervous System (CNS), blood.
Neurological effects	Zeta-cypermethrin: Causes neurotoxicity (tremors and decreased motor activity) following acute, subchronic or chronic exposure.
Aspiration hazard	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Zeta-cypermethrin (52315-07-8)				
Active Ingredient(s)	Duration	Species	Value	Units
Zeta-cypermethrin	48 h EC50	Crustacea	0.14	µg/L
	96 h LC50	Fish	0.69	µg/L
	72 h EC50	Algae	>1	mg/L
	21 d NOEC	Crustacea	0.01	µg/L
	21 d NOEC	Fish	0.015	µg/L

Persistence and degradability	Zeta-cypermethrin: Non-persistent. Readily hydrolyzed. Not readily biodegradable.
Bioaccumulation	Zeta-cypermethrin: The substance does not have a potential for bioconcentration.
Mobility	Zeta-cypermethrin: Immobile, Not expected to reach groundwater.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods	Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance.
Contaminated Packaging	Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

14. TRANSPORT INFORMATION

DOT

UN/ID no	UN3352
Proper Shipping Name	Pyrethroid pesticide, liquid, toxic
Hazard class	6.1
Packing Group	III
Marine Pollutant	Zeta-cypermethrin.
Description	UN3352, Pyrethroid pesticide, liquid, toxic, 6.1, PG III, Marine Pollutant

TDG

The "Marine Pollutant" marking is only applicable when shipped by vessel, and is not applicable when shipped only by road or rail in Canada.

UN/ID no	UN3352
Proper Shipping Name	Pyrethroid pesticide, liquid, toxic
Hazard class	6.1
Packing Group	III
Marine Pollutant	Zeta-cypermethrin.

Description	UN3352, Pyrethroid pesticide, liquid, toxic (Zeta-cypermethrin (4s)), 6.1, PG III, Marine Pollutant

ICAO/IATA

UN/ID no	UN3352
Proper Shipping Name	Pyrethroid pesticide, liquid, toxic
Hazard class	6.1
Packing Group	III
Description	UN3352, Pyrethroid pesticide, liquid, toxic (Zeta-cypermethrin (4s)), 6.1, PG III, Marine Pollutant

IMDG/IMO

UN/ID no	UN3352
Proper Shipping Name	Pyrethroid pesticide, liquid, toxic
Hazard class	6.1
Packing Group	III
EmS No.	F-A, S-A
Marine Pollutant	Zeta-cypermethrin
Description	UN3352, Pyrethroid pesticide, liquid, toxic (Zeta-cypermethrin (4s)), 6.1, PG III, Marine Pollutant

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic health hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

FIFRA Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

WARNING
This pesticide is extremely toxic to fish, aquatic invertebrates, oysters and shrimp.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

International Inventories

Component	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Zeta-cypermethrin 52315-07-8 (17.1)			X		X	X	X	X
Propylene glycol 57-55-6 (5-10)	X	X	X	X	X	X	X	X

Mexico - Grade Moderate risk, Grade 2

WHMIS Hazard Class D1B - Toxic materials
D2B - Toxic materials

16. OTHER INFORMATION

NFPA	**Health Hazards** 2	**Flammability** 1	**Instability** 0	**Special Hazards** -
HMIS	**Health Hazards** 2*	**Flammability** 1	**Physical hazard** 0	**Personal Protection** X

Revision date: 2015-04-20
Revision note (M)SDS sections updated

Disclaimer

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Prepared By:

FMC Corporation

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End of Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **NUPRID 2 SC**
EPA Reg. No.: 228-572
Product Type: Insecticide

Company Name: Nufarm Inc.
11901 S. Austin Avenue
Alsip, IL 60803
1-800-345-3330

Telephone Numbers: **For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,**
Call CHEMTREC Day or Night: 1-800-424-9300
For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not exactly the same as on the FIFRA label. Certain sections are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION

HEALTH HAZARDS:
Specific target organ toxicity – Repeated exposure — Category 2

ENVIRONMENTAL HAZARDS:
Hazardous to the aquatic environment, acute — Category 1

SIGNAL WORD:
WARNING

HAZARD STATEMENTS:
May cause damage to organs (heart, liver, blood chemistry, and thyroid) through prolonged or repeated exposure. Very toxic to aquatic life.

PRECAUTIONARY STATEMENTS
Avoid breathing mist/vapors/spray. Use only outdoors or in a well-ventilated area. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor for further treatment advice. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations.

Do not breathe mist/vapors/spray. Get medical advice/attention if you feel unwell. Dispose of contents/container in accordance with local/regional/national/international regulations.

Avoid release to the environment. Collect spillage. Dispose of contents/container in accordance with local/regional/national/international regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Imidacloprid	138261-41-3	21.2 – 22.5
Propylene Glycol	57-55-6	7.6 – 8.4
Other Ingredients	Trade Secret	Trade Secret

Synonyms: 1-[(6-chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.
If in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.
Most Important symptoms/effects, acute and delayed: None expected.
Indication of Immediate medical attention and special treatment if needed: For ingestion there is no specific antidote available. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flash Point: >210°F (>98.9°C) Pensky-Martens
Autoignition Temperature: Not determined **Flammability Limits:** Not determined
Extinguishing Media: Water, carbon dioxide, dry chemical or foam.
Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.
Unusual Fire and Explosion Hazards: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.
Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as hydrogen chloride, hydrogen cyanide, and oxides of carbon and nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.
Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.
Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.
Methods for Cleanup and Disposal: Avoid creation of dusty conditions. If dry, sweep or scoop up material and place into container for disposal. If wet, pump any free liquid into an appropriate closed container. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.
Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

HANDLING:
Harmful if absorbed through skin. Harmful if inhaled. Avoid contact with skin, eyes, or clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

STORAGE:
Store in a cool, dry place and in such a manner as to prevent cross-contamination with other pesticides, fertilizers, food and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Do not contaminate water, food, or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:
Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.
Eye/Face Protection: To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.
Skin Protection: To avoid contact with skin wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves. An emergency shower or water supply should be readily accessible to the work area.
Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.
General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

	OSHA		ACGIH		WEEL	
Component	TWA	STEL	TWA	STEL	TWA	Unit
Imidacloprid	NE	NE	NE	NE	NE	
Propylene Glycol	NE	NE	NE	NE	10	mg/m^3
Other Ingredients	NE	NE	NE	NE	NE	

NE = Not Established
WEEL = Workplace Environmental Exposure Levels

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White aqueous suspension
Odor:	Sweet odor
Odor threshold:	No data available
pH:	6.7 (1% Solution at 20°C)
Melting point/freezing point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	>211°F
Evaporation rate:	No data available
Flammability:	Not flammable
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	1.129 g/ml at 20°C
Solubility(ies):	Dispersible
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	634.6 mPa-s @ 20°C

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.
Chemical Stability: This material is stable under normal handling and storage conditions.
Conditions to Avoid: Excessive heat. Strong exothermal reaction above 200°C.
Incompatible Materials: Not known
Hazardous Decomposition Products: Under fire conditions, may produce gases such as hydrogen chloride, hydrogen cyanide, and oxides of carbon and nitrogen.
Hazardous Reactions: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Skin contact, Inhalation, Eye contact
Symptoms of Exposure: None expected.
Delayed, immediate and chronic effects of exposure: None expected.
Toxicological Data:
Except as noted, data from laboratory studies conducted on a similar product:
Oral: Rat LD_{50}: >2,000 mg/kg
Dermal: Rat LD_{50}: >2,000 mg/kg
Inhalation: Rat 4-hr LC_{50}: >0.63 mg/l (no mortality or signs of toxicity at highest dose tested). > 2.02 on a substantially similar mixture.
Eye Irritation: Rabbit: Minimally irritating
Skin Irritation: Rabbit: Non-irritating
Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: Repeated overexposure to imidacloprid may affect heart, thyroid, blood chemistry, and liver.
Carcinogenicity / Chronic Health Effects: Prolonged overexposure to imidacloprid can cause effects to the thyroid. Imidacloprid did not cause cancer in laboratory animal studies. The U.S. EPA has given imidacloprid a Group E classification (evidence of non-carcinogenicity in humans).
Reproductive Toxicity: In a two-generation reproduction study in rats, imidacloprid produced reduced mean body weights and body weight gains. No other reproductive effects were observed.
Developmental Toxicity: Rat and rabbit studies on imidacloprid resulted in skeletal abnormalities, increased resorptions (rabbits) and reduced body weight gains at doses that were also toxic to mother animals.
Genotoxicity: The imidacloprid mutagenicity studies, taken collectively, demonstrate that imidacloprid is not genotoxic or mutagenic.
Assessment Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Environmental Hazards:
This product is toxic to aquatic invertebrates.

Ecotoxicity:
Data based on the active ingredient Imidacloprid:

96-hour LC_{50} Rainbow Trout:	211 mg/l	Japanese Quail Oral LD_{50}:	31 mg/kg
48-hour EC_{50} Daphnia:	85 mg/l	Bobwhite Quail Oral LD_{50}:	152 mg/kg
96-hour LC_{50} Mysid:	0.038 ppm	House Sparrow Oral LD_{50}:	41 mg/kg
48-hour Honey Bee Contact LD_{50}:	0.078 μg/bee	48-hour Honey Bee Oral LD_{50}:	0.0039 μg/bee

Environmental Fate:
Hydrolysis half-life of imidacloprid is greater than 30 days at pH 7 and 25°C. The aqueous photolysis half-life is less than 3 hours. The soil surface photolysis of imidacloprid has a half-life of 39 days, and in soil, the half-life ranged from 26 to 229 days.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:
Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Handling and Disposal:
Nonrefillable Containers 5 Gallons or Less:
Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration. Do not burn unless allowed by state and local ordinance If burned stay out of smoke.
Nonrefillable containers larger than 5 Gallons:

Nonrefillable container. Do not reuse or refill this container. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration. Do not burn unless allowed by state and local ordinance If burned stay out of smoke.

OR

Refillable containers larger than 5 gallons: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Refillable Container: Refill this container with pesticide only. Do not reuse this container for any other purpose. Close all openings and replace all caps. Contact Nufarm's Customer Service Department at 1-800-345-3330 to arrange for return of the empty refillable container.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this SDS.

DOT

Non Regulated

IMDG

UN 3082, Environmentally hazardous substance, liquid, n.o.s., (Imidacloprid), 9, III, marine pollutant

IATA

Non Regulated

15. REGULATORY INFORMATION

EPA FIFRA INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION. Avoid breathing spray mist. Wear long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves (such as Natural Rubber, Selection Category A). Keep children and pets off treated area until dry.

U.S. FEDERAL REGULATIONS

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):

Immediate and Delayed

Section 313 Toxic Chemical(s):

None

Reportable Quantity (RQ) under U.S. CERCLA:

None

RCRA Waste Code:

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

State Information:
Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not Listed.

16. OTHER INFORMATION

National Fire Protection Association (NFPA) Hazard Rating:
Rating for this product: Health: 2 **Flammability:** 1 **Reactivity:** 0
Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter “Information”) are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND ALL SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

Date of Issue: February 20, 2015 **Supersedes:** January 21, 2015

Safety Data Sheet

Preparation Date 04-May-2015 **Revision date** 02-Jan-2019 **Revision Number:** 3

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier
Product Description: Perm-Up 25DF

Other means of identification
Product code 12U-120
UN/ID no. UN3077
Registration number(s) 70506-66

Recommended use of the chemical and restrictions on use
Recommended use Insecticide.
Uses advised against Activities contrary to label recommendation

Details of the Supplier of the Safety Data Sheet
Supplier Address
UPL NA Inc.
630 Freedom Business Center
Suite 402
King of Prussia, PA 19406

Emergency telephone number
Company Phone Number 1-800-438-6071
Emergency telephone number Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 673-6671 (24hrs)

2. Hazards Identification

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin sensitization	Category 1

Label elements

EMERGENCY OVERVIEW

WARNING

Hazard Statements
May cause an allergic skin reaction
Very toxic to aquatic life

Appearance Off-white **Physical state** powder **Odor** faint

Precautionary Statements - Prevention
Do not get in eyes, on skin, or on clothing

Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves

IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)
OTHER INFORMATION
• Very toxic to aquatic life with long lasting effects
• Very toxic to aquatic life

3. Composition/information on Ingredients

Chemical name	CAS No	Weight-%
Silicon dioxide	112926-00-8	10
Permethrin technical	52645-53-1	25
Sucrose	57-50-1	42

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. First aid measures

FIRST AID MEASURES

Eye contact Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin contact Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Inhalation Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice.

Most Important Symptoms and Effects, Both Acute and Delayed

Most Important Symptoms and Effects no data available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician No information available.

5. Fire-fighting measures

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media no data available.

Specific hazards arising from the chemical
No information available.

Hazardous combustion products Carbon monoxide. Carbon dioxide (CO2). Chlorine. Hydrogen chloride. Sulfur oxides.

Explosion data

Protective equipment and precautions for firefighters

Use personal protective equipment. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment. Remove all sources of ignition. Avoid dust formation. Avoid contact with skin and eyes.

Environmental Precautions

Environmental precautions Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Methods for Clean-Up Sweep up and shovel into suitable containers for disposal. Shovel or sweep up.

7. Handling and Storage

Precautions for safe handling

Handling Do not eat, drink or smoke when using this product. Keep out of reach of children. Remove all sources of ignition. Wear personal protective equipment. Avoid dust formation in confined areas.

Conditions for safe storage, including any incompatibilities

Storage Store in an area where cross-contamination with pesticides, fertilizers, food or feed could not occur. Keep containers tightly closed in a cool, well-ventilated place.

incompatible materials No materials to be especially mentioned.

8. Exposure Controls/Personal Protection

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL
Silicon dioxide		(vacated) TWA: 6 mg/m³ TWA: 20 mppcf : (80)/(% SiO2) mg/m³ TWA
Sucrose	TWA: 10 mg/m³	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 15 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction

Engineering controls Investigate engineering techniques to reduce exposures. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems. PESTICIDE APPLICATORS & WORKERS. THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170.

Personal protective equipment

Eye/Face Protection Where there is potential for eye contact have eye flushing equipment available. Use eye protection to avoid eye contact.

Skin protection Long sleeved clothing. Long pants. Chemical resistant gloves. Socks and footwear.

Respiratory protection Avoid breathing dust. When airborne exposure limits are exceeded (see below), use

NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Consult respirator manufacturer to determine appropriate type equipmentfor given application. Observe respirator use limitations specified by NIOSH or the manufacturer.

General hygiene considerations
Do not eat, drink or smoke when using this product. Wash hands and face before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state	powder		
Appearance	Off-white	**Odor**	faint
color	No information available		

Property	**VALUES**	**Remarks/ • Method**
pH	7.95	
Melting point/freezing point	8.95 °C / 48 °F	
Boiling Point/Range	No information available	
Flash Point	No information available	
Evaporation Rate	No information available	
Flammability (solid, gas)	No information available	
Flammability limit in air		
Upper Flammability Limit	No information available	
Lower Flammability Limit	No information available	
vapor pressure	No information available	
Vapor Density	No information available	
Specific gravity	0.34 g/mL (tap)	
Water solubility	No information available	
Solubility in Other Solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	no data available	
Decomposition temperature	No information available	
Viscosity, kinematic	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

OTHER INFORMATION

Softening point	No information available
molecular weight	No information available
VOC Content	No information available
Liquid Density	No information available

10. Stability and Reactivity

Reactivity
no data available

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Conditions to avoid
Extremes of temperature and direct sunlight.

incompatible materials
No materials to be especially mentioned.

Hazardous decomposition products
Amonia.

11. Toxicological Information

Information on Likely Routes of Exposure

Inhalation HARMFUL IF INHALED.

Eye contact Causes substantial but temporary eye injury.

Skin contact May be harmful if absorbed through the skin.

Ingestion HARMFUL IF SWALLOWED.

Component Information Permethrin - has low mammalian toxicity and virtually no allergic side effects and is not a skin or eye irritant. However, prolonged exposure might result in parathesia (tingling sensation), which is reversible within 12 hours. Exposure to permethrin is via dermal contact and inhalation. In repeat patch tests in humans, dermal applications of permethrin at 1% for up to 9 days did not result in irritation or sensitization. The clinical manifestations of inhalation exposure are confined to the upper respiratory tract and include rhinitis, sneezing, cough, and scratchy throat.
Silicon dioxide(crystalline quartz) - prolonged inhalation of dusts containing free silica may result in the development of pulmonary fibrosis known as silicosis. The initial symptom associated with silicosis is shortness of breath. Progression of the condition results on marked fatigue, dyspnea and cyanosis, loss of appetite, and plueritic pain.

Information on Toxicological Effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.
Mutagenic effects no data available.
Carcinogenicity The information below indicates whether any agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Silicon dioxide 112926-00-8	-	Group 3		-
Permethrin technical 52645-53-1	-	Group 3		-

IARC: (International Agency for Research on Cancer)
Listed (Silica)

Reproductive effects Not Available.
STOT - Single Exposure no data available.
STOT - Repeated Exposure no data available.
Target organ effects Respiratory System, EYES.
Aspiration hazard No information available.

Numerical Measures of Toxicity - No information available

12. Ecological Information

Marine Pollutant.

ecotoxicity

Permethrin has a low Pow of 6.1 but a low potential to bioconcentrate (BCF=500) due to the ease with which it is metabolized.
Extrememly toxic to fish = 0.05 ug/L to 315 ug/L

Extremely toxic to aquatic arthropods LC50 = 0.02 ug/L to 7.6 ug/L
Marine species are often more sensitive than freshwater species. Bacteria, algae, mollusks and amphibians are much more tolerant of permethrin than the fish and arthopods. Care should be taken to avoid contamination of the aquatic environment. Permethrin is slightly toxic to birds and oral L50 values are greater than 3,600 mg/kg. Longer dietary studies showed that concentrations of up to 500 ppm in the diet had no effect on bird reproduction. Permethrin is extremely toxic to fish, aquatic invertebrates and honey bees.
rainbow trout 96 hr LC50 = 2.5 ug/L
Bluegill sunfish 95 hr LC50 = 1.8 ug/L
Japanese quail LD50 = 23,000 mg/kg
Mallard duck LD50 = 11,257 mg/kg Permethrin in soil is stable over a wide range of pH values when applied at agricultural use rates. Permethrin has moderate rate of degradation in soil, At termicidal use rates, permethrin degrades at a slower rate which is governed by soil characteristics such as soil type, microbial population concentration in soil and aerobic conditions of the soil. Due to its high affinity for organic matter, there is little potential for movement in soil or entry into ground water.

Persistence/Degradability
no data available.

Bioaccumulation/ Accumulation
Bioaccumulative potential.

Chemical name	Log Pow
Permethrin technical 52645-53-1	6.5

Other Adverse Effects
no data available

13. Disposal Considerations

Waste Treatment Methods

Waste Disposal Method Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If the wastes cannot be disposed of by use or according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Contaminated packaging Refer to product label.

14. Transport Information

DOT When shipped domestically by highway in non-bulk containers this product can be shipped as not regulated.

UN/ID no.	UN3077
Proper shipping name	Environmentally hazardous substances, solid, n.o.s (Permethrin)
Hazard class	9
Packing group	PG III
IMDG - Marine Pollutant	Marine Pollutant.

ICAO

UN/ID no.	UN3077
Proper shipping name	Environmentally hazardous substance, solid, n.o.s (Permethrin)
Hazard class	9
Packing group	PG III
Description	IMDG - Marine Pollutant

IATA

UN/ID no.	UN3077
Proper shipping name	Environmentally hazardous substances, solid, n.o.s (Permethrin)
Hazard class	9
Packing group	PG III
Description	IMDG - Marine Pollutant

IMDG

UN/ID no.	UN3077
Proper shipping name	Environmentally hazardous substances, solid, n.o.s (Permethrin)
Hazard class	9
Packing group	PG III
EmS No.	F-A, S-F
Environmental hazards	Yes

15. Regulatory Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

signal word	WARNING
Ventilation Control	PESTICIDE APPLICATORS & WORKERS THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170.

Restricted Use Pesticide. Causes substantial but temporary eye injury. Harmful if swallowed. Harmful if inhaled or absorbed through skin. Toxic to fish and aquatic inverebrates. This product is highly toxic to bees.

International Inventories

USINV	Not present
DSL/NDSL	Not present
EINECS/ ELINCS	Not Present
ENCS	Not Present
China	Not Present
KECL	Not Present
PICCS	Not Present
AICS	Not Present
TSCA	Not Present

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

CERCLA
Not applicable

CERCLA
SARA Product RQ 0

RCRA
Pesticide Information

State Regulations

State Right-to-Know
Not applicable
International regulations
U.S. EPA Label information
EPA Pesticide registration number 70506-66

16. Other Information

NFPA **HEALTH** 1 **flammability** 1 **Instability** 0 **Physical hazard** -

Preparation Date 04-May-2015
Revision date 02-Jan-2019
Revision Summary
Update logo Update section 1 Update Section 16***
Disclaimer
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End of SDS

For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
Call CHEMTREC Day or Night: 1-800-424-9300.
For Medical Emergencies Only, Call 1-877-325-1840.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Phostrol® Agricultural Fungicide
EPA Reg. No.: 55146-83
Synonyms: Phosphorous Acid; Ammonium, Sodium, and Potassium Salts
Neutralized Phosphorous Acid
Product Type: Fungicide

Company Name: Nufarm Americas Inc. AGT Division
150 Harvester Drive, Suite 200
Burr Ridge, IL 60527

Date of Issue: April 15, 2008 **Supersedes:** May 30, 2007
Sections Revised: 1, 7, 8, 9, 13 and 14

2. HAZARDS IDENTIFICATION

Emergency Overview:
Appearance and Odor: Clear, colorless liquid with no distinct odor.
Warning Statements: Keep out of reach of children. CAUTION. Causes moderate eye irritation. Harmful if inhaled, swallowed or absorbed through the skin. Avoid breathing vapor or spray mist. Avoid contact with eyes, skin or clothing.

Potential Health Effects:
Likely Routes of Exposure: Inhalation, eye and skin contact.
Eye Contact: Practically non-irritating based on toxicity studies.
Skin Contact: Slightly toxic and slighting irritating based on toxicity studies.
Ingestion: Slightly toxic based on toxicity studies.
Inhalation: Low inhalation toxicity.
Medical Conditions Aggravated by Exposure: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

See Section 11: TOXICOLOGICAL INFORMATION for more information.

Potential Environmental Effects:
This product is toxic to fish and aquatic organisms. Drift and runoff from treated area may be hazardous to fish and aquatic organisms in adjacent aquatic sites.

See Section 12: ECOLOGICAL INFORMATION for more information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	% BY WEIGHT
Mono- and dibasic sodium, potassium, and ammonium phosphites	Not applicable	53.6
Other Ingredients		46.4

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If on Skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.
If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.
If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flash Point: Not applicable due to aqueous formulation
Autoignition Temperature: Not determined **Flammability Limits:** Not determined

Extinguishing Media: Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.
Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.
Unusual Fire and Explosion Hazards: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.
Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as phosphine and oxides of phosphorous.

National Fire Protection Association (NFPA) Hazard Rating:
Rating for this product: Health: 1 **Flammability:** 0 **Reactivity:** 0
Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.
Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.
Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.
Methods for Cleanup and Disposal: Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.
Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

Handling:
Avoid breathing vapor or spray mist. Avoid contact with eyes, skin or clothing. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective

Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Storage:
This product should be stored in its original container in a cool, dry locked place out of the reach of children and out of direct sunlight. Do not use or store near open flame. Do not contaminate water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:
Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Personal Protective Equipment:
Eye/Face Protection: To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.
Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves. An emergency shower or water supply should be readily accessible to the work area.
Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.
General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

	OSHA		ACGIH		
Component	TWA	STEL	TWA	STEL	Unit
Mono- and dibasic sodium, potassium, and ammonium phosphites	NE	NE	NE	NE	

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Clear, colorless liquid with no distinct odor.

Boiling Point:	Not determined	**Solubility in Water:**	Soluble
Density:	11.68 pounds/gallon	**Specific Gravity:**	1.402 @ 20ºC
Evaporation Rate:	Not determined	**Vapor Density:**	Not determined
Freezing Point:	Not determined	**Vapor Pressure:**	Not determined
pH:	7.16	**Viscosity:**	21.8 cps @ 25ºC

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Chemical Stability: This material is stable under normal handling and storage conditions.
Conditions to Avoid: Excessive heat. Do not store near heat or flame.
Incompatible Materials: Strong oxidizing agents, strong reducers, and water-reactive materials.

Hazardous Decomposition Products: Under fire conditions may produce gases such as phosphine and oxides of phosphorous.
Hazardous Reactions: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicological Data:
Data from laboratory studies on this product are summarized below:
Oral: Rat LD_{50}: >5,000 mg/kg
Dermal: Rabbit LD_{50}: >5,000 mg/kg
Inhalation: Rat 4-hr LC_{50}: >2.06 mg/l
Eye Irritation: Rabbit: Practically non-irritating
Skin Irritation: Rabbit: Slightly irritating
Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: Repeated overexposure to inorganic phosphates may disrupt the body's calcium-phosphorus balance and cause increased bone demineralization, dental problems and kidney stones.
Carcinogenicity / Chronic Health Effects: Prolonged overexposure to inorganic phosphates can affect the kidneys, particularly calcification of the kidney. No known carcinogenicity risks are associated with phosphorous acid or inorganic phosphates.
Reproductive Toxicity: Results from several studies in rats with monovalent inorganic phosphates (ortho and condensed) indicate they are not reproductive toxicants. Based on this data, it is not expected that other inorganic phosphates would cause reproductive toxicity.
Developmental Toxicity: Results from multiple studies in rats, mice, rabbits and hamsters indicate that monovalent and divalent ortho and condensed inorganic phosphates did not cause developmental effects. Based on these results, it is not expected that other inorganic phosphates would cause developmental effects.
Genotoxicity: In both *in vitro* and *in vivo* tests, inorganic phosphates have not demonstrated mutagenic or genotoxic effects.

Assessment Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

See Section 2: HAZARDS IDENTIFICATION for more information.

12. ECOLOGICAL INFORMATION

Ecotoxicity:
Studies show that phosphorous acid is not harmful to most non-target organisms, but somewhat toxic to fish and aquatic invertebrates.

Environmental Fate:
Phosphorous acid and its salts are rapidly dissociated in the environment to yield hydrogen and phosphate ions. Over time, the phosphate ions can be taken up by plants as various salts, transformed to different oxidation states such as phosphate, or bound up with other substances in soil.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:
To avoid waste, use all material in this container by application according to label directions. If waste cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state and local governments).

Container Handling and Disposal:
Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and soap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances. If burned, stay out of smoke.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this MSDS.

DOT
Non Regulated – See 49 CFR 173.132(b)(3)

IMDG
Non-regulated – See IMDG 2.6.2.1.3 & 2.10.4.1

IATA
Non Regulated – See IATA 3.6.1.5.3

15. REGULATORY INFORMATION

U.S. Federal Regulations:

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:
Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):
Immediate

Section 313 Toxic Chemical(s):
None

Reportable Quantity (RQ) under U.S. CERCLA:
None

RCRA Waste Code:
None

State Information:
Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not Listed

16. OTHER INFORMATION

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Phostrol is a registered trademark of Nufarm Americas Inc.

Gowan
The Go To Company

Safety Data Sheet
acc. to OSHA

Printing date 07/01/2015 Reviewed on 07/01/2015

1 Identification

· **Product identifier**

· **Trade name: Prefar® 4-E Selective Herbicide**
EPA Registration No.: 10163-200
· **CAS Number:** Active Ingredient: Bensulide (46.0%), CAS:741-58-2
· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Gowan Company
P.O. Box 5569
Yuma, Arizona 85366-5569
(928) 783-8844

· **Information department:** sds@gowanco.com
· **Emergency telephone number:**
Chemtrec® Emergency Telephone 24 - Hours: (Spills, leak or fire) Inside U.S. & Canada: (800) 424-9300
Outside the U.S. & Canada: +011 (703) 527-3887

For medical emergency (Prosar®): (888) 478-0798

*
2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H332 Harmful if inhaled.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS07

· **Signal word:** Warning

· **Hazard-determining components of labeling:**
bensulide (ISO)
· **Hazard statements**
Harmful if swallowed or if inhaled.
· **Precautionary statements**
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash thoroughly after handling.
If swallowed: Call a poison center/doctor if you feel unwell.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a poison center/doctor if you feel unwell.
Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA

Printing date 07/01/2015 Reviewed on 07/01/2015

Trade name: Prefar® 4-E Selective Herbicide
EPA Registration No.: 10163-200

(Contd. of page 1)

· **Hazard description:**
Harmful if swallowed, inhaled, or absorbed through the skin. Avoid contact with eyes, skin or clothing. Causes moderate eye irritation.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 1
Fire = 2
Reactivity = 0

HAZARD INDEX:
4 Severe Hazard
3 Serious Hazard
2 Moderate Hazard
1 Slight Hazard
0 Minimal Hazard

· **HMIS-ratings (scale 0 - 4)**

Health = 1
Fire = 2
Reactivity = 0

HAZARD INDEX:
4 Severe Hazard
3 Serious Hazard
2 Moderate Hazard
1 Slight Hazard
0 Minimal Hazard

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable in US.
· **vPvB:** Not applicable in US.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**		
741-58-2	bensulide (ISO) Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	46.0%
64742-94-5	Solvent naphtha (petroleum), heavy arom. Asp. Tox. 1, H304	42.8%

*

4 First-aid measures

· **Description of first aid measures**
· **General information:**
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
You may also contact 1-888-478-0798 for emergency medical treatment information.

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Safety Data Sheet
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Trade name: Prefar® 4-E Selective Herbicide
EPA Registration No.: 10163-200

(Contd. of page 2)

· **After inhalation:**
• Move person to fresh air.
• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.
• Call poison control center or doctor for further treatment advice.
· **After skin contact:**
• Take off contaminated clothing.
• Rinse skin immediately with plenty of water for 15-20 minutes.
• Call a poison control center or doctor for treatment advice.
· **After eye contact:**
• Hold eye open and rinse slowly and gently with water for 15-20 minutes.
• Remove contact lenses, if present, after first 5 minutes, then continue rinsing eyes.
• Call a poison control center or doctor for treatment advice.
· **After swallowing:**
• Immediately call a poison control center or doctor.
• Do not induce vomiting unless told to do so by the poison control center or doctor.
• Do not give ANY liquid to the person.
• Do not give anything by mouth to an unconscious person.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** Unknown
· **Indication of any immediate medical attention and special treatment needed**
This product is an organophosphate herbicide. If symptoms of cholinesterase inhibition are present, atropine by injection is antidotal. 2-PAM is also antidotal and may be administered, but only in conjunction with atropine. Contains petroleum distillates – vomiting may cause aspiration pneumonia.

*
5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO_2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
Evacuate nonessential personnel from the fire area. Firefighters should wear full-face self-contained breathing apparatus and impervious protective clothing. Use standard firefighting techniques to extinguish fires involving this material - use water, dry chemicals, foam, or carbon dioxide. If not leaking, keep fire-exposed containers cool with water spray to prevent rupture due to excessive heat. High-pressure water hose may spread product from broken containers increasing contamination or fire hazard. Contaminated buildings, areas and equipment must not be used until they are properly decontaminated.
· **Protective equipment:** Wear self-contained respiratory protective device.

*
6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:**
This chemical is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

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Trade name: Prefar® 4-E Selective Herbicide
EPA Registration No.: 10163-200

(Contd. of page 3)

· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

*
7 Handling and storage

· **Handling:**
· **Precautions for safe handling** Do not contaminate water, food, or feed by storage or disposal.
· **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Protect from temperatures below 42º F. At temperatures below 42º F, product may crystallize. Dissolve crystals with quiet storage at warm temperatures (75º F). Redissolution rate: 40-48º F (40-60 days); 60º F (1-3 weeks); 70-80º F (1-3 days). Roll container and agitate contents to provide a uniform product prior to use.
· **Information about storage in one common storage facility:** Store away from foodstuffs.
· **Further information about storage conditions:** None.
· **Specific end use(s)** No further relevant information available.

*
8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
• Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
• Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
• Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly
and change into clean clothing.
· **Breathing equipment:**
NIOSH-approved dust-mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any N, R, P, or HE filter must be worn by: 1) mixers, loaders, 2) persons participating in chemigation, and 3) commercial or for-hire applicators (due to risk from repeated exposures)
· **Protection of hands:**

Protective gloves

· **Material of gloves** Chemical resistant gloves such as barrier laminate or Viton > 14 mils

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Trade name: Prefar® 4-E Selective Herbicide
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· **Eye protection:** Goggles recommended during refilling.
· **Body protection:**
- Long-sleeved shirt and long pants
- Chemical resistant gloves such as barrier laminate or Viton > 14 mils
- Shoes plus socks
- In addition, a NIOSH-approved dust-mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any N, R, P, or HE filter must be worn by: 1) mixers, loaders, 2) persons participating in chemigation, and 3) commercial or for-hire applicators (due to risk from repeated exposures)

*
9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
· **Form:**	Liquid
· **Color:**	Amber colored
· **Odor:**	Aromatic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
· **Melting point/Melting range:**	33-36 °C (91-97 °F)
· **Boiling point/Boiling range:**	Undetermined.
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not self-igniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Vapor pressure:**	Not determined.
· **Density at 20 °C (68 °F):**	1.22 g/cm³ (10.181 lbs/gal)
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
· **Water:**	Dispersible.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
· **Dynamic:**	Not determined.
· **Kinematic:**	Not determined.

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Trade name: Prefar® 4-E Selective Herbicide
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· **Other information** No further relevant information available.

*
10 Stability and reactivity

· **Reactivity**
· **Chemical stability** Stable under normal conditions
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

*
11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· LD/LC50 values that are relevant for classification:		
Oral	LD50	960 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)
Inhalative	LC50/4 h	>2.1 mg/l (rat)

· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** Moderately Irritating
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful

· **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)
None of the ingredients are listed.

· NTP (National Toxicology Program)
None of the ingredients are listed.

· OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients are listed.

*
12 Ecological information

· **Toxicity**
This chemical is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from the treated area.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

Do not apply directly to water, or to area where water is present or to intertidal areas below the mean high water

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mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

This product may impair reproduction in birds if used during the breeding season.
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Very toxic for fish
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

*
13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

· **Uncleaned packagings:**
· **Recommendation:**
Disposal must be made according to official regulations.
For Non-Bulk Plastic Containers:
Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. After cleaning, if recycling is not available, puncture and dispose of in a sanitary landfill or by incineration or if allowed by State and local authorities by burning. If burned, stay out of smoke.

*
14 Transport information

· **UN-Number**	
· **DOT, ADR, ADN, IMDG, IATA**	Void
· **UN proper shipping name**	
· **ADR, ADN, IMDG, IATA**	Void
· **Transport hazard class(es)**	
· **ADR, ADN, IMDG, IATA**	
· **Class**	Void
· **Packing group**	
· **ADR, IMDG, IATA**	Void
· **Environmental hazards:**	Product contains environmentally hazardous substances: bensulide (ISO)
· **Marine pollutant:**	No

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Trade name: Prefar® 4-E Selective Herbicide
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· **Special precautions for user**	Not applicable
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable
· **UN "Model Regulation":**	USDOT: Bulk Containers: NA 1993, Combustible Liquid, NOS (Contains Petroleum Naphtha), PG III Non Bulk: Not regulated

*
15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
EPA /FIFRA Information:
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

· **SARA Title III**

· **Section 355 (extremely hazardous substances):**
None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**
None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**

64742-94-5	Solvent naphtha (petroleum), heavy arom.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients are listed.

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).

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Trade name: Prefar® 4-E Selective Herbicide
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· ***Hazard pictograms***
Not applicable

· ***Signal word:***
(US EPA) CAUTION

· ***Hazard-determining components of labeling:***
bensulide (ISO)

· ***Hazard statements***
Harmful if swallowed, inhaled, or absorbed through the skin.
Avoid contact with skin, eyes, or clothing.
Causes moderate eye irritation.
Harmful if swallowed or if inhaled.

· ***Precautionary statements***
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash thoroughly after handling.
If swallowed: Call a poison center/doctor if you feel unwell.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a poison center/doctor if you feel unwell.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· ***Chemical safety assessment:*** *A Chemical Safety Assessment has not been carried out.*

*
16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· ***Department issuing SDS:*** *Supply Chain*
· ***Contact:*** *sds@gowanco.com*
· ***Date of preparation / last revision*** *07/01/2015 / 6*
· ***Abbreviations and acronyms:***
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Acute Tox. 4: Acute toxicity, Hazard Category 4
Asp. Tox. 1: Aspiration hazard, Hazard Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
· ***Sources*** *Prefar® is a registered trademark of Gowan Company, L.L.C.*
· **** Data compared to the previous version altered.***

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY ADDRESS:
ALBAUGH, LLC
Ankeny, IA 50021

EMERGENCY TELEPHONE NUMBERS:
(800) 424-9300 (CHEMTREC, transportation and spills)

PRODUCT NAME : **PROPI-STAR EC**
CHEMICAL NAME : Propiconazole
PRODUCT USE : Fungicide
PRODUCT CODE : EPA Reg. No 42750-211

SECTION 2 - HAZARDS IDENTIFICATION SUMMARY

(As defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200)

Transparent dark yellow liquid

HEALTH HAZARDS: WARNING. Causes substantial but temporary eye injury. Harmful if swallowed. Possible skin sensitizer.

PHYSICAL HAZARDS: Combustible liquid. May release toxic fumes if burned.

ENVIRONMENTAL HAZARDS: Toxic to aquatic life.

SECTION 3 - COMPOSITION, INFORMATION OF INGREDIENTS

COMPONENT	PERCENTAGE	CAS NUMBER
Propiconazole	41.8	60207-90-1
Aromatic solvent (contains)*	45.0 – 55.0	64742-94-5
*Naphthlalene	2 – 5	91-20-3
Surfactants (proprietary)	4.0 – 12.0	n/a

SECTION 4 - FIRST AID MEASURES

First Aid responders should use protective equipment in Section 8 if there is a potential for exposure to product.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
IF SWALLOWED: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.
IF INHALED: Move person to fresh air, if person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN: Contains petroleum distillate - vomiting may cause aspiration pneumonia.

Have a product container or label with you when calling a poison control center or doctor, or going for treatment.

SECTION 5 - FIRE FIGHTING MEASURES

National Fire Protection Rating (NFPA)

HEALTH	2
FLAMMABILITY	2
REACTIVITY	0
4=Severe 3=Serious 2=Moderate 1=Slight 0=Minimal	

FLASHPOINT: 69.3°C (157 F)

EXTINGUISHING MEDIA: Use foam, dry chemical, carbon dioxide, or water spray when fighting fires involving this material.

FIRE AND EXPLOSION HAZARD: Can burn in fire, releasing irritating and toxic gases due to thermal decomposition or combustion.

FIRE FIGHTING INSTRUCTIONS: Evacuate area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Fire exposed containers can build up pressure and should be kept cool with water spray if possible. Dike and collect water used to fight fire to prevent environmental damage due to run off.

FIRE FIGHTING EQUIPMENT: Self-contained breathing apparatus with full facepiece.

Minimize use of water to prevent environmental contamination. Contact your State Pesticide or Environmental Control Agency, or nearest EPA Regional Office for guidance on disposal.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILLS OR LEAKS: Clean up spills immediately, observing precautions in Section 8 of this document. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

SMALL SPILL: Absorb small spills on sand, vermiculite or other inert absorbent. Place contaminated material in appropriate container for disposal.

LARGE SPILL: Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify, and scrape up for disposal. After removal, clean contaminated area thoroughly with water. Pick up wash liquid with additional absorbent and place in a disposable container.

Minimize use of water to prevent environmental contamination

SECTION 7 - HANDLING AND STORAGE

KEEP OUT OF REACH OF CHILDREN!

Wear proper safety equipment specified in Section 8 when mixing, loading or otherwise handling concentrate.

HANDLING: Use only in a well-ventilated area.

STORAGE: Store in original container with lid tightly closed. Keep away from food, feed and drinking water. Store in a well ventilated dry place away from heat and other sources of ignition.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS (8 hour TWA, ppm):

COMPONENT	OSHA PEL	ACIGH TLV
Propiconazole	Not listed	Not listed
Naphthalene	10	10

ENGINEERING CONTROLS: Proper ventilation is required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Local mechanical exhaust ventilation may be required. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

PERSONAL PROTECTIVE EQUIPMENT:
EYE PROTECTION - Safety glasses or goggles.
CLOTHING - Long-sleeved shirt and long pants, Shoes plus socks.
GLOVES – Chemical-resistant gloves, such as barrier laminate, or viton.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Transparent dark yellow liquid
Odor: Estery odor
pH: 4.85 – 5.85
Melting Point: Not applicable
Boiling Point: No data
Flash Point: 69.3°C
Evaporation Rate: No data
Flammability: No data
Flammability Limits: No data
Vapor Pressure: 5.6 x 10-2 mPa (25°C) (Propiconazole)
Vapor Density: Not applicable
Density: 1.02 – 1.06 g/ml (8.51 – 8.85 lb/gl)*
Solubility: Emulsifies
Partition Coefficient: 3.72 (pH 6.6, 25°C) (Propiconazole)
Auto-Ignition Temperature: No data
Decomposition Temperature: No data
Viscosity: 10.77 cSt (20°C); 5.44 cSt (40°C)

*Listed density is an approximate value and does not necessarily represent that of a specific batch.

SECTION 10 - STABILITY AND REACTIVITY

PRODUCT REACTIVITY: None known

CHEMICAL STABILITY: Stable, however may decompose if heated.

HAZARDOUS REACTION/POLYMERIZATION: Product will not undergo polymerization.

CONDITIONS TO AVOID: Avoid temperatures above (125°F, 48°C)

INCOMPATIBLE MATERIALS: Acidic and oxidizing materials

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen chloride, Oxides of nitrogen

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute toxicity values based on similar but not identical formulation.

ACUTE TOXICITY:

Oral LD_{50} (rat)	> 1,000 mg/Kg
Dermal LD_{50} (rat)	> 2,000 mg/Kg
Inhalation LC_{50} (rat)	> 2.02 mg/L
Eye Irritation (rabbit)	Moderate irritant
Skin Irritation (rabbit)	Moderate irritant
Sensitization (guinea pig)	Potential sensitizer

CARCINOGEN STATUS:

OSHA	- Not listed
NTP	- Not listed
IARC	- Not listed

TERATOGENICITY: Effects only noted at maternally toxic doses.

MUTAGENICITY: Weight of evidence indicates that propiconazole is non-mutagenic

SECTION 12 - ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: This pesticide is toxic to fish. For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water.

FATE: Propiconazole is moderately persistent with a soil half-life of 30-365 days depending on soil type and weather conditions. Propiconazole binds to soil and is immobile in most soil types.

FISH TOXICITY: (technical)

96 hour LC_{50}, Rainbow trout –	0.8 ppm
96 hour LC_{50}, Bluegill –	1.3 ppm

AVIAN TOXICITY: (technical)

Dietary LC_{50}, Bobwhite quail –	> 5,000 ppm
Dietary LD_{50}, Mallard duck -	> 5,000 ppm

BEE TOXICITY: (technical) > 25 ug/bee

SECTION 13 - DISPOSAL CONSIDERATIONS

Do not contaminate water, food or feed by storage or disposal.

WASTE: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER: Non-refillable container: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Triple Rinsing Instructions: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsates into application equipment or rinsates collection system. Repeat this rinsing procedure two more times.

Refer to the product label for additional and complete Container Handling instructions

SECTION 14 - TRANSPORT INFORMATION

SHIPPING DESCRIPTION:
(Ground transport)

Containers ≤ 119 gallons -	Not regulated
Containers > 119 gallons -	NA1993, Combustible liquid, N.O.S. (contains petroleum distillate), PG III
DOT HAZARD CLASS:	Combustible liquid
IDENTIFICATION NUMBER:	NA1993
DOT PACKING GROUP:	PG III

SECTION 15 - REGULATORY INFORMATION

CERCLA REPORTABLE QUANTITY:	226 gallons product (100 lbs naphthalene)
SARA TITLE III STATUS:	
311/312 Hazard Categories –	Immediate, Delayed
313 Toxic Chemicals –	Propiconazole
CALIFORNIA PROP 65:	Naphthalene is listed.
TSCA:	This product is exempted from TSCA because it is solely for FIFRA regulated use.

SECTION 16 - OTHER INFORMATION

HMIS HAZARD RATINGS	HEALTH	2
	FLAMMABILITY	2
	PHYSICAL HAZARD	0
	4=Severe 3=Serious 2=Moderate 1=Slight 0=Minimal	

DISCLAIMER: The information presented herein is based on available data from reliable sources and is correct to the best of Albaugh's knowledge. Albaugh makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling.

It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

REVISED DATE: October, 2014

REFERENCE: Revised for GHS compliance

REASON® 500 SC FUNGICIDE

Version 4.0 / USA
102000003216
Revision Date: 03/09/2015
Print Date: 01/04/2017

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Trade name	REASON® 500 SC FUNGICIDE
Product code (UVP)	05947073
SDS Number	102000003216
EPA Registration No.	264-695

Relevant identified uses of the substance or mixture and uses advised against

Use	Fungicide
Restrictions on use	See product label for restrictions.

Information on manufacturer

Bayer CropScience
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
United States

Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days)	1-800-334-7577
Product Information Telephone Number	
SDS Information or Request	SDSINFO.BCS-NA@bayer.com

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
Eye irritation : Category 2B
Signal word: Warning

Hazard statements
Causes eye irritation.

Precautionary statements
Wash face, hands and any exposed skin thoroughly after handling.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.

Other hazards
No particular hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Fenamidone	161326-34-7	44.4
1,2-Propanediol	57-55-6	2.31

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Inhalation Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Skin contact Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Eye contact Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

Ingestion Call a physician or poison control center immediately. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Rinse out mouth and give water in small sips to drink. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

Treatment There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable High volume water jet

Special hazards arising from the substance or mixture	In the event of fire the following may be released:, Carbon monoxide (CO), Nitrogen oxides (NOx), Sulphur oxides
Advice for firefighters	
Special protective equipment for fire-fighters	Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
Further information	Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.
Flash point	> 100 °C
Autoignition temperature	510 °C / 950 °F
Lower explosion limit	no data available
Upper explosion limit	no data available
Explosivity	Not explosive

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.
Additional advice	Do not allow to enter soil, waterways or waste water canal. Do not allow product to contact non-target plants.
Reference to other sections	Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation.
Advice on protection against fire and explosion	Keep away from heat and sources of ignition.
Hygiene measures	Wash hands thoroughly with soap and water after handling and before

eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.
Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Keep away from direct sunlight. Protect from freezing.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Fenamidone	161326-34-7	1 mg/m3 (TWA)		OES BCS*
1,2-Propanediol (Vapor.)	57-55-6	1000ug/m3 (ST ESL)	02 2013	TX ESL
1,2-Propanediol (Vapor.)	57-55-6	500ppb (ST ESL)	02 2013	TX ESL
1,2-Propanediol (Vapor.)	57-55-6	100ug/m3 (AN ESL)	02 2013	TX ESL
1,2-Propanediol (Vapor.)	57-55-6	50ppb (AN ESL)	02 2013	TX ESL
1,2-Propanediol (Aerosol.)	57-55-6	10 mg/m3 (TWA)	2010	WEEL

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

Exposure controls

Personal protective equipment
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Hand protection Chemical resistant nitrile rubber gloves

Eye protection Chemical resistant goggles must be worn.

Skin and body protection Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water.

Keep and wash PPE separately from other laundry.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	white to light beige
Physical State	suspension
Odor	slight
Odour Threshold	no data available
pH	6.5 - 8.0 at 100 % (23 °C)
Vapor Pressure	no data available
Vapor Density (Air = 1)	no data available
Density	1.13 g/cm³ at 20 °C
Evapouration rate	no data available
Boiling Point	no data available
Melting / Freezing Point	no data available
Water solubility	dispersible
Minimum Ignition Energy	no data available
Decomposition temperature	> 500 °C
Partition coefficient: n-octanol/water	no data available
Viscosity	500 - 900 mPa.s
Flash point	> 100 °C
Autoignition temperature	510 °C / 950 °F
Lower explosion limit	no data available
Upper explosion limit	no data available
Explosivity	Not explosive

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition	> 500 °C
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

Conditions to avoid	freezing Heat, flames and sparks.
Incompatible materials	no data available
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Skin contact, Inhalation
Immediate Effects	
Eye	Moderate eye irritation.
Skin	May cause slight irritation.
Inhalation	Harmful if inhaled.

Information on toxicological effects

Acute oral toxicity	LD50 (rat) > 5,000 mg/kg
Acute inhalation toxicity	LC50 (rat) > 0.9 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration. No deaths LC50 (rat) > 3.6 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50.
Acute dermal toxicity	LD50 (rabbit) > 5,000 mg/kg
Skin irritation	Slight irritation (rabbit)
Eye irritation	Mild eye irritation. (rabbit)
Sensitisation	Non-sensitizing. (guinea pig)

Assessment repeated dose toxicity

Fenamidone did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Fenamidone was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Fenamidone was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Assessment toxicity to reproduction

Fenamidone did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Fenamidone did not cause developmental toxicity in rats and rabbits.

Further information

Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) 0.74 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient fenamidone.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 0.055 mg/l static test; Exposure time: 48 h The value mentioned relates to the active ingredient fenamidone.
Toxicity to aquatic plants	IC50 (Scenedesmus subspicatus) 3.4 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient fenamidone.
Biodegradability	Fenamidone: ; not rapidly biodegradable
Koc	Fenamidone: Koc: 387
Bioaccumulation	Fenamidone: ; Does not bioaccumulate.
Mobility in soil	Fenamidone: Moderately mobile in soils
Environmental precautions	Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Dispose in accordance with all local, state/provincial and federal regulations. Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility. Follow advice on product label and/or leaflet.
Contaminated packaging	Triple rinse containers. Puncture container to avoid re-use. Follow advice on product label and/or leaflet.
RCRA Information	Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

49CFR	Not dangerous goods / not hazardous material

IMDG

UN number	**3082**
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FENAMIDONE SOLUTION)

IATA

UN number	**3082**
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FENAMIDONE SOLUTION)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Freight Classification:	INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 264-695
US Federal Regulations
TSCA list
1,2-Propanediol 57-55-6
US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
None.
SARA Title III - Section 302 - Notification and Information
None.
SARA Title III - Section 313 - Toxic Chemical Release Reporting
None.
US States Regulatory Reporting
CA Prop65
This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients
1,2-Propanediol 57-55-6 MN

Canadian Regulations
Canadian Domestic Substance List
None.

Environmental
CERCLA
None.
Clean Water Section 307 Priority Pollutants
None.
Safe Drinking Water Act Maximum Contaminant Levels
None.

EPA/FIFRA Information:
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

Signal word: Caution!

Hazard statements: Moderate eye irritation.
Avoid contact with skin, eyes and clothing.
Harmful if inhaled.
Avoid breathing spray mist.
Remove and wash contaminated clothing before re-use.
Wash thoroughly with soap and water after handling.

SECTION 16: OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 2	Flammability - 1	Instability - 0	Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1	Flammability - 1	Physical Hazard - 0	PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)

Revision Date: 03/09/2015

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.

MATERIAL SAFETY DATA SHEET

Syngenta Canada Inc.
140 Research Lane, Research Park
Guelph, ON N1G 4Z3

In Case of Emergency, Call
1-800-327-8633 (FAST MED)

Date of MSDS Preparation (Y/M/D): 2017-12-31

Supersedes date (Y/M/D): 2014-12-31

MSDS prepared by:
Department of Regulatory & Biological Assessment
Syngenta Canada Inc.

For further information contact:
1-87-SYNGENTA (1-877-964-3682)

SECTION – 1: PRODUCT IDENTIFICATION

Product Identifier: **RIDOMIL GOLD® 480SL Fungicide** Formulation No.: A13947A
Registration Number: 28474 (Pest Control Products Act)
Chemical Class: Phenylamide Fungicide

Active Ingredient(%): Metalaxyl-M (45.3 %) CAS No.: 70630-17-0
{Metalaxyl-M is the active isomer of metalaxyl.}
Chemical Name: Methyl *N*-(2,6-dimethylphenyl)-*N*-(methoxyacetyl)-D-alaninate

Product Use: RIDOMIL GOLD 480SL is used to control fungal diseases in a variety of crops. For further details please refer to product label.

SECTION – 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen	WHMIS†
Propylene Glycol (CAS No. 57-55-6)	Not Established	Not Established	10 mg/m³ TWA AIHA WEEL ****	No	Yes
Acetophenone (CAS No. 98-86-2)	Not Established	10 ppm TWA	Not Established	No	Not Established
2-Heptanone (CAS No. 110-43-0)	100 ppm TWA	50 ppm TWA	100 ppm TWA**	No	Not Established
Metalaxyl-M (45.3%)	Not Established	Not Established	10 mg/m³ TWA***	No	Not Established

** Recommended by NIOSH
*** Syngenta Occupational Exposure Limit (OEL)
**** Recommended by AIHA (American Industrial Hygiene Association)
† Material listed in Ingredient Disclosure List under Hazardous Products Act.

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

SECTION – 3: HAZARDS IDENTIFICATION

Symptoms of Acute Exposure

Harmful or fatal if swallowed. Causes eye and skin irritation.

Hazardous Decomposition Products

Can decompose at high temperatures and form toxic gases.

Physical Properties

Appearance: Yellow to orange clear liquid
Odour: Weak sweet

Unusual Fire, Explosion and Reactivity Hazards

Combustible liquid. Can release vapours that form explosive mixtures at temperatures at or above the flash point. Heavy vapours can flow along surfaces to distant ignition sources and flash back.
During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Potential Health Effects

Relevant routes of exposure: Skin, eyes, mouth, lungs.

SECTION – 4: FIRST AID MEASURES

IF POISONING IS SUSPECTED, immediately contact the poison information centre, doctor or nearest hospital. Have the product container, label or Material Safety Data Sheet with you when calling Syngenta, a poison control center or doctor, or going for treatment. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given. Call the Syngenta Emergency Line [**1-800-327-8633** (**1-800-FASTMED**)], for further information.

EYE CONTACT: Immediately flush eyes with clean water, holding eyelids apart for a minimum of 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta, a poison control center or doctor for treatment advice. Obtain medical attention immediately if irritation persists.

SKIN CONTACT: Immediately remove contaminated clothing and wash skin, hair and fingernails thoroughly with soap and water. Flush skin with running water for a minimum of 20 minutes. Obtain medical attention if irritation occurs.

INHALATION: Move victim to fresh air. If not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call Syngenta, a poison control centre or doctor for treatment advice.

INGESTION: If swallowed, immediately contact Syngenta, a poison control centre, doctor or nearest hospital for treatment advice. Provided the patient is conscious, wash out mouth with water. Do not give anything by mouth to an unconscious person. Do not induce vomiting unless directed by a physician or a poison control center. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus

NOTES TO PHYSICIAN:

There is no specific antidote if this product is ingested. Treat symptomatically. Contact with eyes may require specialized ophthalmologic attention.

MEDICAL CONDITIONS KNOWN TO BE AGGRAVATED:

None known.

SECTION – 5: FIRE FIGHTING MEASURES

Flash point and method: 80 ºC (Pensky-Martens CC).
Upper and lower flammable (explosive) limits in air: Not Available.
Auto-ignition temperature: Not Available.
Flammability: Combustible liquid (Class IIIA)
Hazardous combustion products: Combustible liquid. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion including oxides of carbon and nitrogen.
Conditions under which flammability could occur: Can release vapours that form explosive mixtures at temperatures at or above the flash point. Heavy vapours can flow along surfaces to distant ignition sources and flash back. Keep fire exposed containers cool by spraying with water.
Extinguishing media: Use water fog or mist, (avoid use of water jet), foam, carbon dioxide, dry powder or halon extinguishant. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area,

and equipment until decontaminated. Water runoff can cause environmental damage. Contain run-off water with, for example, temporary earth barriers.
Sensitivity to explosion by mechanical impact: No.
Sensitivity to explosion by static discharge: No.

SECTION – 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Make sure all personnel involved in the spill cleanup follow good industrial hygiene practices. A small spill can be handled routinely. Use adequate ventilation and wear equipment and clothing as described in Section 8 and/or the product label.
Procedures for dealing with release or spill: Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Sections 7 and 8. Spread a suitable absorbent such as clay on the spill. Scoop or sweep up material and place into a disposal container. Wash area with detergent and water. Pick up wash liquid with additional absorbent and place into compatible disposal container. . On soils, small amounts will naturally decompose. For large amounts, skim off the upper contaminated layer and collect for disposal. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposal. Spillages or uncontrolled discharges into watercourses must be reported to the appropriate regulatory authority.

SECTION – 7: HANDLING AND STORAGE

Handling practices: KEEP OUT OF REACH OF CHILDREN. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Avoid breathing vapours or spray mist. Wear full protective clothing and equipment (see Section 8). After work, rinse gloves and remove protective equipment, and wash hands thoroughly with soap and water after handling, and before eating, tobacco use, drinking, applying cosmetics or using the toilet. Wash contaminated clothing before re-use and separate from household laundry. Keep containers closed when not in use. Protect product, wash or rinse water, and contaminated materials from uncontrolled release into the environment, or from access by animals, birds or unauthorized people.
Appropriate storage practices/requirements: Store in original container only in a well-ventilated, cool, dry, secure area. Protect from heat, sparks and flame. Do not expose containers to temperatures above 40 °C. Keep separate from other products to prevent cross contamination. Rotate stock. Clean up spilled material immediately.
National Fire Code classification: Class IIIA Combustible Liquid

SECTION – 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Applicable control measures, including engineering controls: If necessary, ensure work areas have ventilation, containment, and procedures sufficient to maintain airborne levels below the TLV. Warehouses, production area, parking lots and waste holding facilities must have adequate containment to prevent environmental contamination. Provide separate shower and eating facilities.

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

CONSULT THE PRODUCT LABEL FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS.

Personal protective equipment for each exposure route:
General: Avoid breathing dust, vapours or aerosols. Avoid contact with eye, skin and clothing. Wash thoroughly after handling and before eating, drinking, applying cosmetics or handling tobacco.

INGESTION: Do not eat, drink, handle tobacco, or apply cosmetics in areas where there is a potential for exposure to this material. Always wash thoroughly after handling.

EYES: Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

SKIN: Where contact is likely, wear chemical-resistant gloves (such as nitrile or butyl), coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

INHALATION: A respirator is not normally required when handling this substance. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. A NIOSH-certified combination air-purifying respirator with an N, P, R or HE class filter and an organic vapour

cartridge may be used under certain circumstances where airborne concentrations are expected to exceed exposure limits (e.g. emergency spills).

SECTION – 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Yellow to orange clear liquid.
Formulation Type: Soluble Liquid
Odour: Weak Sweet odour
pH: 6.5-9.5 (1% aqueous solution @ 25 °C).
Vapour pressure and reference temperature: 2.5×10^{-5} mmHg @ 25 °C (Metalaxyl-M Technical).
Vapour density: Not available.
Boiling point: Not available.
Melting point: Not available.
Freezing point: Not available.
Specific gravity or density: 1.05-1.07 g/mL @ 20 °C.
Evaporation Rate: Not available.
Water/oil partition coefficient: Not available.
Odour threshold: Not available.
Viscosity: 50 mPas @ 20°C
Solubility in Water: 26 g/L @ 25 ºC (Metalaxyl-M Technical).

SECTION – 10: STABILITY AND REACTIVITY

Chemical stability: Stable under normal use and storage conditions.
Conditions to avoid: Keep away from heat or open flames.
Incompatibility with other materials: None known.
Hazardous decomposition products: During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion including oxides of carbon and nitrogen.
Hazardous polymerization: Will not occur.

SECTION – 11: TOXICOLOGICAL INFORMATION

Acute toxicity/Irritation Studies (Finished Product):

Ingestion:	Moderate AcuteToxicity Oral (LD50 Rat):	550 mg/kg body weight
Dermal:	Low AcuteToxicity Dermal (LD50 Rabbit):	> 2,020 mg/kg body weight
Inhalation:	Low AcuteToxicity Inhalation (LC50 Rat):	> 5.58 mg/L air - 4 hours
Eye Contact:	Moderately Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects
Metalaxyl-M Technical: None observed.

Chronic/Subchronic Toxicity Studies
Metalaxyl-M Technical: Liver effects at high dose levels.

Carcinogenicity
Metalaxyl-M Technical: None observed.

Other Toxicity Information:

None.

Toxicity of Other Components

The acute toxicity test results reported in Section 11, above, for the finished product take into account any acute hazards related to the "other components" in the formulation.

Propylene Glycol

Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea. Also, eye irritation may occur with lacrimation but no residual discomfort or injury. Prolonged contact to skin may cause mild to moderate irritation and possible allergic reactions. Chronic dietary exposure caused kidney and liver injury in experimental animals.

Other materials that show synergistic toxic effects together with the product: None known.

Target Organs

Active Ingredients

Metalaxyl-M Technical:	Liver.

Inert Ingredients

2-Heptanone:	Eye.
Acetophenone:	Not Applicable.
Propylene Glycol:	CNS, skin, eye, kidney, liver.

SECTION – 12: ECOLOGICAL INFORMATION

Summary of Effects

RIDOMIL GOLD 480SL is a fungicide for the systemic control of several fungal pathogens in various crops and fruits. The active ingredient, metalaxyl-M, is practically non-toxic to slightly toxic to fish, birds, aquatic invertebrates and insects (bees).

Eco-Acute Toxicity

Metalaxyl-M Technical:

Green Algae 5-Day EC_{50}	140 mg/L
Bees LC_{50}/EC_{50} (Contact)	>100 µg/bee
Invertebrates (Water Flea) LC_{50}/EC_{50}	28 mg/L
Fish (Trout) 96-hr LC_{50}/EC_{50}	130 mg/L
Fish (Bluegill) 96-hr LC_{50}/EC_{50}	139 mg/L
Birds (5-Day Dietary - Bobwhite Quail) LC_{50}/EC_{50}	>5,000 mg/kg
Birds (5-Day Dietary - Mallard Duck) LC_{50}/EC_{50}	>10,000 mg/kg

Eco-Chronic Toxicity

Metalaxyl-M Technical:

Invertebrate (*Daphnia magna*) Life Cycle NOEC	1.2 7 mg/L
Fish: Trout: 21 Day NOEC	9.1 mg/L

Environmental Fate

The active ingredient metalaxyl-M has a low bioaccumulation potential, a low to high mobility in soil (depending on soil type), and is not persistent in the environment. The main route of dissipation is by biological degradation.

SECTION – 13: DISPOSAL CONSIDERATIONS

Waste disposal information: Do not reuse empty containers unless they are specifically designed to be re-filled. Empty container retains product residue. Dispose of empty containers in accordance with local regulations. Consult provincial environment ministry for advice on waste disposal. Industrial/commercial waste may be handled at licensed facilities only. Waste shipments must be securely packaged and properly labelled. Only licensed carriers may be used, and proper documents must accompany the shipment.

SECTION – 14 : TRANSPORT INFORMATION

Shipping information such as shipping classification:

TRANSPORTATION OF DANGEROUS GOODS CLASSIFICATION - ROAD/RAIL
Not Regulated.

SECTION – 15: REGULATORY INFORMATION

WHMIS classification for product: Exempt

A statement that the MSDS has been prepared to meet WHMIS requirements, except for use of the 16 headings.
This MSDS has been prepared in accordance with WHMIS requirements, but the data are presented under 16 headings.

Other regulations; restrictions and prohibitions

Pest Control Products (PCP) Act Registration No.: 28474

SECTION – 16: OTHER INFORMATION

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Syngenta will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein. This Material Safety Data Sheet is valid for three years. This product is under the jurisdiction of the Pest Control Products Act and is exempt from the requirements for a WHMIS compliant MSDS. Hazardous properties of all ingredients have been considered in the preparation of this MSDS. Read the entire MSDS for the complete hazard evaluation of this product.

Prepared by: Syngenta Canada Inc.
1-87-SYNGENTA (1-877-964-3682)

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RIDOMIL GOLD® is a trademark of a Syngenta Group Company.

Material Safety Data Sheet

* * *Section 1 - PRODUCT AND COMPANY IDENTIFICATION* * *

Material Name: Ro-Neet Herbicide

EPA Registration Number: 74530-16

Manufacturer Information

HELM AGRO US, INC.
8275 Tournament Drive, Ste 340
Memphis, TN 38125,

Phone: 901-312-1525
Fax: 901-312-1531
Emergency # +1-800-424-9300 ChemTrec

Product Use

Herbicide

* * *Section 2 - HAZARDS IDENTIFICATION* * *

Overview

CAUTION

EMERGENCY OVERVIEW

Color: Not available
Physical Form: liquid
Odor: Not available
Health Hazards: Harmful if swallowed. May cause respiratory irritation. Suspected of causing cancer.
Physical Hazards: None known.

POTENTIAL HEALTH EFFECTS

Inhalation

Short Term: May cause respiratory irritation.
Long Term: Suspected of causing cancer.

Skin

Short Term: Harmful in contact with skin.
Long Term: No information on significant adverse effects.

Eye

Short Term: No information on significant adverse effects.
Long Term: No information on significant adverse effects.

Ingestion

Short Term: May be harmful if swallowed.
Long Term: No information on significant adverse effects.

Potential Environmental Effects

Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is not a controlled product according to Canada's Controlled Product Regulations.

* * *Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS* * *

CAS	Component	Percent
1134-23-2	Cycloate	79.9
64742-94-5	Solvent naphtha, petroleum, heavy aromatic	<2
91-20-3	Naphthalene	<1
95-63-6	Benzene, 1,2,4-trimethyl-	<0.5

* * *Section 4 - FIRST AID MEASURES* * *

Inhalation

If adverse effects occur, remove to uncontaminated area. Get medical attention, if needed.

Skin

If adverse effects occur, wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. Call a POISON CENTER or doctor/physician if you feel unwell.

Eyes

Flush eyes with plenty of water for at least 15 minutes. Get medical attention, if needed.

Ingestion

Rinse mouth out with water. Call a POISON CENTER or doctor/physician if you feel unwell.

* * *Section 5 - FIRE FIGHTING MEASURES* * *

See Section 9 for Flammability Properties

NFPA Ratings: Health: 1 **Fire:** 1 **Reactivity:** 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Flammable Properties

Not flammable.

Extinguishing Media

Use carbon dioxide, regular dry chemical, regular foam or water.

Unsuitable Extinguishing Media

None known.

Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Fire Fighting Measures

Use extinguishing agents appropriate for surrounding fire.

Thermal Decomposition Products

Combustion: hydrocarbons, oxides of carbon

* * *Section 6 - ACCIDENTAL RELEASE MEASURES* * *

Personal Precautions

Wear appropriate personal protective equipment recommended in Section 8 of the MSDS. If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA). Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304).

Methods for Containment

Contain the discharged material. Absorb with sand or other non-combustible material. **Large spills:** To prevent liquid from flowing into drains, completely contain spilled material with dikes, sandbags, etc.

Environmental Precautions

Keep out of water supplies and sewers.

Methods for Cleanup

Stop leak if safe to do so - Prevent entry into waterways, drains, or confined areas. Absorb with earth, sand or other non-combustible material and transfer to container. Collect spilled material in appropriate container for disposal.

* * *Section 7 - HANDLING AND STORAGE* * *

Handling Procedures

Do not eat, drink, or smoke when using this product. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wash thoroughly after handling.

Storage Procedures

Store in accordance with all current regulations and standards.

* * *Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION* * *

Component Exposure Limits

Naphthalene (91-20-3)

ACGIH: 10 ppm TWA
15 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route

OSHA: 10 ppm TWA; 50 mg/m^3 TWA

NIOSH: 10 ppm TWA; 50 mg/m^3 TWA
15 ppm STEL; 75 mg/m^3 STEL

Mexico 10 ppm TWA LMPE-PPT; 50 mg/m^3 TWA LMPE-PPT
15 ppm STEL [LMPE-CT]; 75 mg/m^3 STEL [LMPE-CT]

Benzene, 1,2,4-trimethyl- (95-63-6)

NIOSH: 25 ppm TWA; 125 mg/m^3 TWA

Ventilation

Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

Eye protection not required, but recommended.

Protective Clothing

Under normal conditions of use, wear suitable clothing to prevent contact with skin. Long sleeved shirt and long pants recommended.

Glove Recommendations

Wear appropriate gloves.

Respiratory Protection

Where vapor concentration exceeds or is likely to exceed applicable exposure limits, a NIOSH approved respirator is required.

* * *Section 9 - PHYSICAL AND CHEMICAL PROPERTIES* * *

Physical State:	Liquid	**Appearance:**	Liquid
Color:	Not available	**Physical Form:**	liquid
Odor:	Not available	**Odor Threshold:**	Not available
pH:	6.2	**Melting Point:**	Not available
Boiling Point:	Not available	**Flash Point:**	>200 °F
Evaporation Rate:	Not available	**Vapor Pressure:**	Not available
Henry's Law Constant:	0.974 g/ml	**Vapor Density (air = 1):**	Not available
Density:	0.974 g/ml	**Specific Gravity (water = 1):**	Not available
Water Solubility:	Not available	**Coeff. Water/Oil Dist:**	Not available
Viscosity:	Not available	**Volatility:**	Not available

* * *Section 10 - STABILITY AND REACTIVITY* * *

Chemical Stability

Stable at standard temperatures and pressure.

Conditions to Avoid

None known.

Materials to Avoid

strong acids, strong oxidizing materials

Decomposition Products

oxides of carbon, hydrocarbons

Decomposition Products

Combustion: hydrocarbons, oxides of carbon

Possibility of Hazardous Reactions

Will not polymerize.

* * *Section 11 - TOXICOLOGICAL INFORMATION* * *

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Cycloate (1134-23-2)

Oral: Rat LD50: 1678 mg/kg

Dermal: Rat LD50: 2467 mg/kg

Dermal: Rabbit LD50: 3 g/kg

Inhalation: Rat 1-hr LC50: 90 g/m^3

Solvent naphtha, petroleum, heavy aromatic (64742-94-5)

Oral: Rat LD50: >5000 mg/kg

Dermal: Rabbit LD50: >2000 mg/kg

Inhalation: Rat 4-hr LC50: >590 mg/m^3

Naphthalene (91-20-3)

Oral: Rat LD50: 490 mg/kg

Dermal: Rat LD50: >2500 mg/kg

Dermal: Rabbit LD50: >20 g/kg

Inhalation: Rat 1-hr LC50: >340 mg/m^3

Benzene, 1,2,4-trimethyl- (95-63-6)

Oral: Rat LD50: 3400 mg/kg

Dermal: Rabbit LD50: >3160 mg/kg
Inhalation: Rat 4-hr LC50: 18 g/m^3

Respiratory Sensitizer

Not known to be a sensitizing agent.

Dermal Sensitizer

Not known to be a sensitizing agent.

Carcinogenicity

See component data.
NAPTHALENE : IARC 2B

Component Carcinogenicity

Naphthalene (91-20-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen
NTP: Reasonably Anticipated To Be A Human Carcinogen (Possible Select Carcinogen)
IARC: Monograph 82 [2002] (Group 2B (possibly carcinogenic to humans))

Mutagenic Data

No information available for the product.

Reproductive Effects

No information available for the product.

* * *Section 12 - ECOLOGICAL INFORMATION* * *

Ecotoxicity

Toxic to aquatic organisms. Harmful to aquatic life with long lasting effects

Component Analysis - Aquatic Toxicity

Solvent naphtha, petroleum, heavy aromatic (64742-94-5)

Fish: 96-hr LC50 Pimephales promelas: 19 mg/l [static]
96-hr LC50 Oncorhynchus mykiss: 2.34 mg/l
96-hr LC50 Lepomis macrochirus: 1740 mg/l [static]
96-hr LC50 Pimephales promelas: 45 mg/l [flow-through]
96-hr LC50 Pimephales promelas: 41 mg/l
Algae: 72-hr EC50 Skeletonema costatum: 2.5 mg/l
Invertebrate: 48-hr EC50 Daphnia magna: 0.95 mg/l

Naphthalene (91-20-3)

Fish: 96-hr LC50 Pimephales promelas: 5.74-6.44 mg/l [flow-through]
96-hr LC50 Oncorhynchus mykiss: 1.6 mg/l [flow-through]
96-hr LC50 Oncorhynchus mykiss: 0.91-2.82 mg/l [static]
96-hr LC50 Pimephales promelas: 1.99 mg/l [static]
96-hr LC50 Lepomis macrochirus: 31.03 mg/l [static]
Algae: 72-hr EC50 Skeletonema costatum: 0.4 mg/l
Invertebrate: 48-hr LC50 Daphnia magna: 2.16 mg/l
48-hr EC50 Daphnia magna: 1.96 mg/l [Flow through]
48-hr EC50 Daphnia magna: 1.09 - 3.4 mg/l [static]

Benzene, 1,2,4-trimethyl- (95-63-6)

Fish: 96-hr LC50 Pimephales promelas: 7.19-8.28 mg/l [flow-through]
Invertebrate: 48-hr EC50 Daphnia magna: 6.14 mg/l

* * *Section 13 - DISPOSAL CONSIDERATIONS* * *

Disposal Methods

Dispose in accordance with all applicable regulations.

Component Waste Numbers

Naphthalene (91-20-3)

RCRA: waste number U165

* * *Section 14 - TRANSPORT INFORMATION* * *

US DOT Information

No Classification assigned.

TDG Information

No Classification assigned.

* * *Section 15 - REGULATORY INFORMATION* * *

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Naphthalene (91-20-3)

CERCLA: 100 lb final RQ; 45.4 kg final RQ

TSCA 12b: Section 4, 0.1 % de minimus concentration

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Cycloate	1134-23-2	No	No	No	Yes	No
Naphthalene	91-20-3	Yes	Yes	Yes	Yes	Yes
Benzene, 1,2,4-trimethyl-	95-63-6	No	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects.

Canada

D2A, D2B.

Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which fall under WHMIS criteria specified in the Controlled Products Regulations and present above the threshold limits listed on the IDL.

Benzene, 1,2,4-trimethyl- (95-63-6)

0.1 %

WHMIS Classification

Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
Cycloate	1134-23-2	No	No	EIN	No	No	No	No	No	No
Solvent naphtha, petroleum, heavy aromatic	64742-94-5	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Naphthalene	91-20-3	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Benzene, 1,2,4-trimethyl-	95-63-6	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

* * *Section 16 - OTHER INFORMATION* * *

Summary of Changes

Revision 1.0000, 2nd October: New SDS.

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CPR - Controlled Products Regulations; DOT - Department of Transportation; DSL - Domestic Substances List; EPA - Environmental Protection Agency; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit

Other Information

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE, except that the product shall conform to contracted specifications, and that the product does not infringe any valid United States or Canadian patent. No claim of any kind shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

End of Sheet 74530-16

Attachment E
Calculation Spreadsheet

Calculation of Regulated Compound Emission Rates for Borzini Farm Spraying

Agricultural Product Applied	Regulated Compound	CAS	Active Ingredient Percentage Reported on Label	Active Ingredient Percentage Used in Calc	acres Application Rate	acres Units	Borzini 6 17.961 Convert Application rate to lb	Borzini 7 14.47 Convert Application rate to lb	Borzini 9 8.58 Convert Application rate to lb		Borzini 6 lb/hr Convert lb to lb per Compound	Borzini 7 lb/hr Convert lb to lb per Compound	Borzini 9 lb/hr Convert lb to lb per Compound		Borzini 6 lb/yr Multiply by Yearly Scaling Factor	Borzini 7 lb/yr Multiply by Yearly Scaling Factor	Borzini 9 lb/yr Multiply by Yearly Scaling Factor
ABAMEX																	
ABAMEX MITICIDE/INSECTICIDE																	
ACEPHATE 97UP																	
ACTIGARD 50WG	Crystalline Silica	1175	<50	50	0.4737	lb/ac	8.508126	6.854439	4.064346		4.254063	3.42722	2.032173		76.57313	61.68995	36.579114
AFRAME (CA & HI)	Propylene Glycol	57556	<20	20	0.12	gal/ac	17.24256	13.8912	8.2368		3.448512	2.77824	1.64736		62.07322	50.00832	29.65248
ALIETTE WDG FUNGICID																	
ASSAIL 30SG																	
BADGE X2 FUNGICIDE/B	Copper Compounds	7440508	45	45	1.498	lb/ac	26.90558	21.67606	12.85284		12.10751	9.754227	5.783778		217.9352	175.5761	104.108
BELEAF 50 SG																	
BELEAF 50 SG (CA)																	
BELEAF 50 SG INSECTICIDE																	
BRANDT M.S.O.																	
CABRIO(R) EG FUNGICI																	
CAPAROL 4L	Ethylene Glycol	107211	<10	10	0.38	gal/ac	54.60144	43.9888	26.0832		5.460144	4.39888	2.60832		98.28259	79.17984	46.94976
CHAMP FORMULA 2 FLOW	Copper Compounds	7440508	43.7	43.7	0.16	gal/ac	22.99008	18.5216	10.9824		10.04666	8.093939	4.7993088		180.84	145.6909	86.387558
DU PONT CURZATE 60DF FUNGICIDE																	
DUAL MAGNUM (CA/HI*)	Naphthalene	91203	<1	1	0.08	gal/ac	11.49504	9.2608	5.4912		0.11495	0.092608	0.054912		2.069107	1.666944	0.988416
DUPONT FONTELIS FUNG																	
DUPONT LANNATE SP IN																	
INTREPID 2F																	
JET-AG																	
KERB SC	Propylene Glycol	57556	3.6	3.6	0.15	gal/ac	21.5532	17.364	10.296		0.775915	0.625104	0.370656		13.96647	11.25187	6.671808
LAMBDA-CY EC AGRICUL																	
LOROX DF																	
LUNA TRANQUILITY																	
MANZATE MAX	Manganese Compound	7439965	37	37	0.38	gal/ac	54.60144	43.9888	26.0832		20.20253	16.27586	9.650784		363.6456	292.9654	173.71411
MERIVON(R) XEMIUM(R)	Propylene Glycol	57556	15	15	0.08	gal/ac	11.49504	9.2608	5.4912		1.724256	1.38912	0.82368		31.03661	25.00416	14.82624
METEOR																	
MILLER FOAM FIGHTER																	
MONTANA 2F INSECTICI																	
MOVENTO																	
MULTI-SPRED																	
MUSTANG (CA & NY)																	
MUSTANG INSECTICIDE	Propylene Glycol	57556	10	10	0.03	gal/ac	4.31064	3.4728	2.0592		0.431064	0.34728	0.20592		7.759152	6.25104	3.70656
NEW CENTURY OIL SPRE																	
NUPRID 2SC	Propylene Glycol	57556	8.4	8.4	0.02	gal/ac	2.87376	2.3152	1.3728		0.241396	0.194477	0.1153152		4.345125	3.500582	2.0756736
NUPRID 2SC SOIL/FOLIAR INSECTICIDE																	
PERM-UP 25 DF INSECTICIDE																	
PERM-UP 25DF																	
PHOSTROL																	
PHOSTROL AGRICULTURAL FUNGICIDE																	
PLATINUM 75 SG																	
POUNCE 25 WP																	
PREFAR 4-E																	
PRESIDIO FUNGICIDE																	
PREVICUR FLEX FUNGIC																	

Calculation of Regulated Compound Emission Rates for Borzini Farm Spraying

			Active Ingredient Percentage		acres		Borzini 6 17.961	Borzini 7 14.47	Borzini 9 8.58		Borzini 6 lb/hr	Borzini 7 lb/hr	Borzini 9 lb/hr		Borzini 6 lb/yr	Borzini 7 lb/yr	Borzini 9 lb/yr
							Convert Application rate to lb				Convert lb to lb per Compound				Multiply by Yearly Scaling Factor		
Agricultural Product Applied	Regulated Compound	CAS	Reported on Label	Used in Calc	Application Rate	Units											
PROPI-STAR EC	Naphthalene	91203	5	5	0.03	gal/ac	4.31064	3.4728	2.0592		0.215532	0.17364	0.10296		3.879576	3.12552	1.85328
RADIANT SC																	
REASON 500 SC FUNGIC																	
REASON 500 SC FUNGICIDE	Propylene Glycol	57556	2.31	2.31	0.06	gal/ac	8.62128	6.9456	4.1184		0.199152	0.160443	0.095135		3.584728	2.88798	1.7124307
REVUS																	
RIDOMIL GOLD SL	Propylene Glycol	57556	20	20	0.25	gal/ac	35.922	28.94	17.16		7.1844	5.788	3.432		129.3192	104.184	61.776
RIDOMIL GOLD SL (CA,																	
RO-NEET HERBICIDE	Naphthalene	91203	<1	1	0.25	gal/ac	35.922	28.94	17.16		0.35922	0.2894	0.1716		6.46596	5.2092	3.0888
ZAMPRO FUNGICIDE																	

Calculation notes:

Application rates are provided in gallons per acre (gal/ac) or in pounds per acre (lb/ac) depending on what is being applied.
Acreage is calcuated based on dimensions of the three rectangular areas per Figure 1 including Borzini 6, Borzini 7, and Borzini 9.
Acreage for each is shown in cells I, J, K 2
AgDRIFT assumes 20 swaths and a swath width of 45 feet.
Borzini tractor speed is 5 mile per hour or 2.2 m/s
At that tractor rate and given the 20 swath path AgDRIFT consideration it would take about 1 hour to spray each of the Borzini acreage areas.
For example, it takes about 3 minutes for the tractor to drive from one edge of Borzini 6 to the other along Walnut. Times 20 swaths = 60 min.
Assume 1 gal is 8 lb then convert gal/ac to lb/ac by muliplying gal/ac by 8
Multiply lb/ac by number of acres per area to return lb/hr value
Multiply by percentage of active ingredient in application to get compound specific lb/hr value
Total acreage reported in 2019 as being treated is 2742
Sum of hourly treatments for all three Borzini areas divided by total annual is 17.98
To calculate annual treatment amounts multiply lb/hr values by 18 to calculate total lb/year values.

Attachment F
HARP2 Emission Inputs

Borzini7	1	1	1175	Crystalline Silica	1	61.68995	3.42722	1
Borzini6	2	1	1175	Crystalline Silica	1	76.57313	4.254063	1
Borzini9	3	1	1175	Crystalline Silica	1	36.57911	2.032173	1
Borzini7	1	1	57556	Propylene Glycol	1	203.088	11.28266	1
Borzini6	2	1	57556	Propylene Glycol	1	252.0845	14.00469	1
Borzini9	3	1	57556	Propylene Glycol	1	120.4212	6.690066	1
Borzini7	1	1	7440508	Copper Compounds	1	321.267	17.84817	1
Borzini6	2	1	7440508	Copper Compounds	1	398.7752	22.15418	1
Borzini9	3	1	7440508	Copper Compounds	1	190.4956	7.691198	1
Borzini7	1	1	107211	Ethylene Glycol	1	79.17984	4.39888	1
Borzini6	2	1	107211	Ethylene Glycol	1	98.28259	5.460144	1
Borzini9	3	1	107211	Ethylene Glycol	1	46.94976	2.60832	1
Borzini7	1	1	91203	Naphthalene	1	10.00166	0.555648	1
Borzini6	2	1	91203	Naphthalene	1	12.41464	0.689702	1
Borzini9	3	1	91203	Naphthalene	1	5.930496	0.329472	1
Borzini7	1	1	7439965	Manganese Compound	1	292.9654	16.27586	1
Borzini6	2	1	7439965	Manganese Compound	1	363.6456	20.20253	1
Borzini9	3	1	7439965	Manganese Compound	1	173.7141	9.650784	1

APPENDIX G – NOISE ASSESSMENT

NOISE ASSESSMENT

Greenfield Commons Residential Development Project
City of Greenfield

Prepared by:

Ldn Consulting, Inc.
42428 Chisolm Trail
Murrieta, CA 92562
780-473-1253

Prepared For:

AEM Consulting
422 Larkfield Center #104
Santa Rosa, CA 95403

August 21, 2019

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TABLE 3-1: CONSTRUCTION NOISE LEVELS 14

GLOSSARY OF COMMON TERMS

Sound Pressure Level (SPL): a ratio of one sound pressure to a reference pressure (L_{ref}) of 20 µPa. Because of the dynamic range of the human ear, the ratio is calculated logarithmically by 20 log (L/L_{ref}).

A-weighted Sound Pressure Level (dBA): Some frequencies of noise are more noticeable than others. To compensate for this fact, different sound frequencies are weighted more.

Minimum Sound Level (L_{min}): Minimum SPL or the lowest SPL measured over the time interval using the A-weighted network and slow time weighting.

Maximum Sound Level (L_{max}): Maximum SPL or the highest SPL measured over the time interval the A-weighted network and slow time weighting.

Equivalent sound level (L_{eq}): the true equivalent sound level measured over the run time. Leq is the A-weighted steady sound level that contains the same total acoustical energy as the actual fluctuating sound level.

Day Night Sound Level (LDN): Representing the Day/Night sound level, this measurement is a 24 –hour average sound level where 10 dB is added to all the readings that occur between 10 pm and 7 am. This is primarily used in community noise regulations where there is a 10 dB "Penalty" for night time noise. Typically, LDN's are measured using A weighting.

Community Noise Exposure Level (CNEL): The accumulated exposure to sound measured in a 24-hour sampling interval and artificially boosted during certain hours. For CNEL, samples taken between 7 pm and 10 pm are boosted by 5 dB; samples taken between 10 pm and 7 am are boosted by 10 dB.

Octave Band: An octave band is defined as a frequency band whose upper band-edge frequency is twice the lower band frequency.

Third-Octave Band: A third-octave band is defined as a frequency band whose upper band-edge frequency is 1.26 times the lower band frequency.

Response Time (F,S,I): The response time is a standardized exponential time weighting of the input signal according to fast (F), slow (S) or impulse (I) time response relationships. Time response can be described with a time constant. The time constants for fast, slow and impulse responses are 1.0 seconds, 0.125 seconds and 0.35 milliseconds, respectively.

EXECUTIVE SUMMARY

This noise study has been completed to determine the noise impacts associated with the development of the proposed project. The project known as "Greenfield Commons" envisions providing a total of 222 multi-family residential as farmworker housing on approximately 11 acres located at 41206 Walnut Avenue in the City of Greenfield.

On-Site Traffic Noise Analysis

It was determined Based on the exterior noise model, the worst-case noise level from Walnut Avenue was found to be less than 65 dBA CNEL at the nearest outdoor sensitive use on the site located 125 feet from the ceterline of the site. Therefore, no mitigation is required. The City as part of its noise guidelines also states, consistent with Title 24 of the California Code of Regulations (CCR), a project is required to perform an interior assessment on the portions of a project site where building façade noise levels were found to be above 60 dBA CNEL. Building facades could be as high as 67 dBA CNEL at 50 feet and the 60 dBA CNEL contours from Walnut Avenue could extend 148 feet from the center line.

Off-Site Traffic Noise Analysis

It was determined that the project related traffic would result in a less than 3 decibel increase along the adjacent roadways. Therefore, the proposed project's direct and cumulative contributions to off-site roadway noise increases will not cause any significant impacts to any existing or future noise sensitive land uses.

Construction Noise Analysis

The City Municipal Code prohibits the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the house of 7:00 p.m. and 7:00 a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work. Construction is anticipated to occur during the permissible hours according the City's Municipal Code and therefore, no impacts are anticipated. To further minimize construction noise at adjacent land uses, the following measures should be taken:

1. Construction should occur during the permissible hours as defined in the Municipal Code.
2. During construction, the contactor shall ensure all construction equipment is equipped with appropriate noise attenuating devices.
3. The contractor should locate equipment staging areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the project site during all project construction.
4. Idling equipment should be turned off when not in use.

1.0 INTRODUCTION

1.1 Project Description

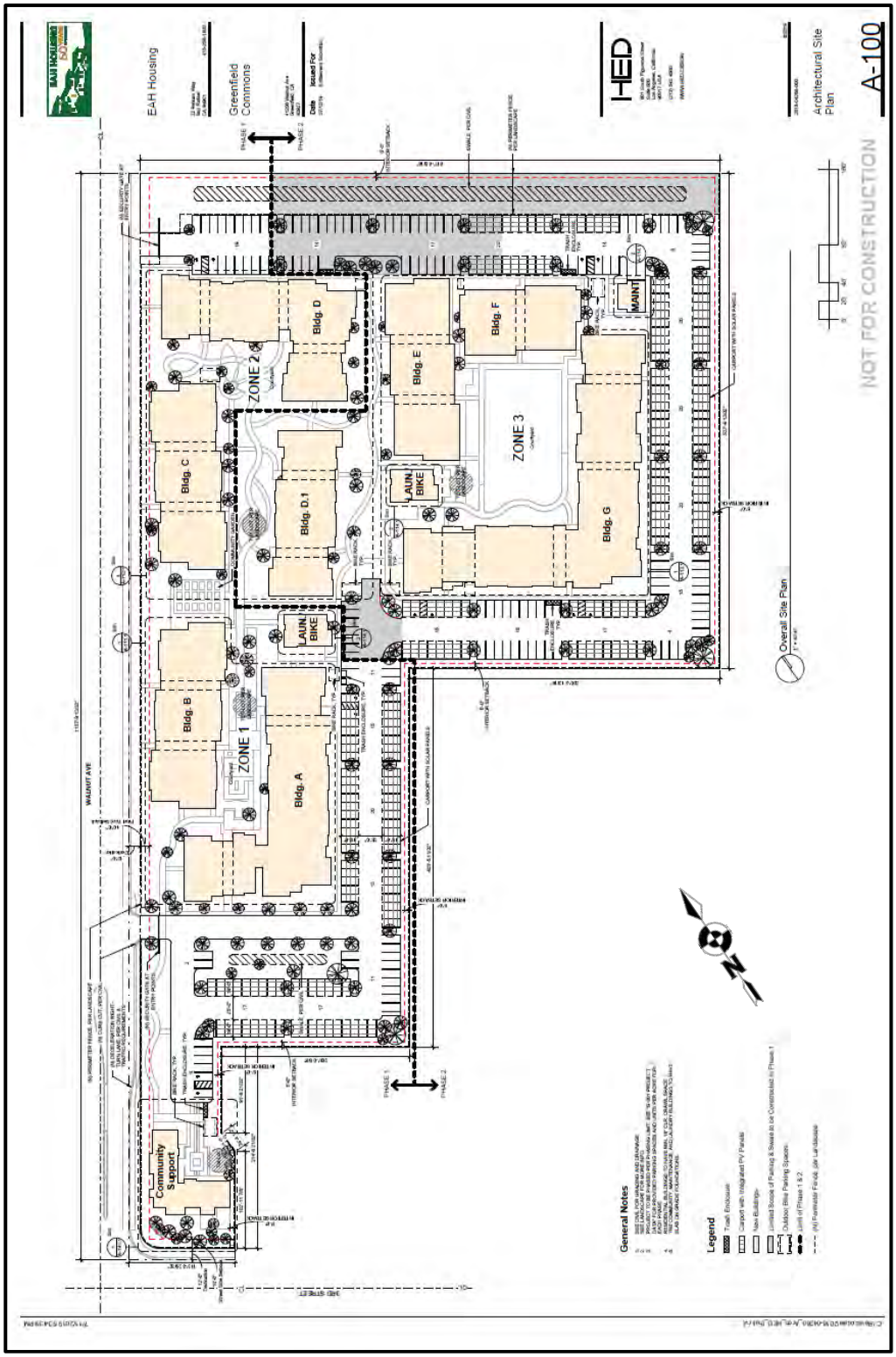
This noise study was completed to determine the noise impacts associated with the development of the proposed Greenfield Commons residential project. The project is located at 41206 Walnut Avenue in the City of Greenfield. The Project envisions providing 222 multi-family residential as farmworker housing on approximately 11 acres. The project will construct eight residential buildings, two laundry buildings, a maintenance building and a community building for a total of 12 buildings on the site. The unit mix will be 78 one-bedroom units, 88 two-bedroom units, 56 three-bedroom units and two manager's units. A total of 333 parking spaces will be provided onsite for a ratio of 1.5 parking spaces per unit. A total of 227 bicycle parking spaces will also be provided, with 115 outdoor spaces and 112 secured overnight spaces. A total of 343,213 square feet of open space will be provided onsite. The Project site plan is shown in Figure 1-A.

The Greenfield Commons residential development is envisioned to create a neighborhood feel that is consistent with the rural nature of the site and the scale of the surrounding development. The site plan incorporates community buildings which include amenities for all the residents. Amenities include multi-purpose spaces, a fitness center, laundry and leasing offices. Courtyard spaces are an integral component of the development and are large enough to provide recreational opportunities, playgrounds, community gathering spaces and community gardens. Buildings will be modular, prefabricated construction. The architecture is traditional in nature, incorporating sloped roofs, textured siding and stepped massing. The development will be built to Green Point Gold standard and will utilize photovoltaic panels to lower overall operating costs.

Vehicular access will be provided at two locations from Walnut Avenue to the north. A simple driveway loop around the site will provide emergency vehicle and garbage truck access as well as resident and guest access to onsite parking. The internal driveway will use permeable pavers and space has been allocated in the site plan for retention of drainage and implementation of water quality systems. The frontage along Walnut Avenue will be landscaped and planted to create a pleasing edge that reinforces the residential nature of the development. Sidewalks along the street frontage will connect to a broader network of pedestrian walks throughout the development.

The project will provide 222 units of farmworker housing targeting an income of 50% of the Area Median Income (AMI). In addition, 10% of the units will be reserved for high needs residents with anticipated minimal trip making ability.

Figure 1-A: Proposed Project Site Layout



Source:EAH Housing and HED Design, 2019

1.2 Methodology and Equipment

a) Noise Measuring Methodology and Procedures

To determine the existing noise environment and to assess potential noise impacts, 24-hour measurements were taken at two locations on the project having a relatively flat terrain and no obstruction from trees or structures. The noise measurements were recorded on July 10th-11th, 2019 by Ldn Consulting between approximately 4:00 p.m. and 4:00 p.m. the following day. Noise measurements were taken using two Larson-Davis Spark Model 706 Type 2 precision sound level meters, programmed, in "slow" mode, to record noise levels in "A" weighted form. The sound level meter and microphone were mounted on a tripod, five feet above the ground and equipped with a windscreen during all measurements. The sound level meter was calibrated before and after the monitoring using a Larson-Davis calibrator, Model CAL 200.

The overall results of the noise level measurements are presented in Table 1-1. The ambient Leq noise levels measured at the project were found to be roughly 59-61 dBA due to background noise from Highwas 101 and agricultural activities. As can be seen in the table, 50% (L50) of the time the noise levels were below 48 dBA and 90% (L90) the noise levels were below 40 dBA. The noise measurement locations were determined based on site access and noise impact potential to the proposed sensitive uses. Monitoring location 1 (M1) was located on the southern portion of the site and monitoring location 2 (M2) was located adjacent to Walnut Avenue. The noise monitoring locations are provided graphically in Figure 1-B on the following page.

Table 1-1: Overall Existing Noise Levels

Location	Noise Levels (dBA)						
	CNEL	Leq	Lmin	Lmax	L10	L50	L90
M1	55.0	50.4	34.7	91.8	54.5	47.0	39.0
M2	61.7	57.0	33.6	91.1	62.0	47.5	39.0

b) Noise Calculations and Factors

Noise is defined as unwanted or annoying sound which interferes with or disrupts normal activities. Exposure to high noise levels has been demonstrated to cause hearing loss. The individual human response to environmental noise is based on the sensitivity of that individual, the type of noise that occurs and when the noise occurs.

Figure 1-B: Noise Measurement Locations

Sound is measured on a logarithmic scale consisting of sound pressure levels known as a decibel (dB). The sounds heard by humans typically do not consist of a single frequency but of a broadband of frequencies having different sound pressure levels. The method for evaluating all the frequencies of the sound is to apply an A-weighting to reflect how the human ear responds to the different sound levels at different frequencies. The A-weighted sound level adequately describes the instantaneous noise whereas the equivalent sound level depicted as Leq represents a steady sound level containing the same total acoustical energy as the actual fluctuating sound level over a given time interval.

The Community Noise Equivalent Level (CNEL) is the 24 hour A-weighted average for sound, with corrections for evening and nighttime hours. The corrections require an addition of 5 decibels to sound levels in the evening hours between 7 p.m. and 10 p.m. and an addition of 10 decibels to sound levels at nighttime hours between 10 p.m. and 7 a.m. These additions are made to account for the increased sensitivity during the evening and nighttime hours when sound appears louder.

A vehicle's noise level is from a combination of the noise produced by the engine, exhaust and tires. The cumulative traffic noise levels along a roadway segment are based on three primary factors: the amount of traffic, the travel speed of the traffic, and the vehicle mix ratio or number of medium and heavy trucks. The intensity of traffic noise is increased by higher traffic volumes, greater speeds and increased number of trucks.

Because mobile/traffic noise levels are calculated on a logarithmic scale, a doubling of the traffic noise or acoustical energy results in a noise level increase of 3 dBA. Therefore, the doubling of the traffic volume, without changing the vehicle speeds or mix ratio, results in a noise increase of 3 dBA. Mobile noise levels radiate in an almost oblique fashion from the source and drop off at a rate of 3 dBA for each doubling of distance under hard site conditions and at a rate of 4.5 dBA for soft site conditions. Hard site conditions consist of concrete, asphalt and hard pack dirt while soft site conditions exist in areas having slight grade changes, landscaped areas and vegetation. On the other hand, fixed/point sources radiate outward uniformly as sound travels away from the source. Their sound levels attenuate or drop off at a rate of 6 dBA for each doubling of distance.

The most effective noise reduction methods consist of controlling the noise at the source, blocking the noise transmission with barriers or relocating the receiver. Any or all of these methods may be required to reduce noise levels to an acceptable level.

2.0 TRANSPORTATION RELATED NOISE

2.1 Guidelines for the Determination of Significance

The City's General Plan includes allowable exterior and interior noise standards for projects affected by transportation related noise sources. Noise compatibility of proposed development is determined in comparison to these standards. The City's applicable noise standards for projects affected by transportation noise sources are presented in Table 2-1.

Table 2-1: Noise Standards for New Uses Affected by Transportation Noise

New Land Use	Outdoor Activity Area (dBA CNEL/L_{dn})	Interior - Ldn/Peak Hour (dBA L_{eq})[1]
All Residential [2, 3, 4]	60-65	45
Transient Lodging [5]	65	45
Hospitals & Nursing Homes [6]	60	45
Theaters & Auditoriums	---	35
Churches, Meeting Halls, Schools, Libraries	60	40
Office Buildings [7]	65	45
Commercial Buildings [7]	65	50
Playgrounds, Parks, etc.	70	---
Industry [7]	65	50

[1] For traffic noise within the City of Greenfield, Ldn and peak-hour Leq values are estimated to be approximately similar. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.

[2] Outdoor activity areas for single-family residential uses are defined as back yards. For large parcels or residences with no clearly defined outdoor activity area, the standard shall be applicable within a 100-foot radius of the residence.

[3] For multi-family residential uses, the exterior noise level standard shall be applied at the common outdoor recreation area, such as at pools, play areas or tennis courts. Where such areas are not provided, the standards shall be applied at individual patios and balconies of the development.

[4] Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn or less using a practical application of the best- available noise reduction measures, an exterior noise level of up to 65 dB Ldn may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

[5] Outdoor activity areas of transient lodging facilities include swimming pool and picnic areas.

[6] Hospitals are often noise generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.

[7] Only the exterior spaces of these uses designated for employee or customer relaxation have any degree of sensitivity to noise.

2.2 Potential Noise Impacts

The primary source of potential noise impacts to the project site will occur from vehicular traffic noise along Walnut Avenue. The Buildout scenario includes a capacity of 10,400 ADT in the future conditions based on the City's General Plan roadway classification operating at an acceptable level of service (LOS) C. The future roadway parameters and inputs utilized in this analysis are provided in Table 2-2.

Table 2-2: Buildout Traffic Volumes

Roadway	Buildout Average Daily Traffic (ADT)	Peak Hour Traffic (ADT)	Speed (MPH)
Walnut Avenue	10,400	1,040	35

The roadway segment noise levels projected were calculated using the methods in the Highway Noise Model published by the Federal Highway Administration (FHWA Highway Traffic Noise Prediction Model, FHWA-RD-77-108, December, 1978). The FHWA Model uses the traffic volume, vehicle mix, speed, and roadway geometry to compute the equivalent noise level. The vehicle mix and speeds were assumed to be the same in the modeling to determine the overall noise level increases based on traffic volumes. To assess the peak hour traffic noise conditions, 10% of the ADT was utilized and a conservative vehicle mix was also utilized to predict the worst case noise levels. Based on the exterior noise model, the worst-case noise level from Walnut Avenue was found to be less than 65 dBA CNEL at the nearest outdoor sensitive use on the site located 125 feet from the ceterline of the site. The modeling results are provided in Figure 2-A.

The City as part of its noise guidelines also states, consistent with Title 24 of the California Code of Regulations (CCR), a project is required to perform an interior assessment on the portions of a project site where the building facades were found to be above 60 dBA CNEL in order to ensure that acceptable interior noise levels can be achieved. The City's Compatibility Guidelines require interior noise levels in residential structures to be reduced to 45 dBA CNEL. Standard building construction will provide a noise reduction of approximately 15 dBA with a windows open condition (Source: Federal Highway Administration Highway Traffic Noise Analysis and Abatement Policy and Guidance). Based on the future traffic volumes,. Building facades could be as high as 67 dBA CNEL at 50 feet and the 60 dBA CNEL contours from Walnut Avenue could extend 148 feet from the center line as can be seen in Figure 2-A.

Figure 2-A: Future Noise Levels

Traffic Volumes, Mix and Speeds

	Autos	Med. Trucks	Heavy Trucks
Mix Ratio by Percent	96.00	2.00	2.00

Roadway	**ADT**	**Speed MPH**	**CNEL @ 50 Feet**	**60 CNEL (Feet)**
Walnut Avenue	10,400	35	67.1	148

Noise Reduction due to Distance

	Distance	**Reduction**	**Resultant Level**	
Walnut Avenue	125	-3.98	**63.1**	**dBA CNEL**

2.3 Off-site Noise Impacts

To determine if off-site noise level increases associated with the development of the proposed project would create offsite noise impacts. Typically, it requires a project to double (or add 100%) the traffic volumes to have a 3 dBA CNEL increase or be a major contributor to the cumulative traffic volumes to be considered a poterntial impact. Usually a 5 dBA CNEL increase is considered an impact. The project will add 1,219 daily trips, conservatively, based on the Project's Traffic asseement. If all the project relates traffic occurred or traveled west on Walnut Avenue to Highway 101 and doubled the traffic volume (i.e., 1,219 x 2), the overall noise levels would be below 61 dBA CNEL. Additionally, there are no residential uses west of the site alogn Walnut Avenue. If all the project traffic went east, which is unlikely, the existing residntial uses to the east have 6 foot noise walls that would further reduce the traffic crelated noise at least 5 decibels. Therefore, the project would not result in a siginifacnat noise increase to the surrounding sensitive uses.

3.0 CONSTRUCTION RELATED NOISE

3.1 Construction Noise Prediction Methodology

Construction noise represents a short-term impact on the ambient noise levels. Noise generated by construction equipment includes haul trucks, water trucks, graders, dozers, loaders and scrapers can reach relatively high levels. Grading activities typically represent one of the highest potential sources for noise impacts. The most effective method of controlling construction noise is through local control of construction hours and by limiting the hours of construction to normal weekday working hours.

The U.S. Environmental Protection Agency (U.S. EPA) has compiled data regarding the noise generating characteristics of specific types of construction equipment. Noise levels generated by heavy construction equipment can range from 60 dBA to in excess of 100 dBA when measured at 50 feet. However, these noise levels diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 75 dBA measured at 50 feet from the noise source to the receptor would be reduced to 69 dBA at 100 feet from the source to the receptor, and reduced to 63 dBA at 200 feet from the source.

Using a point-source noise prediction model, calculations of the expected construction noise impacts were completed. The essential model input data for these performance equations include the source levels of each type of equipment, relative source to receiver horizontal and vertical separations, the amount of time the equipment is operating in a given day, also referred to as the duty-cycle and any transmission loss from topography or barriers.

The equipment needed for the development will consist of up to two large bulldozers, two rubber tire dozers, four scrapers, a water truck, a medium sized front loader, a medium sized excavator and a small to medium sized road grader. Based on the EPA noise emissions, empirical data and the amount of equipment needed, worst case noise levels from the construction equipment for site preparation would occur during the grading operations.

3.2 Construction Noise Findings and Mitigation

The grading activities will consist of the preparation of graded slopes, bioretention basins, internal roadways, and the finished pads. The grading equipment will be spread out over the project site from distances near the property lines to distances of 350 feet. Based upon the site plan the majority of the grading operations, on average, will occur more than 150 feet from the property lines. This means that most of the time the average distance from all the equipment to the same property line, located across the roadway, is 150 feet or more. As can be seen in Table 3-1, at an average distance of 150 feet from the construction activities to the nearest property line would result in a noise attenuation of -9.5 dBA without shielding.

Table 3-1: Construction Noise Levels

Equipment Type	Quantity Used	Source @ 50 Feet (dBA)	Cumulative Noise Level @ 50 Feet (dBA)
Tractor/Backhoe	3	72	76.8
Scrapers	1	75	75.0
Dozer	2	74	74.0
Grader	2	73	76.0
Dump Truck	1	75	75.0
Water Truck	1	70	70.0
		Cumulative Level	82.7
		Distance to Sensitive Use	150
		Noise Reduction due to Distance	-9.5
		Property Line Noise Level	73.1

The City Municipal Code prohibits the operation of any tools or equipment used in construction, or demolition work between the hours of 7:00 p.m. and 7:00 a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee.

Construction is anticipated to occur during the permissible hours according the City's Municipal Code and therefore, no impacts are anticipated. To further minimize construction noise at adjacent land uses, the following measures should be taken:

5. Construction should occur during the permissible hours as defined in the Municipal Code.
6. During construction, the contactor shall ensure all construction equipment is equipped with appropriate noise attenuating devices.
7. The contractor should locate equipment staging areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the project site during all project construction.
8. Idling equipment should be turned off when not in use.

APPENDIX H – TRAFFIC REVIEW

KITTELSON & ASSOCIATES

155 GRAND AVENUE, SUITE 900
OAKLAND, CA 94612
P 510.839.1742 F 510.839.0871

TECHNICAL MEMORANDUM

Date: July 26, 2019

Project #: 23859

To: Cinnamon Crake, AEM Consulting

Cc: Michael Schaier, AEH Housing

From: Damian Stefanakis

Project: Greenfield Commons Residential Development

Subject: **Traffic Review - DRAFT**

EAH Housing is proposing to develop a project at 41206 Walnut Avenue in Greenfield, CA with up to 222 units of multi-family residential as farmworker housing. This report provides an assessment of the potential project trip generation and a review of the site access and circulation.

PROJECT DESCRIPTION

EAH Housing proposes to acquire and develop Greenfield Commons on a vacant 11-acre site (APN 109-082-012-000) with address 41206 Walnut Avenue in Greenfield, Monterey County, California 93927. The project will construct 222 apartments in two-story buildings. The project will construct eight residential buildings, two laundry buildings, one maintenance building and one community building for a total of 12 buildings on the site. The unit mix will be 78 one-bedroom units, 88 two-bedroom units, 56 three-bedroom units and two manager's units. A total of 333 parking spaces will be provided onsite for a ratio of 1.5 parking spaces per unit. A total of 227 bicycle parking spaces will also be provided, with 115 outdoor spaces and 112 secured overnight spaces. A total of 343,213 square feet of open space will be provided onsite.

The Greenfield Commons residential development is envisioned to create a neighborhood feel that is consistent with the rural nature of the site and the scale of the surrounding development. The site plan incorporates community buildings which include amenities for all the residents. Amenities include multi-purpose spaces, a fitness center, laundry and leasing offices. Courtyard spaces are an integral component of the development and are large enough to provide recreational opportunities,

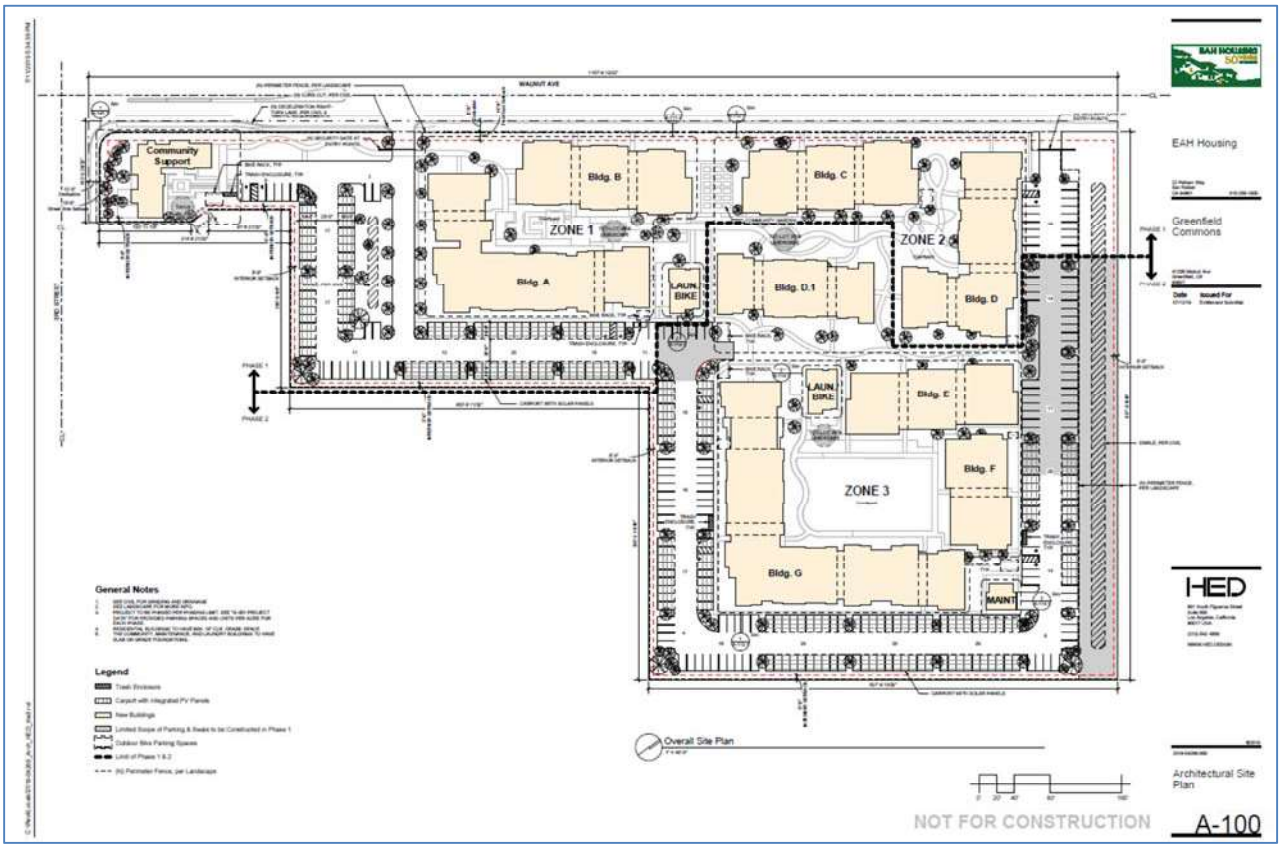
playgrounds, community gathering spaces and community gardens. Buildings will be modular, prefabricated construction. The architecture is traditional in nature, incorporating sloped roofs, textured siding and stepped massing. The development will be built to Green Point Gold standard and will utilize photovoltaic panels to lower overall operating costs.

Vehicular access will be provided at two locations from Walnut Avenue to the north. A simple driveway loop around the site will provide emergency vehicle and garbage truck access as well as resident and guest access to onsite parking. The internal driveway will use permeable pavers and space has been allocated in the site plan for retention of drainage and implementation of water quality systems. The frontage along Walnut Avenue will be landscaped and planted to create a pleasing edge that reinforces the residential nature of the development. Sidewalks along the street frontage will connect to a broader network of pedestrian walks throughout the development.

The project will provide 222 units of farmworker housing targeting an income of 50% of the Area Median Income (AMI). In addition, 10% of the units will be reserved for high needs residents with anticipated minimal trip making ability.

The project site plan is shown in **Figure 1**.

Figure 1: Project Site Plan



Source: EAH Housing and HED Design, July 12, 2019

PROJECT TRIP GENERATION

Trip generation is usually computed using the rates provided by the Institute of Transportation Engineers (ITE). Since ITE does not have a specific category for farmworker residential developments, the Multifamily Housing (Low-Rise) ITE Code 220 is the closest category. However, it is known that farmworker trip making is different to standard suburban multifamily, and could be much lower given a number of factors. Including: time of day travel with residents departing earlier than the AM peak and returning before the PM peak, car-pooling, van pooling, bussing, and lower car ownership. Using ITE Code 220 may be too conservative and could end up with higher trips than a typical farmworker residential site. This could potentially overstate any traffic impacts. And given the location of the project site in close proximity to a school and a grocery store, this should contribute to higher mode choice towards walking and biking trips beyond typical suburban amounts. As a result, Kittelson proposes additional reduction factors to account for this unique travel characteristic, as follows:

1. 10% of units reserved for high needs residents – 10% trip reduction.
2. Time of day departure/arrival – 10% reduction in the peak hours.
3. Vanpool/carpool/Bussing – 10% reduction in the peak hours.
4. Walk/Bike mode choice – 5% reduction in the peak hours.

5. School aftercare on site – 5% reduction in the PM peak hour.

The projected weekday daily, a.m., and p.m. peak-hour vehicle trips for the proposed development were based on the adjustments to the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th *Edition* (Reference 7) described previously. **Table 1** summarizes the anticipated number of trips that will be generated by the proposed development and the specific trip reductions associated with the trip adjustments.

Table 1. Estimated 41206 Walnut Avenue Development Trip Generation

Land Use	ITE Code	Size	Daily Rate/ Trips	Weekday AM Peak Hour Rates/ Trips			Weekday PM Peak Hour Rates/ Trips		
				Total	In	Out	Total	In	Out
Multifamily (low rise) - Rates	220	222	7.32	0.46	23%	77%	0.56	63%	37%
Multifamily (low rise) - Trips	220	222	1,625	102	23	79	124	78	46
Adjustments									
10% of units reserved for High Needs < 10% trips			-163	-10	-2	-8	-12	-8	-5
Time of day departure/arrival travel < 10% trips			0	-10	-2	-8	-12	-8	-5
Vanpools/Carpools < 10% trips			-163	-10	-2	-8	-12	-8	-5
Walk/Bike mode choice < 5% trips			-81	-5	-1	4	-6	-4	-2
School Aftercare on site (PM only) < 5% trips			0	0	0	0	-6	-4	-2
Total Reduction			-406	-35	-7	-28	-50	-31	-18
Total Net New Trips			**1,219**	**66**	**15**	**51**	**75**	**47**	**28**

Source: ITE and Kittelson & Associates, Inc. 2019

Note: Some rounding of trips making be occurring

Table 1 shows that after applying trip reductions the proposed development is estimated to generate 1,219 total net new daily vehicle trips; 66 net new weekday a.m. peak hour vehicle trips (15 inbound, 51 outbound) and 75 net new weekday p.m. peak hour vehicle trips (47 inbound, 28 outbound).

The project is not anticipated to have truck activity beyond regular waste truck pickup or moving vans.

IMPACT ASSESSMENT

The City of Greenfield has not requested a traffic impact analysis for this project. Given the low number of anticipated project trips during the weekday peak hour periods, it is not expected there will be any additional impacts beyond those identified in the *Walnut Avenue Specific Plan and DEIR*, prepared for the City of Greenfield in January 2014. All project trips should be accommodated within the CIP improvements and the mitigation improvements identified by the Plan.

Therefore, beyond the trip generation analysis, no additional traffic impact assessment has been conducted.

SITE PLAN REVIEW

A review of the detailed project site plan was conducted to identify any issues related to access, internal circulation, pedestrian crossings and truck circulation.

The site plan shows a layout of nine main buildings that includes the residences, community support building and laundry and bike rooms.

The site plan indicates there are two access driveways off Walnut Boulevard, a west access and an east access. All vehicle and truck trips will enter and exit via gates at these driveways. Addition of appropriate stop control signage at the two driveway access points should improve safety and minimize conflicts with traffic entering or exiting to Walnut Avenue.

An internal road provides two-way circulation within the site. Per code, the roadway is 25 feet wide and is adequate for two-way traffic and sufficiently wide enough for trucks to circulate without obstruction of buildings and parking lot structures.

The site plan indicates a total of 333 parking spaces are provided. City municipal code requires a total of 366 parking spaces. Parking layout is mostly perpendicular on either side of the circulation road, with some stalls uncovered and some covered by carports with solar panels.

There is a pedestrian crossing designated via separate pavement markings at the west gate leading from the Zone 1 Buildings on the east side to the Community Support Center on the west side. This could be a potential conflict point between cars and pedestrians, so it is recommended that appropriate signage per City code be installed there indicating “Caution Pedestrian Crossing” to improve safety and minimize conflicts with traffic entering or exiting to Walnut Avenue.

Truck access will be via the two main access gates and follow the same circulation pattern as residents. Truck traffic is anticipated to be limited to moving vans, waste trucks and emergency vehicles (EVA’s). Trash enclosures are situated at various locations on the site. Waste trucks will be able to circulate and maneuver around the site to access the trash enclosures. Truck turning templates based on the largest anticipated truck, a standard aerial fire truck, were tested to ensure circulation around the site is not compromised. This should also be adequate for a standard waste truck. **Appendix A contains** the truck turning templates from the west and east driveways.

Bike parking is provided in two included buildings and external bike racks.

CONCLUSION

Trip Generation

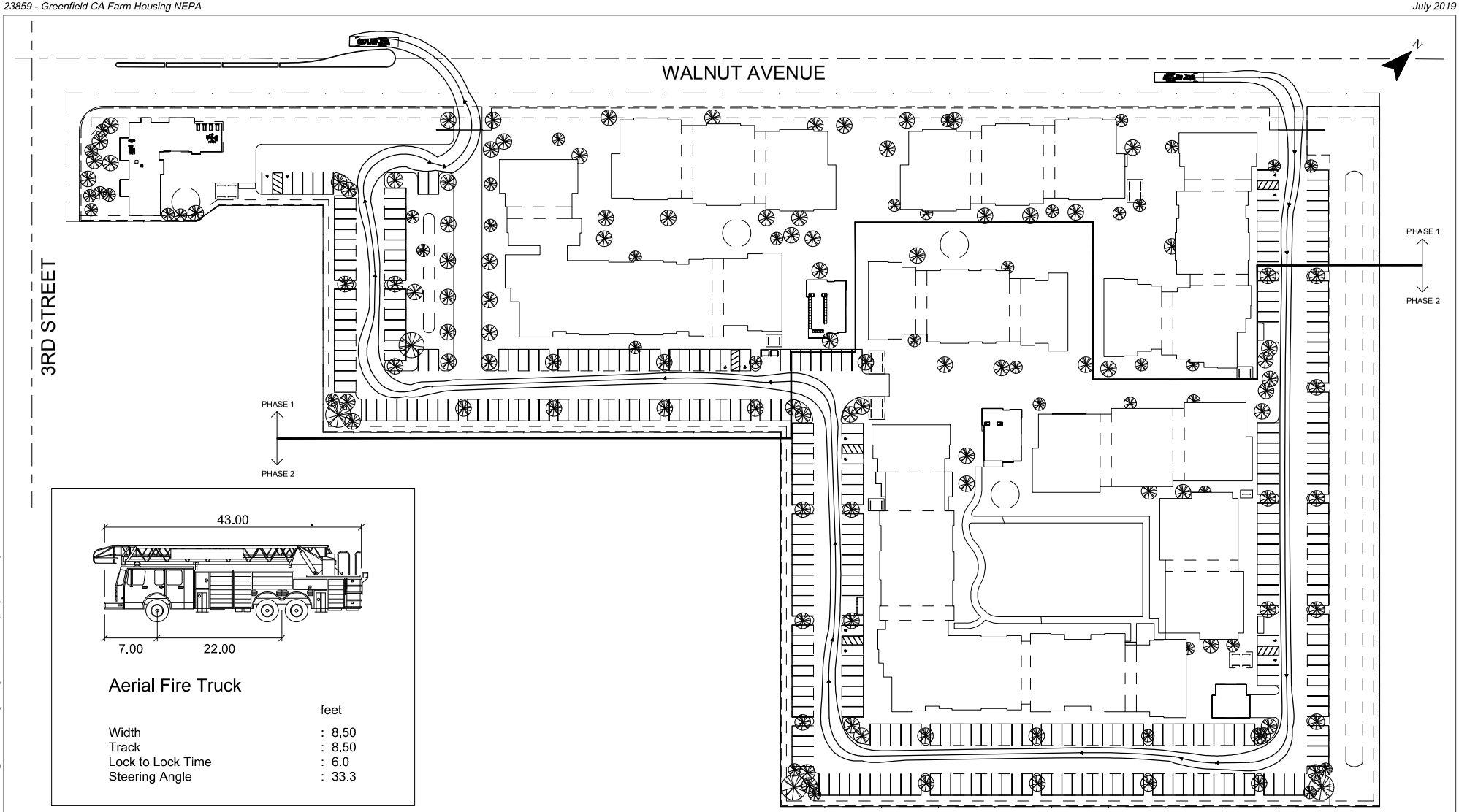
ITE does not have a farmworker housing category, so this analysis relied on the more conservative Multifamily low rise Residential ITE code 222. Given that farmworker trip characteristics are unique, additional trip reductions were then applied. Based on the findings of this study, the project is anticipated to generate the following project trips:

- 1,219 total net new daily vehicle trips; 66 net new weekday a.m. peak hour vehicle trips (15 inbound, 51 outbound) and 75 net new weekday p.m. peak hour vehicle trips (47 inbound, 28 outbound).
- Based on these trips, the project is not expected to create any additional impacts not disclosed in the Walnut Avenue Specific Plan and DEIR, prepared for the City of Greenfield in January 2014. All project trips should be accommodated within the CIP improvements and the mitigation improvements identified by the Plan.

Site Plan Review

The review of the site plan indicates adequate circulation with minimal conflict points. Addition of appropriate signage should improve safety and minimize conflict areas. The internal circulation road appears to be within code for two-way traffic, and sufficiently wide enough for trucks to circulate.

APPENDIX A: TRUCK TURNING TEMPLATES.



Truck Turning Exhibit
Ingress East & Egress West
Greenfield, California

Figure
2

KITTELSON & ASSOCIATES

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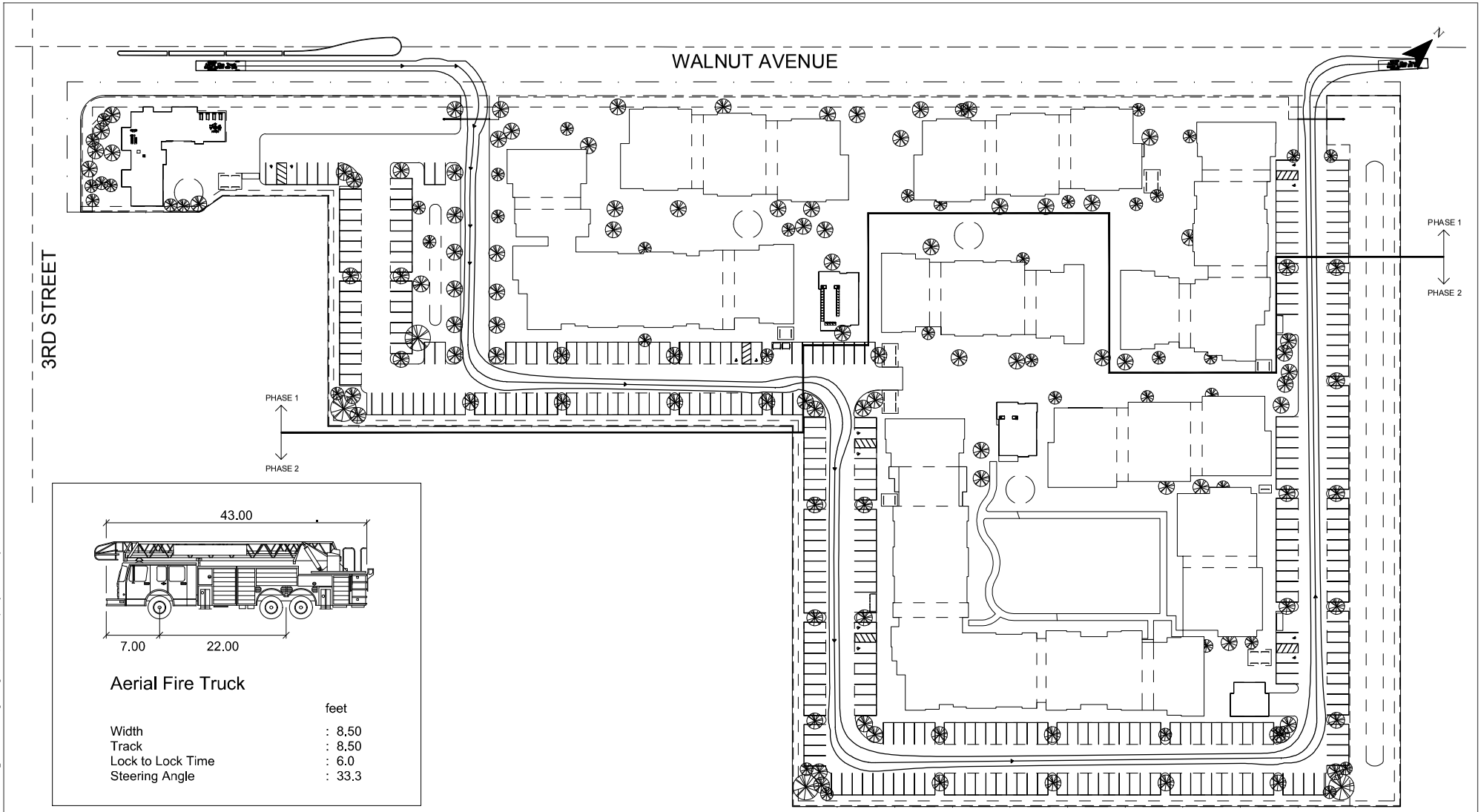

Truck Turning Exhibit
Ingress West & Egress East
Greenfield, California

Figure 3

KITTELSON & ASSOCIATES

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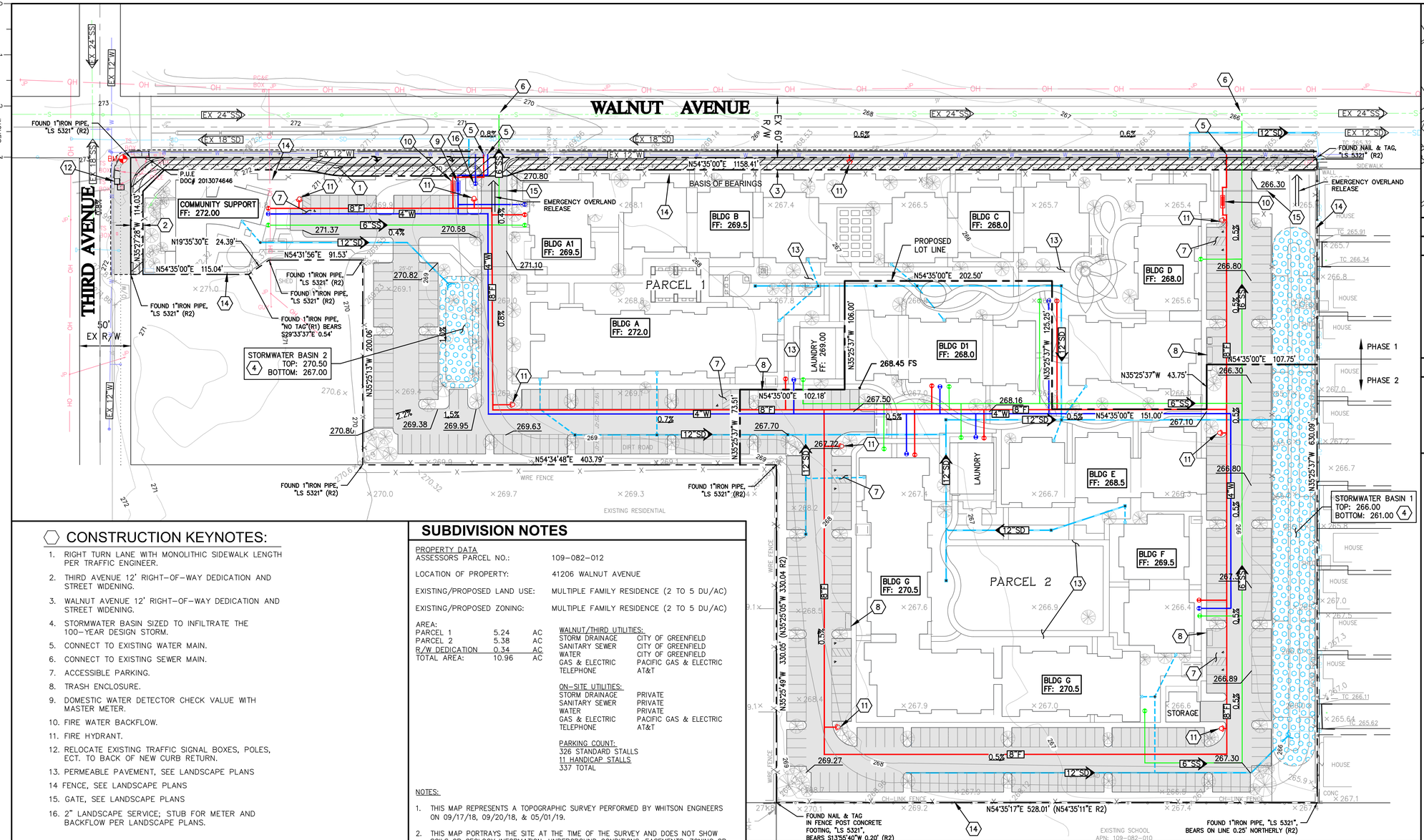
APPENDIX I – PLANS AND DRAWINGS



CONSTRUCTION KEYNOTES:

1. RIGHT TURN LANE WITH MONOLITHIC SIDEWALK LENGTH PER TRAFFIC ENGINEER.
2. THIRD AVENUE 12' RIGHT-OF-WAY DEDICATION AND STREET WIDENING.
3. WALNUT AVENUE 12' RIGHT-OF-WAY DEDICATION AND STREET WIDENING.
4. STORMWATER BASIN SIZED TO INFILTRATE THE 100-YEAR DESIGN STORM.
5. CONNECT TO EXISTING WATER MAIN.
6. CONNECT TO EXISTING SEWER MAIN.
7. ACCESSIBLE PARKING.
8. TRASH ENCLOSURE.
9. DOMESTIC WATER DETECTOR CHECK VALUE WITH MASTER METER.
10. FIRE WATER BACKFLOW.
11. FIRE HYDRANT.
12. RELOCATE EXISTING TRAFFIC SIGNAL BOXES, POLES, ECT. TO BACK OF NEW CURB RETURN.
13. PERMEABLE PAVEMENT, SEE LANDSCAPE PLANS
14. FENCE, SEE LANDSCAPE PLANS
15. GATE, SEE LANDSCAPE PLANS
16. 2" LANDSCAPE SERVICE; STUB FOR METER AND BACKFLOW PER LANDSCAPE PLANS.

SUBDIVISION NOTES

PROPERTY DATA

ASSESSORS PARCEL NO.: 109-082-012

LOCATION OF PROPERTY: 41206 WALNUT AVENUE

EXISTING/PROPOSED LAND USE: MULTIPLE FAMILY RESIDENCE (2 TO 5 DU/AC)

EXISTING/PROPOSED ZONING: MULTIPLE FAMILY RESIDENCE (2 TO 5 DU/AC)

AREA:

PARCEL 1	5.24	AC
PARCEL 2	5.38	AC
R/W DEDICATION	0.34	AC
TOTAL AREA:	10.96	AC

WALNUT/THIRD UTILITIES:

STORM DRAINAGE	CITY OF GREENFIELD
SANITARY SEWER	CITY OF GREENFIELD
WATER	CITY OF GREENFIELD
GAS & ELECTRIC	PACIFIC GAS & ELECTRIC
TELEPHONE	AT&T

ON-SITE UTILITIES:

STORM DRAINAGE	PRIVATE
SANITARY SEWER	PRIVATE
WATER	PRIVATE
GAS & ELECTRIC	PACIFIC GAS & ELECTRIC
TELEPHONE	AT&T

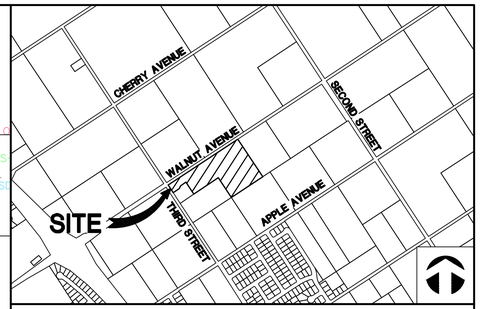
PARKING COUNT:
326 STANDARD STALLS
11 HANDICAP STALLS
337 TOTAL

NOTES:

1. THIS MAP REPRESENTS A TOPOGRAPHIC SURVEY PERFORMED BY WHITSON ENGINEERS ON 09/17/18, 09/20/18, & 05/01/19.
2. THIS MAP PORTRAYS THE SITE AT THE TIME OF THE SURVEY AND DOES NOT SHOW SOILS OR GEOLOGY INFORMATION, UNDERGROUND CONDITIONS, EASEMENTS, ZONING OR REGULATORY INFORMATION OR ANY OTHER ITEMS NOT SPECIFICALLY REQUESTED BY THE CLIENT.
3. BOUNDARY LOCATIONS SHOWN HEREON WERE DETERMINED WITH THE BENEFIT OF A FIELD SURVEY SUPPLEMENTED BY RECORD DATA. ALL BOUNDARY SHOWN IS FROM RECORD DATA. THIS TOPOGRAPHY DOES NOT CONSTITUTE A BOUNDARY SURVEY. THERE MAY BE EASEMENTS OR OTHER RIGHTS, RECORDED OR UNRECORDED, AFFECTING THE SUBJECT PROPERTY WHICH ARE NOT SHOWN HEREON.
4. DISTANCES AND DIMENSIONS SHOWN ARE EXPRESSED IN FEET AND DECIMALS THEREOF, UNLESS OTHERWISE NOTED.
5. SUBDIVIDER SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF GREENFIELD CHAPTER 16.12 IN REGARDS TO SLOPE PLANTING, EROSION CONTROL AND SUBDIVISION IMPROVEMENTS.
6. BENCHMARK TAKEN AS MAG NAIL AND SHINER. ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). ELEVATIONS WERE DETERMINED THROUGH STATIC GPS OBSERVATIONS AND THE USE OF THE NATIONAL GEODETIC SURVEY'S ONLINE POSITIONING USER SERVICE (OPUS). A NAVD88 ELEVATION OF 273.00 FEET FOR THE MAG NAIL AND SHINER WAS ESTABLISHED FOR THE LOCAL SITE BENCHMARK DESIGNATED POINT NUMBER 400, SHOWN HEREON.
7. ALL EXISTING ON-SITE IMPROVEMENTS SHALL BE DEMOLISHED.
8. UTILITY LOCATIONS, STREET GRADES, AND LOT DIMENSIONS ARE PRELIMINARY AND SUBJECT TO FINAL ENGINEERING DESIGN.
9. SUBDIVIDER SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF GREENFIELD CHAPTER 16.36 IN REGARDS TO MEETING THE "CITY'S STANDARD DETAILS AND SPECIFICATIONS".

ABBREVIATIONS/LEGEND

100	GROUND CONTOUR
	TRACT BOUNDARY
	PROPOSED PROPERTY LINE
	ADJACENT PROPERTY LINE
	SANITARY SEWER
	STORM DRAIN
	WATER MAIN
	FIRE MAIN
G	GAS MAIN
OH	OVERHEAD UTILITY LINES
	STUMP OR SNAG (DEAD)
	TREE DRIP LINE
	FENCE
	SIGN
UP	UTILITY POLE SHOWING ARMS AND GUY WIRE
100	CONTROL POINT
BM	BENCHMARK
	FOUND 3/4" IRON PIPE, TAGGED AS NOTED
+ 928.30	SPOT GRADE
12" OAK	TREE
	STORM DRAIN/SEWER MANHOLE
	STORM DRAIN INLET
	FIRE HYDRANT
	WATER VALVE
	CONCRETE CURB, GUTTER, SIDEWALK
	ASPHALT PAVEMENT
	PROPOSED BUILDING
	STORMWATER BASIN
	RIGHT OF WAY DEDICATION
BW	BACK OF WALK
FG	FINISH GROUND
FL	FLOWLINE
HP	HIGH POINT
INV	INVERT
LP	LOW POINT



VICINITY MAP

SCALE: 1" = 1000'

PROJECT TEAM

OWNER/SUBDIVIDER

EAH HOUSING
22 PELICAN WAY
SAN RAFAEL, CA, 94901

MICHAEL SCHAIER

CIVIL ENGINEER

WHITSON ENGINEERS
6 HARRIS COURT
MONTEREY, CA 93940

ANDREW P. HUNTER, RCE 67730
(831) 649-5225

LEGAL DESCRIPTION

PARCEL 2, AS SAID PARCEL IS SHOWN AND SO DESIGNATED ON THE PARCEL MAP FILED FOR RECORD NOVEMBER 1, 1979, IN VOLUME 13 OF PARCEL MAPS, AT PAGE 153, IN THE OFFICE OF THE COUNTY RECORDER OF THE COUNTY OF MONTEREY, STATE OF CALIFORNIA.

REGISTERED PROFESSIONAL ENGINEER ANDREW P. HUNTER No. 67730 CIVIL STATE OF CALIFORNIA

TENTATIVE PARCEL MAP
41206 WALNUT AVENUE

PROPOSED SUBDIVISION OF

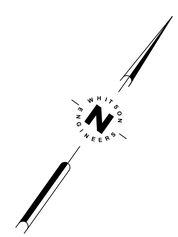
PARCEL 2 AS SHOWN ON
VOLUME 12 OF PARCEL MAPS ON PAGE 153

CITY OF GREENFIELD, COUNTY OF MONTEREY, STATE OF CALIFORNIA

PREPARED BY:

Whitson ENGINEERS

Civil Engineering
Land Surveying
6 Harris Court
Monterey, California
831.649.5225
whitsonengineers.com



50 0 50 100 150 Feet

SCALE: 1" = 50'

SEPTEMBER 11, 2019 **PROJECT No. 3907.00**

T:\Monterey Projects\3907 - Greenfield Commons\CAD\PLANSET\3907-TM.dwg Sep 11, 2019 - 9:54am

9/4/2019 8:18:34 AM

PROJECT SUMMARY

GENERAL INFORMATION

PROJECT DESCRIPTION:
2-STORY MULTI-FAMILY PROJECT WITH TOTAL 222 UNITS AND ON GRADE PARKING

ADDRESS
41206 WALNUT AVE, GREENFIELD, CA 93927

APN 109-082-012-000

PLANNING AREA Central Salinas Valley

CENSUS TRACT # 112.02/2

HARDSCAPE 140,620 SF (118,800 sf Parking + 21,820 sf Path Way)

PLANNING AND ZONING

ZONING R-M (Multiple Family Residential)

LOT AREA	Phase 1	Phase 2	Phase 1 & 2 Combined
	5.54 acres	5.43 acres	10.97 acres

ALLOWED DENSITY *Up to 15 du/ac per zoning* *GREENFIELD MUNICIPAL CODE - 17.30.020C*
Up to 20.25 du/ac *GREENFIELD MUNICIPAL CODE DENSITY BONUS - 17.50.030A.1*

PROVIDED DENSITY	Phase 1	Phase 2	Phase 1 & 2 Combined
	112 Units / 5.54 Acres = 20.22...	110 Units / 5.43 Acres = 20.25...	222 UNITS

STREET DEDICATION 12' on 3rd St, 12' on Walnut Ave. (.40 Acre or 17,424 SF). To be constructed in Phase 1

BUILDING HEIGHT LIMIT 35' for primary structures, 16' for accessory *GREENFIELD MUNICIPAL CODE TABLE 17.30-3*

PROPOSED NO. OF BUILDINGS	Phase 1	Phase 2	Phase 1 & 2 Combined
	(4) Residential Buildings	(4) Residential Buildings	(8) Residential Buildings
	(1) Community Building	(1) Laundry Buildings	(2) Laundry Buildings
	(1) Laundry Building	(1) Maintenance Building	(1) Maintenance Building
			(1) Community Building
TOTAL	**6 Buildings**	**6 Buildings**	**12 Buildings**

LOT COVERAGE

ALLOWED LOT COVERAGE 60% Maximum of Lot Area *TITLE 17 - SEC. 17.30.040, TABLE 17.30-3*

Phase 1

ALLOWABLE LOT COVERAGE 5.54 Acre (241,339.6 SF) x 60% = 3.32 Acre (144,803.8 SF)

COMMUNITY SUPPORT	4,457 SF
LAUNDRY BUILDING 1	1,553 SF
BUILDING A	14,682.5 SF
BUILDING A.1	4,586.8 SF
BUILDING B	12,951 SF
BUILDING C	12,951 SF
BUILDING D	16,592 SF
PROVIDED COVERAGE TOTAL	**67,773 SF**

Phase 2

ALLOWABLE LOT COVERAGE 5.43 Acre (236,869.4 SF) x 60% = 3.26 Acre (142,121.6 SF)

BUILDING D.1	11,073 SF
BUILDING E	12,951 SF
BUILDING F	8,518.7 SF
BUILDING G	28,578 SF
LAUNDRY BUILDING 2	1,553 SF
MAINTENANCE BUILDING	924 SF
PROVIDED COVERAGE TOTAL	**63,597.7 SF**

Phase 1 & 2 Combined

ALLOWABLE LOT COVERAGE 10.96 Acre (477,417.6 SF) x 60% = 6.576 Acre (286,450.6 SF)

PROVIDED COVERAGE TOTAL 134,204.2 SF

OPEN SPACE

REQUIRED OPEN SPACE 40% Minimum of Lot Coverage *TITLE 17 - SEC. 17.30.040, TABLE 17.30-3*

Phase 1

REQUIRED OPEN SPACE 67,773 SF x 40% = 27,109.33 SF
PROVIDED OPEN SPACE 241,339.6 SF - 67,773 SF = 173,566.6 SF

Phase 2

REQUIRED OPEN SPACE 63,597.7 SF x 40% = 25,439.08 SF
PROVIDED OPEN SPACE 236,869.4 SF - 63,598.7 SF = 173,270.7 SF

Phase 1 & 2 Combined

REQUIRED OPEN SPACE 131,371 SF x 40% = 52,548.4 SF
PROVIDED OPEN SPACE 477,417 SF - 134,204.2 SF = 346,837.3 SF

RESIDENTIAL GROSS FLOOR AREA

Phase 1

BUILDING A	44,827 SF
BUILDING B	25,902 SF
BUILDING C	25,902 SF
BUILDING D	33,184 SF
TOTAL	**129,815 SF**

Phase 2

BUILDING D.1	22,146 SF
BUILDING E	25,902 SF
BUILDING F	17,037.4 SF
BUILDING G	55,371 SF
TOTAL	**120,456.4 SF**

Phase 1 & 2 Combined

TOTAL **250,271.4 SF**

SETBACKS

REQUIRED SETBACKS		
FRONT	10'	*TITLE 17 - SEC. 17.30.040, TABLE 17.30-3*
STREET SIDE	10'	
REAR	15'	
INTERIOR	5'	

PROVIDED SETBACKS	
FRONT (WALNUT AVE)	10'
STREET SIDE (3RD ST.)	10'
REAR	All setbacks are Interior or Front
INTERIOR	5'

UNIT MIX

Phase 1	**1BR**	**2BR**	**3BR**	**TOTAL**
BUILDING A	20	0	16	36
BUILDING B	0	24	0	24
BUILDING C	0	24	0	24
BUILDING D	16	0	12	28
TOTAL	**36**	**48**	**28**	**112**

Phase 2	**1BR**	**2BR**	**3BR**	**TOTAL**
BUILDING D.1	12	0	8	20
BUILDING E	0	24	0	24
BUILDING F	0	16	0	16
BUILDING G	30	0	20	50
TOTAL	**42**	**40**	**28**	**110**

Phase 1 & 2 Combined	**1BR**	**2BR**	**3BR**	**TOTAL**
BUILDING A	20	0	16	36
BUILDING B	0	24	0	24
BUILDING C	0	24	0	24
BUILDING D	16	0	12	28
BUILDING D.1	12	0	8	20
BUILDING E	0	24	0	24
BUILDING F	0	16	0	16
BUILDING G	30	0	20	50
TOTAL	**78**	**88**	**56**	**222**
UNIT MIX	**35%**	**40%**	**25%**	**100%**

AVERAGE UNIT SIZE

1 Bedroom Unit - 618 SF
2 Bedroom Unit - 819 SF
3 Bedroom Unit - 1,147 SF

VEHICLE PARKING

Phase 1

REQUIRED SPACES	1 Space per (36) 1 Bedroom = 36 SPACES	*GREENFIELD MUNICIPAL CODE*
	2 Space per (48) 2 Bedroom = 96 SPACES	*SECTION 17.58.080 , TABLE 17.58-1,*
	2 Space per (28) 3 Bedroom = 56 SPACES	*SECTION 17.50.030G.4*
TOTAL	112 units = 188 SPACES REQUIRED	
PROVIDED SPACES	1.5 Spaces per Unit	
TOTAL	112 units x 1.5 = 168 SPACES (6-ADA SPACES, 9 EV SPACES)	
REQUIRED ADA SPACES	*TITLE II AND TITLE III OF 2010 ADA FEDERAL ACCESSIBILITY STANDARDS*	
TOTAL	6 Spaces	

Phase 2

REQUIRED SPACES	1 Space per (42) 1 Bedroom = 42 SPACES	*GREENFIELD MUNICIPAL CODE*
	2 Space per (40) 2 Bedroom = 80 SPACES	*SECTION 17.58.080 , TABLE 17.58-1,*
	2 Space per (28) 3 Bedroom = 56 SPACES	*SECTION 17.50.030G.4*
TOTAL	110 units = 178 SPACES REQUIRED	
PROVIDED SPACES	1.5 Spaces per Unit	
TOTAL	110 units x 1.5 = 165 SPACES (6 ADA SPACES, 8 EV SPACES)	
REQUIRED ADA SPACES	*TITLE II AND TITLE III OF 2010 ADA FEDERAL ACCESSIBILITY STANDARDS*	
TOTAL	6 Spaces	

Phase 1 & 2 Combined

TOTAL REQUIRED SPACES	1 Space per (78) 1 Bedroom = 78 SPACES	*GREENFIELD MUNICIPAL CODE*
	2 Space per (88) 2 Bedroom = 176 SPACES	*SECTION 17.58.080 , TABLE 17.58-1,*
	2 Space per (56) 3 Bedroom = 112 SPACES	*SECTION 17.50.030G.4*
TOTAL	222 Units = 366 SPACES REQUIRED	
PROVIDED SPACES		
TOTAL	222 units x 1.5 = 333 SPACES PROVIDED	
	12 ADA, 321 STANDARD (INCLUDE 17 EV SPACES)	
	** 222 Spaces with carports & solar panels*	
REQUIRED ADA SPACES	*TITLE II AND TITLE III OF 2010 ADA FEDERAL ACCESSIBILITY STANDARDS*	
TOTAL	12 SPACES	

BICYCLE PARKING

Phase 1

REQUIRED BICYCLE PARKING	1 SPACE PER UNIT - 112 SPACES	*TITLE 17 - SEC 17.58.100, TABLE 17.58-3*
PROVIDED BICYCLE PARKING	*60 Outdoor Spaces*	
	56 Secured Overnight Spaces	
TOTAL	116 SPACES	

Phase 2

REQUIRED BICYCLE PARKING	1 SPACE PER UNIT - 110 SPACES	*TITLE 17 - SEC 17.58.100, TABLE 17.58-3*
PROVIDED BICYCLE PARKING	*55 Outdoor Spaces*	
	56 Secured Overnight Spaces	
TOTAL	111 SPACES	

Phase 1 & 2 Combined

REQUIRED BICYCLE PARKING	1 SPACE PER UNIT - 222 SPACES	*TITLE 17 - SEC 17.58.100, TABLE 17.58-3*
PROVIDED BICYCLE PARKING	*115 Outdoor Spaces*	
	112 Secured Overnight Spaces	
TOTAL	227 SPACES	

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G-200	Site Photograph
G-201	Site Survey
G-300	Vicinity Map
G-301	Radius Map

CIVIL

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C 1.1	Conceptual Construction & Utility Plan
C 1.2	Conceptual Grading Plan

LANDSCAPE

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L-102	Landscape Site Plan
L-201	Landscape Enlargement - Community Center
L-202	Landscape Enlargement - Courtyard 1 and 2
L-203	Landscape Enlargement - Courtyard 3

ARCHITECTURE

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A-101	Unit Plans
A-111.1	Level 1 Plan - Zone 1
A-111.2	Level 2 Plan - Zone 1
A-111.3	Roof Plan - Zone 1
A-112.1	Level 1 Plan - Zone 2
A-112.2	Level 2 Plan - Zone 2
A-112.3	Roof Plan - Zone 2
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A-113.2	Level 2 Plan - Zone 3
A-113.3	Roof Plan - Zone 3
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A-114.2	Roof Plan - Support Buildings
A-210	Material Board
A-220	Exterior Elevation Enlarged
A-221	Exterior Elevation Enlarged
A-222	Exterior Elevation - Building A
A-223	Exterior Elevation - Building B & C
A-224	Exterior Elevation - Building D
A-225	Exterior Elevation - Building D.1
A-226	Exterior Elevation - Building E & F
A-227	Exterior Elevation - Building G
A-228	Exterior Elevation - Community Building

EAH HOUSING 50 YEARS OF SERVICE

EAH Housing

22 Pelican Way
San Rafael
CA 94901 415-258-1800

Greenfield Commons

41206 Walnut Ave
Greenfield, CA
93927

Date **Issued For**

FOR REFERENCE ONLY
NOT FOR CONSTRUCTION

HED

601 South Figueroa Street
Suite 500
Los Angeles, California
90017 USA

(213) 542-4500

WWW.HED.DESIGN

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2018-04268-000

Index/ Project Data

G-001

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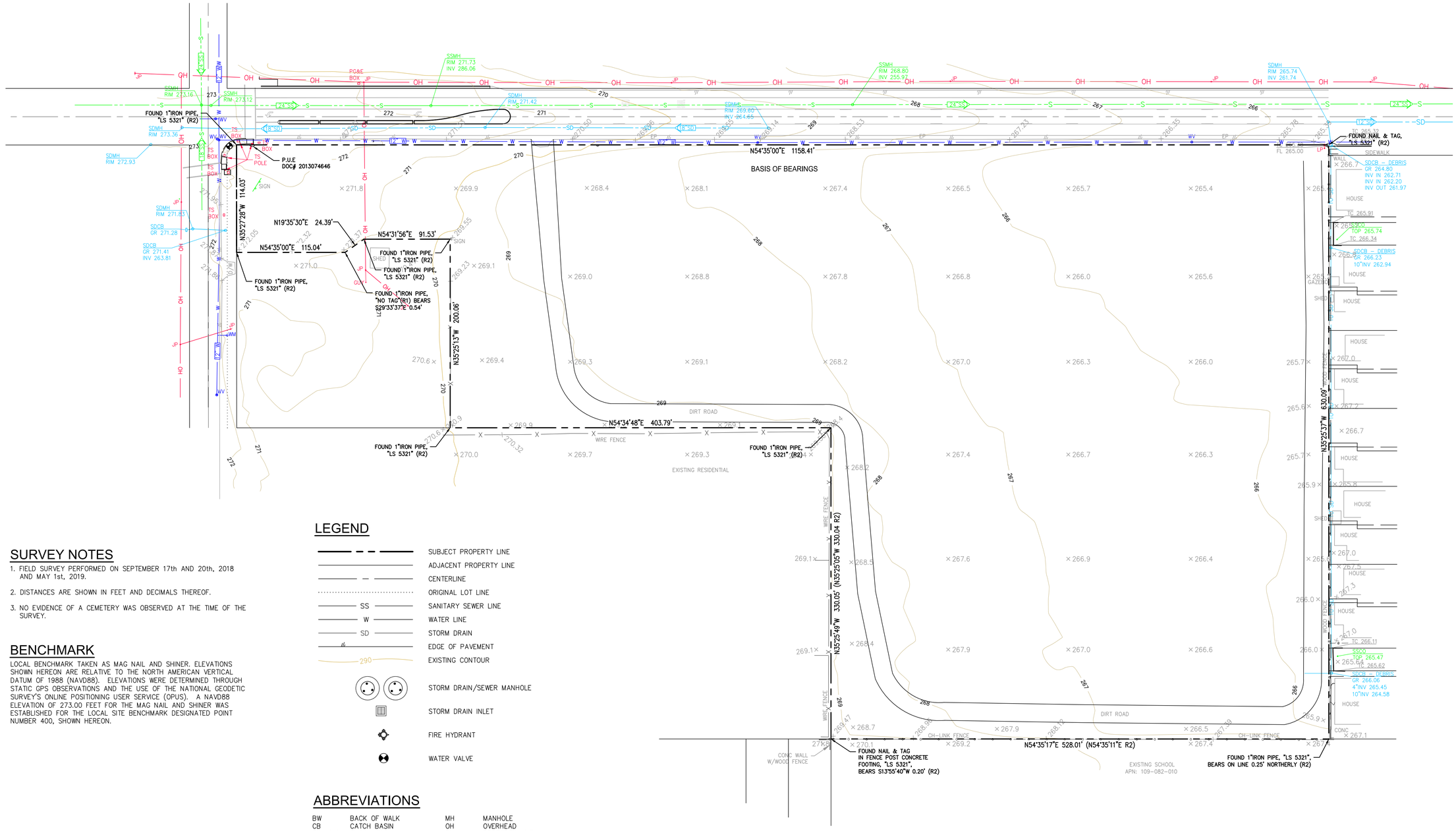

SURVEY NOTES

1. FIELD SURVEY PERFORMED ON SEPTEMBER 17th AND 20th, 2018 AND MAY 1st, 2019.
2. DISTANCES ARE SHOWN IN FEET AND DECIMALS THEREOF.
3. NO EVIDENCE OF A CEMETERY WAS OBSERVED AT THE TIME OF THE SURVEY.

BENCHMARK

LOCAL BENCHMARK TAKEN AS MAG NAIL AND SHINER. ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). ELEVATIONS WERE DETERMINED THROUGH STATIC GPS OBSERVATIONS AND THE USE OF THE NATIONAL GEODETIC SURVEY'S ONLINE POSITIONING USER SERVICE (OPUS). A NAVD88 ELEVATION OF 273.00 FEET FOR THE MAG NAIL AND SHINER WAS ESTABLISHED FOR THE LOCAL SITE BENCHMARK DESIGNATED POINT NUMBER 400, SHOWN HEREON.

LEGEND

	SUBJECT PROPERTY LINE
	ADJACENT PROPERTY LINE
	CENTERLINE
	ORIGINAL LOT LINE
SS	SANITARY SEWER LINE
W	WATER LINE
SD	STORM DRAIN
	EDGE OF PAVEMENT
290	EXISTING CONTOUR
	STORM DRAIN/SEWER MANHOLE
	STORM DRAIN INLET
	FIRE HYDRANT
	WATER VALVE

ABBREVIATIONS

BW	BACK OF WALK	MH	MANHOLE
CB	CATCH BASIN	OH	OVERHEAD
CH-LNK	CHAIN LINK	PL	PROPERTY LINE
CONC	CONCRETE	SD	STORM DRAIN
EP	EDGE OF PAVEMENT	SS	SANITARY SEWER
FL	FLOWLINE	TC	TOP OF CURB
GR	GRATE	TS	TRAFFIC SIGNAL
HP	HIGH POINT	WV	WATER VALVE
INV	INVERT	WM	WATER METER
JP	JOINT POLE	x271.19	EXISTING SPOT ELEVATION
LP	LOW POINT		

50 0 50 100 150 Feet

SCALE: 1" = 50'

PROJECT TEAM

ARCHITECT

HED DESIGN
601 FIGEUROA ST, SUITE 500
LOS ANGELES, CA 90017

(213) 542-4670

LANDSCAPE ARCHITECT

NUVIS
200 N. SAN FERNANDO ROAD, #514
LOS ANGELES, CA 90031

(323) 221-9511

CIVIL ENGINEER

WHITSON ENGINEERS
6 HARRIS COURT
MONTEREY, CA 93940

(831) 649-5225

SHEET INDEX

C1.0	EXISTING SITE CONDITIONS
C1.1	CONCEPTUAL CONSTRUCTION AND UTILITY PLAN
C1.2	CONCEPTUAL GRADING PLAN

Know what's below. Call before you dig.

EAH HOUSING 50 YEARS OF SERVICE

EAH Housing

22 Pelican Way
San Rafael
CA 94901 415-258-1800

Greenfield Commons

41206 Walnut Ave
Greenfield
CA 93927

Date	Issued For
09/11/19	Entitlement Resubmittal

Whitson ENGINEERS
Civil Engineering
Land Surveying
6 Harris Court
Monterey, California
831.649.5225
whitsonengineers.com

HED
601 South Figueroa Street
Suite 500
Los Angeles, California
90017 USA

(213) 542-4500

WWW.HED.DESIGN

©2019

2018-04268-000

EXISTING SITE CONDITIONS

C1.0

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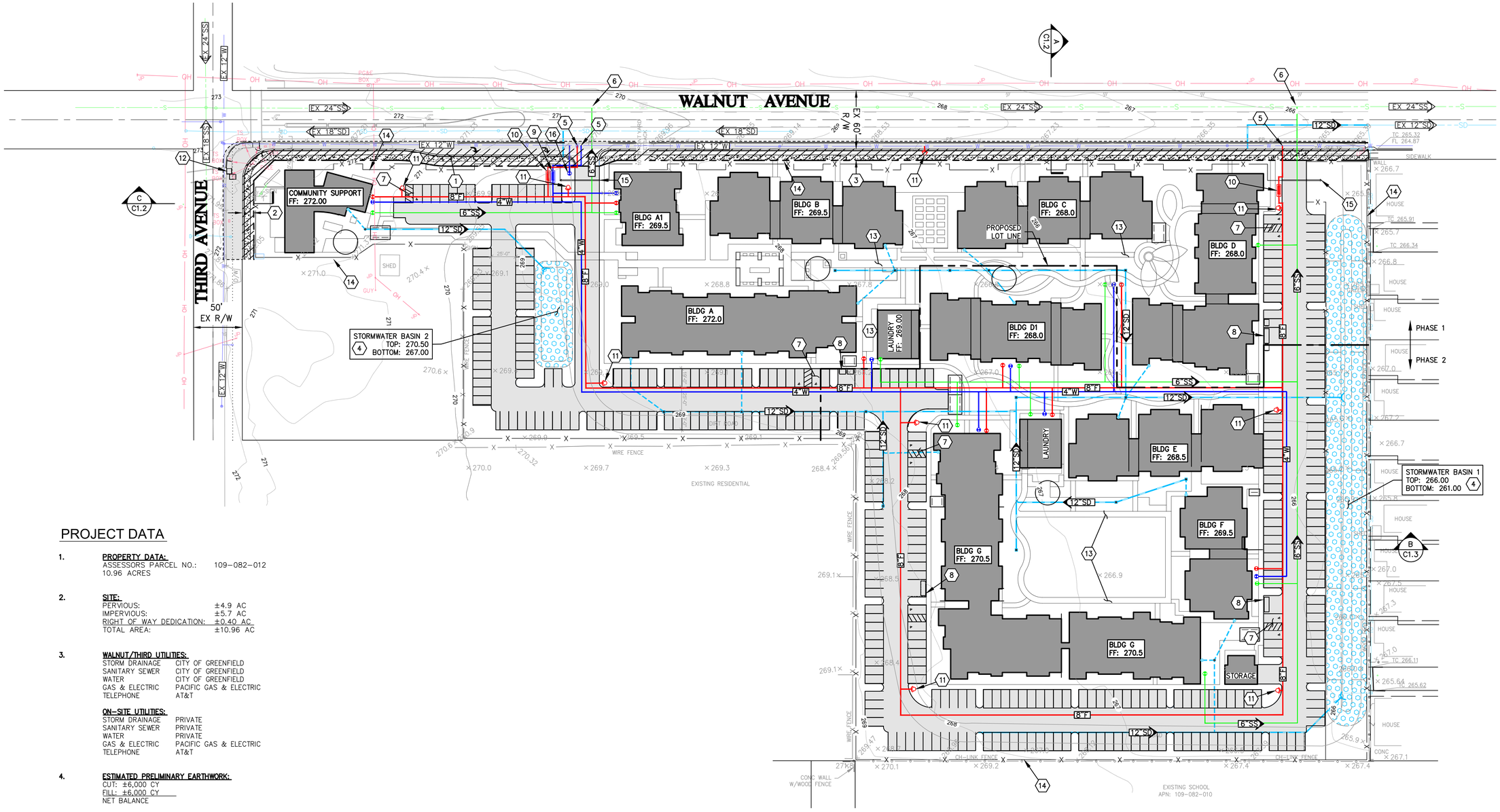

PROJECT DATA

1. **PROPERTY DATA:**
   ASSESSORS PARCEL NO.: 109-082-012
   10.96 ACRES

2. **SITE:**

PERVIOUS:	±4.9 AC
IMPERVIOUS:	±5.7 AC
RIGHT OF WAY DEDICATION:	±0.40 AC
TOTAL AREA:	±10.96 AC

3. **WALNUT/THIRD UTILITIES:**

STORM DRAINAGE	CITY OF GREENFIELD
SANITARY SEWER	CITY OF GREENFIELD
WATER	CITY OF GREENFIELD
GAS & ELECTRIC	PACIFIC GAS & ELECTRIC
TELEPHONE	AT&T

ON-SITE UTILITIES:

STORM DRAINAGE	PRIVATE
SANITARY SEWER	PRIVATE
WATER	PRIVATE
GAS & ELECTRIC	PACIFIC GAS & ELECTRIC
TELEPHONE	AT&T

4. **ESTIMATED PRELIMINARY EARTHWORK:**
   CUT: ±6,000 CY
   FILL: ±6,000 CY
   NET BALANCE

5. **LEGAL DESCRIPTION:**
   PARCEL 2, AS SAID PARCEL IS SHOWN AND SO DESIGNATED ON THE PARCEL MAP FILED FOR RECORD NOVEMBER 1, 1979, IN VOLUME 13 OF PARCEL MAPS, AT PAGE 153, IN THE OFFICE OF THE COUNTY RECORDER OF THE COUNTY OF MONTEREY, STATE OF CALIFORNIA.

6. **AREA:**

PARCEL 1	5.24	AC
PARCEL 2	5.38	AC
R/W DEDICATION	0.34	AC
TOTAL AREA:	10.96	AC

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10. FIRE WATER BACKFLOW.
11. FIRE HYDRANT.
12. RELOCATE EXISTING TRAFFIC SIGNAL BOXES, POLES, ECT. TO BACK OF NEW CURB RETURN.
13. PERMEABLE PAVEMENT, SEE LANDSCAPE PLANS.
14. FENCE, SEE LANDSCAPE PLANS
15. GATE, SEE LANDSCAPE PLANS
16. 2" LANDSCAPE SERVICE; STUB FOR METER AND BACKFLOW PER LANDSCAPE PLANS.

CONSTRUCTION PLAN LEGEND

- (#) CONSTRUCTION KEYNOTE
- ASPHALT PAVING
- CONCRETE CURB, GUTTER, SIDEWALK
- PROPOSED BUILDING
- (4) STORMWATER BASIN
- (2) (3) RIGHT OF WAY DEDICATION
- PROPERTY LINE (EXISTING)
- PROPOSED PROPERTY LINE
- SEWER BUILDING POINT OF CONNECTION
- WATER BUILDING POINT OF CONNECTION
- FIRE BUILDING POINT OF CONNECTION

50 0 50 100 150 Feet
SCALE: 1" = 50'

Know what's below. Call before you dig.

T:\Monterey Projects\3907 - Greenfield Commons\CAD\PLANSET\3907-C1.dwg rolexander Sep 11, 2019 - 9:55am

EAH HOUSING 50 YEARS OF SERVICE

EAH Housing

22 Pelican Way
San Rafael
CA 94901 415-258-1800

Greenfield Commons

41206 Walnut Ave
Greenfield
CA 93927

Date	Issued For
09/11/19	Entitlement Resubmittal

Whitson ENGINEERS
Civil Engineering
Land Surveying
6 Harris Court
Monterey, California
831.649.5225
whitsonengineers.com

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Los Angeles, California
90017 USA
(213) 542-4500
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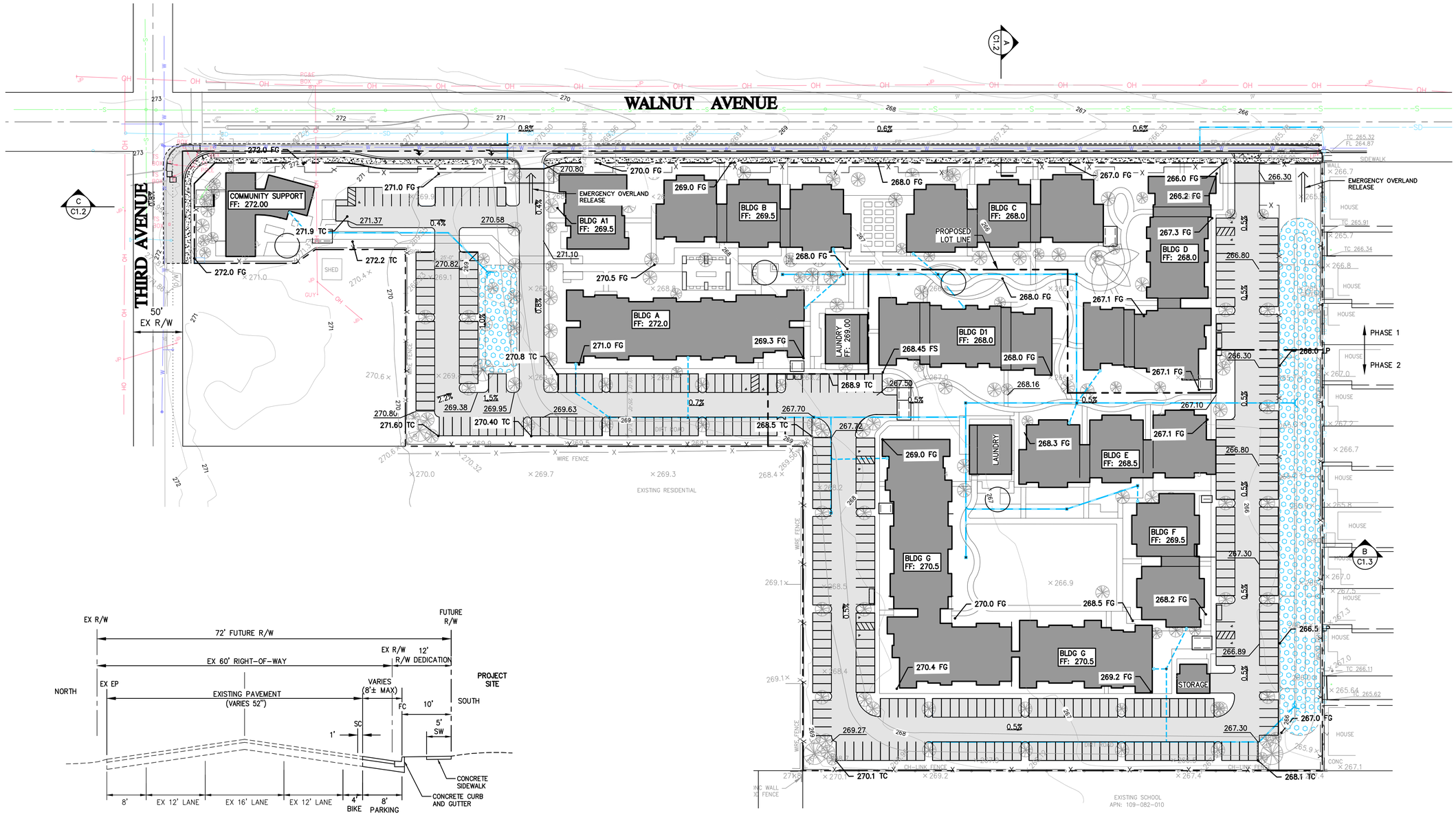
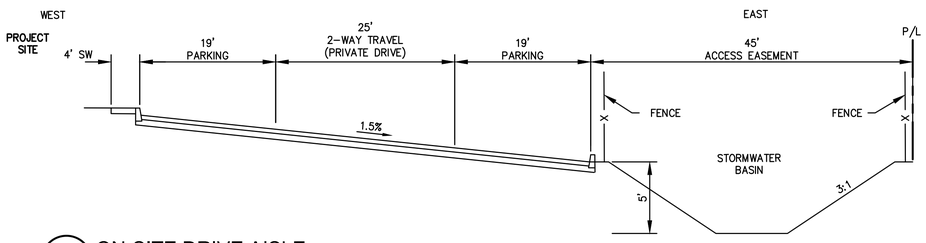
2018-04268-000

CONCEPTUAL CONSTRUCTION & UTILITY PLAN

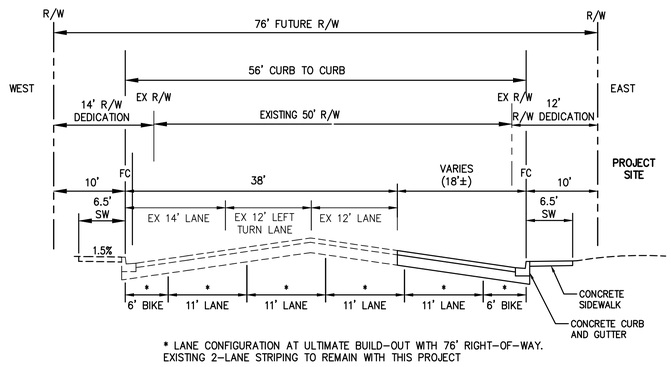
C1.1



A WALNUT AVENUE
SCALE: N.T.S.



B ON-SITE DRIVE AISLE
SCALE: N.T.S.



* LANE CONFIGURATION AT ULTIMATE BUILD-OUT WITH 76' RIGHT-OF-WAY.
EXISTING 2-LANE STRIPING TO REMAIN WITH THIS PROJECT

C THIRD AVENUE
SCALE: N.T.S.

50 0 50 100 150 Feet
SCALE: 1" = 50'

Know what's below. Call before you dig.

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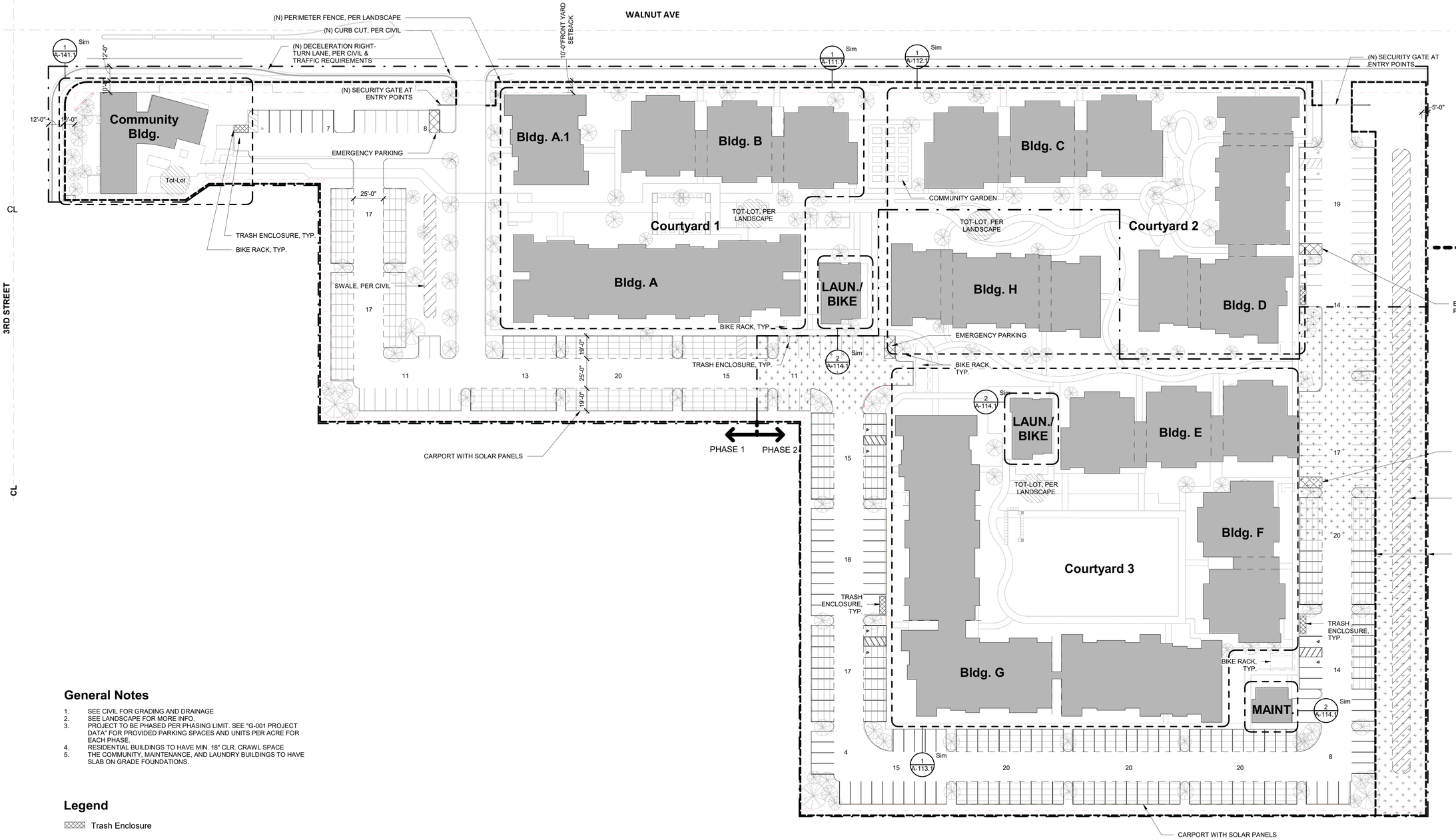
CONCEPTUAL GRADING PLAN

C1.2



General Notes

1. SEE CIVIL FOR GRADING AND DRAINAGE
2. SEE LANDSCAPE FOR MORE INFO.
3. PROJECT TO BE PHASED PER PHASING LIMIT. SEE "G-001 PROJECT DATA" FOR PROVIDED PARKING SPACES AND UNITS PER ACRE FOR EACH PHASE.
4. RESIDENTIAL BUILDINGS TO HAVE MIN. 18" CLR. CRAWL SPACE
5. THE COMMUNITY, MAINTENANCE, AND LAUNDRY BUILDINGS TO HAVE SLAB ON GRADE FOUNDATIONS.

Legend

- Trash Enclosure
- Carport with Integrated PV Panels
- New Buildings
- Limited Scope of Parking & Swale to be Constructed in Phase 1
- Outdoor Bike Parking Spaces
- Limit of Phase 1 & 2
- (N) Perimeter Fence, per Landscape

Overall Site Plan

1" = 40'-0"

0' 20' 40' 80' 160'

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Architectural Site Plan

A-100

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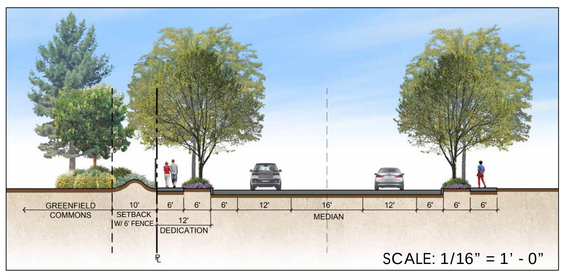
REFER TO SHEET L-201

WALNUT AVENUE

3RD STREET

PHASE 1
PHASE 2

PHASE 1
PHASE 2



PROPOSED STREETSCAPE DESIGN FOR WALNUT AVENUE

SCALE: 1" = 40' - 0"

0' 20' 40' 80' 120'

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Date	Issued For
09/03/19	Schematic Submittal

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LANDSCAPE ARCHITECTURE

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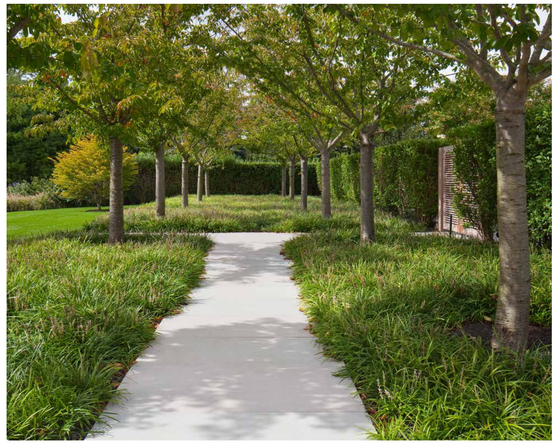
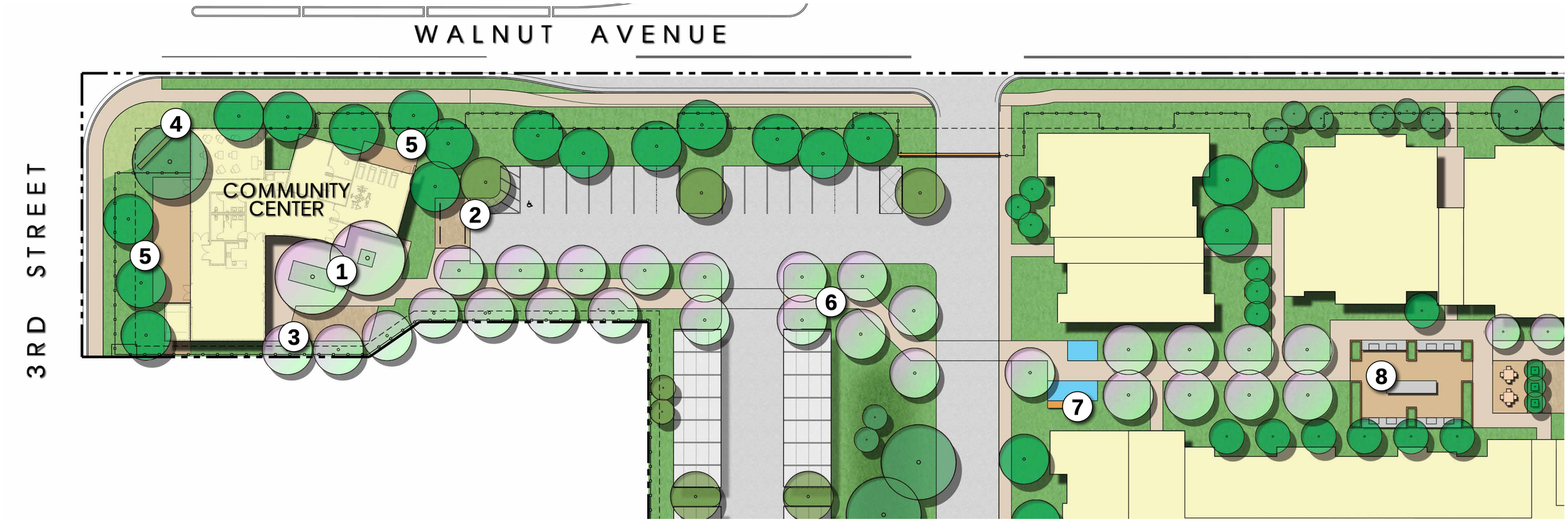
LANDSCAPE SITE PLAN

L-102



LEGEND

1. MAIN ENTRY WITH LANDSCAPE ACCENT TREE
2. BIKE PARKING
3. TOT LOT
4. IDENTITY SIGNAGE
5. PATIO
6. PATHWAY TO HOUSING/COURTYARDS
7. WATER FEATURE W/ FOCAL FEATURE ARTWORK
8. OUTDOOR KITCHEN AND DINING AREA



Note:
Landscape Architectural design will adhere to all local, State and Federal requirements. Landscape planting and irrigation design will adhere to low water, drought tolerant Local and State regulations, and will be furthered defined in subsequent phases.

SCALE: 1" = 20' - 0"

0' 10' 20' 40' 60'

EAH HOUSING 50 YEARS OF SERVICE

EAH Housing

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LANDSCAPE ENLARGEMENT COMMUNITY CENTER

L-201

APPENDIX J – ENERGY CALCULATIONS

On-Site Diesel[1]	$MTCO_2e$	Gallons of Fuel[4]	Current County Fuel	Percent
Demolition	0	0		
Site Preparation/Grading	99	9,754		
Building Construction	175	17,241		
Paving	20	1,970		
Architectural Coating	3	296		
Total	297	**29,261**	30,602,838	**0.0956%**
Off-Site Diesel[1]				
Demolition	0	0		
Site Preparation/Grading	0	0		
Building Construction	45	4,433		
Paving	0	0		
Architectural Coating	0	0		
Total	45	**4,433**	30,602,838	**0.0145%**
Off-Site Gasoline[2]				
Demolition	0	0		
Site Preparation/Grading	4	510		
Building Construction	140	15,891		
Paving	2	227		
Architectural Coating	4	454		
Total	150	**17,082**	173,248,792	**0.0099%**
Total Diesel Fuel		**33,695**	30,602,838	**0.110%**
Total Gasoline Fuel		**17,082**	173,248,792	**0.0099%**
Total Construction Fuel	492	**50,776**		

Construction Phase3	**Demolition**			**Site Preparation**			**Grading**		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)
2020	0	0	0	17	0	1	82	0	3.49
Total	0	0	0	17	0	1	82	0	3.49

Construction Phase3	**Building Construction**			**Paving**			**Architectural Coating**		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)
2020	175	45	140	20	0	2	3	0	4
Total	175	45	140	20	0	2	3	0	4

Vehicle Type	Percent[1]	Annual VMT[2]	MGP3	Annual Fuel	Fuel Type	County Gallons[4]	County Percent		Statewide	Statewide percent
Passenger Cars	0.9173	4,820,484	21.6	**223,171**	Gas	166,140,811	**0.1343%**		15,589,042,965	0.0014%
Light/Medium Trucks	0.05539	291,100	17.2	16,924	Diesel	30,602,838	**0.0553%**	**0.1322%**	3,107,823,655	0.0005%
Heavy Trucks/Other	0	143,506	6.1	23,526	Diesel	30,602,838	**0.0769%**			
Total	1.000	**5,255,085**		**40,450**						

Land Use[1]	**LDA**	**LDT1**	**LDT2**	**MCY**	**MDV**	**LHD1**	**LHD2**	**MHD**	**HHD**	**OBUS**	**UBUS**	**SBUS**	**MH**
Apartments Low Rise	0.543895	0.028716	0.205211	0.007724	0.131753	0.021859	0.005504	0.019097	0.027308	0.004155	0.002738	0.001236	0.00081

	Mitigated Project Annual Energy	County Annual Energy[3]	Percentage Increase
Electricity (kWh/yr)	0	**2,470,652,329**	**0.0000%**
Electricity (MWh/yr)	0	**2,470,652**	**0.0000%**
Electricity (GWh/yr)	**0**	2470.652329	**0.0000%**
Natural Gas (million therms)		**115**	
Natural Gas (kBTU/yr)	2,029,580	11,499,908,200	**0.0176%**
Natural Gas (therms)	**20,295.80**	114,999,082	**0.0176%**

Land Use	**Electricity[1] (kWh/yr)**		**Natural Gas[2] (kBTU/yr)**	
	Unmitigated	**Mitigated**	**Unmitigated**	**Mitigated**
Apartments Low Rise	965434	0	2.26E+06	2029580
Total Energy	**965,434**	**0**	**2,264,140**	**2,029,580**

Daily Soil Disturbance[1]	**75**	acres
Days of Soil Disturbance[2]	**40**	days
Water Concentration[3]	3,020	gallons/acre
Water Energy Intensity[4]	3,500	kWh/MG
Total Construction Water	**9.06**	million gallons
Construction Water Energy	**31,710**	kWh
	32	MWh
	0.0317	GWh
Percentage Increase Countywide	**0.001283%**	

Mitigated Indoor	11.6	million gallons	
Indoor Energy Intensity Factor[1]	5,411	kWh/MG	
Mitigated Outdoor	8.56249	million gallons	
Outdoor Energy Intensity Factor[2]	3,500	kWh/MG	
Operational Water Energy	**92581.56**	kWh	0.004%
	92.58	MWh	
Operational Water Energy	**0.09**	GWh	
Total water use	**20.13**	million gallons	

Land Use[3]	Unmitigated (MG)		Mitigated (MG)	
	Indoor	**Outdoor**	**Indoor**	**Outdoor**
Apartments Low Rise	14.5	9.1	11.6	8.6
	14.5	**9.1**	**11.6**	**8.6**