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PHASE II SHALLOW SOIL SAMPLING PROGRAM

(Confirmation Sampling for Transition to Recreational Land Use)

July 7, 2019



View of Site from Butterfield Boulevard, looking South

Subject Site:

**Butterfield Blvd. & Monterey Road
Morgan Hill, California**

Santa Clara County APN:
817-060-002 & 817-060-64

Prepared for:

**City of Morgan Hill
Community Services Department
c/o: Anthony Eulo**

17575 Peak Avenue
Morgan Hill, California 95037

TABLE OF CONTENTS

PHASE II ENVIRONMENTAL SITE ASSESSMENT

1.0	INTRODUCTION AND SCOPE OF WORK.....	1
1.1	Fieldwork	2
1.2	Soil Sample Testing and Results.....	3
2.0	CONCLUSIONS & RECOMMENDATIONS.....	4
2.1	Phase II Shallow Soil Evaluation Conclusions	4
3.0	LIMITATIONS.....	4

FIGURES

Figure 1: *Topographic Location Map*

Figure 2: *Vicinity Aerial Map*

Figure 3: *Site Aerial Map with Soil Sample Locations*

TABLES

Table 1: *Soil – Total Petroleum Hydrocarbons & Metals*

Table 2: *Soil - Pesticides*

APPENDICES

APPENDIX A: *Phase II Field Notes, Photo sheets, Geologic Logs, and Field Methodology*

APPENDIX B: *State-Certified Analytical Laboratory Results*



Phase II Shallow Soil Sampling Program
Shallow Soil Screening Evaluation for Potential Transition to Recreational Land Use
(Butterfield Blvd. & Monterey Road, Morgan Hill, see Figure 1)

1.0 INTRODUCTION AND SCOPE OF WORK

A *Phase II Soil Sampling Program* was completed to evaluate the Site for:

1. Potential land use transition of an ~8-acre agricultural parcel to a recreational (unrestricted) land use. The preliminary development plans include construction of a dirt bike track, recreation field, and parking lot for the City of Morgan Hill (see tentative land use development plan below).
2. Landfill acceptance of surface/shallow soils in case redevelopment plans generate surplus soils that need to be removed from the Site.

Aerial photos generated from a previously completed *Phase I Environmental Site Assessment*¹ documented a history of ranch and agricultural land use. The City of Morgan Hill originally acquired a larger, 18-acre property as part of the now completed extension of Butterfield Road (see Aerial Vicinity Map, Figure 2). It is our understanding that proposed redevelopment of ~8-acres of undeveloped land left over from the original parcels will be redeveloped into a dirt bike track, asphalt parking lot, and a grass field area (see proposed development clip, below).



¹: AEI Consultants report: *Phase I Environmental Site Assessment for APNS 817-06-002 & -003*, completed in June 12, 2009.

Shallow soil sampling is being completed to confirm there are no unacceptable contaminants of concern present that would inhibit transition to a recreational land use. Shallow soil sampling and analyses rationale was based on established, risk-based testing and sample collection protocols were conducted in accordance with the California Department of Toxic Substances Control (DTSC) *Interim Guidance for Sampling Agricultural Properties*², which is designed to address agricultural land use transition to school sites and residential land uses. Shallow soil samples were collected from across the field (see Figure 3).

1.1 Fieldwork

Pre-drill inspections included walking and flagging the Site, identifying accessible boring locations, clearing tall grass and bushes near boring locations, and contacting Underground Service Alert (USA) for utility clearance. A private utility locator was also retained to clear the boring locations for potential underground utility conflicts.

On June 11, 2019, twenty-four (24), four-foot deep soil cores were obtained from across the open field (all soil sample locations are shown on Figure 3). The soil samples were collected using a GeoProbe track rig using a stainless-steel drive shaft and factory-clean acetate liners. Soil cores were inspected by experienced field staff and examined for any evidence of contamination (i.e., odor, discoloration, or detections of VOCs via a hand-held photoionization meter. **No evidence of soil impacts was observed in any of the continuously cored soil borings.** Groundwater was not encountered at any of these shallow soil boring locations.

Sampling Protocol: In accordance with sampling frequency recommended in the DTSC guidance document, our staff obtained samples from a total of sixteen (16) locations for this ~8-acre Site.

- Soil from two sample depths per location were obtained for laboratory testing (i.e., from 0-to-6 inches, and 18-to-24 inches).
- In addition, at each location, one deeper sample was collected and held for potential vertical delineation testing, if necessary.

Two (2) additional, 4-point composites were collected for landfill acceptance screening. All boring locations were backfilled with native material. Field observations, photo sheets, and field methodology for drilling and sample collection are documented in Appendix A.

²: DTSC Guidance Document: *Interim Guidance for Sampling Agricultural Properties*, August 2008.
- <https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/Aq-Guidance-Rev-3-August-7-2008-2.pdf>

1.2 Soil Sample Testing and Results

Soil samples collected at locations across the Site were collected at the following locations and depths (sample locations on Figure 3; results are summarized on Tables 1 & 2; and the lab report is included as Appendix B):

A. For DTSC, Risk-Based Clearance for Recreational (unrestricted) Land Use:

a) Sample Testing: Four-point composite soil samples were collected from separate areas across the Site to confirm historical land uses at the the 8-acre Site pose no risk to human health and safety for recreational (unrestricted) land use (see Figure 3). Specifically, surficial (0.5 feet) and deeper (1.5-feet) soil samples collected from the following four areas for lab testing:

- **Area 1** (A, B, C, & D) collected from depths of 0.5 and 1.5 ft below ground surface (bgs);
- **Area-2** (A, B, C, & D) collected from depths of 0.5 and 1.5 ft bgs;
- **Area-3** (A, B, C, & D) collected from depths of 0.5 and 1.5 ft bgs; and
- **Area-4** (A, B, C, & D) collected from depths of 0.5 and 1.5 ft bgs;

Each 4-point composite sample was homogenized at the State-certified laboratory and tested for **Organochloride (persistent) Pesticides by EPA Method 8081** (results on Table 1)

As per the DTSC protocol, four discrete soil samples were also obtained from depths of 0.5 feet and 1.5 feet below ground surface for laboratory testing of **Arsenic by EPA Method 6010**:

- **Area 1(A), Area 2(A), Area 3(A), and Area 4(A)**;

b) Laboratory Results (Persistent Pesticides): As summarized on Table 1, only trace detections of the suite of persistent pesticide compounds were detected, all of which were well below human health-based thresholds. Specifically, the persistent compounds DDE, DDT, and Dieldrin were the only compounds detected across the Site at trace levels at levels that are well below all agency-established screening thresholds.

Laboratory Results (Arsenic): Arsenic concentrations in the San Francisco bay region detected below **11 mg/kg** are generally considered to be naturally occurring and not the result of urban contaminants such as arsenate pesticides. Relatively low-concentrations of arsenic detected at the subject Site ranged from **2.7 to 6.22 mg/kg** – these detected concentrations are within the range of naturally-occurring levels.

B. Additional Testing for Non-Hazardous Landfill Clearance of Potential Surplus Soils:

- **Landfill (LF)-1** (A, B, C, & D) collected from depths of 0.5 only; and
- **Landfill (LF)-2** (A, B, C, & D) collected from depths of 0.5 only

a) Sample Testing: The non-hazardous (Class III) landfill's acceptance engineer required all surficial (0.5-ft bgs) composite samples which include the two LF composites as well as the four (4) areas sampled for DTSC, risk-based clearance (six samples total). The composites were tested for:

- **Chlorinated Pesticides** by EPA Method 8081
- **TPH Diesel/Motor Oil** by EPA Method 8015
- **CAM 17 Metals** by EPA Method 6010/7470

b) Laboratory Results (landfill acceptance of surplus soils): Landfill acceptance of potential surplus soils generated during redevelopment earthworks were evaluated based on criteria established at John Smith Road Class III (non-hazardous) Landfill located at 2650 John Smith Road in Hollister. Results indicate that these soils should be able to be accepted to the John Smith Road Landfill. Note: Five (5) of the samples contained chromium concentrations that would require an additional solubility test prior to acceptance.

2.0 CONCLUSIONS & RECOMMENDATIONS

2.1 Phase II Shallow Soil Evaluation Conclusions

We have performed a standard of care, *Phase II Soil Sampling Program* in conformance with protocols established in ASTM Practice E1527-13, for subject parcels located at the intersection of Butterfield Boulevard and Monterey Road in Morgan Hill. This *Phase II Soil Sampling Program* was completed to evaluate the Site for the following two purposes:

1. Risk-Based Clearance: Standard of care evaluation testing of soil quality was completed to confirm whether residual, persistent pesticides were present in shallow soils at unacceptable concentrations for transition to recreational (unrestricted) use. Risk-based testing and sample collection protocols were conducted in accordance with the State DTSC guidance designed to address agricultural land use transition to school sites and unrestricted land uses. And,
2. Non-Hazardous Landfill Acceptance of Surplus Soils During Redevelopment: Samples were also collected to confirm whether potential shallow surplus soils would be accepted to a non-hazardous, Class III landfill in the event there are surplus soils generated during Site redevelopment.

The State-certified laboratory results of samples collected from across the Site indicated only trace concentrations of contaminants of concern were detected, all well below regulatory residential *Environmental Screening Levels* (ESL's) established to be protective of human health and safety. **It is therefore our professional opinion that the limited, trace impacts detected at the Site do not pose an unacceptable risk to human health or the environment for land use transition to recreational.**

3.0 LIMITATIONS

Our service consists of professional opinions and recommendations made in accordance with generally accepted geologic and engineering principles and practices. This warranty is in lieu of all others, either

express or implied. The analysis and conclusions in this report are based on sampling and testing which are necessarily limited. Additional data from future work may lead to modification of the opinions expressed herein.

All work related to this investigation and remediation at this Site is done under the direct supervision of a Professional Geologist or Engineer, registered in California, and experienced in environmental assessment and remediation.

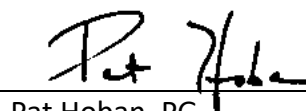
If you have any questions regarding this report, or any aspect of this project, please contact us at (831) 722-3580.

Sincerely,

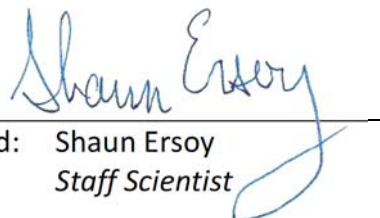
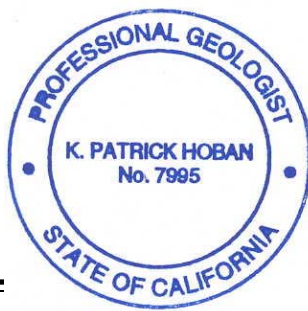
Weber, Hayes and Associates

A California Corporation

By:



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Senior Geologist



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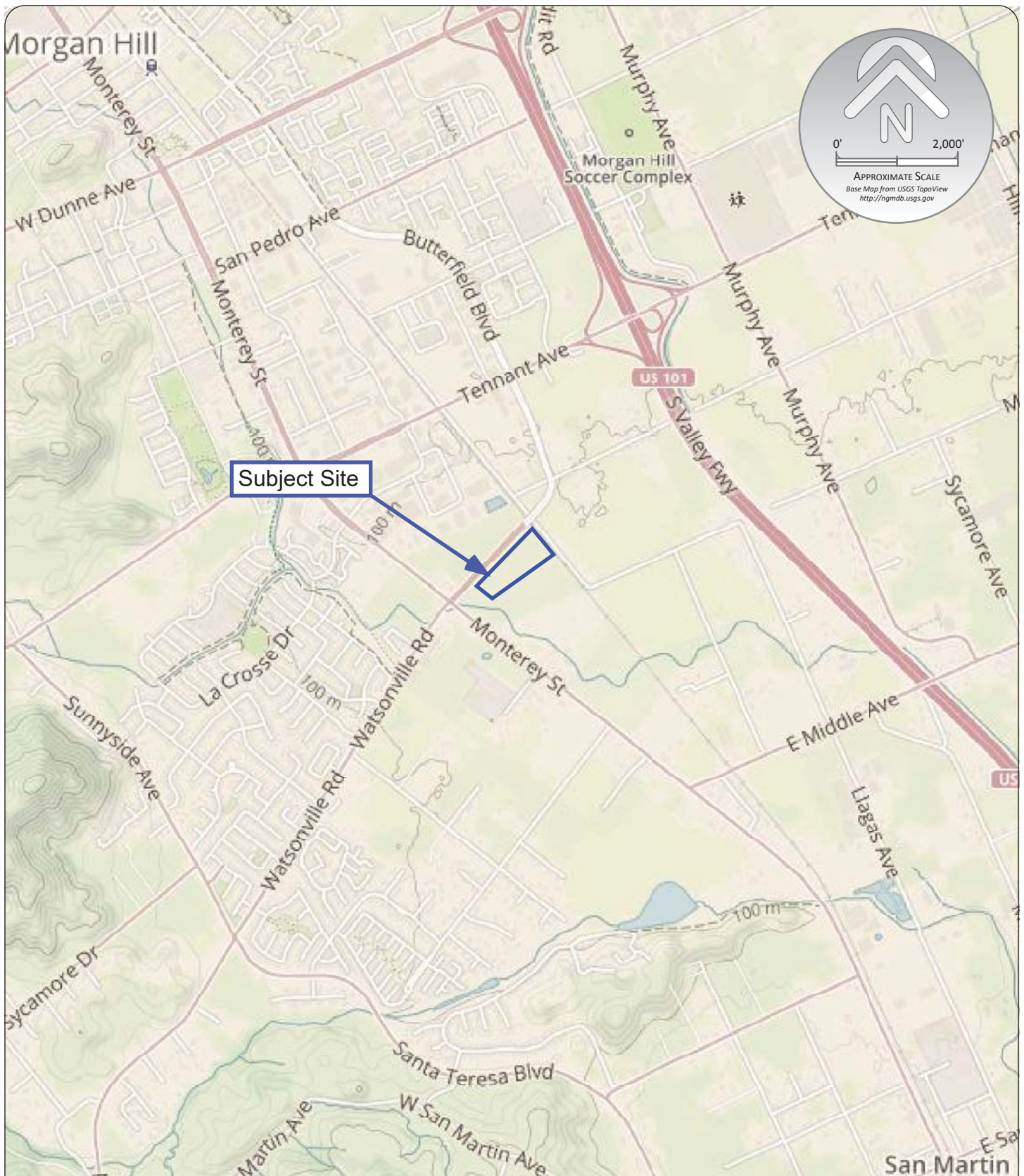
FIGURES

FIGURE 1: Location Map

FIGURE 2: Vicinity Map

FIGURE 3: Site Map – Current Layout

FIGURE 4: Sample Locations



LOCATION MAP PHASE II ENVIRONMENTAL SITE ASSESSMENT

SITE: MORGAN HILL - PARK SITE
 ADDRESS: BUTTERFIELD BLVD, MORGAN HILL, CA 95037

DATE: JULY 2019

REVISIONS/NOTES:

FIGURE
1
 Project
 2X925



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VICINITY MAP PHASE II ENVIRONMENTAL SITE ASSESSMENT

SITE: MORGAN HILL - PARK SITE
ADDRESS: BUTTERFIELD BLVD, MORGAN HILL, CA 95037

DATE: JULY 2019

REVISIONS/NOTES:

FIGURE
2
Project
2X925

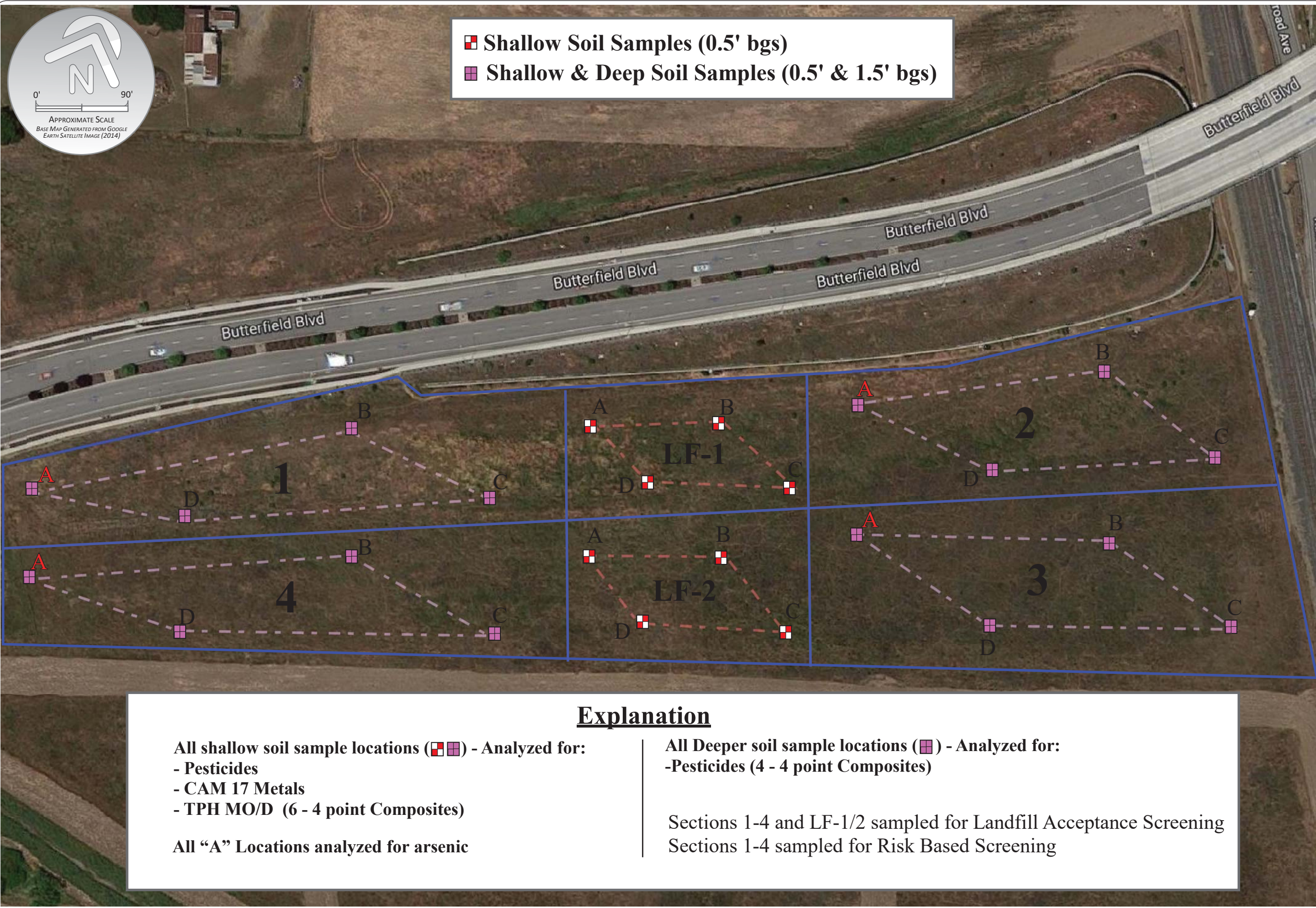


FIGURE 3
Project 2X925

**SOIL SAMPLE LOCATION MAP
PHASE II ENVIRONMENTAL SITE ASSESSMENT**

SITE: MORGAN HILL - PARK SITE
ADDRESS: BUTTERFIELD BLVD, MORGAN HILL, CA 95037

DATE: JULY 2019

REVISIONS/NOTES:



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Explanation

All shallow soil sample locations (☐) - Analyzed for:
- Pesticides
- CAM 17 Metals
- TPH MO/D (6 - 4 point Composites)

All "A" Locations analyzed for arsenic

All Deeper soil sample locations (☐) - Analyzed for:
-Pesticides (4 - 4 point Composites)

Sections 1-4 and LF-1/2 sampled for Landfill Acceptance Screening
Sections 1-4 sampled for Risk Based Screening

TABLES

TABLE 1: *Soil Sample Analytical Results – Pesticides*

TABLE 2: *Soil Sample Analytical Results – TPH, Metals*

Table 1
Soil Sampling Results
Chlorinated Persistent Pesticides
Butterfield Boulevard, Morgan Hill, CA
Sampled on June 11th 2019

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information			Chlorinated (persistent) Pesticides by EPA 8081A																				
Sample ID	Sample Type	Depth (ft)	ALDRIN	ALPHA BHC	BETA BHC	DELTA BHC	GAMMA BHC	4,4-DDD	4,4-DDE	4,4-DDT	DIELDRIN	ENDOSULFAN I	ENDOSULFAN II	ENDOSULFAN SULFATE	ENDRIN	ENDRIN ALDEHYDE	ENDRIN KETONE	HEPTACHLOR	HEPTACHLOR EPOXIDE	HEXACHLORO-BENZENE	METHOXY-CHLOR	CHLORDANE	TOXAPHENE
1(A,B,C,D)	Composite	0.5	<0.000248	<0.0213	<0.0213	<0.0213	<0.0213	<0.0213	0.0210 J	0.00331 J	0.000270 J	<0.000228	<0.000245	<0.0213	<0.000233	<0.0213	<0.0213	<0.0213	<0.000402	<0.000238	<0.000282	<0.0415	<0.426
1(A,B,C,D)	Composite	1.5	<0.000250	<0.0214	<0.0214	<0.0214	<0.0214	<0.0214	0.00234 J	0.00107 J	0.000107 J	<0.000230	<0.000247	<0.0214	<0.000235	<0.0214	<0.0214	<0.0214	<0.000405	<0.000240	<0.000284	<0.0418	<0.429
2(A,B,C,D)	Composite	0.5	<0.000250	<0.0215	<0.0215	<0.0215	<0.0215	<0.0215	0.00134 J	0.000455 J	0.000164 J	<0.000230	<0.000247	<0.0215	<0.000235	<0.0215	<0.0215	<0.0215	<0.000406	<0.000241	<0.000285	<0.0419	<0.430
2(A,B,C,D)	Composite	1.5	<0.000258	<0.0221	<0.0221	<0.0221	<0.0221	<0.0221	<0.0221	<0.0221	<0.0000985	<0.000237	<0.000255	<0.0221	<0.000242	<0.0221	<0.0221	<0.0221	<0.000418	<0.000248	<0.000293	<0.0432	<0.443
3(A,B,C,D)	Composite	0.5	<0.000249	<0.0214	<0.0214	<0.0214	<0.0214	<0.0214	0.000871 J	0.000335 J	<0.0000951	<0.000229	<0.000246	<0.0214	<0.000234	<0.0214	<0.0214	<0.0214	<0.000404	<0.000239	<0.000283	<0.0417	<0.428
3(A,B,C,D)	Composite	1.5	<0.000251	<0.0215	<0.0215	<0.0215	<0.0215	<0.0215	<0.0215	<0.0215	<0.0000957	<0.000230	<0.000247	<0.0215	<0.000235	<0.0215	<0.0215	<0.0215	<0.000406	<0.000241	<0.000285	<0.0419	<0.430
4(A,B,C,D)	Composite	0.5	<0.000249	<0.0214	<0.0214	<0.0214	<0.0214	<0.0214	0.00548 J	<0.0214	<0.0000952	<0.000229	<0.000246	<0.0214	<0.000234	<0.0214	<0.0214	<0.0214	<0.000404	<0.000240	<0.000284	<0.0417	<0.428
4(A,B,C,D)	Composite	1.5	<0.000251	<0.0216	<0.0216	<0.0216	<0.0216	<0.0216	0.000321 J	<0.0216	<0.0000959	<0.000231	<0.000248	<0.0216	<0.000236	<0.0216	<0.0216	<0.0216	<0.000407	<0.000241	<0.000286	<0.0420	<0.431
LF-1(A,B,C,D)	Composite	0.5	<0.000266	<0.0228	<0.0228	<0.0228	<0.0228	<0.0228	0.000660 J	0.000371 J	<0.000102	<0.000244	<0.000262	<0.0228	<0.000250	<0.0228	<0.0228	<0.0228	<0.000431	<0.000255	<0.000302	<0.0445	<0.456
LF-2(A,B,C,D)	Composite	0.5	<0.000247	<0.0212	<0.0212	<0.0212	<0.0212	<0.0212	0.00106 J	0.000342 J	<0.0000944	<0.000227	<0.000244	<0.0212	<0.000232	<0.0212	<0.0212	<0.0212	<0.000401	<0.000238	<0.000281	<0.0414	<0.424
Laboratory's Reported Detection Limit (RDL)			0.000233 (MDL)	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.000089 (MDL)	0.000214 (MDL)	0.00023 (MDL)	0.02	0.000219 (MDL)	0.02	0.02	0.02	0.000378 (MDL)	0.000224 (MDL)	0.000265 (MDL)	0.039 (MDL)	0.4
Environmental Screening Levels (ESLs) ⁽¹⁾ Environmental Screening Levels (ESLs) ⁽¹⁾ Direct Exposure Residential / Commercial / Con. Worker			0.035 / 0.15 (1)	NE	NE	NE	0.55 / 2.5 (16)	2.7 / 12 (81)	1.8 / 8.3 (57)	1.9 / 8.5 (57)	0.037 / 0.16 (1.1)	420 / 5,800 (1,500)	420 / 5,800 (1,500)	NE	21 / 290 (74)	NE	NE	0.12 / 0.53 (3.7)	0.062 / 0.28 (1.9)	0.18 / 0.78 (7.7)	350 / 4,800 (1,200)	0.48 / 2.2 (14)	0.51 / 2.2 (14)
" Tier 1 ESL " (all possible pathways & land uses) Human Health (HH), Leachability (L), Ecologic (Eco), Odor (O)			0.0024 (ECO)	NE	NE	NE	0.0074 (L)	2.7 (HH)	0.33 (ECO)	0.0011 (ECO)	0.00046 (L)	0.0098 (L)	0.0098 (L)	NE	0.0011 (ECO)	NE	NE	0.12 (HH)	0.00018 (L)	0.0008 (L)	0.013 (L)	0.0085 (ECO)	0.51 (HH)
DTSC Note 3 Modified Screening Levels Residential / Commercial ⁽²⁾			0.039 / 0.18	0.086 / 0.36	0.3 / 1.3	NE	0.57 / 2.5	1.9 / 9.6	2 / 9.3	1.9 / 8.5	0.034 / 0.14	470 / 7,000	470 / 7,000	470 / 7,000	19 / 250	19 / 250	19 / 250	0.13 / 0.63	0.0.07 / 0.33	0.21 / 0.96	320 / 4,100	0.44 / 1.5	0.49 / 2.1

Table 1
Soil Sampling Results
Chlorinated Persistent Pesticides
Butterfield Boulevard, Morgan Hill, CA
Sampled on June 11th 2019
All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information			Chlorinated (persistent) Pesticides by EPA 8081A																				
Sample ID	Sample Type	Depth (ft)	ALDRIN	ALPHA BHC	BETA BHC	DELTA BHC	GAMMA BHC	4,4-DDD	4,4-DDE	4,4-DDT	DIELDRIN	ENDOSULFAN I	ENDOSULFAN II	ENDOSULFAN SULFATE	ENDRIN	ENDRIN ALDEHYDE	ENDRIN KETONE	HEPTACHLOR	HEPTACHLOR EPOXIDE	HEXACHLORO-BENZENE	METHOXY-CHLOR	CHLORDANE	TOXAPHENE

Notes

1 = **Environmental Screening Levels (ESLs):** Regional Water Quality Control Board (San Francisco Bay Region) guideline document: *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater* (Final version, 2019). The ESLs are intended to provide quantitative risk-based guidance on whether further assessment or remediation of contamination is warranted <https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/ESL/new/ESL_Summary_Tables_24Jan19_Rev1.pdf >

TIER 1 ESL = The most conservative Environmental Screening Level (ESL) across all potential pathways including leaching, human health, ecologic ("Terrestrial Habitat"), volatilization (inhalation).

L = Indicates the lowest ESL is based on a **potential Leaching pathway** (for groundwater protection).

HH = Indicates the lowest ESL is based on a **potential Human Health & Safety Pathway** (ingestion, inhalation, dermal).

ECO = Indcates the lowest ESL is based on a **potential Terrestrial Habitat pathway**.

O = Indicates the lowest ESL is based on a **potential "odor nuisance"** (i.e. 100 mg/kg for gasoline).

2 = **CA DTSC Soil Screening Levels:** From the California Department of Toxic Substances Control (DTSC), Office of Human and Ecological Risk (HERO), Human Health Risk Assessment (HHRA) Note Number 3, Table 1, June 2018. **If no DTSC screening level is established then the corresponding US EPA RSL is provided.**

US EPA Region 9 Soil Regional Screening Levels (RSLs): From *US EPA Regional Screening Levels for Soil* (<https://semspub.epa.gov/work/HQ/197414.pdf>) , last updated November-2018 using the Summary Table [based on Carcinogenic Target Risk (TR) =1E-6, Noncancer Hazard Index (HI) =1.0].

NE = Threshold Not Established

J = A "J-flag" indicates the laboratory detected the compound, but at a concentration below the laboratory's reporting limit (RDL), but above its method (mimimum) detection limit (MDL). Considered an estimate.

RDL= Laboratory Reported Dectection Limit

MDL= Laboratory Method Dectection Limit

< = A "less than" symbol indicates no detectable concentrations (i.e., the laboratory **did not** detect the contaminant at the concentration shown).

BOLD = A laboratory result was detected (i.e., detected above the Laboratorys Reported Detection *Limit* (RDL).

BOLD = Analytical result detected at a concentration that is above the Commercial ESL.

BOLD = Analytical result detected at a concentration that is above the Residential ESL.

BOLD = Analytical result detected at a concentration that is above the most conservative Tier 1 threshold.

Hazardous Waste Thresholds

"TOTAL" (TTL) Concentration Limit (mg/kg)	1.4	4	4	4	4	1	1	1	8	--	--	--	0.2	0.2	0.2	4.7	4.7	4.7	100	2.5	5
"SOLUBLE" (STL) Concentration Limit (mg/L)	0.14/--	0.4/0.4	0.4/0.4	0.4/0.4	0.4/0.4	0.1/--	0.1/--	0.1/--	0.8/--	--	--	--	0.02/0.02	0.02/0.02	0.02/0.02	0.47/0.008	0.47/0.008	0.47/0.008	10/10	0.25/0.03	0.5/0.5

Table 2: Summary of Soil Analytical Results

Total Petroleum Hydrocarbons & CAM 17 Metals Analysis

Butterfield Boulevard, Morgan Hill

Sampled on June 11th 2019

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information			Total Petroleum Hydrocarbons (TPH) by EPA Method 8015		CAM-17 Metals by EPA Method 6010B																
Sample ID	Sample Type	Depth (ft)	TPH Diesel (C12-C22)	TPH Motor Oil (C22-C40)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium TTLc mg/Kg	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
1A - d0.5	Discrete	0.5	--	--	--	3.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1(A,B,C,D)	Composite	0.5	2.96 J	41.4	0.834 J	2.94	187	0.347	0.324 J	47.9	11.5	27.7	13.1	0.0659	0.304 J	65	<2.13	<1.06	<2.13	44.6	64.5
1A - d1.5	Discrete	1.5	--	--	--	2.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2A - d0.5	Discrete	0.5	--	--	--	4.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2(A,B,C,D)	Composite	0.5	4.27 J	18.63	<2.15	5.26	232	0.448	0.356 J	65.6	14.7	32.2	13.9	0.0482 B	0.222 J	84.4	<2.15	<1.07	<2.15	56.6	79.1
2A - d1.5	Discrete	1.5	--	--	--	4.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3A - d0.5	Discrete	0.5	--	--	--	6.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3(A,B,C,D)	Composite	0.5	<42.8	96.8	<2.14	4.43	223	0.453	0.381 J	55.9	15.9	30.1	19.5	0.0617	0.387 J	86.9	0.937 J	<1.07	<2.14	57.8	78.6
3A - d1.5	Discrete	1.5	--	--	--	5.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4A - d0.5	Discrete	0.5	--	--	--	2.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4(A,B,C,D)	Composite	0.5	2.92 J	20.45	<2.14	3.74	214	0.403	0.339 J	65.6	15.7	30.3	13.5	0.0569	<0.535	91.7	1.23 J	<1.07	<2.14	60.9	71.3
4A - d1.5	Discrete	1.5	--	--	--	3.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LF-1(A,B,C,D)	Composite	0.5	5.57	32.8	<2.28	4.79	239	0.387	0.441 J	60.5	16.6	32.9	12.6	0.0558 B	0.411 J	82.8	1.42 J	<1.14	<2.28	60.7	77.9
LF-2(A,B,C,D)	Composite	0.5	5.07	34.1	<2.12	4.44	201	0.401	0.347 J	66.3	13.5	29.8	13.4	0.0504 B	0.229 J	77.1	1.00 J	<1.06	<2.12	50.4	71.2
Environmental Screening Levels (ESLs) ⁽¹⁾																					
Lowest ESL for All Possible Pathways ("Tier 1"): Residential or Commercial Land Use (construction worker)			260 / 1,200 (1,100)	12,000 / 180,000 (54,000)	11 / 160 (50)	0.067 / 0.31	15,000 / 220,000 (3,000)	16 / 230 (27)	78 / 1,100 (51)	Not Established	23 / 350 (28)	3,100 / 47,000 (14,000)	80 / 320 (160)	13 / 190 (44)	390 / 5,800 (1,800)	820 / 11,000 (86)	390 / 5,800 (1,700)	390 / 5,800 (1,800)	0.78 / 12 (3.5)	390 / 5,800 (470)	23,000 / 350,000 (110,000)
"Tier 1 ESL" (all possible pathways & land uses) Basis = Human Health (HH), Leachability (L), Ecologic (Eco), or Odor (O)			260 (HH)	1,600 (ECO)	11 (HH)	0.067 (HH)	390 (ECO)	5 (ECO)	1.9 (ECO)	160 (ECO)	23 (HH)	180 (ECO)	32 (ECO)	13 (HH)	6.9 (ECO)	86 (HH) construction worker	2.4 (ECO)	25 (ECO)	0.78 (HH)	18 (ECO)	340 (ECO)
DTSC-Modified Screening Levels ⁽²⁾ (for human health risk) Residential or Commercial Land Use			Not Established	Not Established	31 / 470	0.11 / 0.36	15,000 / 220,000	15 / 210	5.2 / 7.3	36,000 / 170,000	23 / 350	3,100 / 47,000	80 / 320	1.0 / 4.4	390 / 5,800	490 / 3,100	390 / 5,800	390 / 1,500	0.78 / 12	390 / 1,000	23,000 / 350,000

Non-Hazardous Landfill Acceptance (solubility testing triggers)

(need to check for Soluble concentration if total concentration exceeds the following)

If the initial "total" result exceeds 10x the STLC, then need to obtain soluble quantity by STLC		150	50	1,000	7.5	10	50	800	250	50	2	3,500	200	10	50	70	240	2,500
If the initial "total" result exceeds 10x the STLC, then need to obtain soluble quantity by TLCP		--	100	2,000	--	20	100	--	--	100	4	--	--	20	100	--	--	--

Table 2: Summary of Soil Analytical Results
Total Petroleum Hydrocarbons & CAM 17 Metals Analysis
Butterfield Boulevard, Morgan Hill
Sampled on June 11th 2019

All soil results are in milligrams per Kilogram (mg/Kg)

Sample Information			Total Petroleum Hydrocarbons (TPH) by EPA Method 8015		CAM-17 Metals by EPA Method 6010B																
Sample ID	Sample Type	Depth (ft)	TPH Diesel (C12-C22)	TPH Motor Oil (C22-C40)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium TTL mg/Kg	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc

Hazardous Waste Threshold (Concentration Limits)

"TOTAL" (TTL) Concentration Limit (mg/kg)		500	500	10,000	75	100	2,500	8,000	2,500	1,000	20	3,500	2,000	100	500	700	2,400	5,000
"SOLUBLE" (STLC/TCLP) Concentration Limit (mg/L)		15	5	100	1	--	5	80	25	5	0.2	350	20	1	5	7	24	250

BOLD =	A laboratory result was detected (i.e., detected above the <i>Reported Detection Limit</i> (RDL)).
BOLD =	Lab result was detected above the ESL or DTSC Residential Land Use Threshold .
BOLD =	Lab result was detected above the ESL or DTSC Commercial Land Use or Construction Worker Threshold .
BOLD =	Lab result was detected at a concentration that is above the most conservative Tier 1 threshold
BOLD =	Lab result was detected above the Commercial Land Use ESL <i>but below the Naturally Occuring (background) Concentration</i>
BOLD =	A laboratory result was detected above the hazardous waste threshold requiring a wet extraction test (STLC)

1 = Environmental Screening Levels (ESLs): Regional Water Quality Control Board (San Francisco Bay Region) guideline document: *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater* (Final version, 2019). The ESLs are intended to provide quantitative risk-based guidance on whether further assessment or remediation of contamination is warranted <https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/ESL/new/ESL_Summary_Tables_24Jan19_Rev1.pdf >

TIER 1 ESL = The most conservative Environmental Screening Level (ESL) across all potential pathways including leaching, human health, ecologic ("Terrestrial Habitat"), volatilization (inhalation).

L = Indicates the lowest ESL is based on a **potential Leaching pathway** (for groundwater protection).

HH = Indicates the lowest ESL is based on a **potential Human Health & Safety Pathway** (ingestion, inhalation, dermal).

ECO = Indicates the lowest ESL is based on a **potential Terrestrial Habitat pathway**.

O = Indicates the lowest ESL is based on a **potential "odor nuisance"** (i.e. 100 mg/kg for gasoline).

2 = CA DTSC Soil Screening Levels: From the California Department of Toxic Substances Control (DTSC), Office of Human and Ecological Risk (HERO), Human Health Risk Assessment (HHRA) Note Number 3, Table 1, June 2018. **If no DTSC screening level is established then the corresponding US EPA RSL is provided.**

US EPA Region 9 Soil Regional Screening Levels (RSLs): From *US EPA Regional Screening Levels for Soil*. (<https://semspub.epa.gov/work/HQ/197414.pdf>) , last updated November-2018 using the Summary Table [based on Carcinogenic Target Risk (TR) =1E-6, Noncancer Hazard Index (HI) =1.0].

RDL = Reported Detection Limit = is the laboratory-determined value that is 2 to 5 times above the Method Detection Limit (MDL) that can be reproduced in a manner that results in a 99% confidence level and is both accurate and precise.

ND = Non Detection
NE = Not Established
'--' = Not Analyzed

J = Laboratory reports that the detection value is between MDL and RDL, and should be considered an estimate.

^ = Detection and Quantitation Limits are raised due to sample dilution
<= A "less than" symbol indicates no detectable concentrations (i.e., the laboratory **did not** detect the contaminant at the concentration show

APPENDIX A

Field Documentation

Field Notes and Photo Sheets

Field Methodology for Hydraulic Driven Probe

Field Methodology for Shallow Soil Sampling



INDICATE ATTACHMENTS THAT APPLY

- ☐ Site Map
- ☐ Data Sheets
- ☐ Geologic Logs
- ☒ Photo Sheets
- ☐ CQC's
- ☐ Chargeable Materials

Client: City of Morgan Hill	Date: 5-29-19
Site Location: Morgan Hill - Butterfield Blvd + Monterey Rd	Study #:
Field Tasks: ☐ Drilling ☐ Sampling ☒ Other (see below): USA/Flagging/Utility Inspection	Weather Conditions: clear
Personnel / Company On-Site: Shawn Ersoy (w/ha)	

11:20 Arrive on Site
Scope Sight

- Site is completely grown over with weeds, ground is uneven and highly compacted in most areas. No overhead lines above site.
- Only access to Site is along Railroad Ave
- Fiber line signs along tracks.
- U.S.A. all corners of site and along Butterfield Blvd.
- Flagged off every corner of the site noting each section
- Flagged USA on Butterfield Blvd.

2:25 Sergio private utility check arrives

- Scout location for utility and drill rig access to Site
- Best current point of entry for drill rig is on intersection of Monterrey Road and Butterfield Blvd.

3:00 - Leave Site

Signature of Field Personnel & Date

WEBER, HAYES & ASSOCIATES
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA 95076
831.722.3580 // www.weber-hayes.com



All Shallow locations: OCP - CAM 17 - TPH MO/D (6 - 4 point Composites) Arsenic (4 Discrete -all A Locations)
All Deeper locations: OCP (4 - 4 point Composites) Arsenic (4 Discrete -all A Locations)

Sections 1-4 and LF-1/2 are for Landfill Acceptance Screening
Sections 1-4 are for Risk Based Screening

Shallow Only
Shallow & Deep

SITE MAP
APPROXIMATE SAMPLE LOCATION MAP
SITE: MORGAN HILL - PARK SITE
ADDRESS: BUTTERFIELD BLVD, MORGAN HILL, CA 95037

WHA
WEBER, HAYES & ASSOCIATES
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA
831.722.3580 / www.weber-hayes.com

FIGURE 1
Project 2X925

DATE: _____ REVISIONS/NOTES: _____



Project / Client:	Morgan Hill Phase II	Project #:	2x915
Site Location:	Butterfield Blvd.	Date:	6/11/19
Field tasks:	Collecting Shallow Soil Samples	Weather:	Hot/sunny
Personnel / Company On-Site:	Trinity (Jeff, Gary)		
Attachments:	Site Map ____ Data Sheets ____ Geologic Logs ____ Photos ____ COC ____ Chargeable Materials ____		

Time:	Notes:
0700	- Arrived onsite. Jeff & Gary showed up around 0710 with small track rig. Already hot and sunny. Prepping for sampling.
0740	- Starting track rig up. Starting at 4A. Plan is to get all locations as we move East.
0812	- Finished 1A & 4A. Moving to 1D
0826	- Finished 4D & 1D. Moving east to 4B & 1B
0856	- Moving to 1C & 4C
0910	- Moving onto the LF-2A and LF-1A
0941	- Moving onto LF-1B & 2B
1012	- LF-2C & 1B have been completed. Sun is blazing already. Moving to 3A & 2A
1045	- Moving to 3B & 1B
1120	- Finished all borings. Packing up and will ship samples
1145	- Demobilizing

Soil Boring Field Data Sheet
Pacifica 2x812

Sample ID	Depth (feet)	Odor or Discoloration?	PID Measurements	Other Observations (Groundwater Level, Deep Coarse Sand Depth, etc.)
1A	0.5		0.0	silty/dry sand
	1.5		0.0	silty dry sand
	3		0.1	darker sand with fines & gravels
1B	0.5		0.0	
	1.5		0.0	
	3		0.2	
1C	0.5		0.0	
	1.5		0.0	
	3		0.1	
1D	0.5		0.1	
	1.5		0.0	
	3		0.3	
2A	0.5		0.0	
	1.5		0.0	
	3		0.0	
2B	0.5		0.1	
	1.5		0.0	
	3		0.2	
2C	0.5		0.0	
	1.5		0.1	
	3		0.1	
2D	0.5		0.0	
	1.5		0.0	
	3		0.0	

Soil Boring Field Data Sheet
Pacifica 2x812

Sample ID	Depth (feet)	Odor or Discoloration?	PID Measurements	Other Observations (Groundwater Level, Deep Coarse Sand Depth, etc.)
3A	0.5		0.0	silty sand ↓ more gravels (large gravels)
	1.5		0.1	
	3		0.2	
3B	0.5		0.1	
	1.5		0.1	
	3		0.0	
3C	0.5		0.0	
	1.5		0.1	
	3		0.1	
3D	0.5		0.0	
	1.5		0.0	
	3		0.1	
4A	0.5		0.1	
	1.5		0.0	
	3		0.2	
4B	0.5		0.2	
	1.5		0.3	
	3		0.0	
4C	0.5		0.0	
	1.5		0.0	
	3		0.1	
4D	0.5		0.0	silty sand reddish-brown (fines ~ 30%) clayey
	1.5		0.0	
	3		0.1	

Gravels < 7mm

Soil Boring Field Data Sheet
Pacifica 2x812

Sample ID	Depth (feet)	Odor or Discoloration?	PID Measurements	Other Observations (Groundwater Level, Deep Coarse Sand Depth, etc.)
LF-1A	0.5		0.0	-Sandy clay
	1.5		0.1	-Gravel Rocks at base
LF-1B	0.5		0.1	H
	1.5		0.0	
LF-1C	0.5		0.0	H
	1.5		0.0	
LF-1D	0.5		0.0	sandy clay
	1.5		0.1	
LF-2A	0.5		0.1	-Sandy Silt
	1.5		0.2	-gravel w/ silt SAND
LF-2B	0.5		0.2	silty sand gravel/rocks near base @ 4'
	1.5		0.2	
LF-2C	0.5		0.3	H
	1.5		0.1	
LF-2D	0.5		0.0	H
	1.5		0.0	

PID shoe
leave at
each hole



All Shallow locations: OCP - CAM 17 - TPH MO/D (6 - 4 point Composites) Arsenic (4 Discrete -all A Locations)
All Deeper locations: OCP (4 - 4 point Composites) Arsenic (4 Discrete -all A Locations)

Sections 1-4 and LF-1/2 are for Landfill Acceptance Screening
Sections 1-4 are for Risk Based Screening

Shallow Only
Shallow & Deep

FIGURE 1
Project
2X9XX

SITE MAP
APPROXIMATE SAMPLE LOCATION MAP

SITE: MORGAN HILL - PARK SITE
ADDRESS: BUTTERFIELD BLVD, MORGAN HILL, CA 95037

DATE: _____
REVISIONS/NOTES: _____



Track rig was used due to the limited access to the Site



Trinity Drilling conducting soil cores at pre-marked locations with hydraulic driven probe track rig.





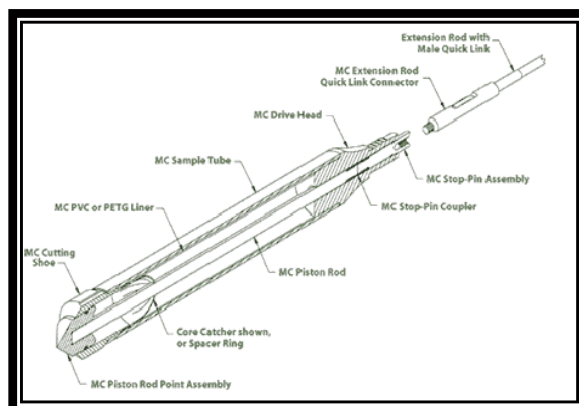
Soil Cores were logged and separated by depth for submission to laboratory



FIELD METHODOLOGY FOR: HYDRAULIC DRIVEN PROBES

Using Macro-Core®, Large Bore® or Dual Tube® Hydraulic Driven Probes

Direct push exploratory borings are “drilled” with a Hydraulic Driven Probe drill rig, which hydraulically vibrates and drives steel probes into the soil. This sampling technology has the ability for either continuous or discrete sampling using a 4-foot long nickel-plated sampling probes fitted with clear acetate liners. During coring operations, the sampler remains open as it is driven into undisturbed soil over its entire 4-foot sampling interval.



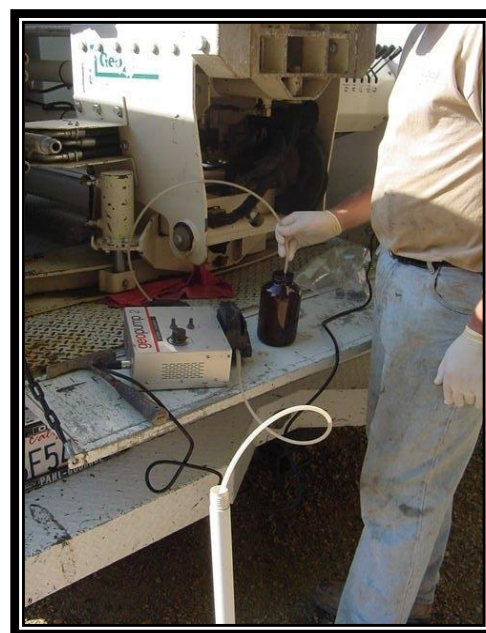
The soil cores are logged by an experienced geologist using the Unified Soil Classification System (USCS), noting in particular, the lithology of the soils, moisture content, and any unusual odor or discoloration. Relatively undisturbed soil samples are obtained for both lithologic logging and laboratory analysis. A portion of individual soil cores are stored in a sealed plastic bags for field screening of hydrocarbons and/or volatile organic compounds by an Photoionization Detector (PID). Vapor readings in parts per million (ppm) are recorded on the boring logs. The PID is also used during drilling for monitoring the work area for site safety.

All drilling equipment is decontaminated prior to arriving on-site to prevent possible transfer of contamination from another site. The sampling probe and all other soil sampling equipment are thoroughly cleaned between each borehole by washing in a Liqui-Nox or Alconox solution followed by a double rinsing with distilled water to prevent the transfer of contamination.

After drilling, all exploratory boreholes are grouted with continuous pour neat cement grout from the bottom of the borehole to the ground surface.

Samples Targeted for Laboratory Analysis:

Soil samples targeted for laboratory analysis are immediately cut from the acetate sample liner and protected at both ends with Teflon tape, sealed with non-reactive caps, taped, labeled, placed in a plastic ZipLock baggie, and immediately stored in an insulated container chilled to a temperature of 4 degree Celsius. Soil samples selected for Volatile Organic Compound (VOC) analysis will follow field preservation protocols according to EPA Method 5035, as described in DTSC's *Guidance Document for the Implementation of United States Environmental Protection Agency Method 5035*:



Methodologies for Collection, Preservation, Storage, and Preparation of Soils to be Analyzed for Volatile Organic Compounds, dated November 2004.

Groundwater samples are collected after temporary PVC casing is placed in the hole and at least one borehole volume is purged and groundwater is visually observed to be free of sediment. Relatively representative groundwater samples are either: 1) collected with a peristaltic pump and dedicated polyethylene tubing and dispensed directly into containers specifically prepared for the analyses (groundwater encountered at depths of less than 27 feet bgs) or 2) collected by mechanically lifting groundwater through a clean stainless steel foot valve and dedicated polyethylene and dispensed directly into containers specifically prepared for the analyses (groundwater encountered at depths greater than 27 feet bgs where a peristaltic pump cannot be used). Samples being analyzed for dissolved metals will be preserved and acidified by the testing laboratory following their receipt of samples. Once collected, groundwater sample containers are placed in ZipLock bags and are stored in an insulated container chilled to a temperature of 4 degree Celsius.

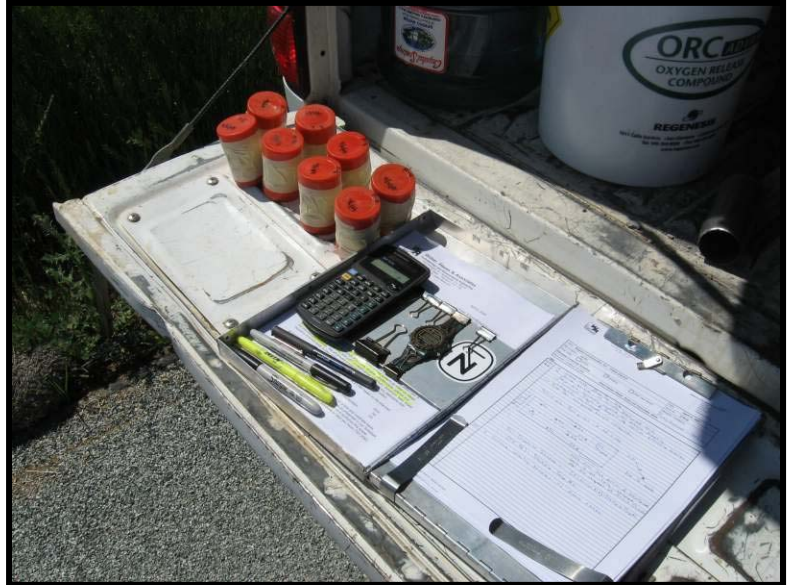
All samples are transported in chilled coolers to a State-certified laboratory under appropriate chain-of-custody documents. Soil samples that may be put on "hold" for potential future analysis will be stored in a dedicated sample freezer, be frozen, and stored under chain-of-custody documentation. Hold times will be confirmed with the testing laboratory to ensure that potential analysis of any "hold" samples will be analyzed within the laboratory hold times.

Field Methodology for Shallow Soil Sampling

This following provides detailed descriptions of methods used during shallow soil sampling investigations. Included are specifications for shallow soil sampling with a slide hammer, and decontamination procedures.

Shallow Soil Sampling Procedures: A backhoe, two person power auger, or a hand auger is used to get to a point immediately above the sampling depth.

Once at the desired sampling depth, a slide hammer is used to drive a clean stainless steel liner encased in the slide hammer sampling shoe to obtain a relatively undisturbed sample. The slide hammer consists of a metal rod with one end containing a threaded sampling shoe containing a beveled cutting head. A pre-cleaned brass or stainless steel sample liner is installed within the sampling shoe prior to sampling. The slide hammer consists of a weighted sliding handle which slides up and down a connecting rod, and which is used to drive the sampling shoe into undisturbed, native soils. The handle is manually slid up and down the slide rod which in turn forces the sampling shoe (with liner) into native soils.



Materials retrieved from the sampler is be logged on an as-needed basis by the experienced field geologist using the Unified Soil Classification System (USCS), noting in particular, the lithology of the soils, moisture content, and any unusual odor or discoloration. The liner and relatively undisturbed soils is then be removed from the sampling shoe, protected at both ends with Teflon tape, sealed with non-reactive caps, taped, and immediately stored in an insulated container cooled with blue ice at a temperature of 4 degree Celsius or less. Samples targeted for analysis are transported under appropriate chain-of-custody documentation to a State-certified laboratory performing the targeted analysis.

Upon completion of sampling at the designated location, the location will be backfilled and compacted with the materials that were removed prior to sampling, supplemented by clean imported fill as necessary.

Soil samples selected for Volatile Organic Compound (VOC) analysis will follow field preservation protocols according to EPA Method 5035, as described in DTSC's *Guidance Document for the Implementation of United States Environmental Protection Agency Method 5035: Methodologies for Collection, Preservation, Storage, and Preparation of Soils to be Analyzed for Volatile Organic Compounds*, dated November 2004.

Equipment Decontamination and Containerization Procedures: All sampling equipment is cleaned prior to arriving on site to prevent possible transfer of contamination from another site. In areas suspected of having contamination, sampling equipment is thoroughly cleaned between each sampling runs with Alconox[®] solution (or equivalent) followed by a double rinsing with distilled water to prevent the vertical transfer of contamination, and/or contamination from location to location onsite. Accordingly, all sampling equipment will be cleaned following sampling operations to prevent the possible transfer of contamination. All cleaning rinsate, and wash water produced during the shallow soil sampling and decontamination process will be containerized on site in pails or approved DOT drums until profiling determines appropriate disposal options.

APPENDIX B

State-Certified Analytical Laboratory Results

Soil Analytical Results (June 11, 2019)

June 19, 2019

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Weber, Hayes & Associates - CA

Sample Delivery Group: L1108278
Samples Received: 06/12/2019
Project Number: 2X925
Description: Morgan Hill Phase II (Soils)

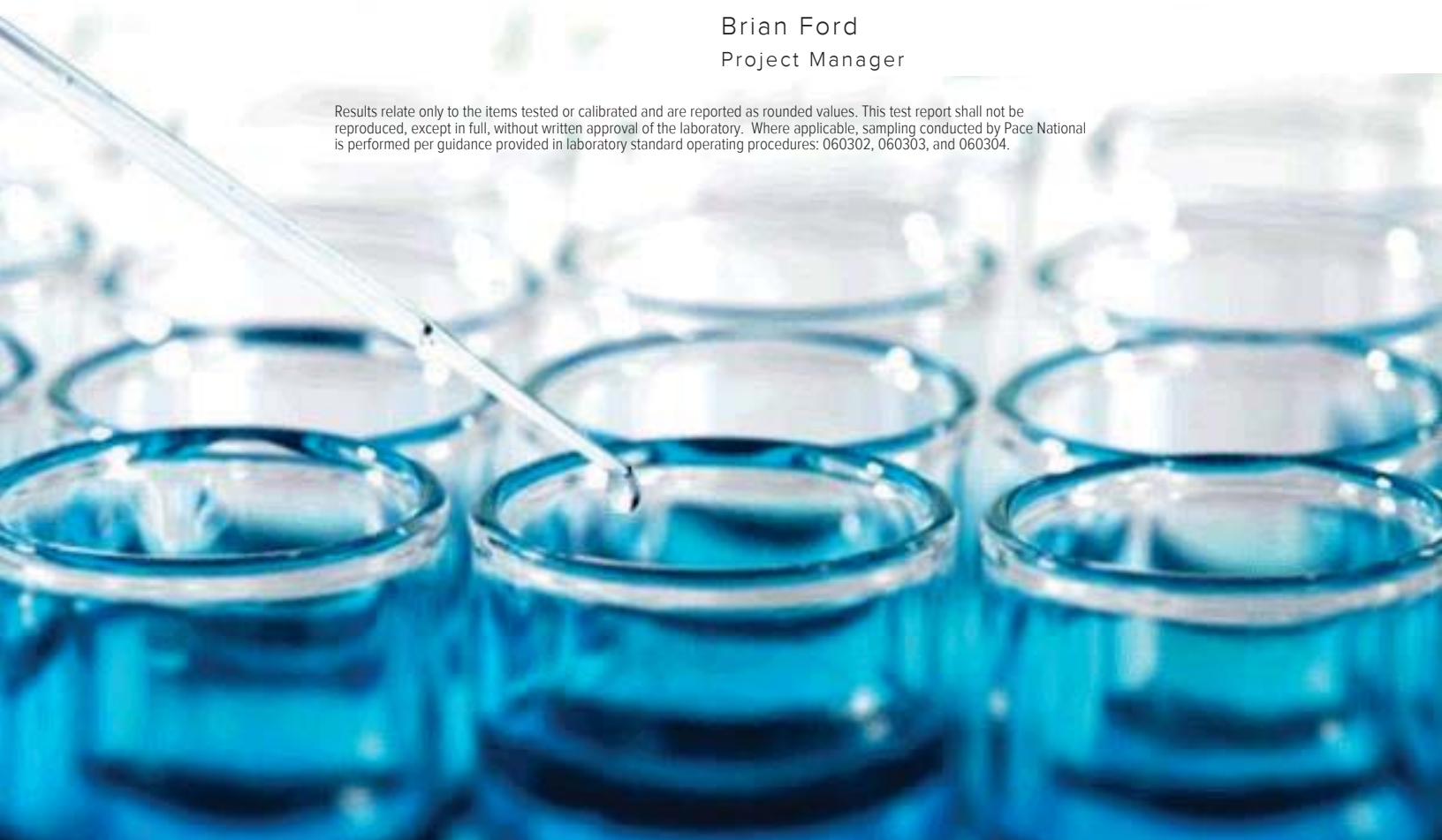
Report To: Ryan Nyberg
120 Westgate Drive
Watsonville, CA 95076

Entire Report Reviewed By:

Brian Ford

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.





Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	6
Sr: Sample Results	7
1A-D0.5 L1108278-01	7
1-D0.5 COMP L1108278-02	8
1A-1.5 L1108278-03	10
1-D1.5 COMP L1108278-04	11
2A-D0.5 L1108278-05	12
2-D0.5 COMP L1108278-06	13
2A-1.5 L1108278-07	15
2-D1.5 COMP L1108278-08	16
3A-0.5 L1108278-09	17
3-D0.5 COMP L1108278-10	18
3A-1.5 L1108278-11	20
3-D1.5 COMP L1108278-12	21
4A-0.5 L1108278-13	22
4-D0.5 COMP L1108278-14	23
4A-1.5 L1108278-15	25
4-D1.5 COMP L1108278-16	26
LF1-D0.5 COMP L1108278-17	27
LF-2-D0.5 COMP L1108278-18	29
Qc: Quality Control Summary	31
Total Solids by Method 2540 G-2011	31
Mercury by Method 7471A	34
Metals (ICP) by Method 6010B	35
Semi-Volatile Organic Compounds (GC) by Method 8015	37
Pesticides (GC) by Method 8081	38
Gl: Glossary of Terms	40
Al: Accreditations & Locations	41
Sc: Sample Chain of Custody	42





1A-D0.5 L1108278-01 Solid

				Collected by Ryan Nyberg	Collected date/time 06/11/19 00:00	Received date/time 06/12/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295819	1	06/14/19 14:14	06/14/19 14:26	KDW	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1295984	1	06/14/19 10:56	06/17/19 03:12	CCE	Mt. Juliet, TN

¹ Cp² Tc³ Ss

1-D0.5 COMP L1108278-02 Solid

				Collected by Ryan Nyberg	Collected date/time 06/11/19 00:00	Received date/time 06/12/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295819	1	06/14/19 14:14	06/14/19 14:26	KDW	Mt. Juliet, TN
Mercury by Method 7471A	WG1296060	1	06/14/19 08:30	06/14/19 11:03	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1295984	1	06/14/19 10:56	06/17/19 03:26	CCE	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1296621	1	06/15/19 10:25	06/16/19 16:35	KME	Mt. Juliet, TN
Pesticides (GC) by Method 8081	WG1296553	1	06/17/19 14:12	06/18/19 09:31	MTJ	Mt. Juliet, TN

⁴ Cn⁵ Sr⁶ Qc⁷ Gl

1A-1.5 L1108278-03 Solid

				Collected by Ryan Nyberg	Collected date/time 06/11/19 00:00	Received date/time 06/12/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295819	1	06/14/19 14:14	06/14/19 14:26	KDW	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1295984	1	06/14/19 10:56	06/17/19 03:29	CCE	Mt. Juliet, TN

⁸ Al⁹ Sc

1-D1.5 COMP L1108278-04 Solid

				Collected by Ryan Nyberg	Collected date/time 06/11/19 00:00	Received date/time 06/12/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295819	1	06/14/19 14:14	06/14/19 14:26	KDW	Mt. Juliet, TN
Pesticides (GC) by Method 8081	WG1296553	1	06/17/19 14:12	06/18/19 09:44	ADF	Mt. Juliet, TN

2A-D0.5 L1108278-05 Solid

				Collected by Ryan Nyberg	Collected date/time 06/11/19 00:00	Received date/time 06/12/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295819	1	06/14/19 14:14	06/14/19 14:26	KDW	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1295984	1	06/14/19 10:56	06/17/19 03:37	CCE	Mt. Juliet, TN

2-D0.5 COMP L1108278-06 Solid

				Collected by Ryan Nyberg	Collected date/time 06/11/19 00:00	Received date/time 06/12/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295819	1	06/14/19 14:14	06/14/19 14:26	KDW	Mt. Juliet, TN
Mercury by Method 7471A	WG1296060	1	06/14/19 08:30	06/14/19 11:05	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1295984	1	06/14/19 10:56	06/17/19 03:40	CCE	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1296621	1	06/15/19 10:25	06/16/19 14:41	KME	Mt. Juliet, TN
Pesticides (GC) by Method 8081	WG1296553	1	06/17/19 14:12	06/18/19 09:56	ADF	Mt. Juliet, TN



2A-1.5 L1108278-07 Solid

				Collected by Ryan Nyberg	Collected date/time 06/11/19 00:00	Received date/time 06/12/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295819	1	06/14/19 14:14	06/14/19 14:26	KDW	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1295984	1	06/14/19 10:56	06/17/19 03:43	CCE	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

2-D1.5 COMP L1108278-08 Solid

				Collected by Ryan Nyberg	Collected date/time 06/11/19 00:00	Received date/time 06/12/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295822	1	06/14/19 14:00	06/14/19 14:11	KDW	Mt. Juliet, TN
Pesticides (GC) by Method 8081	WG1296553	1	06/17/19 14:12	06/18/19 10:09	MTJ	Mt. Juliet, TN

⁴ Cn

⁵ Sr

⁶ Qc

3A-0.5 L1108278-09 Solid

				Collected by Ryan Nyberg	Collected date/time 06/11/19 00:00	Received date/time 06/12/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295822	1	06/14/19 14:00	06/14/19 14:11	KDW	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1295984	1	06/14/19 10:56	06/17/19 03:46	CCE	Mt. Juliet, TN

⁷ Gl

⁸ Al

⁹ Sc

3-D0.5 COMP L1108278-10 Solid

				Collected by Ryan Nyberg	Collected date/time 06/11/19 00:00	Received date/time 06/12/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295822	1	06/14/19 14:00	06/14/19 14:11	KDW	Mt. Juliet, TN
Mercury by Method 7471A	WG1296060	1	06/14/19 08:30	06/14/19 11:07	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1295984	1	06/14/19 10:56	06/17/19 03:49	CCE	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1296621	10	06/15/19 10:25	06/16/19 17:03	KME	Mt. Juliet, TN
Pesticides (GC) by Method 8081	WG1296553	1	06/17/19 14:12	06/18/19 10:21	MTJ	Mt. Juliet, TN

3A-1.5 L1108278-11 Solid

				Collected by Ryan Nyberg	Collected date/time 06/11/19 00:00	Received date/time 06/12/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295822	1	06/14/19 14:00	06/14/19 14:11	KDW	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1295984	1	06/14/19 10:56	06/17/19 03:52	CCE	Mt. Juliet, TN

3-D1.5 COMP L1108278-12 Solid

				Collected by Ryan Nyberg	Collected date/time 06/11/19 00:00	Received date/time 06/12/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295822	1	06/14/19 14:00	06/14/19 14:11	KDW	Mt. Juliet, TN
Pesticides (GC) by Method 8081	WG1296553	1	06/17/19 14:12	06/18/19 10:33	MTJ	Mt. Juliet, TN

4A-0.5 L1108278-13 Solid

				Collected by Ryan Nyberg	Collected date/time 06/11/19 00:00	Received date/time 06/12/19 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295822	1	06/14/19 14:00	06/14/19 14:11	KDW	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1295984	1	06/14/19 10:56	06/17/19 03:54	CCE	Mt. Juliet, TN



4-D0.5 COMP L1108278-14 Solid

Collected by
Ryan Nyberg

Collected date/time
06/11/19 00:00

Received date/time
06/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295822	1	06/14/19 14:00	06/14/19 14:11	KDW	Mt. Juliet, TN
Mercury by Method 7471A	WG1296060	1	06/14/19 08:30	06/14/19 11:10	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1295984	1	06/14/19 10:56	06/17/19 03:57	CCE	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1296621	1	06/15/19 10:25	06/16/19 14:55	KME	Mt. Juliet, TN
Pesticides (GC) by Method 8081	WG1296553	1	06/17/19 14:12	06/18/19 10:46	MTJ	Mt. Juliet, TN

¹ Cp² Tc³ Ss⁴ Cn

4A-1.5 L1108278-15 Solid

Collected by
Ryan Nyberg

Collected date/time
06/11/19 00:00

Received date/time
06/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295822	1	06/14/19 14:00	06/14/19 14:11	KDW	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1295984	1	06/14/19 10:56	06/17/19 04:00	CCE	Mt. Juliet, TN

⁵ Sr⁶ Qc⁷ Gl

4-D1.5 COMP L1108278-16 Solid

Collected by
Ryan Nyberg

Collected date/time
06/11/19 00:00

Received date/time
06/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295824	1	06/14/19 13:31	06/14/19 13:42	KDW	Mt. Juliet, TN
Pesticides (GC) by Method 8081	WG1296553	1	06/17/19 14:12	06/18/19 10:58	MTJ	Mt. Juliet, TN

⁸ Al⁹ Sc

LF1-D0.5 COMP L1108278-17 Solid

Collected by
Ryan Nyberg

Collected date/time
06/11/19 00:00

Received date/time
06/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295824	1	06/14/19 13:31	06/14/19 13:42	KDW	Mt. Juliet, TN
Mercury by Method 7471A	WG1296060	1	06/14/19 08:30	06/14/19 11:16	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1295984	1	06/14/19 10:56	06/17/19 04:03	CCE	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1296621	1	06/15/19 10:25	06/16/19 16:06	KME	Mt. Juliet, TN
Pesticides (GC) by Method 8081	WG1296553	1	06/17/19 14:12	06/18/19 11:11	MTJ	Mt. Juliet, TN

LF-2-D0.5 COMP L1108278-18 Solid

Collected by
Ryan Nyberg

Collected date/time
06/11/19 00:00

Received date/time
06/12/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1295824	1	06/14/19 13:31	06/14/19 13:42	KDW	Mt. Juliet, TN
Mercury by Method 7471A	WG1296060	1	06/14/19 08:30	06/14/19 11:18	ABL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG1295984	1	06/14/19 10:56	06/17/19 04:11	CCE	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1296621	1	06/15/19 10:25	06/16/19 15:24	KME	Mt. Juliet, TN
Pesticides (GC) by Method 8081	WG1296553	1	06/17/19 14:12	06/18/19 11:23	MTJ	Mt. Juliet, TN



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.2		1	06/14/2019 14:26	WG1295819

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Arsenic	3.10		0.494	2.15	1	06/17/2019 03:12	WG1295984

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.0		1	06/14/2019 14:26	WG1295819

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0659		0.00298	0.0213	1	06/14/2019 11:03	WG1296060

Metals (ICP) by Method 6010B

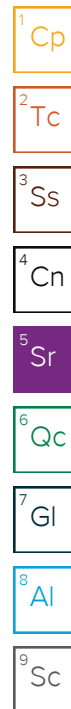
Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	0.834	J	0.798	2.13	1	06/17/2019 03:26	WG1295984
Arsenic	2.94		0.489	2.13	1	06/17/2019 03:26	WG1295984
Barium	187		0.181	0.532	1	06/17/2019 03:26	WG1295984
Beryllium	0.347		0.0745	0.213	1	06/17/2019 03:26	WG1295984
Cadmium	0.324	J	0.0745	0.532	1	06/17/2019 03:26	WG1295984
Chromium	47.9		0.149	1.06	1	06/17/2019 03:26	WG1295984
Cobalt	11.5		0.245	1.06	1	06/17/2019 03:26	WG1295984
Copper	27.7		0.564	2.13	1	06/17/2019 03:26	WG1295984
Lead	13.1		0.202	0.532	1	06/17/2019 03:26	WG1295984
Molybdenum	0.304	J	0.170	0.532	1	06/17/2019 03:26	WG1295984
Nickel	65.0		0.521	2.13	1	06/17/2019 03:26	WG1295984
Selenium	U		0.660	2.13	1	06/17/2019 03:26	WG1295984
Silver	U		0.128	1.06	1	06/17/2019 03:26	WG1295984
Thallium	U		0.691	2.13	1	06/17/2019 03:26	WG1295984
Vanadium	44.6		0.255	2.13	1	06/17/2019 03:26	WG1295984
Zinc	64.5		0.628	5.32	1	06/17/2019 03:26	WG1295984

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C12-C22 Hydrocarbons	2.96	J	0.780	4.26	1	06/16/2019 16:35	WG1296621
C22-C32 Hydrocarbons	17.0		1.41	4.26	1	06/16/2019 16:35	WG1296621
C32-C40 Hydrocarbons	24.4		1.41	4.26	1	06/16/2019 16:35	WG1296621
(S) o-Terphenyl	52.4			18.0-148		06/16/2019 16:35	WG1296621

Pesticides (GC) by Method 8081

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.000248	0.0213	1	06/18/2019 09:31	WG1296553
Alpha BHC	U		0.000205	0.0213	1	06/18/2019 09:31	WG1296553
Beta BHC	U		0.000322	0.0213	1	06/18/2019 09:31	WG1296553
Delta BHC	U		0.000161	0.0213	1	06/18/2019 09:31	WG1296553
Gamma BHC	U		0.000261	0.0213	1	06/18/2019 09:31	WG1296553
4,4-DDD	U		0.000174	0.0213	1	06/18/2019 09:31	WG1296553
4,4-DDE	0.0210	J	0.000176	0.0213	1	06/18/2019 09:31	WG1296553
4,4-DDT	0.00331	J	0.000283	0.0213	1	06/18/2019 09:31	WG1296553
Dieldrin	0.000270	J	0.0000947	0.00213	1	06/18/2019 09:31	WG1296553
Endosulfan I	U		0.000228	0.0213	1	06/18/2019 09:31	WG1296553
Endosulfan II	U		0.000245	0.0213	1	06/18/2019 09:31	WG1296553
Endosulfan sulfate	U		0.000181	0.0213	1	06/18/2019 09:31	WG1296553
Endrin	U		0.000233	0.0213	1	06/18/2019 09:31	WG1296553
Endrin aldehyde	U		0.000257	0.0213	1	06/18/2019 09:31	WG1296553
Endrin ketone	U		0.000169	0.0213	1	06/18/2019 09:31	WG1296553
Heptachlor	U		0.000107	0.0213	1	06/18/2019 09:31	WG1296553





Collected date/time: 06/11/19 00:00

L1108278

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Heptachlor epoxide	U		0.000402	0.0213	1	06/18/2019 09:31	WG1296553
Hexachlorobenzene	U		0.000238	0.0213	1	06/18/2019 09:31	WG1296553
Methoxychlor	U		0.000282	0.0213	1	06/18/2019 09:31	WG1296553
Chlordane	U		0.0415	0.213	1	06/18/2019 09:31	WG1296553
Toxaphene	U		0.0383	0.426	1	06/18/2019 09:31	WG1296553
(S) Decachlorobiphenyl	86.8			10.0-135		06/18/2019 09:31	WG1296553
(S) Tetrachloro-m-xylene	87.1			10.0-139		06/18/2019 09:31	WG1296553

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.9		1	06/14/2019 14:26	WG1295819

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Arsenic	2.91		0.500	2.18	1	06/17/2019 03:29	WG1295984

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.2		1	06/14/2019 14:26	WG1295819

Pesticides (GC) by Method 8081

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.000250	0.0214	1	06/18/2019 09:44	WG1296553
Alpha BHC	U		0.000207	0.0214	1	06/18/2019 09:44	WG1296553
Beta BHC	U		0.000325	0.0214	1	06/18/2019 09:44	WG1296553
Delta BHC	U		0.000162	0.0214	1	06/18/2019 09:44	WG1296553
Gamma BHC	U		0.000263	0.0214	1	06/18/2019 09:44	WG1296553
4,4-DDD	U		0.000176	0.0214	1	06/18/2019 09:44	WG1296553
4,4-DDE	0.00234	J	0.000177	0.0214	1	06/18/2019 09:44	WG1296553
4,4-DDT	0.00107	J	0.000285	0.0214	1	06/18/2019 09:44	WG1296553
Dieldrin	0.000107	J	0.0000954	0.00214	1	06/18/2019 09:44	WG1296553
Endosulfan I	U		0.000230	0.0214	1	06/18/2019 09:44	WG1296553
Endosulfan II	U		0.000247	0.0214	1	06/18/2019 09:44	WG1296553
Endosulfan sulfate	U		0.000182	0.0214	1	06/18/2019 09:44	WG1296553
Endrin	U		0.000235	0.0214	1	06/18/2019 09:44	WG1296553
Endrin aldehyde	U		0.000260	0.0214	1	06/18/2019 09:44	WG1296553
Endrin ketone	U		0.000171	0.0214	1	06/18/2019 09:44	WG1296553
Heptachlor	U		0.000108	0.0214	1	06/18/2019 09:44	WG1296553
Heptachlor epoxide	U		0.000405	0.0214	1	06/18/2019 09:44	WG1296553
Hexachlorobenzene	U		0.000240	0.0214	1	06/18/2019 09:44	WG1296553
Methoxychlor	U		0.000284	0.0214	1	06/18/2019 09:44	WG1296553
Chlordane	U		0.0418	0.214	1	06/18/2019 09:44	WG1296553
Toxaphene	U		0.0386	0.429	1	06/18/2019 09:44	WG1296553
(S) Decachlorobiphenyl	85.8			10.0-135		06/18/2019 09:44	WG1296553
(S) Tetrachloro-m-xylene	80.1			10.0-139		06/18/2019 09:44	WG1296553

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.1		1	06/14/2019 14:26	WG1295819

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	4.71		0.499	2.17	1	06/17/2019 03:37	WG1295984

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.0		1	06/14/2019 14:26	WG1295819

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0482	<u>B</u>	0.00301	0.0215	1	06/14/2019 11:05	WG1296060

Metals (ICP) by Method 6010B

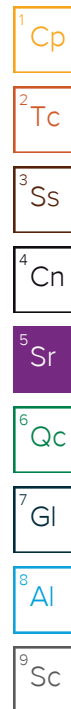
Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	U		0.806	2.15	1	06/17/2019 03:40	WG1295984
Arsenic	5.26		0.494	2.15	1	06/17/2019 03:40	WG1295984
Barium	232		0.183	0.537	1	06/17/2019 03:40	WG1295984
Beryllium	0.448		0.0752	0.215	1	06/17/2019 03:40	WG1295984
Cadmium	0.356	<u>J</u>	0.0752	0.537	1	06/17/2019 03:40	WG1295984
Chromium	65.6		0.150	1.07	1	06/17/2019 03:40	WG1295984
Cobalt	14.7		0.247	1.07	1	06/17/2019 03:40	WG1295984
Copper	32.2		0.570	2.15	1	06/17/2019 03:40	WG1295984
Lead	13.9		0.204	0.537	1	06/17/2019 03:40	WG1295984
Molybdenum	0.222	<u>J</u>	0.172	0.537	1	06/17/2019 03:40	WG1295984
Nickel	84.4		0.527	2.15	1	06/17/2019 03:40	WG1295984
Selenium	U		0.666	2.15	1	06/17/2019 03:40	WG1295984
Silver	U		0.129	1.07	1	06/17/2019 03:40	WG1295984
Thallium	U		0.699	2.15	1	06/17/2019 03:40	WG1295984
Vanadium	56.6		0.258	2.15	1	06/17/2019 03:40	WG1295984
Zinc	79.1		0.634	5.37	1	06/17/2019 03:40	WG1295984

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C12-C22 Hydrocarbons	4.27	<u>J</u>	0.788	4.30	1	06/16/2019 14:41	WG1296621
C22-C32 Hydrocarbons	8.43		1.43	4.30	1	06/16/2019 14:41	WG1296621
C32-C40 Hydrocarbons	10.2		1.43	4.30	1	06/16/2019 14:41	WG1296621
(S) o-Terphenyl	63.1			18.0-148		06/16/2019 14:41	WG1296621

Pesticides (GC) by Method 8081

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.000250	0.0215	1	06/18/2019 09:56	WG1296553
Alpha BHC	U		0.000207	0.0215	1	06/18/2019 09:56	WG1296553
Beta BHC	U		0.000326	0.0215	1	06/18/2019 09:56	WG1296553
Delta BHC	U		0.000162	0.0215	1	06/18/2019 09:56	WG1296553
Gamma BHC	U		0.000263	0.0215	1	06/18/2019 09:56	WG1296553
4,4-DDD	U		0.000176	0.0215	1	06/18/2019 09:56	WG1296553
4,4-DDE	0.00134	<u>J</u>	0.000177	0.0215	1	06/18/2019 09:56	WG1296553
4,4-DDT	0.000455	<u>J</u>	0.000286	0.0215	1	06/18/2019 09:56	WG1296553
Dieldrin	0.000164	<u>J</u>	0.0000957	0.00215	1	06/18/2019 09:56	WG1296553
Endosulfan I	U		0.000230	0.0215	1	06/18/2019 09:56	WG1296553
Endosulfan II	U		0.000247	0.0215	1	06/18/2019 09:56	WG1296553
Endosulfan sulfate	U		0.000183	0.0215	1	06/18/2019 09:56	WG1296553
Endrin	U		0.000235	0.0215	1	06/18/2019 09:56	WG1296553
Endrin aldehyde	U		0.000260	0.0215	1	06/18/2019 09:56	WG1296553
Endrin ketone	U		0.000171	0.0215	1	06/18/2019 09:56	WG1296553
Heptachlor	U		0.000109	0.0215	1	06/18/2019 09:56	WG1296553





Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Heptachlor epoxide	U		0.000406	0.0215	1	06/18/2019 09:56	WG1296553
Hexachlorobenzene	U		0.000241	0.0215	1	06/18/2019 09:56	WG1296553
Methoxychlor	U		0.000285	0.0215	1	06/18/2019 09:56	WG1296553
Chlordane	U		0.0419	0.215	1	06/18/2019 09:56	WG1296553
Toxaphene	U		0.0387	0.430	1	06/18/2019 09:56	WG1296553
(S) Decachlorobiphenyl	93.0			10.0-135		06/18/2019 09:56	WG1296553
(S) Tetrachloro-m-xylene	88.6			10.0-139		06/18/2019 09:56	WG1296553

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	92.9		1	06/14/2019 14:26	WG1295819

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Arsenic	4.70		0.495	2.15	1	06/17/2019 03:43	WG1295984

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.4		1	06/14/2019 14:11	WG1295822

Pesticides (GC) by Method 8081

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.000258	0.0221	1	06/18/2019 10:09	WG1296553
Alpha BHC	U		0.000214	0.0221	1	06/18/2019 10:09	WG1296553
Beta BHC	U		0.000335	0.0221	1	06/18/2019 10:09	WG1296553
Delta BHC	U		0.000167	0.0221	1	06/18/2019 10:09	WG1296553
Gamma BHC	U		0.000271	0.0221	1	06/18/2019 10:09	WG1296553
4,4-DDD	U		0.000181	0.0221	1	06/18/2019 10:09	WG1296553
4,4-DDE	U		0.000183	0.0221	1	06/18/2019 10:09	WG1296553
4,4-DDT	U		0.000294	0.0221	1	06/18/2019 10:09	WG1296553
Dieldrin	U		0.0000985	0.00221	1	06/18/2019 10:09	WG1296553
Endosulfan I	U		0.000237	0.0221	1	06/18/2019 10:09	WG1296553
Endosulfan II	U		0.000255	0.0221	1	06/18/2019 10:09	WG1296553
Endosulfan sulfate	U		0.000188	0.0221	1	06/18/2019 10:09	WG1296553
Endrin	U		0.000242	0.0221	1	06/18/2019 10:09	WG1296553
Endrin aldehyde	U		0.000268	0.0221	1	06/18/2019 10:09	WG1296553
Endrin ketone	U		0.000176	0.0221	1	06/18/2019 10:09	WG1296553
Heptachlor	U		0.000112	0.0221	1	06/18/2019 10:09	WG1296553
Heptachlor epoxide	U		0.000418	0.0221	1	06/18/2019 10:09	WG1296553
Hexachlorobenzene	U		0.000248	0.0221	1	06/18/2019 10:09	WG1296553
Methoxychlor	U		0.000293	0.0221	1	06/18/2019 10:09	WG1296553
Chlordane	U		0.0432	0.221	1	06/18/2019 10:09	WG1296553
Toxaphene	U		0.0398	0.443	1	06/18/2019 10:09	WG1296553
(S) Decachlorobiphenyl	95.8			10.0-135		06/18/2019 10:09	WG1296553
(S) Tetrachloro-m-xylene	93.6			10.0-139		06/18/2019 10:09	WG1296553

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.9		1	06/14/2019 14:11	WG1295822

¹ Cp

² Tc

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	6.22		0.490	2.13	1	06/17/2019 03:46	WG1295984

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.6		1	06/14/2019 14:11	WG1295822

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0617		0.00299	0.0214	1	06/14/2019 11:07	WG1296060

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	U		0.802	2.14	1	06/17/2019 03:49	WG1295984
Arsenic	4.43		0.492	2.14	1	06/17/2019 03:49	WG1295984
Barium	223		0.182	0.534	1	06/17/2019 03:49	WG1295984
Beryllium	0.453		0.0748	0.214	1	06/17/2019 03:49	WG1295984
Cadmium	0.381	J	0.0748	0.534	1	06/17/2019 03:49	WG1295984
Chromium	55.9		0.150	1.07	1	06/17/2019 03:49	WG1295984
Cobalt	15.9		0.246	1.07	1	06/17/2019 03:49	WG1295984
Copper	30.1		0.567	2.14	1	06/17/2019 03:49	WG1295984
Lead	19.5		0.203	0.534	1	06/17/2019 03:49	WG1295984
Molybdenum	0.387	J	0.171	0.534	1	06/17/2019 03:49	WG1295984
Nickel	86.9		0.524	2.14	1	06/17/2019 03:49	WG1295984
Selenium	0.937	J	0.663	2.14	1	06/17/2019 03:49	WG1295984
Silver	U		0.128	1.07	1	06/17/2019 03:49	WG1295984
Thallium	U		0.695	2.14	1	06/17/2019 03:49	WG1295984
Vanadium	57.8		0.257	2.14	1	06/17/2019 03:49	WG1295984
Zinc	78.6		0.631	5.34	1	06/17/2019 03:49	WG1295984

Semi-Volatile Organic Compounds (GC) by Method 8015

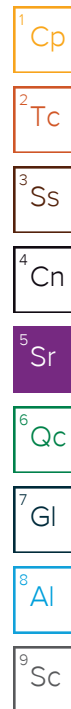
Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C12-C22 Hydrocarbons	U		7.84	42.8	10	06/16/2019 17:03	WG1296621
C22-C32 Hydrocarbons	32.2	J	14.2	42.8	10	06/16/2019 17:03	WG1296621
C32-C40 Hydrocarbons	64.6		14.2	42.8	10	06/16/2019 17:03	WG1296621
(S) o-Terphenyl	104			18.0-148		06/16/2019 17:03	WG1296621

Sample Narrative:

L1108278-10 WG1296621: Cannot run at lower dilution due to viscosity of extract

Pesticides (GC) by Method 8081

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.000249	0.0214	1	06/18/2019 10:21	WG1296553
Alpha BHC	U		0.000206	0.0214	1	06/18/2019 10:21	WG1296553
Beta BHC	U		0.000324	0.0214	1	06/18/2019 10:21	WG1296553
Delta BHC	U		0.000161	0.0214	1	06/18/2019 10:21	WG1296553
Gamma BHC	U		0.000262	0.0214	1	06/18/2019 10:21	WG1296553
4,4-DDD	U		0.000175	0.0214	1	06/18/2019 10:21	WG1296553
4,4-DDE	0.000871	J	0.000176	0.0214	1	06/18/2019 10:21	WG1296553
4,4-DDT	0.000335	J	0.000284	0.0214	1	06/18/2019 10:21	WG1296553
Dieldrin	U		0.0000951	0.00214	1	06/18/2019 10:21	WG1296553
Endosulfan I	U		0.000229	0.0214	1	06/18/2019 10:21	WG1296553
Endosulfan II	U		0.000246	0.0214	1	06/18/2019 10:21	WG1296553
Endosulfan sulfate	U		0.000182	0.0214	1	06/18/2019 10:21	WG1296553
Endrin	U		0.000234	0.0214	1	06/18/2019 10:21	WG1296553





Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Endrin aldehyde	U		0.000259	0.0214	1	06/18/2019 10:21	WG1296553
Endrin ketone	U		0.000170	0.0214	1	06/18/2019 10:21	WG1296553
Heptachlor	U		0.000108	0.0214	1	06/18/2019 10:21	WG1296553
Heptachlor epoxide	U		0.000404	0.0214	1	06/18/2019 10:21	WG1296553
Hexachlorobenzene	U		0.000239	0.0214	1	06/18/2019 10:21	WG1296553
Methoxychlor	U		0.000283	0.0214	1	06/18/2019 10:21	WG1296553
Chlordane	U		0.0417	0.214	1	06/18/2019 10:21	WG1296553
Toxaphene	U		0.0385	0.428	1	06/18/2019 10:21	WG1296553
(S) Decachlorobiphenyl	97.4			10.0-135		06/18/2019 10:21	WG1296553
(S) Tetrachloro-m-xylene	88.9			10.0-139		06/18/2019 10:21	WG1296553

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.2		1	06/14/2019 14:11	WG1295822

Metals (ICP) by Method 6010B

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Arsenic	5.01		0.483	2.10	1	06/17/2019 03:52	WG1295984

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.0		1	06/14/2019 14:11	WG1295822

Pesticides (GC) by Method 8081

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.000251	0.0215	1	06/18/2019 10:33	WG1296553
Alpha BHC	U		0.000208	0.0215	1	06/18/2019 10:33	WG1296553
Beta BHC	U		0.000326	0.0215	1	06/18/2019 10:33	WG1296553
Delta BHC	U		0.000162	0.0215	1	06/18/2019 10:33	WG1296553
Gamma BHC	U		0.000263	0.0215	1	06/18/2019 10:33	WG1296553
4,4-DDD	U		0.000176	0.0215	1	06/18/2019 10:33	WG1296553
4,4-DDE	U		0.000177	0.0215	1	06/18/2019 10:33	WG1296553
4,4-DDT	U		0.000286	0.0215	1	06/18/2019 10:33	WG1296553
Dieldrin	U		0.0000957	0.00215	1	06/18/2019 10:33	WG1296553
Endosulfan I	U		0.000230	0.0215	1	06/18/2019 10:33	WG1296553
Endosulfan II	U		0.000247	0.0215	1	06/18/2019 10:33	WG1296553
Endosulfan sulfate	U		0.000183	0.0215	1	06/18/2019 10:33	WG1296553
Endrin	U		0.000235	0.0215	1	06/18/2019 10:33	WG1296553
Endrin aldehyde	U		0.000260	0.0215	1	06/18/2019 10:33	WG1296553
Endrin ketone	U		0.000171	0.0215	1	06/18/2019 10:33	WG1296553
Heptachlor	U		0.000109	0.0215	1	06/18/2019 10:33	WG1296553
Heptachlor epoxide	U		0.000406	0.0215	1	06/18/2019 10:33	WG1296553
Hexachlorobenzene	U		0.000241	0.0215	1	06/18/2019 10:33	WG1296553
Methoxychlor	U		0.000285	0.0215	1	06/18/2019 10:33	WG1296553
Chlordane	U		0.0419	0.215	1	06/18/2019 10:33	WG1296553
Toxaphene	U		0.0387	0.430	1	06/18/2019 10:33	WG1296553
(S) Decachlorobiphenyl	98.9			10.0-135		06/18/2019 10:33	WG1296553
(S) Tetrachloro-m-xylene	93.3			10.0-139		06/18/2019 10:33	WG1296553

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.3		1	06/14/2019 14:11	WG1295822

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Arsenic	2.77		0.488	2.12	1	06/17/2019 03:54	WG1295984

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.5		1	06/14/2019 14:11	WG1295822

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0569		0.00300	0.0214	1	06/14/2019 11:10	WG1296060

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	U		0.803	2.14	1	06/17/2019 03:57	WG1295984
Arsenic	3.74		0.492	2.14	1	06/17/2019 03:57	WG1295984
Barium	214		0.182	0.535	1	06/17/2019 03:57	WG1295984
Beryllium	0.403		0.0749	0.214	1	06/17/2019 03:57	WG1295984
Cadmium	0.339	J	0.0749	0.535	1	06/17/2019 03:57	WG1295984
Chromium	65.6		0.150	1.07	1	06/17/2019 03:57	WG1295984
Cobalt	15.7		0.246	1.07	1	06/17/2019 03:57	WG1295984
Copper	30.3		0.567	2.14	1	06/17/2019 03:57	WG1295984
Lead	13.5		0.203	0.535	1	06/17/2019 03:57	WG1295984
Molybdenum	U		0.171	0.535	1	06/17/2019 03:57	WG1295984
Nickel	91.7		0.524	2.14	1	06/17/2019 03:57	WG1295984
Selenium	1.23	J	0.663	2.14	1	06/17/2019 03:57	WG1295984
Silver	U		0.128	1.07	1	06/17/2019 03:57	WG1295984
Thallium	U		0.696	2.14	1	06/17/2019 03:57	WG1295984
Vanadium	60.9		0.257	2.14	1	06/17/2019 03:57	WG1295984
Zinc	71.3		0.631	5.35	1	06/17/2019 03:57	WG1295984

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C12-C22 Hydrocarbons	2.92	J	0.784	4.28	1	06/16/2019 14:55	WG1296621
C22-C32 Hydrocarbons	8.05		1.42	4.28	1	06/16/2019 14:55	WG1296621
C32-C40 Hydrocarbons	12.4		1.42	4.28	1	06/16/2019 14:55	WG1296621
(S) o-Terphenyl	58.3			18.0-148		06/16/2019 14:55	WG1296621

Pesticides (GC) by Method 8081

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.000249	0.0214	1	06/18/2019 10:46	WG1296553
Alpha BHC	U		0.000207	0.0214	1	06/18/2019 10:46	WG1296553
Beta BHC	U		0.000324	0.0214	1	06/18/2019 10:46	WG1296553
Delta BHC	U		0.000162	0.0214	1	06/18/2019 10:46	WG1296553
Gamma BHC	U		0.000262	0.0214	1	06/18/2019 10:46	WG1296553
4,4-DDD	U		0.000175	0.0214	1	06/18/2019 10:46	WG1296553
4,4-DDE	0.00548	J	0.000177	0.0214	1	06/18/2019 10:46	WG1296553
4,4-DDT	U		0.000285	0.0214	1	06/18/2019 10:46	WG1296553
Dieldrin	U		0.0000952	0.00214	1	06/18/2019 10:46	WG1296553
Endosulfan I	U		0.000229	0.0214	1	06/18/2019 10:46	WG1296553
Endosulfan II	U		0.000246	0.0214	1	06/18/2019 10:46	WG1296553
Endosulfan sulfate	U		0.000182	0.0214	1	06/18/2019 10:46	WG1296553
Endrin	U		0.000234	0.0214	1	06/18/2019 10:46	WG1296553
Endrin aldehyde	U		0.000259	0.0214	1	06/18/2019 10:46	WG1296553
Endrin ketone	U		0.000170	0.0214	1	06/18/2019 10:46	WG1296553
Heptachlor	U		0.000108	0.0214	1	06/18/2019 10:46	WG1296553

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 06/11/19 00:00

L1108278

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Heptachlor epoxide	U		0.000404	0.0214	1	06/18/2019 10:46	WG1296553
Hexachlorobenzene	U		0.000240	0.0214	1	06/18/2019 10:46	WG1296553
Methoxychlor	U		0.000284	0.0214	1	06/18/2019 10:46	WG1296553
Chlordane	U		0.0417	0.214	1	06/18/2019 10:46	WG1296553
Toxaphene	U		0.0385	0.428	1	06/18/2019 10:46	WG1296553
(S) Decachlorobiphenyl	101			10.0-135		06/18/2019 10:46	WG1296553
(S) Tetrachloro-m-xylene	92.2			10.0-139		06/18/2019 10:46	WG1296553

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.9		1	06/14/2019 14:11	WG1295822

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis date / time	Batch
Arsenic	3.79		0.490	2.13	1	06/17/2019 04:00	WG1295984

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.8		1	06/14/2019 13:42	WG1295824

Pesticides (GC) by Method 8081

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.000251	0.0216	1	06/18/2019 10:58	WG1296553
Alpha BHC	U		0.000208	0.0216	1	06/18/2019 10:58	WG1296553
Beta BHC	U		0.000326	0.0216	1	06/18/2019 10:58	WG1296553
Delta BHC	U		0.000163	0.0216	1	06/18/2019 10:58	WG1296553
Gamma BHC	U		0.000264	0.0216	1	06/18/2019 10:58	WG1296553
4,4-DDD	U		0.000177	0.0216	1	06/18/2019 10:58	WG1296553
4,4-DDE	0.000321	J	0.000178	0.0216	1	06/18/2019 10:58	WG1296553
4,4-DDT	U		0.000287	0.0216	1	06/18/2019 10:58	WG1296553
Dieldrin	U		0.0000959	0.00216	1	06/18/2019 10:58	WG1296553
Endosulfan I	U		0.000231	0.0216	1	06/18/2019 10:58	WG1296553
Endosulfan II	U		0.000248	0.0216	1	06/18/2019 10:58	WG1296553
Endosulfan sulfate	U		0.000183	0.0216	1	06/18/2019 10:58	WG1296553
Endrin	U		0.000236	0.0216	1	06/18/2019 10:58	WG1296553
Endrin aldehyde	U		0.000261	0.0216	1	06/18/2019 10:58	WG1296553
Endrin ketone	U		0.000171	0.0216	1	06/18/2019 10:58	WG1296553
Heptachlor	U		0.000109	0.0216	1	06/18/2019 10:58	WG1296553
Heptachlor epoxide	U		0.000407	0.0216	1	06/18/2019 10:58	WG1296553
Hexachlorobenzene	U		0.000241	0.0216	1	06/18/2019 10:58	WG1296553
Methoxychlor	U		0.000286	0.0216	1	06/18/2019 10:58	WG1296553
Chlordane	U		0.0420	0.216	1	06/18/2019 10:58	WG1296553
Toxaphene	U		0.0388	0.431	1	06/18/2019 10:58	WG1296553
(S) Decachlorobiphenyl	93.6			10.0-135		06/18/2019 10:58	WG1296553
(S) Tetrachloro-m-xylene	86.2			10.0-139		06/18/2019 10:58	WG1296553

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	87.7		1	06/14/2019 13:42	WG1295824

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0558	<u>B</u>	0.00319	0.0228	1	06/14/2019 11:16	WG1296060

Metals (ICP) by Method 6010B

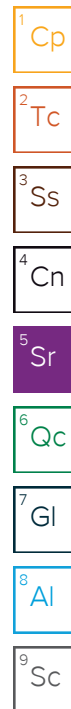
Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	U		0.855	2.28	1	06/17/2019 04:03	WG1295984
Arsenic	4.79		0.525	2.28	1	06/17/2019 04:03	WG1295984
Barium	239		0.194	0.570	1	06/17/2019 04:03	WG1295984
Beryllium	0.387		0.0798	0.228	1	06/17/2019 04:03	WG1295984
Cadmium	0.441	<u>J</u>	0.0798	0.570	1	06/17/2019 04:03	WG1295984
Chromium	60.5		0.160	1.14	1	06/17/2019 04:03	WG1295984
Cobalt	16.6		0.262	1.14	1	06/17/2019 04:03	WG1295984
Copper	32.9		0.605	2.28	1	06/17/2019 04:03	WG1295984
Lead	12.6		0.217	0.570	1	06/17/2019 04:03	WG1295984
Molybdenum	0.411	<u>J</u>	0.182	0.570	1	06/17/2019 04:03	WG1295984
Nickel	82.8		0.559	2.28	1	06/17/2019 04:03	WG1295984
Selenium	1.42	<u>J</u>	0.707	2.28	1	06/17/2019 04:03	WG1295984
Silver	U		0.137	1.14	1	06/17/2019 04:03	WG1295984
Thallium	U		0.741	2.28	1	06/17/2019 04:03	WG1295984
Vanadium	60.7		0.274	2.28	1	06/17/2019 04:03	WG1295984
Zinc	77.9		0.673	5.70	1	06/17/2019 04:03	WG1295984

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C12-C22 Hydrocarbons	5.57		0.836	4.56	1	06/16/2019 16:06	WG1296621
C22-C32 Hydrocarbons	14.6		1.52	4.56	1	06/16/2019 16:06	WG1296621
C32-C40 Hydrocarbons	18.2		1.52	4.56	1	06/16/2019 16:06	WG1296621
(S) o-Terphenyl	50.9			18.0-148		06/16/2019 16:06	WG1296621

Pesticides (GC) by Method 8081

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.000266	0.0228	1	06/18/2019 11:11	WG1296553
Alpha BHC	U		0.000220	0.0228	1	06/18/2019 11:11	WG1296553
Beta BHC	U		0.000346	0.0228	1	06/18/2019 11:11	WG1296553
Delta BHC	U		0.000172	0.0228	1	06/18/2019 11:11	WG1296553
Gamma BHC	U		0.000279	0.0228	1	06/18/2019 11:11	WG1296553
4,4-DDD	U		0.000187	0.0228	1	06/18/2019 11:11	WG1296553
4,4-DDE	0.000660	<u>J</u>	0.000188	0.0228	1	06/18/2019 11:11	WG1296553
4,4-DDT	0.000371	<u>J</u>	0.000303	0.0228	1	06/18/2019 11:11	WG1296553
Dieldrin	U		0.000102	0.00228	1	06/18/2019 11:11	WG1296553
Endosulfan I	U		0.000244	0.0228	1	06/18/2019 11:11	WG1296553
Endosulfan II	U		0.000262	0.0228	1	06/18/2019 11:11	WG1296553
Endosulfan sulfate	U		0.000194	0.0228	1	06/18/2019 11:11	WG1296553
Endrin	U		0.000250	0.0228	1	06/18/2019 11:11	WG1296553
Endrin aldehyde	U		0.000276	0.0228	1	06/18/2019 11:11	WG1296553
Endrin ketone	U		0.000181	0.0228	1	06/18/2019 11:11	WG1296553
Heptachlor	U		0.000115	0.0228	1	06/18/2019 11:11	WG1296553





Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Heptachlor epoxide	U		0.000431	0.0228	1	06/18/2019 11:11	WG1296553
Hexachlorobenzene	U		0.000255	0.0228	1	06/18/2019 11:11	WG1296553
Methoxychlor	U		0.000302	0.0228	1	06/18/2019 11:11	WG1296553
Chlordane	U		0.0445	0.228	1	06/18/2019 11:11	WG1296553
Toxaphene	U		0.0411	0.456	1	06/18/2019 11:11	WG1296553
(S) Decachlorobiphenyl	102			10.0-135		06/18/2019 11:11	WG1296553
(S) Tetrachloro-m-xylene	96.6			10.0-139		06/18/2019 11:11	WG1296553

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.3		1	06/14/2019 13:42	WG1295824

1 Cp

2 Tc

3 Ss

4 Cn

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Mercury	0.0504	<u>B</u>	0.00297	0.0212	1	06/14/2019 11:18	WG1296060

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Antimony	U		0.795	2.12	1	06/17/2019 04:11	WG1295984
Arsenic	4.44		0.488	2.12	1	06/17/2019 04:11	WG1295984
Barium	201		0.180	0.530	1	06/17/2019 04:11	WG1295984
Beryllium	0.401		0.0742	0.212	1	06/17/2019 04:11	WG1295984
Cadmium	0.347	<u>J</u>	0.0742	0.530	1	06/17/2019 04:11	WG1295984
Chromium	66.3		0.148	1.06	1	06/17/2019 04:11	WG1295984
Cobalt	13.5		0.244	1.06	1	06/17/2019 04:11	WG1295984
Copper	29.8		0.562	2.12	1	06/17/2019 04:11	WG1295984
Lead	13.4		0.201	0.530	1	06/17/2019 04:11	WG1295984
Molybdenum	0.229	<u>J</u>	0.170	0.530	1	06/17/2019 04:11	WG1295984
Nickel	77.1		0.520	2.12	1	06/17/2019 04:11	WG1295984
Selenium	1.00	<u>J</u>	0.657	2.12	1	06/17/2019 04:11	WG1295984
Silver	U		0.127	1.06	1	06/17/2019 04:11	WG1295984
Thallium	U		0.689	2.12	1	06/17/2019 04:11	WG1295984
Vanadium	50.4		0.254	2.12	1	06/17/2019 04:11	WG1295984
Zinc	71.2		0.626	5.30	1	06/17/2019 04:11	WG1295984

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
C12-C22 Hydrocarbons	5.07		0.777	4.24	1	06/16/2019 15:24	WG1296621
C22-C32 Hydrocarbons	16.5		1.41	4.24	1	06/16/2019 15:24	WG1296621
C32-C40 Hydrocarbons	17.6		1.41	4.24	1	06/16/2019 15:24	WG1296621
(S) o-Terphenyl	53.8			18.0-148		06/16/2019 15:24	WG1296621

Pesticides (GC) by Method 8081

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Aldrin	U		0.000247	0.0212	1	06/18/2019 11:23	WG1296553
Alpha BHC	U		0.000205	0.0212	1	06/18/2019 11:23	WG1296553
Beta BHC	U		0.000321	0.0212	1	06/18/2019 11:23	WG1296553
Delta BHC	U		0.000160	0.0212	1	06/18/2019 11:23	WG1296553
Gamma BHC	U		0.000260	0.0212	1	06/18/2019 11:23	WG1296553
4,4-DDD	U		0.000174	0.0212	1	06/18/2019 11:23	WG1296553
4,4-DDE	0.00106	<u>J</u>	0.000175	0.0212	1	06/18/2019 11:23	WG1296553
4,4-DDT	0.000342	<u>J</u>	0.000282	0.0212	1	06/18/2019 11:23	WG1296553
Dieldrin	U		0.0000944	0.00212	1	06/18/2019 11:23	WG1296553
Endosulfan I	U		0.000227	0.0212	1	06/18/2019 11:23	WG1296553
Endosulfan II	U		0.000244	0.0212	1	06/18/2019 11:23	WG1296553
Endosulfan sulfate	U		0.000180	0.0212	1	06/18/2019 11:23	WG1296553
Endrin	U		0.000232	0.0212	1	06/18/2019 11:23	WG1296553
Endrin aldehyde	U		0.000257	0.0212	1	06/18/2019 11:23	WG1296553
Endrin ketone	U		0.000169	0.0212	1	06/18/2019 11:23	WG1296553
Heptachlor	U		0.000107	0.0212	1	06/18/2019 11:23	WG1296553



Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Heptachlor epoxide	U		0.000401	0.0212	1	06/18/2019 11:23	WG1296553
Hexachlorobenzene	U		0.000238	0.0212	1	06/18/2019 11:23	WG1296553
Methoxychlor	U		0.000281	0.0212	1	06/18/2019 11:23	WG1296553
Chlordane	U		0.0414	0.212	1	06/18/2019 11:23	WG1296553
Toxaphene	U		0.0382	0.424	1	06/18/2019 11:23	WG1296553
(S) Decachlorobiphenyl	87.2			10.0-135		06/18/2019 11:23	WG1296553
(S) Tetrachloro-m-xylene	78.8			10.0-139		06/18/2019 11:23	WG1296553

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Method Blank (MB)

(MB) R3421536-1 06/14/19 14:26

Analyte	MB Result		<u>MB Qualifier</u>		MB MDL		MB RDL	
	%		%		%		%	
Total Solids	0.000							

L1108278-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1108278-01 06/14/19 14:26 • (DUP) R3421536-3 06/14/19 14:26

Analyte	Original Result		DUP Result		Dilution		DUP RPD		<u>DUP Qualifier</u>		DUP RPD Limits	
	%		%				%				%	
Total Solids	93.2		92.9		1		0.357				10	

Laboratory Control Sample (LCS)

(LCS) R3421536-2 06/14/19 14:26

Analyte	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		<u>LCS Qualifier</u>	
	%		%		%		%			
Total Solids	50.0		50.0		100		85.0-115			

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3421531-1 06/14/19 14:11

Analyte	MB Result %	<u>MB Qualifier</u>	MB MDL %	MB RDL %
Total Solids	0.00100			

L1108278-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1108278-13 06/14/19 14:11 • (DUP) R3421531-3 06/14/19 14:11

Analyte	Original Result		DUP Result		DUP RPD		<u>DUP Qualifier</u>		DUP RPD Limits	
	%		%		%				%	
Total Solids	94.3		94.1		1	0.237			10	

Laboratory Control Sample (LCS)

(LCS) R3421531-2 06/14/19 14:11

Analyte	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		<u>LCS Qualifier</u>	
	%		%		%		%			
Total Solids	50.0		50.0		100		85.0-115			

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3421529-1 06/14/19 13:42

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000			

L1108278-18 Original Sample (OS) • Duplicate (DUP)

(OS) L1108278-18 06/14/19 13:42 • (DUP) R3421529-3 06/14/19 13:42

Analyte	Original Result		DUP Result		DUP RPD		DUP Qualifier		DUP RPD Limits	
	%		%		%				%	
Total Solids	94.3		95.5	1	1.27				10	

Laboratory Control Sample (LCS)

(LCS) R3421529-2 06/14/19 13:42

Analyte	Spike Amount		LCS Result		LCS Rec.		Rec. Limits		LCS Qualifier	
	%		%		%		%			
Total Solids	50.0		50.0	100			85.0-115			

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3421109-1 06/14/19 10:50

Analyte	MB Result mg/kg	<u>MB Qualifier</u>	MB MDL mg/kg	MB RDL mg/kg
Mercury	0.00523	J	0.00280	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3421109-2 06/14/19 10:52 • (LCSD) R3421109-3 06/14/19 10:54

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Mercury	0.300	0.253	0.253	84.3	80.0-120			0.000	20

L1108315-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1108315-09 06/14/19 10:56 • (MS) R3421109-4 06/14/19 10:59 • (MSD) R3421109-5 06/14/19 11:01

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Mercury	0.300	0.00781	0.234	0.244	75.5	78.7	1	75.0-125		4.09		20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3421606-1 06/17/19 03:04

Analyte	MB Result mg/kg	<u>MB Qualifier</u>	MB MDL mg/kg	MB RDL mg/kg
Antimony	U		0.750	2.00
Arsenic	U		0.460	2.00
Barium	U		0.170	0.500
Beryllium	U		0.0700	0.200
Cadmium	U		0.0700	0.500
Chromium	U		0.140	1.00
Cobalt	U		0.230	1.00
Copper	U		0.530	2.00
Lead	U		0.190	0.500
Molybdenum	U		0.160	0.500
Nickel	U		0.490	2.00
Selenium	U		0.620	2.00
Silver	U		0.120	1.00
Thallium	U		0.650	2.00
Vanadium	U		0.240	2.00
Zinc	U		0.590	5.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3421606-2 06/17/19 03:06 • (LCSD) R3421606-3 06/17/19 03:09

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Antimony	100	93.4	93.3	93.4	93.3	80.0-120			0.115	20
Arsenic	100	90.9	91.4	90.9	91.4	80.0-120			0.648	20
Barium	100	100	101	100	101	80.0-120			0.845	20
Beryllium	100	96.9	97.2	96.9	97.2	80.0-120			0.361	20
Cadmium	100	93.0	93.7	93.0	93.7	80.0-120			0.722	20
Chromium	100	94.8	95.2	94.8	95.2	80.0-120			0.458	20
Cobalt	100	97.2	98.1	97.2	98.1	80.0-120			0.931	20
Copper	100	93.1	93.6	93.1	93.6	80.0-120			0.538	20
Lead	100	92.5	92.7	92.5	92.7	80.0-120			0.192	20
Molybdenum	100	99.6	99.4	99.6	99.4	80.0-120			0.231	20
Nickel	100	95.6	96.3	95.6	96.3	80.0-120			0.729	20
Selenium	100	89.9	90.3	89.9	90.3	80.0-120			0.467	20
Silver	20.0	17.3	17.5	86.7	87.4	80.0-120			0.778	20
Thallium	100	92.7	91.7	92.7	91.7	80.0-120			1.06	20
Vanadium	100	97.9	98.2	97.9	98.2	80.0-120			0.278	20
Zinc	100	93.5	94.0	93.5	94.0	80.0-120			0.627	20



L1108278-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1108278-01 06/17/19 03:12 • (MS) R3421606-6 06/17/19 03:20 • (MSD) R3421606-7 06/17/19 03:23

Analyte	Spike Amount		Original Result		MS Result (dry)		MSD Result		MS Rec.		MSD Rec.		Dilution	Rec. Limits		MS Qualifier		MSD Qualifier		RPD		RPD Limits	
	mg/kg	(dry)	mg/kg	(dry)	mg/kg	(dry)	mg/kg	(dry)	%		%			%			%		%	%	%	%	%
Cp	107		U		31.2		34.4		29.0		32.1		1	75.0-125		J6		J6		9.99		20	
Tc	107		3.10		95.5		96.0		86.1		86.6		1	75.0-125						0.582		20	
Ss	107		227		348		290		113		59.0		1	75.0-125				J6		18.1		20	
Cn	107		0.271		94.9		97.7		88.2		90.8		1	75.0-125						2.86		20	
Sr	107		0.556		94.8		97.5		87.9		90.4		1	75.0-125						2.81		20	
Qc	107		73.7		166		159		86.0		79.6		1	75.0-125						4.20		20	
Gl	107		17.6		124		125		99.4		99.6		1	75.0-125						0.189		20	
Al	107		34.5		134		137		93.2		95.1		1	75.0-125						1.54		20	
	107		13.0		108		109		88.2		89.6		1	75.0-125						1.33		20	
	107		0.798		92.5		95.1		85.4		87.9		1	75.0-125						2.83		20	
	107		86.4		188		191		94.3		97.1		1	75.0-125						1.62		20	
	107		1.37		90.5		92.7		83.1		85.1		1	75.0-125						2.37		20	
	21.5		U		17.4		17.7		81.0		82.6		1	75.0-125						1.91		20	
	107		U		95.3		95.6		88.8		89.1		1	75.0-125						0.351		20	
	107		75.1		167		165		85.8		83.8		1	75.0-125						1.31		20	
Sc	107		68.3		158		157		83.9		82.3		1	75.0-125						1.05		20	



Method Blank (MB)

(MB) R3421562-1 06/16/19 12:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C12-C22 Hydrocarbons	U	0.733	4.00	4.00
C22-C32 Hydrocarbons	U	1.33	4.00	4.00
C32-C40 Hydrocarbons	U	1.33	4.00	4.00
(S) o-Terphenyl	78.2		18.0-148	

Laboratory Control Sample (LCS)

(LCS) R3421562-2 06/16/19 12:19

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C22-C32 Hydrocarbons	25.0	18.7	74.8	50.0-150	
C12-C22 Hydrocarbons	25.0	16.4	65.6	50.0-150	
(S) o-Terphenyl		73.9		18.0-148	

L1108278-18 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1108278-18 06/16/19 15:24 • (MS) R3421562-3 06/16/19 15:38 • (MSD) R3421562-4 06/16/19 15:52

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result mg/kg	MS Rec. %	MSD Result (dry) mg/kg	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD	RPD Limits %
C22-C32 Hydrocarbons	26.1	16.5	30.0	51.6	34.6	69.4	1	50.0-150		14.1	14.1	20
C12-C22 Hydrocarbons	26.1	5.07	20.3	58.2	23.6	71.5	1	50.0-150		15.5	15.5	20
(S) o-Terphenyl				38.0		40.5		18.0-148				



Method Blank (MB)

(MB) R3422128-1 06/18/19 09:07

Analyte	MB Result mg/kg	<u>MB Qualifier</u>	MB MDL mg/kg	MB RDL mg/kg
Aldrin	U		0.000233	0.0200
Alpha BHC	U		0.000193	0.0200
Beta BHC	U		0.000303	0.0200
Delta BHC	U		0.000151	0.0200
Gamma BHC	U		0.000245	0.0200
4,4-DDD	U		0.000164	0.0200
4,4-DDE	U		0.000165	0.0200
4,4-DDT	U		0.000266	0.0200
Dieldrin	U		0.0000890	0.00200
Endosulfan I	U		0.000214	0.0200
Endosulfan II	U		0.000230	0.0200
Endosulfan sulfate	U		0.000170	0.0200
Endrin	U		0.000219	0.0200
Endrin aldehyde	U		0.000242	0.0200
Endrin ketone	U		0.000159	0.0200
Heptachlor	U		0.000101	0.0200
Heptachlor epoxide	U		0.000378	0.0200
Hexachlorobenzene	U		0.000224	0.0200
Methoxychlor	U		0.000265	0.0200
Chlordane	U		0.0390	0.200
Toxaphene	U		0.0360	0.400
(S) Decachlorobiphenyl	120			10.0-135
(S) Tetrachloro-m-xylene	114			10.0-139

Laboratory Control Sample (LCS)

(LCS) R3422128-2 06/18/19 09:19

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Aldrin	0.0666	0.0593	89.0	34.0-136	
Alpha BHC	0.0666	0.0649	97.4	34.0-139	
Beta BHC	0.0666	0.0583	87.5	34.0-133	
Delta BHC	0.0666	0.0616	92.5	34.0-135	
Gamma BHC	0.0666	0.0597	89.6	34.0-136	
4,4-DDD	0.0666	0.0573	86.0	33.0-141	
4,4-DDE	0.0666	0.0632	94.9	34.0-134	
4,4-DDT	0.0666	0.0596	89.5	30.0-143	
Dieldrin	0.0666	0.0590	88.6	35.0-137	
Endosulfan I	0.0666	0.0561	84.2	34.0-134	



Laboratory Control Sample (LCS)

(LCS) R3422128-2 06/18/19 09:19

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Endosulfan II	0.0666	0.0536	80.5	35.0-132	
Endosulfan sulfate	0.0666	0.0581	87.2	35.0-132	
Endrin	0.0666	0.0562	84.4	34.0-137	
Endrin aldehyde	0.0666	0.0540	81.1	23.0-121	
Endrin ketone	0.0666	0.0668	100	35.0-144	
Heptachlor	0.0666	0.0609	91.4	36.0-141	
Heptachlor epoxide	0.0666	0.0601	90.2	36.0-134	
Hexachlorobenzene	0.0666	0.0612	91.9	33.0-129	
Methoxychlor	0.0666	0.0621	93.2	28.0-150	
(S) Decachlorobiphenyl			113	10.0-135	
(S) Tetrachloro-m-xylene			104	10.0-139	

L1108822-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1108822-02 06/18/19 12:25 • (MS) R3422128-3 06/18/19 12:37 • (MSD) R3422128-4 06/18/19 12:50

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry)		MSD Result (dry)		Dilution	Rec. Limits		<u>MS Qualifier</u>		<u>MSD Qualifier</u>		RPD Limits	
			mg/kg	%	mg/kg	%		%	%	%	%	%	%	%	%
Aldrin	0.0760	U	0.0681	89.6	0.0639	84.1	1	20.0-135					6.40	37	
Alpha BHC	0.0760	U	0.0784	103	0.0745	98.0	1	27.0-140					5.07	35	
Beta BHC	0.0760	U	0.0720	94.7	0.0703	92.5	1	23.0-141					2.41	37	
Delta BHC	0.0760	U	0.0739	97.3	0.0704	92.6	1	21.0-138					4.90	35	
Gamma BHC	0.0760	U	0.0699	92.0	0.0662	87.1	1	27.0-137					5.53	36	
4,4-DDD	0.0760	U	0.0696	91.6	0.0652	85.9	1	15.0-152					6.43	39	
4,4-DDE	0.0760	U	0.0729	95.9	0.0681	89.6	1	10.0-152					6.80	40	
4,4-DDT	0.0760	U	0.0675	88.9	0.0632	83.2	1	10.0-151					6.63	40	
Dieldrin	0.0760	U	0.0684	90.1	0.0634	83.5	1	17.0-145					7.61	37	
Endosulfan I	0.0760	U	0.0648	85.3	0.0611	80.5	1	20.0-137					5.80	36	
Endosulfan II	0.0760	U	0.0638	83.9	0.0603	79.4	1	15.0-141					5.51	37	
Endosulfan sulfate	0.0760	U	0.0689	90.7	0.0650	85.6	1	15.0-143					5.79	38	
Endrin	0.0760	U	0.0657	86.5	0.0618	81.4	1	19.0-143					6.08	37	
Endrin aldehyde	0.0760	U	0.0650	85.6	0.0611	80.5	1	10.0-139					6.15	40	
Endrin ketone	0.0760	U	0.0797	105	0.0743	97.7	1	17.0-149					7.11	38	
Heptachlor	0.0760	U	0.0721	94.9	0.0688	90.5	1	22.0-138					4.70	37	
Heptachlor epoxide	0.0760	U	0.0696	91.6	0.0642	84.5	1	22.0-138					8.01	36	
Hexachlorobenzene	0.0760	U	0.0695	91.4	0.0652	85.9	1	25.0-126					6.27	35	
Methoxychlor	0.0760	U	0.0737	97.0	0.0692	91.1	1	10.0-159					6.23	40	
(S) Decachlorobiphenyl				107		95.0		10.0-135							
(S) Tetrachloro-m-xylene				97.0		87.4		10.0-139							



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

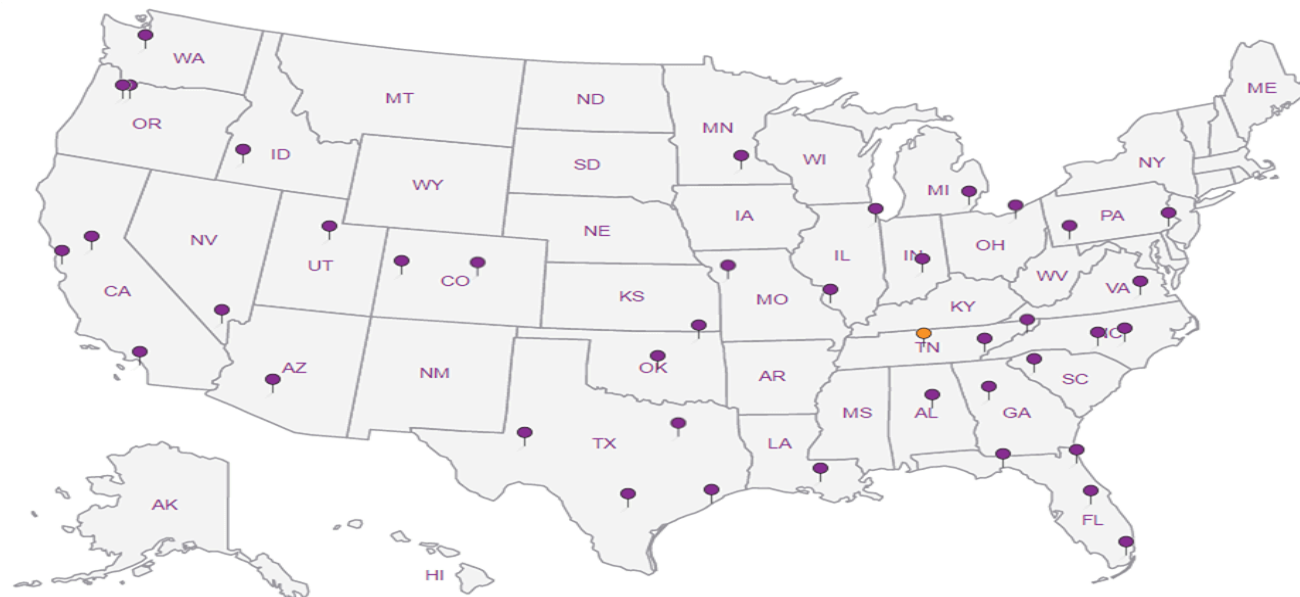
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



PROJECT NAME AND JOB #: 2x925 Morgan Hill Phase II (Soils)

SEND CERTIFIED RESULTS TO: Weber, Hayes and Associates - Attention: Ryan Nyberg

ELECTRONIC DELIVERABLE FORMAT:

Sampler: Rvan Nyberg

Date: 6/11/2019

LABORATORY: Pace National Laboratory

TURNAROUND TIME:

GLOBAL I.D.: N/A

	WHA Sample ID	Sample Depth	Date Sampled	Matrix	SAMPLE CONTAINERS				REQUESTED ANALYSIS			
					Total Petroleum Hydrocarbons				Additional Analysis			
					40 mL VOAs	1 Liter Amber Jars	____mL Poly Bottle	Liner Acetate	TPH Screen as Diesel, Motor oil EPA 8015	Arsenic	Pesticides (OC2) EPA 8081	CAM 17 Metals
Discrete	1A - d0.5	0.5ft	06/11/19	Soil				X				-01
Lab Composite	1A-d0.5, 1B-d0.5, 1C-d0.5, 1D-d0.5	0.5ft	06/11/19	Soil				X				03
Discrete	1A - 1.5	1.5ft	06/11/19	Soil					X			03
Lab Composite	1A-d1.5, 1B-d1.5, 1C-d1.5, 1D-d1.5	1.5ft	06/11/19	Soil								04
Lab Composite	1A-d3, 1B-d3, 1C-d3, 1D-d3	3ft	06/11/19	Soil					Hold			
Discrete	2A - d0.5	0.5ft	06/11/19	Soil						X		05
Lab Composite	2A-d0.5, 2B-d0.5, 2C-d0.5, 2D-d0.5	0.5ft	06/11/19	Soil					X			06
Discrete	2A - 1.5	1.5ft	06/11/19	Soil						X		07
Lab Composite	2A-d1.5, 2B-d1.5, 2C-d1.5, 2D-d1.5	1.5ft	06/11/19	Soil								08
Lab Composite	2A-d3, 2B-d3, 2C-d3, 2D-d3	3ft	06/11/19	Soil					Hold			

RELEASED BY:

Date & Time

RECEIVED BY:

Date & Time

SAMPLE CONDITION:
(circle 1)

1.) Kym Nye 12:30 pm.

2.) _____

3.) _____

4.) _____

5.) _____

↑ ↑ ↑ ↑ ↑

Frozen	Refrigerated	Ambient
Frozen	Refrigerated	Ambient
Frozen	Refrigerated	Ambient
Frozen	Refrigerated	Ambient
Frozen	Refrigerated	Ambient

Please send certified results to lab@weber-haves.com & shaun@weber-haves.com

NOTES:

Note: Discrete samples are to be analyzed for Arsenic before composite samples for all "A" samples (d0.5 and d1.5).

Laboratory Composite:

Composite 1A-d0.5, 1B-d0.5, 1C-d0.5, 1D-d0.5

Composite 1A-d1 5 1B-d1 5 1C-d1 5 1D-d1 5

[illegible]

Note: Discrete samples to be analyzed for Arsenic only prior to composite

Laboratory Composite:

Composite 2A-d0.5, 2B-d0.5, 2C-d0.5, 2D-d0.5

5 1P-D 5 2C-D 5 2D-D 5

UNION Composite 2A-43 78-43 2P-8C 2P-VZ 2400000 UNION

1 - 2nd

Cont. = 64
RAD SCREEN: <0.5 mR/hr

L1108278

CHAIN -OF-CUSTODY RECORD

WEBER, HAYES & ASSOCIATES
Hydrogeology and Environmental Engineering
120 Westgate Drive, Watsonville, CA 95076
(831) 722-3580 // www.weber-hayes.com



PROJECT NAME AND JOB #: 2x925 Morgan Hill Phase II (Soils)

SEND CERTIFIED RESULTS TO: Weber, Hayes and Associates - Attention: Ryan Nyberg

ELECTRONIC DELIVERABLE FORMAT: ☐ YES ☒ NO

LABORATORY: Pace National Laboratory

TURNAROUND TIME: Standard TAT - 5 day

Sampler: Ryan Nyberg

Date: 6/11/2019

GLOBAL I.D.: N/A

WHA Sample ID	Sample Depth	Date Sampled	Matrix	SAMPLE CONTAINERS				REQUESTED ANALYSIS			
				40 mL VOAs	1 Liter Amber Jars	___ mL Poly Bottle	Liner Acetate	TPH Screen as Diesel, Motor oil EPA 8015	Pesticides (OCPI) EPA 8081	Additional Analysis	
Lab Composite LF-1A-d0.5, LF-1B-d0.5, LF-1C-d0.5, LF-1D-d0.5	0.5ft	06/11/19	Soil				X	X	X	CAM 17 Metals	17
Lab Composite LF-1A-d1.5, LF-1B-d1.5, LF-1C-d1.5, LF-1D-d1.5	1.5ft	06/11/19	Soil					Hold	Hold		
Lab Composite LF-2A-d0.5, LF-2B-d0.5, LF-2C-d0.5, LF-2D-d0.5	0.5ft	06/11/19	Soil				X	X	X		19
Lab Composite LF-2A-d1.5, LF-2B-d1.5, LF-2C-d1.5, LF-2D-d1.5	1.5ft	06/11/19	Soil					Hold	Hold		

RELEASED BY: Ryan Nyberg 12:30pm
Date & Time: 6/11/19

RECEIVED BY: _____
Date & Time: _____

SAMPLE CONDITION: (circle 1)

Ambient Refrigerated Frozen
Ambient Refrigerated Frozen
Ambient Refrigerated Frozen
Ambient Refrigerated Frozen
Ambient Refrigerated Frozen

6/12/19 8:45

Please send certified results to lab@weber-hayes.com & shaun@weber-hayes.com

NOTES:

- Laboratory Composite: Composite LF-1A-d0.5, LF-1B-d0.5, LF-1C-d0.5, LF-1D-d0.5
- HOLD Composite LF-1A-d1.5, LF-1B-d1.5, LF-1C-d1.5, LF-1D-d1.5
-

Laboratory Composite:

- Composite LF-2A-d0.5, LF-2B-d0.5, LF-2C-d0.5, LF-2D-d0.5
- HOLD Composite LF-2A-d1.5, LF-2B-d1.5, LF-2C-d1.5, LF-2D-d1.5

4794 8836 9564

2-3-0-1-2-2-15 SCREEN: <0.5 mR/hr

Pace Analytical National Center for Testing & Innovation Cooler Receipt Form

Client:	WE BHA YWCA	SDG#:	L1108278	
Cooler Received/Opened On:	6/12/19	Temperature:	2.2	
Received By: Jordan Harris				
Signature:				
Receipt Check List		NP	Yes	No
COC Seal Present / Intact?		-		
COC Signed / Accurate?			/	
Bottles arrive intact?			/	
Correct bottles used?			/	
Sufficient volume sent?			/	
If Applicable				
VOA Zero headspace?				
Preservation Correct / Checked?				