

February 3, 2015

Ms. Gail Payne Transportation Coordinator City of Alameda Public Works Department 950 West Mall Square, Room 110 Alameda, CA 94501

Subject: Phase II Environmental Site Assessment Report for the Cross Alameda Trail, Alameda, California

Dear Ms. Payne:

As requested by the City of Alameda Public Works Department, Tetra Tech is pleased to provide this letter report describing a Phase II Environmental Site Assessment (ESA) for property owned by the City of Alameda (Assessor's Parcel Numbers [APN] 74-905-20-3 and 74-905-20-2). The work consisted of a subsurface soil investigation conducted at a former railroad corridor between Webster Street and Main Street, along the south side of Ralph Appezzato Memorial Parkway (hereinafter referred to as the site), in Alameda, California (Figure 1). The objective of this Phase II ESA was to establish whether elevated concentrations of certain chemicals of potential concern (COPC) relating to past uses are present at the site.

BACKGROUND

The Phase II ESA investigation addressed recognized environmental conditions (RECs) identified at the site in a Phase I ESA conducted by Belinda P. Blackie, dated March 8, 2010. The Phase I ESA was done for the Alameda Belt Line Parcels (nine non-contiguous parcels comprising 38.81 acres of land including the site), which at the time of the ESA were mostly undeveloped. The site includes approximately 13 acres of former railroad right-of-way and is approximately 4,200 feet in length (Figure 2) (Blackie, 2010).

The Phase I ESA identified the following RECs for the site:

- Historical railroad tracks;
- Fill, imported soil, and;
- Marsh crust (Blackie, 2010).

Evidence of railroad tracks are visible in a 1939 aerial photograph but the railroad was also likely present as early as the mid- to late-1910s. The railroad tracks were removed from the parcels in the mid- to late-1950s (Blackie, 2010). The Phase I ESA also noted that the site has been filled and is located adjacent to the marsh crust area. Based on observations made on December 29 and 30, 2014 during the Tetra Tech's Phase II ESA field work, the site is primarily undeveloped and covered with low vegetation, mulch, and some pavement. The westernmost portion of the site is partially covered by a parking lot for an adjacent business.

OBJECTIVES AND SCOPE OF WORK

The objective of the Phase II ESA subsurface investigation was to determine whether elevated concentrations of selected COPC are present at the site. The areas where the focused Phase II ESA investigation occurred are shown on Figure 2. The activities described in this report were conducted according to the scope of work presented in Tetra Tech's *Work Plan, Cost Estimate, and Schedule for Phase II Environmental Site Assessment on the Cross Alameda Trail Project, Alameda, California* (Tetra Tech 2014).

Tetra Tech based the selection of COPCs for the Phase II ESA on the RECs identified for the site in the Phase I ESA (Blackie, 2010). Chlorinated herbicides were selected because products containing these chemicals are known to have been used for weed control along railroad tracks; arsenic and lead were selected because fill material and imported fill is likely present at the site and similar materials in Alameda are known to contain these chemicals (Blackie, 2010); and petroleum hydrocarbons and polycyclic aromatic hydrocarbons (PAH) were selected because the material known as the Marsh Crust is known to contain these chemicals. The site is possibly within the limit of filling where marsh crust material was disposed, and the original shoreline was approximately within the site or near the southern border of the site with the upland occurring to the south. The marsh crust material was disposed on tidal marshland between 1900 and 1940 to extend dry land from the existing shoreline (City of Alameda, 2015).

INVESTIGATION FIELD METHODOLOGY

Tetra Tech conducted the Phase II ESA field investigation on December 29 and 30, 2014. The boring locations were selected to be in approximate alignment with the former railroad tracks, as identified on a USGS topographic map from 1959 (Blackie, 2010). The investigation activities are described below.

Pre-Field Investigation Activities

Tetra Tech obtained Drilling Permit No. W2014-1180 from the Alameda County Public Works Agency on December 22, 2014. Mr. Steve Miller with the Alameda County Public Works Agency conducted grout inspections on December 29 and 30, 2014.

Tetra Tech prepared a site-specific health and safety plan specifying safe work practices and emergency protocol to mitigate the hazards associated with the field work part of the investigation. Health and safety tailgate meetings attended by all Tetra Tech and drilling subcontractor staff were conducted at the beginning of each work day.

Utility Location and Clearance

On December 23, 2014 Tetra Tech marked the boring locations with white paint and notified Underground Service Alert (USA) of the drilling investigation. USA members cleared underground utilities under USA Ticket No. 0533298. As an additional precaution, underground utility clearance was done at each borehole on December 29, 2014 by the private subcontractor Subtronic Corporation.

Drilling and Sampling Methodology

Under the supervision of a Tetra Tech field geologist, Tetra Tech's subcontractor Vironex advanced boreholes CAT-B-1 through CAT-B-10 using direct-push drilling technology on December 29 and 30, 2014. The subsurface soil was continuously sampled during drilling and the soil cores were logged by a Tetra Tech geologist using the Unified Soil Classification System. Copies of the soil boring logs are provided as Attachment A.

Drilling equipment was decontaminated using clean water and Liquinox soap after each soil borehole was completed to avoid cross contamination between drilling locations.

Soil Sampling

Soil samples were collected from boreholes CAT-B-1 through CAT-B-10 (Figure 2). The soil boreholes were advanced to depths ranging from 8 to 9 feet below ground surface (bgs). Soil samples were collected at two depth intervals from each of the 10 soil boreholes. Shallow soil samples were collected at depths ranging from 0 to 2 feet bgs. Deeper soil samples were collected at depths ranging from 4 to 8 feet bgs. The last numeral of the soil identification nomenclature (e.g., CAT-B-1-4) indicates the approximate depth at which the soil sample was collected.

Soil cores were collected in driller-supplied acetate liners at approximately 4-foot depth intervals for lithologic description and retention for possible laboratory analysis. Soil cores were logged for lithology, including the preparation of borehole logs under the supervision of a professional geologist licensed in the State of California.

Soil samples were collected using laboratory-provided glass jars; labeled with date, sample identification, and time, entered into a chain-of-custody form, and placed on ice in a cooler for shipment to the laboratory. Samples were delivered via FedEx to Accutest Laboratories (Accutest) in San Jose, California under chain-of-custody.

LABORATORY ANALYSIS

A total of 20 primary soil samples were collected from boreholes CAT-B-1 through CAT-B-10 (two soil samples were collected from each borehole). One duplicate sample (CAT-B) was collected with primary soil sample CAT-B-10-2. The soil samples were analyzed by Accutest in San Jose, California. Accutest is a certified State of California, Environmental Laboratory Accreditation Program (ELAP) laboratory. The soil samples were analyzed using the following United States Environmental Protection Agency (USEPA) methods:

- Total Extractable Petroleum Hydrocarbons (TEPH) by USEPA Method 8015M;
- Polycyclic Aromatic Hydrocarbons (PAH) by USEPA Method 8270C;
- Chlorinated herbicides by USEPA Method 8151; and
- Lead and arsenic by USEPA Method 6020.

INVESTIGATION RESULTS

Tetra Tech compared the analytical results for the soil samples to the California Environmental Protection Agency (Cal/EPA), California Human Health Screening Levels (CHHSLs) (OEHHA, 2010), and the San Francisco Bay Regional Water Quality Control Board, Environmental Screening Levels (RWQCB, 2013). Although the future land use for the site is to be recreational, screening levels were selected based on residential criteria as a first step in identifying whether contamination exists at the site. The analytical data is summarized and compared with regulatory screening levels in Tables 1 and 2. The data presented in Tables 1 and 2 has in some cases been converted from micrograms per kilogram (μ g/kg) to milligrams per kilogram (mg/kg) to allow for a direct comparison to applicable regulatory screening levels. The laboratory analytical reports are provided in Attachment B.

Petroleum Hydrocarbons

TEPH as diesel was detected in 15 of 21 soil samples analyzed for the compound. The concentrations detected range from 5.74 mg/kg to 188 mg/kg. TEPH as motor oil was detected in 18 of 21 soil samples analyzed for the compound. The concentrations detected range from 5.74 mg/kg to 1,160 mg/kg (Table 1).

Polycyclic Aromatic Hydrocarbons

Soil sample results indicate that PAH compounds were detected above the laboratory method detection limit in soil samples from 19 of 21 boreholes. The PAH compounds detected at the site include the following: acenapthene, acenapthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(ah)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene.

PAH compounds were not detected above the laboratory method detection limit in soil samples collected from boreholes CAT-B-1-2 and CAT-B-10-5. Benzo(a)pyrene was the only PAH compound that was detected above one or more of the human health screening levels presented in Table 1. As shown on Figure 2, benzo(a)pyrene was detected above at least one human health screening level in soil samples collected from boreholes CAT-B-1, and CAT-B-4 through CAT-B-10.

Lead

Lead was detected in all 21 soil samples analyzed for the compound. The concentrations detected range from 2.6 mg/kg to 185 mg/kg (Table 2). Lead concentrations in soil exceeded one or more of the human health screening levels presented in Table 2 for boreholes CAT-B-6, CAT-B-7, and CAT-B-10, as shown on Figure 2.

Arsenic

Arsenic was detected in all 21 soil samples analyzed for the compound. The concentrations detected range from 1.4 mg/kg to 29.7 mg/kg (Table 2). Arsenic concentrations in soil exceeded one or more of the human health screening levels presented in Table 2 for all 21 boreholes, as shown on Figure 2.

Regional estimates of background arsenic concentrations in urbanized parts of the San Francisco Bay Area have recently been published with SF RWQCB endorsement (Duverge, 2011). The study proposes an upper estimate of 11.00 mg/kg for background arsenic (99th percentile) within the undifferentiated flatland soils of the study area. The findings of the study are significant because the estimate for background arsenic is considerably lower than other estimates commonly cited as sources in the literature (Duverge, 2011).

Chlorinated Herbicides

Pentachlorophenol was detected in 7 of 21 soil samples analyzed for the compound, and was the only chlorinated herbicide detected above the laboratory method detection limit. The concentrations of pentachlorophenol detected range from 0.00094 mg/kg to 0.0052 mg/kg (Table 2). Pentachlorophenol was not detected in soil from the site above any of the human health screening levels presented in Table 2.

CONCLUSIONS AND RECCOMENDATIONS

As stated earlier, the objective of this investigation was to determine whether elevated concentrations of selected COPCs are present at the site. Based on the results of the soil sampling, elevated concentrations of COPCs do exist in the soil at the site. Even though the concentrations of the COPCs exceed residential screening criteria, the results are not extremely high considering the urban setting and site history. In order to assess potential environmental risks, some additional sampling and analysis will be necessary.

Although TEPH as diesel and motor oil were not detected above human health screening levels (Table 1), it is important to recognize that the results do not define the extent of the contamination. The TEPH concentrations detected in soil samples from boreholes CAT-B-1 and CAT-B-10 may be indicative of nearby petroleum release that requires further delineation in both soil and groundwater.

PAH compounds were detected in soil samples from 19 of 21 boreholes. Benzo(a)pyrene was the only PAH compound that was detected above one or more of the human health screening levels. As shown on Table 1, benzo(a)pyrene was detected at concentrations above at least one human health screening level in soil samples collected from boreholes CAT-B-1, and CAT-B-4 through CAT-B-10. The presence of PAH compounds from most of the borings is consistent with impacts from the marsh crust. The elevated PAH compounds were present in soil samples from near the surface (at 1 feet below ground) to a depth of 5 feet. The City of Alameda has developed requirements for excavation within the marsh crust area, which should be applied to this site (City of Alameda, 2015).

Detections of arsenic in soil at the site indicate that the some of the concentrations are high enough to warrant further evaluation. In particular, concentrations above 10 mg/kg were detected in soil samples from boreholes CAT-B-1 and CAT-B-2 at both the shallow and deeper sample intervals. The concentrations of arsenic detected in boreholes CAT-B-1 and CAT-B-2 are higher than typical background concentrations (11.00 mg/kg) for the undifferentiated flatlands in urbanized parts of the San Francisco Bay Area (Duverge, 2011). The arsenic concentrations in boreholes CAT-B-1 and CAT-B-2 also correlate with elevated detections of TEPH as motor oil and/or TEPH as diesel in those boreholes. This correlation is important because TEPH concentrations in soil can mobilize arsenic making it more likely that arsenic in soil migrates to groundwater and dissolves (Brown et al, 2010).

Lead concentrations in soil exceed human health screening levels at boreholes CAT-B-6, CAT-B-7, and CAT-B-10, and concentrations detected in soil from borehole CAT-B-2 are just below the lowest human health screening level (80 mg/kg) presented in Table 2. Even though lead is common in fill material in the Bay Area, Tetra Tech recommends that lead concentrations in soil at the site be further evaluated to better understand the magnitude and extent of lead in soil at the site.

Pentachlorophenol was detected in 7 of 21 soil samples analyzed for the compound, and was the only chlorinated herbicide detected above the laboratory method detection limit. The concentrations of pentachlorophenol detected range from 0.00094 mg/kg to 0.0052 mg/kg (Table 2). The maximum concentration of pentachlorophenol is many orders of magnitude below the residential direct exposure screening level for the protection of human health (Table K-1; RWQCB 2013). For this reason, and the lack of other chlorinated herbicides at the site, Tetra Tech does not recommend further investigation for this COPC at the site.

If you have any questions or require additional information, please feel free to contact Victor Early at 510-302-6332.

Sincerely,

Tetra Tech, Inc.



Victor Early, P.G, C.E.G Project Manager

Mark Offs

Mark Duffy, REPA Project Geologist

List of Attachments:

Figure 1 – Site Location Figure 2 – Site Plan Showing Soil Borehole Locations Table 1 – Summary of Chemical Analyses of Soil Samples for TEPH and PAH Table 2 – Summary of Chemical Analyses of Soil Samples for Metals and Chlorinated Herbicides Attachment A –Soil Borehole Logs Attachment B – Lab Reports and COC Records Attachment C – Permits

REFERENCES

- Blackie, 2010. Belinda P. Blackie, Phase I Environmental Site Assessment, ABL Parcels, Alameda, California. March 8, 2010.
- Brown et al, 2010. Attenuation of Naturally Occurring Arsenic at Petroleum Hydrocarbon-Impacted Sites, Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds (Monterey, California. May 2010.
- City of Alameda, 2015. March Crust. http://alamedaca.gov/community-development/building/marshcrust. Website accessed on January 27, 2015.
- Duverge, 2011. Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region, by Dylan Jacques Duverge, San Francisco State University. December 2011.
- Office of Environmental Health Hazard Assessment (OEHHA), 2010. California Human Health Screening Levels (CHHSLs), Table 1 Soil and Soil-Gas Screening Numbers (mg/kg) for Nonvolatile Chemicals Based on Total Exposure to Contaminated Soil: Inhalation, Ingestion and Dermal Absorption. September 23, 2010.
- San Francisco Bay Regional Water Quality Control Board (RWQCB), 2013. Environmental Screening Levels for Specific Concerns. December 2013.
- Tetra Tech, 2014. Work Plan, Cost Estimate, and Schedule for Phase II Environmental Site Assessment on the Cross Alameda Trail Project, Alameda, California. December 5, 2014.

Figures

Focused Phase II Investigation Report Cross Alameda Trail Alameda, California





Property Boundary

Soil Borings (Sampled for Lead, Arsenic, PAH, TPH, & Herbicides)

• No detection at or above one or more of the RWQCB ESL values (soil)

O Detection at or above one or more of the RWQCB ESL values (soil)





Cross Alameda Trail, Phase II ESA Alameda, California

FIGURE 2 BORING LOCATIONS Tables

Focused Phase II Investigation Report Cross Alameda Trail Alameda, California

TABLE 1 SUMMARY OF CHEMICAL ANALYSES OF SOIL SAMPLES FOR TPPH AND PAH

City of Alameda, Cross Alameda Trail Pase II Environmental Site Assessment Alameda, California

		TEPH (mg/kg)	TEPH (mg/kg)		PAH (mg/kg)													
Soil Borhole/SampleID	Sample Date	Diesel	Motor Oil	Acenapthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(ah)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3- cd)pyrene	Phenanthrene	Pyrene
CAT-B-1-2	12/29/2014	132	1,160	< 0.35	< 0.35	< 0.35	< 0.17	< 0.12	< 0.14	< 0.15	< 0.16	< 0.14	< 0.19	< 0.35	< 0.35	< 0.17	< 0.35	< 0.35
CAT-B-1-4	12/29/2014	14.5	106	< 0.0089	< 0.0089	< 0.0089	0.0364	0.0459	0.033	0.0378	0.0285	0.0403	0.0079	0.078	< 0.0089	0.0373	0.0272	0.0792
CAT-B-2-2	12/29/2014	< 9.1	236	< 0.0091	< 0.0091	< 0.0091	0.0095	0.0144	0.019	0.0188	0.0065	0.0129	< 0.0051	0.0176	< 0.0091	0.0166	< 0.0091	0.0231
CAT-B-2-5	12/29/2014	< 10	178	< 0.010	< 0.010	< 0.010	0.0188	0.0306	0.0333	0.0429	0.0217	0.0296	0.0066	0.0465	< 0.010	0.0422	0.0184	0.049
CAT-B-3-1	12/29/2014	42.7	78.2	< 0.0024	< 0.0024	0.0034	0.0235	0.0354	0.0367	0.0431	0.0193	0.0362	< 0.0014	0.0625	< 0.0024	0.0402	0.0211	0.0601
CAT-B-3-4	12/29/2014	< 4.1	15.3	< 0.0042	< 0.0042	< 0.0042	< 0.0021	< 0.0014	< 0.0017	< 0.0019	< 0.0019	< 0.0017	< 0.0024	< 0.0042	< 0.0042	< 0.0021	< 0.0042	< 0.0042
CAT-B-4-2	12/29/2014	8.76	28.2	< 0.0021	0.0076	0.0076	0.0996	0.219	0.22	0.293	0.114	0.163	0.0284	0.285	< 0.0021	0.320	0.060	0.295
CAT-B-4-5	12/29/2014	11.7	26.6	0.0068	0.0159	0.0325	0.156	0.264	0.239	0.286	0.118	0.204	0.0302	0.515	0.0126	0.300	0.242	0.495
CAT-B-5-1	12/29/2014	6.17	22.7	< 0.0021	0.0047	0.0052	0.0619	0.123	0.110	0.176	0.062	0.084	0.0141	0.162	< 0.0021	0.179	0.0286	0.191
CAT-B-5-5	12/29/2014	< 1.8	< 3.6	< 0.0018	< 0.0018	< 0.0018	0.0078	0.0147	0.0142	0.0185	0.0074	0.0102	0.0019	0.0177	< 0.0018	0.0188	< 0.0018	0.0212
CAT-B-6-1	12/29/2014	8.22	36.5	< 0.0021	0.0044	0.00029	0.0226	0.0476	0.0493	0.0576	0.0304	0.0415	0.0084	0.0576	< 0.0021	0.0630	0.0261	0.0693
CAT-B-6-4	12/29/2014	5.74	9.43	< 0.0024	< 0.0024	< 0.0024	0.0056	0.0074	0.0083	0.0086	0.0043	0.0078	< 0.0014	0.0108	< 0.0024	0.0087	0.0031	0.010
CAT-B-7-1	12/30/2014	6.52	16.0	< 0.0021	0.0024	0.0027	0.0492	0.119	0.105	0.146	0.0558	0.0694	0.0116	0.133	< 0.0021	0.123	0.025	0.192
CAT-B-7-4	12/30/2014	8.49	19.9	< 0.0019	< 0.0019	< 0.0019	0.0059	0.0098	0.0091	0.0115	0.0058	0.0085	0.0017	0.0129	< 0.0019	0.0097	0.0049	0.0189
CAT-B-8-2	12/30/2014	7.35	31.8	< 0.010	< 0.010	< 0.010	0.0364	0.0816	0.0794	0.105	0.0426	0.0549	0.0123	0.0896	< 0.010	0.100	0.0203	0.113
CAT-B-8-8	12/30/2014	< 2.2	< 4.3	< 0.0022	< 0.0022	< 0.0022	0.0020	0.0020	0.0050	0.0050	0.0049	0.0028	< 0.0012	< 0.0022	< 0.0022	0.0037	< 0.0022	0.0023
CAT-B-9-1	12/30/2014	6.39	30.3	< 0.0086	< 0.0086	< 0.0086	0.0593	0.121	0.123	0.145	0.0543	0.0862	0.0160	0.163	< 0.0086	0.153	0.0399	0.181
CAT-B-9-6	12/30/2014	< 2.1	< 4.1	< 0.0020	< 0.0020	< 0.0020	0.0014	0.0013	0.0012	0.00095	< 0.00094	0.0012	< 0.0011	< 0.0020	< 0.0020	0.0013	< 0.0020	< 0.0020
CAT-B-10-2	12/30/2014	129	609	< 0.055	< 0.055	< 0.055	0.0526	0.0657	0.0571	0.0977	0.0459	0.0618	< 0.031	0.0887	< 0.055	0.0668	0.0843	0.0858
CAT-B (Duplicate)	12/30/2014	188	922	< 0.020	< 0.020	< 0.020	< 0.010	0.0104	0.0105	0.0148	< 0.0094	0.0107	< 0.011	< 0.020	< 0.020	0.012	< 0.020	< 0.020
CAT-B-10-5	12/30/2014	88.2	164	< 0.0021	< 0.0021	< 0.0021	< 0.0010	< 0.00070	< 0.00083	< 0.00091	< 0.00095	< 0.00083	< 0.0012	< 0.0021	< 0.0021	< 0.0010	< 0.0021	< 0.0021
RWQCB	ESL (Table K-1) ¹	240	10,000	3,400	NE	23,000	0.38	0.038	0.38	NE	0.38	3.8	0.11	2,300	3,100	0.38	NE	3,400
RWQCB	ESL (Table K-3) ²	900	28,000	8,600	NE	43,000	3.8	0.38	3.8	NE	8.3	83	2.4	5,700	5,700	8.3	NE	8,600
Cal/EPA C	HHSL (Table 1) ³	NE	NE	NE	NE	NE	NE	0.038	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE

Notes:

Light grey shading indicates a detection at or above one or more of the RWQCB ESL values presented

TEPH Total extractable petroleum hydrocarbons as diesel analyzed using EPA Method 8015M.

PAH Polyaromatic hydrocarbons analyzed using EPA Method 8260B.

NE Not established

-- Not analyzed.

mg/kg Milligrams per kilogram

< detection is less than the laboratory method detection limit

1 California Regional Water Quality Control Board, Environmental Screening Levels for Soil (RWQCB ESL), residenital direct exposure to soil scenario (Table K-1; RWQCB 2013).

2 California Regional Water Quality Control Board, Environmental Screening Levels for Soil (RWQCB ESL), construction/trench worker direct exposure to soil scenario (Table K-3; RWQCB 2013).

3 California Human Health Screening Levels (CHHSL), Soil Screening Numbers for Nonvolatile Chemicals, Residential Scenario (Table 1; Updated 2010)

TABLE 2

SUMMARY OF CHEMICAL ANALYSES OF SOIL SAMPLES FOR METALS AND CHLORINATED

City of Alameda, Cross Alameda Trail Pase II Environmental Site Assessment Alameda, California

Well/Sample ID	Sample Date	Me (mg	etals g/kg)	Chlorinated Herbicides (mg/kg)
		Arsenic	Lead	Pentachlorophenol
CAT-B-1-2	12/29/2014	15.4	40.4	0.00094
CAT-B-1-4	12/29/2014	27.2	35.7	0.0025
CAT-B-2-2	12/29/2014	29.7	61.3	< 0.0027
CAT-B-2-5	12/29/2014	12.3	79.7	< 0.00061
CAT-B-3-1	12/29/2014	8.0	24.0	< 0.00075
CAT-B-3-4	12/29/2014	7.2	2.6	< 0.00066
CAT-B-4-2	12/29/2014	6.8	37	0.0026
CAT-B-4-5	12/29/2014	6.3	36.6	< 0.00069
CAT-B-5-1	12/29/2014	6.2	68.4	< 0.00065
CAT-B-5-5	12/29/2014	1.7	3	0.0026
CAT-B-6-1	12/29/2014	5.3	26.2	< 0.00063
CAT-B-6-4	12/29/2014	3.9	185	0.0014
CAT-B-7-1	12/30/2014	4.3	22	< 0.00062
CAT-B-7-4	12/30/2014	5.1	92.9	< 0.00058
CAT-B-8-2	12/30/2014	6.5	40.5	< 0.00062
CAT-B-8-8	12/30/2014	2.7	16.9	0.0052
CAT-B-9-1	12/30/2014	7.8	54.6	< 0.00065
CAT-B-9-6	12/30/2014	4.9	6.9	< 0.00062
CAT-B-10-2	12/30/2014	6.2	126	< 0.00057
CAT-B (Duplicate)	12/30/2014	4.9	170	0.0011
CAT-B-10-5	12/30/2014	1.4	26	< 0.0032
RWQCB	ESL (Table K-1) ¹	0.39	80	3.0
RWQCB ESL (Table K-3) ²		10	320	56
Cal/EPA C	HHSL (Table 1) ³	0.070	80	4.4

Notes:

Light grey shading indicates a detection at or above one or more of the RWQCB ESL values presented

- NE Not established
- < detection is less than the laboratory method detection limit
- mg/kg Milligrams per kilogram
 - < detection is less than the laboratory reporting limit.
 - 1 California Regional Water Quality Control Board, Environmental Screening Levels for Soil (RWQCB ESL), residenital direct exposure to soil scenario (Table K-1; RWQCB 2013).
 - 2 California Regional Water Quality Control Board, Environmental Screening Levels for Soil (RWQCB ESL), construction/trench worker direct exposure to soil scenario (Table K-3; RWQCB 2013).
 - 3 California Environmental Protection Agency (Cal/EPA), California Human Health Screening Levels (CHHSL), Soil Screening Numbers for Nonvolatile Chemicals, Residential Scenario (Table 1; Updated 2010)

ATTACHMENT A

Soil Boring Logs

Focused Phase II Investigation Report Cross Alameda Trail Alameda, California

Æ	TETRAT	ECH				BORING LOG CAT-B-1				
Project:	Cross-Alamed	a Trail Phas	e II	Borehole Depth: 8 feet		8 feet	Sampling Method: Macro-Core			
Location:	Alameda, CA			Borehole Diamet	er:	2.25 inches	1	Page 1 of 11		
Project No.:	103S3536			Reviewed By: Victor Early			Latitude:	1 age 1 01 11		
Date Boring	Started	12/29/201	4	Drilling Contractor: Vironex			Ground Surface Elevation (feet NGVD of 1929).			
Date Boring	Completed:	12/29/2014	4	Drilling Method: Direct Push Technology			Depth to groundwater (feet bgs): NA			
Depth (feet bgs)	Recovered Interval	Time	Soil Sample ID	USCS	Graphic Log	Inte	erval and Lithologic Description	Breathing PID (ppm)		
0						Asphalt/fill				
					Ď æ⊋≢2 ≜č	Silty sand light olive	$\frac{1}{2}$ brown (2.5Y 5/4) approximatley 3 inch black			
1				_		(2.5Y 2.5/1), loose, 1	mostly fine sand, trace gravel, slightly moist.			
		1115	CAT-B-1-2					0.0		
2	48"			SM						
				_						
3				_						
				_						
4		1130	CAT-B-1-4							
4						Silty sand, black (2.5	Y 2.5/1), soft, loose to very low plasticity,			
				-		mostly fine sand, ver	y moist to wet.			
5				_						
				_						
6	48"			SM						
Ũ	10			5111						
				_						
7				_						
				_						
8										
9										
10										
11										
12										
13										
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14										
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16										

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18				
10				
10				
19				
20				
20				

Æ	TETRA	TECH				BORING LOG CAT-B-2			
Ducient	C		. 11	D. 1.1. D. 1		9 faat	Someling Mathed: Magna Com		
Project:	Cross-Alamed	a Trail Phas	se II	Borehole Depth	:	8 leet	Sampling Method: Macro-Core		
Location.	Alameda, CA			Derivered Den Wisten Farle		2.23 menes		Page 2 of 11	
Project No.:	103S3536			Reviewed By:	arly		Latitude:	C .	
Logged By:	Mark Duffy	T					Longitude:		
Date Boring	Started:	12/29/201	4	Drilling Contrac	tor: Vironex		Ground Surface Elevation (feet NGVD of 1929)):	
Date Boring	Completed:	12/29/201	4	Drilling Method	: Direct Push	Fechnology	Depth to groundwater (feet bgs): NA		
Depth (feet bgs)	Recovered Interval	Time	Soil Sample ID	USCS	Graphic Log	In	terval and Lithologic Description	Breathing Zone PID (ppm)	
0	Γ	1				9			
0						Mulch			
						Sandy silt light oliv	a brown (2.5V.5/4) low plasticity soft some		
1						fine cand trace gray	val moist		
1						The sand, trace grav	ci, moist.		
				-					
2	40"	1215	CAT-B-2-2	N				0.0	
2	48"			MI					
				_					
3									
						Silty clay, very dark	t grey (2.5Y 3/1), medium stiffness, medium		
4				_		plasticity, moist.			
				CL					
		1230	CAT-B-2-5						
5		1250							
						No recovery from 5	to 8 feet bgs.		
				-					
6	48"			_					
	_								
				NA	NA				
7									
,									
				_					
0									
8									
_									
9									
10									
11									
12									
13									
14									
15									
15									
16									

17				
1/				
18				
10				
10				
19				
20				
20				

Æ	TETRA	ГЕСН				BORING LOG CAT-B-3			
Project:	Cross-Alamed	a Trail Phas	e II	Borehole Depth:	Borehole Depth: 8 feet		Sampling Method: Macro-Core		
Location:	Alameda, CA			Borehole Diamet	ter:	2.25 inches		Page 3 of 11	
Project No.: Logged By:	103S3536 Mark Duffv	103S3536 Reviewed By: Victor Early Mark Duffy Reviewed By: Victor Early					Latitude: Longitude:	5	
Date Boring	Started:	12/29/201	4	Drilling Contract	tor: Vironex		Ground Surface Elevation (feet NGVD of 1929):	:	
Date Boring	Completed:	12/29/201	4	Drilling Method:	Direct Push	Technology	Depth to groundwater (feet bgs): NA		
Depth (feet bgs)	Recovered Interval	Time	Soil Sample ID	USCS	Graphic Log	g Int	terval and Lithologic Description	Breathing Zone PID (ppm)	
0						9.7.1.1			
						Mulch			
1						Silty clay, light olive	e brown (2.5Y 5/4, medium stiffness, medium		
1		1305	CAT-B-3-1			plasticity, trace grav	el, moist.		
								0.0	
2	48"			- CL				0.0	
						-			
3									
5									
						Silty sand, very dark	c grey (2.5Y 3/1), poorly graded, mostly fine		
4		1315	CAT-B-3-4			sand, soft, wet.			
		1315	CAT-D-J-4			· ·			
5									
						•			
				SM					
6	48"								
						· ·			
7									
						· ·			
0									
8									
9									
10									
11									
11									
12									
13									
15									
14									
15									
16		-			-				

17				
17				
18				
18				
10				
19				
20				
20				

Ŧŧ	TETRA	ECH					BORING LOG CAT-B-4			
Project:	Cross-Alamed	a Trail Phase	e II	Borehole Depth	1:	8 feet	Sampling Method: Macro-Core			
Location:	Alameda, CA			Borehole Diam	eter:	2.25 inches		Page 4 of 11		
Project No.: Logged By:	103S3536 Mark Duffy			Kevieweu by: Victor Early			Latitude:			
Date Boring	Started:	12/29/2014	1	Drilling Contractor: Vironex			Ground Surface Elevation (feet NGVD of 1929):			
Date Boring	Completed:	12/29/2014	1	Drilling Metho	d: Direct Push	Fechnology	Depth to groundwater (feet bgs): NA			
Depth	Recovered									
(feet bgs)	Interval	Time	Soil Sample ID	USCS	Graphic Log	Inte	erval and Lithologic Description	Breathing Zone PID (ppm)		
0										
0						Silty clay, olive brow	vn (2.5Y 4/4), medium stiffness, medium			
				_		plasticity, moist.				
1										
				_						
2	48"	1415	CAT-B-4-2					0.0		
-	10			CI						
3				-						
				_	Y /					
4				_	/ ,					
					Y /					
-		1425	CAT-B-4-5							
5						Silty sand, very dark	grey (2.5Y 3/1), loose, soft, mostly fine sand,			
						wet.				
6	48"			_						
				SM						
7										
/										
				_						
8										
9										
,										
10										
11										
10										
12										
13										
14										
17										
15										
16										
17										
18										
10										
19										
20										

Ŧŧ	TETRAT	ECH			BORING LOG CAT-B-5					
Project:	Cross-Alamed	a Trail Pha	se II	Borehole Depth: 8 feet		8 feet	Sampling Method: Macro-Core			
Location:	Alameda, CA			Borehole Diamet	er:	2.25 inches		Page 5 of 11		
Project No.:	103S3536			Reviewed By: Vi	ctor Early		Latitude:			
Date Boring	Started:	12/29/201	14	Drilling Contract	or: Vironex		Cround Surface Elevation (feet NGVD of 1020):			
Date Boring	Completed:	12/29/201	4	Drilling Method:	Drilling Method: Direct Push Technology		Depth to groundwater (feet bgs): NA			
							, , , , , , , , , , , , , , , , , , , ,			
(feet bgs)	Interval	Time	Soil Sample ID	USCS	Graphic Log	g Inte	erval and Lithologic Description	Breathing Zone PID (ppm)		
0		T				_				
Ũ						Silty sand, light olive	e brown (2.5Y 5/4) and black (2.5Y 2.5/1),			
		1450	CAT-B-5-1			loose, trace gravel, b	brick fragment at 1-foot bgs, moist			
1				- SM				0.0		
				_		•		0.0		
2	48"									
_						Silty sand, dark brow	vn (10YR 3/3), dark grey (2.5Y 4/1) starting at			
						5 leet bgs, loose to v	ery low plasticity, soit, very moist to wet.			
3										
				_						
4				_						
		1500	CAT-B-5-5	-						
5				- SM						
				_						
6	48"			_						
0	10									
7				_		•				
				_		•				
8										
9										
10										
10										
11										
12										
13										
14										
15										
16										

17				
17				
19				
10				
10				
19				
20				
20				

Ŧŧ	TETRAT	FECH				BORING LOG CAT-B-6				
Project: Location:	Cross-Alamed Alameda, CA	a Trail Phas	se II	Borehole Depth Borehole Diame	: eter:	8 feet 2.25 inches	Sampling Method: Macro-Core			
Project No.: Logged By:	103S3536 Mark Duffy			Reviewed By: V	Reviewed By: Victor Early		Latitude: Longitude:			
Date Boring Date Boring	Started: Completed:	12/29/201 12/29/201	4 4	Drilling Contract	Drilling Contractor: Vironex Drilling Method: Direct Push Technology		Ground Surface Elevation (feet NGVD of 192 Depth to groundwater (feet bgs): NA	9):		
Depth (feet bgs)	Recovered Interval	Time	Soil Sample ID	USCS	Graphic Log	Ţ.	Interval and Lithologic Description	Breathing Zone PID (ppm)		
0						Silty clay, dark gr	rey (2.5Y 4/1), medium stiffness, medium			
		1525	CAT-B-6-1	-		plasticity, moist.				
1		1535		- CL				0.0		
2	48"									
3						Marsh crust/unkno	own material, white (2.5Y 8/1) with yellowish	red		
4		1530	CAT-B-6-4	NA	NA	(5YR 5/6)staining	g, chalky, very moist			
4					INA					
5						Silty sand, very da	ark grey (2.5Y 3/1), soft, loose to very low			
6	48"			_						
7				– SM –						
8				_						
9										
10										
11										
12										
12										
13										
14										
15										
16										

17				
17				
18				
10				
10				
19				
20				
20				

TŁ	TETRA	ГЕСН					BORING CAT-	G LOG B-7
Project:	Cross-Alamed	a Trail Phas	se II	Borehole Depth	:	8 feet	Sampling Method: Macro-Core	
Location: Project No :	Alameda, CA			Borehole Diame	Borehole Diameter: 2.2		Lotituda	Page 7 of 11
Logged By:	Mark Duffy			Keviewed by:	VICTOR Early		Longitude:	
Date Boring	Started:	12/30/201	4	Drilling Contrac	tor: Vironex		Ground Surface Elevation (feet NGVD of 192	29):
Date Boring	Completed:	12/30/201	4	Drilling Method	: Direct Push	Technology	Depth to groundwater (feet bgs): NA	
Depth (feet bgs)	Recovered Interval	Time	Soil Sample ID	USCS	Graphic Log	ŗ	Interval and Lithologic Description	Breathing Zone PID (ppm)
0						Silty along align 1	anown (2.5V 4/4) Madaium stiffnass madium	
				_		plasticity, onve t	brown (2.5 Y 4/4). Medolum stimness, medium	
1						p		
1		835	CAT-B-7-1					0.0
		035		– CL				
2	48"			_		-		
				_				
3								
5						Marsh crust/unki	nown material, black $(2.5Y 2.5/1)$, olive brown	
		840				(2.5 Y 4/4), white	e (2.5 Y 8/1), loose to slightly stiff, moist.	
4		840	CAI-B-7-4	— NA	NA			
				_				
5								
-						Silty sand, very c	lark grey (2.5Y 3/1), soft, loose to very low	
						plasticity, very m	101ST.	
6	48"			_				
				SM				
7				_				
8								
9								
10								
10								
11								
12								
13								
14								
15								
16								



æ	TETRA 1	ECH						BORING L CAT-B-8	OG 3
Project:	Cross-Alameda	a Trail Phase	II	Borehole Depth:			9 feet	Sampling Method: Macro-Core	
Location:	Alameda, CA			Borehole Diamete	er:		2.25 inches		Dage 0 f 11
Project No.:	103S3536			Reviewed By: Vie	ctor Ea	rly		Latitude:	1 age 8 01 11
Logged By:	Mark Duffy	I						Longitude:	
Date Boring	Started:	12/30/2014		Drilling Contracto	or: Viro	nex	T 1 1	Ground Surface Elevation (feet NGVD of 1929):	
Date Boring	Completed:	12/30/2014		Drilling Method:	Direct	Push	Technology	Depth to groundwater (feet bgs): NA	
Depth	Recovered								
(feet bgs)	Interval	Time	Soil Sample ID	USCS	Graph	nic Log	Inte	erval and Lithologic Description	Breathing Zone PID (ppm)
0				- NA			Mulch		
1							Silty clay, olive brow	rn (2.5Y 4/4), medium stiffness, high plasticity,	0.0
		1125	CAT-B-8-2		K.		moist.		
2		1125	CAT-D-0-2	-		. /			
	60"			_	ŕ,				
2				CI		/			
3					ſ.				
				-		/			
4				_	ŗ,				
						/			
				1	ſ,				
5					$\left \right $		Sandy eilt your dout-	grey (2.5V $\frac{2}{1}$) to block (2.5V $\frac{2}{5}$ $\frac{5}{1}$) at 9 fact	
							by sticky soft low	plasticity very moist glass fragment at 8 feet	
							bgs, sticky, solt, low	plasterty, very molst, glass hughent at 6 feet	
6				_					
				_					
7	40"			M					
/	48."			– ML					
				_					
8		1120	CAT-B-8-8	_					
Ũ									
				_					
9						I			
10									
10									
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10									
18									
					+				
19									
20									

æ	TETRAT	ECH					BORING I CAT-B-	LOG .9
Project:	Cross-Alameda	a Trail Phas	e II	Borehole Depth:		9 feet	Sampling Method: Macro-Core	
Location:	Alameda, CA			Borehole Diamete	er:	2.25 inches		Decc. 0. of 11
Project No.:	103\$3536			Reviewed By: Vi	ctor Early		Latitude:	r age 9 01 11
Logged By:	Mark Duffy	12/20/201			3.7'			
Date Boring	Started:	12/30/201	4	Drilling Contract	Direct Puel	h Tachnology	Ground Surface Elevation (feet NGVD of 1929):	
Date Doring		12/30/201	+	Drining Method.	Direct I usi	II Teennology	Depui to groundwater (leet bgs). IVA	
Depth (feet bgs)	Recovered Interval	Time	Soil Sample ID	USCS	Graphic Lo	og I	Interval and Lithologic Description	Breathing Zone PID (ppm)
0								
0				NA		Mulch		
						Silty clay, olive br	rown (2.5Y 4/4), medium stiffness, medium	
1				_		plasticity, moist.		
			CAT-B-9-1					0.0
2				_	/ /			
	60"			_				
3				– CL	/ /			
				_				
					/ /			
4								
				_		/		
5				_				
6						Sandy silt, black (2	2.5Y 2.5/1), sticky, soft, low plasticity, very mois	st
0			CAT-B-9-6					
				-				
7	48"			N				
				MIL				
8				_				
Ű								
				_				
9								
10								
11								
12								
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14								
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16								

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1/				
19				
10				
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19				
20				
20				

æ	TETRA	FECH					BORING CAT-F	5 LOG 3-10
Project:	Cross-Alamed	a Trail Phas	se II	Borehole Deptl	1:	9 feet	Sampling Method: Macro-Core	
Location:	on: Alameda, CA			Borehole Diam	eter:	2.25 inches		Page 10 of 11
Project No.:	Project No.: 103S3536			Reviewed By:	Victor Early		Latitude:	1 4 20 10 01 11
Date Boring	Data Baring Started		Drilling Contra	ctor: Vironex		Ground Surface Elevation (feet NGVD of 192	29).	
Date Boring	Completed:	12/30/201	4	Drilling Metho	d: Direct Push	Technology	Depth to groundwater (feet bgs): NA	
Depth (feet bgs)	Recovered Interval	Time	Soil Sample ID	USCS	Graphic Log	g Int	terval and Lithologic Description	Breathing Zone PID (ppm)
							~ · ·	
0						Gravel fill		
				NA				
1						Silty clay, olive brow	wn ($2.5Y 4/4$), medium stiffness, medium	
1						plasticity, moist.		0.0
		1210	CAT P 10.2	_		1		
2		1310	CAI-B-10-2	_				
	CO "	1320	CAT-B (duplicate)	CL				
	00					-		
3				_				
				_				
4								
4						Sandy silt, black (2.	5Y 2.5/1), sticky, soft, low plasticity, very	
			CAT D 10.5	ML		moist.		
5		1305	CAI-B-10-5		<u> </u>			
						Silty sand, grey (2.5	Y 5/1), soft, loose, very moist.	
				_				
6				-		:		
				_				
7	40"			CM				
/	48			- 51/1		:		
				_				
8				_				
						· ·		
9					<u> </u>			
10								
10								
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12								
13		_						
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17				
1/				
19				
10				
10				
19				
20				
20				

Geologic Borehole Log Legend

- bgs below ground surface
- parts per million ppm
- PID photoionization detector
- USCS Unified Soil Classification System
- NGVD National Geodetic Vertical Datum
- NA not applicable



Asphalt



Gravel Fill

(ML)

Clayey

(CL)







Silty Sand (SM)



Sand (SP)



Mulch



approximate depth to groundwater

ATTACHMENT B

Lab Reports and COC Records



01/13/15

Technical Report for

Tetra Tech EMI

Alameda Cross Trail Phase II

ALAMEDA CROSS TRAIL PHASE II

Accutest Job Number: C37833



Sampling Date: 12/29/14

Report to:

Tetra Tech 1999 Harrison St. Suite 500 Oakland, CA 94612 mark.duffy@tetratech.com; victor.early@tetratech.com

ATTN: Mark Duffy

Total number of pages in report: 99



Jung. Musy

James J. Rhudy Lab Director

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Client Service contact: Nutan Kabir 408-588-0200

Certifications: CA (ELAP 2910) AK (UST-092) AZ (AZ0762) NV (CA00150) OR (CA300006) WA (C925) DoD ELAP (L-A-B L2242)

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Table of Contents

Section 1: Sample Summary	3
Section 2: Summary of Hits	4
Section 3: Sample Results	9
3.1: C37833-1: CAT-B-1-2	10
3.2: C37833-2: CAT-B-1-4	15
3.3: C37833-3: CAT-B-2-2	20
3.4: C37833-4: CAT-B-2-5	25
3.5: C37833-5: CAT-B-3-4	30
3.6: C37833-6: CAT-B-3-1	35
3.7: C37833-7: CAT-B-5-1	40
3.8: C37833-8: CAT-B-4-5	45
3.9: C37833-9: CAT-B-4-2	50
3.10: C37833-10: CAT-B-5-5	55
3.11: C37833-11: CAT-B-6-4	60
3.12: C37833-12: CAT-B-6-1	65
Section 4: Misc. Forms	70
4.1: Chain of Custody	71
Section 5: GC/MS Semi-volatiles - QC Data Summaries	73
5.1: Method Blank Summary	74
5.2: Blank Spike/Blank Spike Duplicate Summary	75
5.3: Matrix Spike/Matrix Spike Duplicate Summary	76
Section 6: GC Semi-volatiles - QC Data Summaries	77
6.1: Method Blank Summary	78
6.2: Blank Spike/Blank Spike Duplicate Summary	79
6.3: Matrix Spike/Matrix Spike Duplicate Summary	80
Section 7: Metals Analysis - QC Data Summaries	81
7.1: Prep QC MP8938: As,Pb	82
7.2: Prep QC MP8965: As	87
Section 8: Misc. Forms (Accutest Laboratories Southeast, Inc.)	92
8.1: Chain of Custody	93
Section 9: GC Semi-volatiles - QC Data (Accutest Laboratories Southeast, Inc.)	96
9.1: Method Blank Summary	97
9.2: Blank Spike Summary	98
9.3: Matrix Spike/Matrix Spike Duplicate Summary	99







Sample Summary

Tetra Tech EMI

Job No: C37833

Alameda Cross Trail Phase II Project No: ALAMEDA CROSS TRAIL PHASE II

Sample Number	Collected Date	Time By	Received	Matri Code	ix Type	Client Sample ID
C37833-1	12/29/14	11:15 MD	12/31/14	SO	Soil	CAT-B-1-2
C37833-2	12/29/14	11:30 MD	12/31/14	SO	Soil	CAT-B-1-4
C37833-3	12/29/14	12:15 MD	12/31/14	SO	Soil	CAT-B-2-2
C37833-4	12/29/14	12:30 MD	12/31/14	SO	Soil	САТ-В-2-5
C37833-5	12/29/14	13:15 MD	12/31/14	SO	Soil	САТ-В-3-4
C37833-6	12/29/14	13:05 MD	12/31/14	SO	Soil	CAT-B-3-1
C37833-7	12/29/14	14:50 MD	12/31/14	SO	Soil	CAT-B-5-1
C37833-8	12/29/14	14:25 MD	12/31/14	SO	Soil	CAT-B-4-5
C37833-9	12/29/14	14:15 MD	12/31/14	SO	Soil	CAT-B-4-2
C37833-10	12/29/14	15:00 MD	12/31/14	SO	Soil	CAT-B-5-5
C37833-11	12/29/14	15:30 MD	12/31/14	SO	Soil	CAT-B-6-4
C37833-12	12/29/14	15:35 MD	12/31/14	SO	Soil	CAT-B-6-1

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



Job Number:	C37833
Account:	Tetra Tech EMI
Project:	Alameda Cross Trail Phase II
Collected:	12/29/14

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
C37833-1 CAT-B-1-2					
TPH (Diesel) ^a	132	110	53	mg/kg	SW846 8015B M
TPH (Motor Oil)	1160	210	110	mg/kg	SW846 8015B M
Pentachlorophenol ^b	0.94 J	3.5	0.53	ug/kg	SW846 8151A
Arsenic	15.4	0.22		mg/kg	SW846 6020
Lead	40.4	0.22		mg/kg	SW846 6020
C37833-2 CAT-B-1-4					
Benzo(a)anthracene ^c	36.4	18	4.5	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^c	45.9	18	3.0	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^c	33.0	18	3.6	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^c	37.8	18	3.9	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^c	28.5	18	4.1	ug/kg	SW846 8270C BY SIM
Chrysene ^c	40.3	18	3.6	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene ^c	7.9 J	18	5.0	ug/kg	SW846 8270C BY SIM
Fluoranthene ^c	78.0 J	89	8.9	ug/kg	SW846 8270C BY SIM
Indeno $(1, 2, 3$ -cd)pyrene ^c	37.3	18	4.5	ug/kg	SW846 8270C BY SIM
Phenanthrene ^c	27.2 J	89	8.9	ug/kg	SW846 8270C BY SIM
Pyrene ^c	79.2 J	89	8.9	ug/kg	SW846 8270C BY SIM
TPH (Diesel) ^a	14.5	11	5.4	mg/kg	SW846 8015B M
TPH (Motor Oil)	106	21	11	mg/kg	SW846 8015B M
Pentachlorophenol ^b	2.5 J	3.6	0.55	ug/kg	SW846 8151A
Arsenic	27.2	0.23		mg/kg	SW846 6020
Lead	35.7	0.23		mg/kg	SW846 6020
C37833-3 CAT-B-2-2					
Benzo(a)anthracene ^c	9.5 J	18	4.5	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^c	14.4 J	18	3.1	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^c	19.0	18	3.6	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^c	18.8	18	4.0	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^c	6.5 J	18	4.2	ug/kg	SW846 8270C BY SIM
Chrysene ^c	12.9 J	18	3.6	ug/kg	SW846 8270C BY SIM
Fluoranthene ^c	17.6 J	91	9.1	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^c	16.6 J	18	4.5	ug/kg	SW846 8270C BY SIM
Pyrene ^c	23.1 J	91	9.1	ug/kg	SW846 8270C BY SIM
TPH (Motor Oil)	236	37	18	mg/kg	SW846 8015B M
Arsenic	29.7	0.24		mg/kg	SW846 6020
Lead	61.3	0.24		mg/kg	SW846 6020
C37833-4 CAT-B-2-5					
Benzo(a)anthracene ^c	18.8 J	20	5.1	ug/kg	SW846 8270C BY SIM

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Job Number:	C37833
Account:	Tetra Tech EMI
Project:	Alameda Cross Trail Phase II
Collected:	12/29/14

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
Benzo(a)pyrene ^c	30.6	20	3.4	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^c	33.3	20	4.0	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^c	42.9	20	4.4	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^c	21.7	20	4.7	ug/kg	SW846 8270C BY SIM
Chrysene ^c	29.6	20	4.0	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene ^c	6.6 J	20	5.7	ug/kg	SW846 8270C BY SIM
Fluoranthene ^c	46.5 J	100	10	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^c	42.2	20	5.1	ug/kg	SW846 8270C BY SIM
Phenanthrene ^c	18.4 J	100	10	ug/kg	SW846 8270C BY SIM
Pyrene ^c	49.0 J	100	10	ug/kg	SW846 8270C BY SIM
TPH (Motor Oil)	178	41	20	mg/kg	SW846 8015B M
Arsenic	12.3	0.26		mg/kg	SW846 6020
Lead	79.7	0.26		mg/kg	SW846 6020
C37833-5 CAT-B-3-4					
TPH (Motor Oil)	15 3 I	17	83	mø/kø	SW846 8015B M
Arsenic ^d	7 2	0.56	0.0	mø/kø	SW846 6020
Lead	2.6	0.28		mg/kg	SW846 6020
C37833-6 CAT-B-3-1					
Anthracene	3.4 J	24	2.4	uø/kø	SW846 8270C BY SIM
Benzo(a)anthracene	23.5	4.9	1.2	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene	35.4	4.9	0.83	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene	36.7	4.9	0.97	ug/kg	SW846 8270C BY SIM
Benzo(g h i)pervlene	43.1	4 9	11	11g/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene	19.3	4 9	1.1	ug/kg ug/kg	SW846 8270C BY SIM
Chrysene	36.2	4.9	0.97	ug/kg	SW846 8270C BY SIM
Fluoranthene	62.5	24	2.4	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene	40.2	4.9	1.2	ug/kg	SW846 8270C BY SIM
Phenanthrene	21.1 J	24	2.4	ug/kg	SW846 8270C BY SIM
Pyrene	60.1	24	2.4	ug/kg	SW846 8270C BY SIM
TPH (Diesel) ^e	42.7	4.9	2.5	mg/kg	SW846 8015B M
TPH (Motor Oil) ^f	78.2	9.8	4.9	mg/kg	SW846 8015B M
Arsenic	8.0	0.31	,	mø/kø	SW846 6020
Lead	24.0	0.31		mg/kg	SW846 6020
C37833-7 CAT-B-5-1					
Acenaphthylene	4.7 J	21	2.1	ug/kg	SW846 8270C BY SIM
Anthracene	5.2 J	21	2.1	ug/kg	SW846 8270C BY SIM
Benzo(a)anthracene	61.9	4.3	1.1	119/kg	SW846 8270C BY SIM
Benzo(a)pyrene	123	4 3	0.73	110/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene	110	4 3	0.86	110/kg	SW846 8270C BY SIM
Denzo(0)moranniene	110		0.00	~6/ NG	STORE DI DIM

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Job Number:	C37833
Account:	Tetra Tech EMI
Project:	Alameda Cross Trail Phase II
Collected:	12/29/14

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
Benzo(g,h,i)perylene	176	4.3	0.94	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene	62.0	4.3	0.99	ug/kg	SW846 8270C BY SIM
Chrysene	84.0	4.3	0.86	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene	14.1	4.3	1.2	ug/kg	SW846 8270C BY SIM
Fluoranthene	162	21	2.1	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene	179	4.3	1.1	ug/kg	SW846 8270C BY SIM
Phenanthrene	28.6	21	2.1	ug/kg	SW846 8270C BY SIM
Pyrene	191	21	2.1	ug/kg	SW846 8270C BY SIM
TPH (Diesel) ^e	6.17	4.3	2.1	mg/kg	SW846 8015B M
TPH (Motor Oil) ^g	22.7	8.6	4.3	mg/kg	SW846 8015B M
Arsenic	6.2	0.28		mg/kg	SW846 6020
Lead	68.4	0.28		mg/kg	SW846 6020
C37833-8 CAT-B-4-5					
Acenaphthene	6.8 J	23	2.3	ug/kg	SW846 8270C BY SIM
Acenaphthylene	15.9 J	23	2.3	ug/kg	SW846 8270C BY SIM
Anthracene	32.5	23	2.3	ug/kg	SW846 8270C BY SIM
Benzo(a)anthracene	156	4.5	1.1	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene	264	4.5	0.77	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene	239	4.5	0.91	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene	286	4.5	1.0	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene	118	4.5	1.0	ug/kg	SW846 8270C BY SIM
Chrysene	204	4.5	0.91	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene	30.2	4.5	1.3	ug/kg	SW846 8270C BY SIM
Fluoranthene	515	23	2.3	ug/kg	SW846 8270C BY SIM
Fluorene	12.6 J	23	2.3	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene	300	4.5	1.1	ug/kg	SW846 8270C BY SIM
Phenanthrene	242	23	2.3	ug/kg	SW846 8270C BY SIM
Pyrene	495	23	2.3	ug/kg	SW846 8270C BY SIM
TPH (Diesel) ^e	11.7	4.6	2.3	mg/kg	SW846 8015B M
TPH (Motor Oil)	26.6	9.1	4.6	mg/kg	SW846 8015B M
Arsenic	6.3	0.29		mg/kg	SW846 6020
Lead	36.6	0.29		mg/kg	SW846 6020
C37833-9 CAT-B-4-2					
Acenaphthylene	7.6 J	21	2.1	ug/kg	SW846 8270C BY SIM
Anthracene	7.6 J	21	2.1	ug/kg	SW846 8270C BY SIM
Benzo(a)anthracene	99.6	4.2	1.0	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene	219	4.2	0.71	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene	220	4.2	0.83	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene	293	4.2	0.92	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene	114	4.2	0.96	ug/kg	SW846 8270C BY SIM
Chrysene	163	4.2	0.83	ug/kg	SW846 8270C BY SIM

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Job Number:	C37833
Account:	Tetra Tech EMI
Project:	Alameda Cross Trail Phase II
Collected:	12/29/14

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
Dibenzo(a,h)anthracene	28.4	4.2	1.2	ug/kg	SW846 8270C BY SIM
Fluoranthene	285	21	2.1	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene	320	4.2	1.0	ug/kg	SW846 8270C BY SIM
Phenanthrene	60.0	21	2.1	ug/kg	SW846 8270C BY SIM
Pyrene	295	21	2.1	ug/kg	SW846 8270C BY SIM
TPH (Diesel) ^e	8.76	4.2	2.1	mg/kg	SW846 8015B M
TPH (Motor Oil)	28.2	8.4	4.2	mg/kg	SW846 8015B M
Pentachlorophenol ^b	2.6 J	4.1	0.62	ug/kg	SW846 8151A
Arsenic	6.8	0.27		mg/kg	SW846 6020
Lead	37.0	0.27		mg/kg	SW846 6020
C37833-10 CAT-B-5-5					
Benzo(a)anthracene	7.8	3.6	0.89	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene	14.7	3.6	0.61	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene	14.2	3.6	0.71	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene	18.5	3.6	0.79	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene	7.4	3.6	0.82	ug/kg	SW846 8270C BY SIM
Chrysene	10.2	3.6	0.71	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene	1.9 J	3.6	1.0	ug/kg	SW846 8270C BY SIM
Fluoranthene	17.7 J	18	1.8	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene	18.8	3.6	0.89	ug/kg	SW846 8270C BY SIM
Pyrene	21.2	18	1.8	ug/kg	SW846 8270C BY SIM
Pentachlorophenol ^b	2.9 J	3.5	0.54	ug/kg	SW846 8151A
Arsenic ^d	1.7	0.52		mg/kg	SW846 6020
Lead	3.3	0.23		mg/kg	SW846 6020
C37833-11 CAT-B-6-4					
Benzo(a)anthracene	5.6	4.9	1.2	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene	7.4	4.9	0.83	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene	8.3	4.9	0.97	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene	8.6	4.9	1.1	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene	4.3 J	4.9	1.1	ug/kg	SW846 8270C BY SIM
Chrysene	7.8	4.9	0.97	ug/kg	SW846 8270C BY SIM
Fluoranthene	10.8 J	24	2.4	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene	8.7	4.9	1.2	ug/kg	SW846 8270C BY SIM
Phenanthrene	3.1 J	24	2.4	ug/kg	SW846 8270C BY SIM
Pyrene	10 J	24	2.4	ug/kg	SW846 8270C BY SIM
TPH (Diesel) ⁿ	5.74	4.9	2.4	mg/kg	SW846 8015B M
TPH (Motor Oil) ^I	9.43 J	9.8	4.9	mg/kg	SW846 8015B M
Pentachlorophenol ^b	1.4 J	4.9	0.75	ug/kg	SW846 8151A
Arsenic a	3.9	0.68		mg/kg	SW846 6020
Lead	185	0.31		mg/kg	SW846 6020



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Job Number:	C37833
Account:	Tetra Tech EMI
Project:	Alameda Cross Trail Phase II
Collected:	12/29/14

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
C37833-12 CAT-B-6-1					
Acenaphthylene	4.4 J	21	2.1	ug/kg	SW846 8270C BY SIM
Anthracene	2.9 J	21	2.1	ug/kg	SW846 8270C BY SIM
Benzo(a)anthracene	22.6	4.1	1.0	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene	47.6	4.1	0.71	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene	49.3	4.1	0.83	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene	57.6	4.1	0.91	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene	30.4	4.1	0.95	ug/kg	SW846 8270C BY SIM
Chrysene	41.5	4.1	0.83	ug/kg	SW846 8270C BY SIM
Dibenzo(a, h)anthracene	8.4	4.1	1.2	ug/kg	SW846 8270C BY SIM
Fluoranthene	57.6	21	2.1	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene	63.0	4.1	1.0	ug/kg	SW846 8270C BY SIM
Phenanthrene	26.1	21	2.1	ug/kg	SW846 8270C BY SIM
Pyrene	69.3	21	2.1	ug/kg	SW846 8270C BY SIM
TPH (Diesel) h	8.22	4.3	2.1	mg/kg	SW846 8015B M
TPH (Motor Oil) ^f	36.5	8.5	4.3	mg/kg	SW846 8015B M
Arsenic	5.3	0.27		mg/kg	SW846 6020
Lead	26.2	0.27		mg/kg	SW846 6020

(a) Atypical Diesel pattern (C10-C28); heavier hydrocarbons contributing to quantitation.

(b) All hits confirmed by dual column analysis. Analysis performed at Accutest Laboratories, Orlando FL.

(c) Dilution required due to matrix interference (dark and viscous extract; high concentration of non-target hydrocarbons).

(d) Elevated RL/MDL due to positive bias of Method Blank.

(e) Atypical Diesel pattern (C12-C28); value due on discrete peaks and heavier hydrocarbons contributing to quantitation.

(f) Estimated value due to the presence of interfering peaks in the Motor Oil range.

(g) Estimated value due to the presence of interfering peaks.

(h) Atypical Diesel pattern (C12-C28); heavier hydrocarbons contributing to quantitation.





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Sample Results

Report of Analysis



Report of Analysis							
Client San Lab Samp Matrix: Method: Project:	nple ID: CAT-B ole ID: C37833 SO - So SW846 Alameo	3-1-2 3-1 5 8270C B da Cross 7	Y SIM SW846 Frail Phase II	5 3550B	D: D: Pe	2/29/14 2/31/14 4.7	
Run #1 ^a Run #2	File ID T17361.D	DF 40	Analyzed 01/03/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768
Pup #1	Initial Weight	Final V	olume				

Run #2

BN PAH List

CAS No.	Compound Result		RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	3500	350	ug/kg	
208-96-8	Acenaphthylene	ND	3500	350	ug/kg	
120-12-7	Anthracene	ND	3500	350	ug/kg	
56-55-3	Benzo(a)anthracene	ND	690	170	ug/kg	
50-32-8	Benzo(a)pyrene	ND	690	120	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	690	140	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	690	150	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	690	160	ug/kg	
218-01-9	Chrysene	ND	690	140	ug/kg	
53-70-3	Dibenzo(a, h)anthracene	ND	690	190	ug/kg	
206-44-0	Fluoranthene	ND	3500	350	ug/kg	
86-73-7	Fluorene	ND	3500	350	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	690	170	ug/kg	
90-12-0	1-Methylnaphthalene	ND	3500	690	ug/kg	
91-57-6	2-Methylnaphthalene	ND	3500	690	ug/kg	
91-20-3	Naphthalene	ND	3500	690	ug/kg	
85-01-8	Phenanthrene	ND	3500	350	ug/kg	
129-00-0	Pyrene	ND	3500	350	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts	
4165-60-0	Nitrobenzene-d5	69%		32-12	28%	
321-60-8	2-Fluorobiphenyl	117%		48-12	22%	
1718-51-0	Terphenyl-d14	116%		48-14	8%	

(a) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous); and high concentration of non-target hydrocarbons.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound

Page 1 of 1

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Report of Analysis								Page 1 of 1	
Client Sam Lab Sampl Matrix: Method: Project:	ple ID: CAT-B e ID: C37833 SO - So SW846 Alameo	W846 3546 ail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 eent Solids: 94	2/29/14 2/31/14 4.7		
Run #1 ^a Run #2	File ID CC046845.D	DF 1	Analyzed 01/08/15	By AFL	Prep D 01/05/1	ate 5	Prep Batch F:OP54497	Analytical Batch F:GCC779	
Run #1 Run #2	Initial Weight 15.2 g	Final Vo 5.0 ml	lume						
CAS No.	Compound		Result	RL	MDL	Units	Q		
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloropho	ex) enol	ND ND ND ND ND ND ND ND ND ND 0.94	35 3.5 3.5 3.5 87 170 35 35 3500 3500 3.5	5.9 0.94 0.70 1.2 17 35 13 13 920 830 0.53	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J		
CAS No.	Surrogate Rec	coveries	Run# 1	Run# 2	Lim	its			
19719-28-9	2,4-DCAA		70% ^b		31-1	32%			

(a) All hits confirmed by dual column analysis. Analysis performed at Accutest Laboratories, Orlando FL. (b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

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RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value
		Report of Analysis									
Client San Lab Samp Matrix: Method: Project:	nple ID: CAT-B le ID: C37833 SO - So SW846 Alamed	-1-2 -1 il 8015B M a Cross T	SW846 3550 rail Phase II	В	Da Da Pe	ate Sampled: ate Received: ercent Solids:	12/29/14 12/31/14 94.7				
Run #1 Run #2	File ID HH319851.D	DF 20	Analyzed 01/05/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1431				
Run #1 Run #2	Initial Weight 30.1 g	Final V 1.5 ml	olume								

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) ^a TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	132 1160 ND ND	110 210 110 110	53 110 53 53	mg/kg mg/kg mg/kg mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	72%		37-1	22%	

(a) Atypical Diesel pattern (C10-C28); heavier hydrocarbons contributing to quantitation.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Dage 1 of 1

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				Rep	oort of	Analysis				Page 1 of 1
Client Sample I Lab Sample ID: Matrix:	D: CAT C378 SO -	-B-1-2 333-1 Soil]	Date Sampled: Date Received:	12/29/14 12/31/14	
Project:	Alam	ieda Cross	s Trail Ph	ase II			1	Percent Solids:	94.7	
Metals Analysis										
Analyte	Result	RL	Units	DF	Prep	Analyzed I	By	Method	Prep Me	ethod

Arsenic	15.4	0.22	mg/kg	5	01/06/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²
Lead	40.4	0.22	mg/kg	5	01/06/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4523

(2) Prep QC Batch: MP8938

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	Report of Analysis								
Client Sample ID:	CAT-B-1	-2							
Lab Sample ID:	C37833-1					Date Sampled	: 12	2/29/14	
Matrix:	SO - Soil					Date Received	: 12	2/31/14	
						Percent Solids	: 94	.7	
Project:	Alameda	Cross Trail	Phase II						
General Chemistry	7								
Analyte		Result	RL	Units	DF	Analyzed	By	Method	
Moisture, Percent		5.3		%	1	01/02/15 13:00	TN	SM2540MOD G-97	

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			Repo	ort of A	nalysis		Page 1 of 1
Client San Lab Sam Matrix: Method: Project:	mple ID: CAT-B ole ID: C37833 SO - So SW846 Alameo	-1-4 3-2 bil 8270C B da Cross T	SY SIM SW846 Frail Phase II	5 3550B	Da Da Pe	ate Sampled: 1 ate Received: 1 ercent Solids: 9	12/29/14 12/31/14 93.0
Run #1 ^a Run #2	File ID T17362.D	DF 5	Analyzed 01/03/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768
Run #1	Initial Weight 30.2 g	Final V 1.0 ml	Volume				

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	89	8.9	ug/kg	
208-96-8	Acenaphthylene	ND	89	8.9	ug/kg	
120-12-7	Anthracene	ND	89	8.9	ug/kg	
56-55-3	Benzo(a)anthracene	36.4	18	4.5	ug/kg	
50-32-8	Benzo(a)pyrene	45.9	18	3.0	ug/kg	
205-99-2	Benzo(b)fluoranthene	33.0	18	3.6	ug/kg	
191-24-2	Benzo(g,h,i)perylene	37.8	18	3.9	ug/kg	
207-08-9	Benzo(k)fluoranthene	28.5	18	4.1	ug/kg	
218-01-9	Chrysene	40.3	18	3.6	ug/kg	
53-70-3	Dibenzo(a, h)anthracene	7.9	18	5.0	ug/kg	J
206-44-0	Fluoranthene	78.0	89	8.9	ug/kg	J
86-73-7	Fluorene	ND	89	8.9	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	37.3	18	4.5	ug/kg	
90-12-0	1-Methylnaphthalene	ND	89	18	ug/kg	
91-57-6	2-Methylnaphthalene	ND	89	18	ug/kg	
91-20-3	Naphthalene	ND	89	18	ug/kg	
85-01-8	Phenanthrene	27.2	89	8.9	ug/kg	J
129-00-0	Pyrene	79.2	89	8.9	ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts	
4165-60-0	Nitrobenzene-d5	98%		32-12	28%	
321-60-8	2-Fluorobiphenyl	94%	48-122%			
1718-51-0	Terphenyl-d14	91%		48-14	18%	

(a) Dilution required due to matrix interference (dark and viscous extract; high concentration of non-target hydrocarbons).

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Page 1 of 1

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			Repo	rt of An	alysis			Page 1 of 1
Client Sam Lab Sample Matrix: Method: Project:	ple ID: CAT-B e ID: C37833 SO - So SW846 Alameo	3-1-4 3-2 oil 5 8151A S da Cross Tr	W846 3546 rail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 cent Solids: 93	2/29/14 2/31/14 3.0
Run #1 ^a Run #2	File ID CC046771.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1	Pate 15	Prep Batch F:OP54497	Analytical Batch F:GCC777
Run #1 Run #2	Initial Weight 15.0 g	Final V 5.0 ml	olume					
CAS No.	Compound		Result	RL	MDL	Units	Q	
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloropho	ex) enol	ND ND ND ND ND ND ND ND 2.5	36 3.6 3.6 90 180 36 36 3600 3600 3.6	6.1 0.97 0.72 1.2 18 36 13 13 950 860 0.55	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J	
CAS No.	Surrogate Rec	coveries	Run# 1	Run# 2	Lim	iits		
19719-28-9	2,4-DCAA		70% ^b		31-1	32%		

(a) All hits confirmed by dual column analysis. Analysis performed at Accutest Laboratories, Orlando FL. (b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

E = Indicates value exceeds calibration range

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound

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RL = Reporting Limit

		Report of Analysis										
Client San Lab Samp Matrix: Method: Project:	nple ID: CAT-B le ID: C37833 SO - So SW846 Alamed	-1-4 5-2 bil 8015B M la Cross 7	1 SW846 3550 Frail Phase II	В	Da Da Pe	ate Sampled: 1 ate Received: 1 ercent Solids: 9	2/29/14 2/31/14 3.0					
Run #1 Run #2	File ID HH319852.D	DF 3	Analyzed 01/05/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1431					
Run #1 Run #2	Initial Weight 30.1 g	Final V 1.0 ml	Volume									

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) ^a TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	14.5 106 ND ND	11 21 11 11	5.4 11 5.4 5.4	mg/kg mg/kg mg/kg mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	88%		37-1	22%	

(a) Atypical Diesel pattern (C10-C28); heavier hydrocarbons contributing to quantitation.

- J = Indicates an estimated value
- $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$
- $N= \ Indicates \ presumptive \ evidence \ of \ a \ compound$



		Report of Analysis									
Client Sample I	D: CAT	-B-1-4									
Lab Sample ID	: C378	33-2					Date Sam	oled: 12/2	29/14		
Matrix:	SO -	Soil					Date Rece	ived: 12/2	31/14		
							Percent So	olids: 93.0	0		
Project:	Alam	neda Cros	s Trail Ph	ase II							
Metals Analysis											
Analyte	Result	RL	Units	DF	Prep	Analyzed B	y Method	Pr	ep Method		

Arsenic 27.2 0.23 mg/kg 5 $01/06/15$ $01/07/15$ Rs SW846 6020^{-1} SW846 6020^{-1} Load 25.7 0.23 mg/kg 5 $01/06/15$ $01/07/15$ Rs $sW846$ 6020^{-1} $sW846$ 802^{-1} $sW846$ 6020^{-1} $sW846$ 802^{-1} $sW846$ 802^{-1} $sW846$ 802^{-1} $sW846$ 802^{-1} $sW846$ $sW846$ $sW846$ $sW846^{-1}$ $sW846^{-1}$ $sW846^{-1}$ $sW846^{-1}$ $sW846^{-1}$	•				-	•	•		-	
Leau 55.7 0.25 mg/kg 5 $01/00/15$ $01/07/15$ ks $8W846.6020^{-2}$ $8W846.30$	Arsenic Lead	27.2 35.7	0.23	mg/kg 5 mg/kg 5	01/06/15 01/06/15	01/07/15 01/07/15	RS RS	SW846 6020 ¹ SW846 6020 ¹	SW846 3050 SW846 3050	в ² в ²

(1) Instrument QC Batch: MA4523

(2) Prep QC Batch: MP8938

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			Repor	rt of An	alysis			Page 1 of 1		
Client Sample ID:	CAT-B-1-4						10	/20/114		
Lab Sample ID:	C3/833-2					Date Sampled	: 12	/ 29/ 14		
Matrix:	SO - Soil					Date Received: 12/31/14				
						Percent Solids	: 93	.0		
Project:	Alameda Cr	oss Trail Ph	ase II							
General Chemistry	7									
Analyte	R	lesult	RL	Units	DF	Analyzed	By	Method		
Moisture, Percent	7			%	1	01/02/15 13:00	TN	SM2540MOD G-97		

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	Report of Analysis										
Client Sar Lab Samp Matrix: Method: Project:	nple ID: CAT-B ble ID: C37833 SO - So SW846 Alameo	-2-2 3-3 bil 8270C B la Cross T	Y SIM SW846 Frail Phase II	5 3550B	Da Da Pe	ate Sampled: 12 ate Received: 12 ercent Solids: 90	12/29/14 12/31/14 90.9				
Run #1 ^a Run #2	File ID T17363.D	DF 5	Analyzed 01/03/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768				
Run #1	Initial Weight 30.3 g	Final V 1.0 ml	olume								

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	91	9.1	ug/kg	
208-96-8	Acenaphthylene	ND	91	9.1	ug/kg	
120-12-7	Anthracene	ND	91	9.1	ug/kg	
56-55-3	Benzo(a)anthracene	9.5	18	4.5	ug/kg	J
50-32-8	Benzo(a)pyrene	14.4	18	3.1	ug/kg	J
205-99-2	Benzo(b)fluoranthene	19.0	18	3.6	ug/kg	
191-24-2	Benzo(g,h,i)perylene	18.8	18	4.0	ug/kg	
207-08-9	Benzo(k)fluoranthene	6.5	18	4.2	ug/kg	J
218-01-9	Chrysene	12.9	18	3.6	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	18	5.1	ug/kg	
206-44-0	Fluoranthene	17.6	91	9.1	ug/kg	J
86-73-7	Fluorene	ND	91	9.1	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	16.6	18	4.5	ug/kg	J
90-12-0	1-Methylnaphthalene	ND	91	18	ug/kg	
91-57-6	2-Methylnaphthalene	ND	91	18	ug/kg	
91-20-3	Naphthalene	ND	91	18	ug/kg	
85-01-8	Phenanthrene	ND	91	9.1	ug/kg	
129-00-0	Pyrene	23.1	91	9.1	ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limit	s	
4165-60-0	Nitrobenzene-d5	92%		32-12	8%	
321-60-8	2-Fluorobiphenyl	94%	48-122%			
1718-51-0	Terphenyl-d14	105%	48-148%			

(a) Dilution required due to matrix interference (dark and viscous extract; high concentration of non-target hydrocarbons).

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Page 1 of 1

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	Report of Analysis											
Client Sam Lab Sampl Matrix: Method: Project:	ple ID: CAT-B e ID: C37833 SO - So SW846 Alamed	-2-2 3-3 bil 8151A S la Cross Tr	W846 3546 ail Phase II			Date Date Perc	e Sampled: 1 e Received: 1 cent Solids: 9	2/29/14 2/31/14 0.9				
Run #1 ^a Run #2	File ID CC046846.D	DF 5	Analyzed 01/08/15	By AFL	Prep D 01/05/1	Pate 15	Prep Batch F:OP54497	Analytical Batch F:GCC779				
Run #1 Run #2	Initial Weight 15.5 g	Final Vo 5.0 ml	lume									
CAS No.	Compound		Result	RL	MDL	Units	Q					
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silve 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachlorophe	ex) enol	ND ND ND ND ND ND ND ND ND ND ND	180 18 18 440 890 180 180 180 18000 18000 18	30 4.8 3.6 5.9 89 180 67 66 4700 4300 2.7	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg						
CAS No.	Surrogate Rec	overies	Run# 1	Run# 2	Lim	nits						
19719-28-9	2.4-DCAA		90% b		31-1	132%						

(a) Dilution required due to matrix interference. Analysis performed at Accutest Laboratories, Orlando FL. (b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

E = Indicates value exceeds calibration range

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound

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RL = Reporting Limit

			Report of Analysis							
Client Sa Lab Sam Matrix: Method: Project:	ample ID: CAT-B pple ID: C37833 SO - So SW846 Alameo	-2-2 3-3 bil 8015B M la Cross 7	1 SW846 3550 Frail Phase II	В	Da Da Pe	ate Sampled: 1: ate Received: 1: crcent Solids: 9	2/29/14 2/31/14 0.9			
Run #1 Run #2	File ID HH319819.D	DF 5	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430			
Run #1 Run #2	Initial Weight 30.1 g	Final 1.0 ml	Volume							

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) TPH (Motor Oil)	ND 236	18 37	9.1 18	mg/kg mg/kg	
	TPH (Mineral Spirits) TPH (Kerosene)	ND ND	18 18	9.1 9.1	mg/kg mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	76%		37-1	22%	

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound

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				Rep	oort of	Analysis			Page 1 of 1
Client Sample I	D: CAT	-B-2-2							
Lab Sample ID:	C378	33-3					Date Sampled:	12/29/14	
Matrix:	SO -	Soil					Date Received	: 12/31/14	
							Percent Solids	: 90.9	
Project:	Alan	neda Cross	s Trail Pha	ase II					
Metals Analysis									
Analyte	Result	RL	Units	DF	Prep	Analyzed B	y Method	Prep M	ethod

J				- T			· · · · · ·
Arsenic	29.7	0.24	mg/kg 5	01/06/15	01/08/15 RS	SW846 6020 1	SW846 3050B ²
Lead	61.3	0.24	mg/kg 5	01/06/15	01/08/15 RS	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4523

(2) Prep QC Batch: MP8938

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			Repo	rt of An	alysis			Page 1 of 1
Client Sample ID:	CAT-B-2	-2						
Lab Sample ID:	C37833-3	3				Date Sampled	: 12	2/29/14
Matrix:	SO - Soil					Date Received	: 12	2/31/14
Project:	Percent Solids: 90.9 Alameda Cross Trail Phase II 90.9).9
General Chemistry								
Analyte		Result	RL	Units	DF	Analyzed	By	Method
Moisture, Percent		9.1		%	1	01/02/15 13:00	TN	SM2540MOD G-97

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	Report of Analysis										
Client Sample ID:CAT-B-2-5Lab Sample ID:C37833-4Matrix:SO - SoilMethod:SW846 8270C BY SIM SW846 3550BProject:Alameda Cross Trail Phase II											
Run #1 ^a Run #2	File ID T17364.D	DF 5	Analyzed 01/03/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768				
Run #1	Initial Weight 30.4 g	Final V 1.0 ml	Volume								

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	100	10	ug/kg	
208-96-8	Acenaphthylene	ND	100	10	ug/kg	
120-12-7	Anthracene	ND	100	10	ug/kg	
56-55-3	Benzo(a)anthracene	18.8	20	5.1	ug/kg	J
50-32-8	Benzo(a)pyrene	30.6	20	3.4	ug/kg	
205-99-2	Benzo(b)fluoranthene	33.3	20	4.0	ug/kg	
191-24-2	Benzo(g,h,i)perylene	42.9	20	4.4	ug/kg	
207-08-9	Benzo(k)fluoranthene	21.7	20	4.7	ug/kg	
218-01-9	Chrysene	29.6	20	4.0	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	6.6	20	5.7	ug/kg	J
206-44-0	Fluoranthene	46.5	100	10	ug/kg	J
86-73-7	Fluorene	ND	100	10	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	42.2	20	5.1	ug/kg	
90-12-0	1-Methylnaphthalene	ND	100	20	ug/kg	
91-57-6	2-Methylnaphthalene	ND	100	20	ug/kg	
91-20-3	Naphthalene	ND	100	20	ug/kg	
85-01-8	Phenanthrene	18.4	100	10	ug/kg	J
129-00-0	Pyrene	49.0	100	10	ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	nits	
4165-60-0	Nitrobenzene-d5	99%	32-128%			
321-60-8	2-Fluorobiphenyl	94%	48-122%			
1718-51-0	Terphenyl-d14	98%	48-148%			

(a) Dilution required due to matrix interference (dark and viscous extract; high concentration of non-target hydrocarbons).

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Page 1 of 1

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	Report of Analysis										
Client Sam Lab Sample Matrix: Method: Project:	ple ID: CAT-E e ID: C3783: SO - So SW846 Alameo	3-2-5 3-4 oil 5 8151A S' da Cross Tr	W846 3546 ail Phase II		2/29/14 2/31/14 1.4						
Run #1 ^a Run #2	File ID CC046773.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1	9 ate 15	Prep Batch F:OP54497	Analytical Batch F:GCC777			
Run #1 Run #2	Initial Weight 15.4 g	Final Vo 5.0 ml	lume								
CAS No.	Compound		Result	RL	MDL	Units	Q				
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloroph	ex) enol	ND ND ND ND ND ND ND ND ND	$\begin{array}{c} 40 \\ 4.0 \\ 4.0 \\ 4.0 \\ 100 \\ 200 \\ 40 \\ 40 \\ 4000 \\ 4.0 \end{array}$	$\begin{array}{c} 6.8\\ 1.1\\ 0.80\\ 1.3\\ 20\\ 40\\ 15\\ 15\\ 1100\\ 960\\ 0.61\\ \end{array}$	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg					
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	iits					
19719-28-9	2,4-DCAA		110% b		31-1	32%					

(a) Analysis performed at Accutest Laboratories, Orlando FL.

(b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit



RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

		Report of Analysis								
Client Sa Lab Sam Matrix: Method: Project:	ample ID: CAT-1 ple ID: C3783 SO - S SW84 Alame	3-2-5 3-4 oil 5 8015B N da Cross 7	1 SW846 3550 Frail Phase II	В	Da Da Pe	2/29/14 2/31/14 1.4				
Run #1 Run #2	File ID HH319820.D	DF 5	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430			
Run #1 Run #2	Initial Weight 30.1 g	Final \ 1.0 ml	Volume							

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) TPH (Motor Oil)	ND 178	20 41	10 20	mg/kg mg/kg	
	TPH (Mineral Spirits) TPH (Kerosene)	ND ND	20 20	10 10	mg/kg mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	70%		37-1	22%	

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



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				Rep	oort of	Analysis				Page 1 of 1
Client Sample	ID: CAT	-B-2-5								
Lab Sample II	D: C378	33-4					Ι	Date Sampled:	12/29/14	
Matrix:	SO -	Soil					Ι	Date Received:	12/31/14	
							I	Percent Solids:	81.4	
Project:	Alam	eda Cros	s Trail Pha	ase II						
Metals Analys	is									
Analyte	Result	RL	Units	DF	Prep	Analyzed B	8y	Method	Prep Me	ethod

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	12.3	0.26	mg/kg	5	01/06/15	01/08/15 RS	SW846 6020 ¹	SW846 3050B ²
Lead	79.7	0.26	mg/kg	5	01/06/15	01/08/15 RS	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4523

(2) Prep QC Batch: MP8938

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		Repo	ort of Ar	nalysis			Page 1 of	1
Client Sample ID: Lab Sample ID: Matrix:	CAT-B-2-5 C37833-4				Date Sampled	: 12	2/29/14	د
Project:	Alameda Cross Tra	ail Phase II			Percent Solids	8 12	.4	
General Chemistry	,							
Analyte	Result	RL	Units	DF	Analyzed	By	Method	
Moisture, Percent	18.6		%	1	01/02/15 13:00	TN	SM2540MOD G-97	

			Repo	ort of A	nalysis		Page 1 of 1
Client Sar Lab Sam Matrix: Method: Project:	mple ID: CAT-B ple ID: C37833 SO - So SW846 Alamed	-3-4 -5 61 8270C B a Cross T	SY SIM SW846 Frail Phase II	5 3550B	Da Da Pe	nte Sampled: 1 nte Received: 1 rcent Solids: 7	2/29/14 2/31/14 27.7
Run #1 Run #2	File ID T17348.D	DF 1	Analyzed 01/02/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768
Run #1	Initial Weight 15.3 g	Final V 1.0 ml	Volume				

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	42	4.2	ug/kg	
208-96-8	Acenaphthylene	ND	42	4.2	ug/kg	
120-12-7	Anthracene	ND	42	4.2	ug/kg	
56-55-3	Benzo(a)anthracene	ND	8.4	2.1	ug/kg	
50-32-8	Benzo(a)pyrene	ND	8.4	1.4	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	8.4	1.7	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	8.4	1.9	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	8.4	1.9	ug/kg	
218-01-9	Chrysene	ND	8.4	1.7	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	8.4	2.4	ug/kg	
206-44-0	Fluoranthene	ND	42	4.2	ug/kg	
86-73-7	Fluorene	ND	42	4.2	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	8.4	2.1	ug/kg	
90-12-0	1-Methylnaphthalene	ND	42	8.4	ug/kg	
91-57-6	2-Methylnaphthalene	ND	42	8.4	ug/kg	
91-20-3	Naphthalene	ND	42	8.4	ug/kg	
85-01-8	Phenanthrene	ND	42	4.2	ug/kg	
129-00-0	Pyrene	ND	42	4.2	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
4165-60-0	Nitrobenzene-d5	105%		32-1	28%	
321-60-8	2-Fluorobiphenyl	100%		48-1	22%	
1718-51-0	Terphenyl-d14	112%		48-1	48%	

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

ω 5 Page 1 of 1

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30 of 99 ACCUTEST C37833

			Repo	rt of An	alysis			Page 1 of 1	
Client Sam Lab Sampl Matrix: Method: Project:	ple ID: CAT-E e ID: C3783: SO - So SW846 Alamed	3-3-4 3-5 oil 5 8151A S da Cross Tr	W846 3546 ail Phase II	Date Sampled:12/29/14Date Received:12/31/14Percent Solids:77.7					
Run #1 ^a Run #2	File ID CC046796.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1	Date 15	Prep Batch F:OP54497	Analytical Batch F:GCC777	
Run #1 Run #2	Initial Weight 15.0 g	Final Vo 5.0 ml	lume						
CAS No.	Compound		Result	RL	MDL	Units	Q		
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloroph	ex) enol	ND ND ND ND ND ND ND ND ND	43 4.3 4.3 4.3 110 210 43 43 4300 4300 4.3	7.3 1.2 0.86 1.4 21 43 16 16 1100 1000 0.66	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg			
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lin	nits			
19719-28-9	2,4-DCAA		100% b		31-1	132%			

(a) Analysis performed at Accutest Laboratories, Orlando FL.

(b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

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RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

			Repo	ort of A	Analysis		Page 1 of 1
Client Sa Lab Sam Matrix: Method: Project:	mple ID: CAT-B ple ID: C37833 SO - So SW846 Alameo	-3-4 3-5 bil 8015B M la Cross 7	1 SW846 3550 Frail Phase II	В	Da Da Pe	ate Sampled: 12 ate Received: 12 ercent Solids: 77	2/29/14 2/31/14 7.7
Run #1 Run #2	File ID HH319821.D	DF 1	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430
Run #1 Run #2	Initial Weight 15.5 g	Final 1.0 ml	Volume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND 15.3 ND ND	8.3 17 8.3 8.3	4.1 8.3 4.1 4.1	mg/kg mg/kg mg/kg mg/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	94%		37-1	22%	

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound

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	Report of Analysis			Page 1 of
Client Sample ID:	САТ-В-3-4			
Lab Sample ID:	C37833-5	Date Sampled:	12/29/14	
Matrix:	SO - Soil	Date Received:	12/31/14	
		Percent Solids:	77.7	
Project:	Alameda Cross Trail Phase II			
Metals Analysis				

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^a	7.2	0.56	mg/kg	5	01/09/15	01/12/15 RS	SW846 6020 ²	SW846 3050B ⁴
Lead	2.6	0.28	mg/kg	5	01/06/15	01/08/15 RS	SW846 6020 ¹	SW846 3050B ³

(1) Instrument QC Batch: MA4523

(2) Instrument QC Batch: MA4533

(3) Prep QC Batch: MP8938

(4) Prep QC Batch: MP8965

(a) Elevated RL/MDL due to positive bias of Method Blank.

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			Repo	rt of An	alysis			Page 1 of 1
Client Sample ID:	CAT-B-3	-4						
Lab Sample ID:	C37833-5	i				Date Sampled	: 12	2/29/14
Matrix:	SO - Soil					Date Received	: 12	2/31/14
						Percent Solids	: 77	1.7
Project:	Alameda	Cross Trail	Phase II					
General Chemistry	,							
Analyte		Result	RL	Units	DF	Analyzed	By	Method
Moisture, Percent		22.3		%	1	01/02/15 13:00	TN	SM2540MOD G-97

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			Repo	ort of A	nalysis		Page 1 of 1
Client Sar Lab Sam Matrix: Method: Project:	mple ID: CAT-B ple ID: C37833 SO - So SW846 Alamed	-3-1 5-6 bil 8270C B la Cross T	Y SIM SW846 Frail Phase II	Da Da Pe	nte Sampled: 1 nte Received: 1 rcent Solids: 6	2/29/14 2/31/14 57.7	
Run #1 Run #2	File ID T17349.D	DF 1	Analyzed 01/02/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768
Run #1	Initial Weight 30.4 g	Final V 1.0 ml	olume				

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	24	2.4	ug/kg	
208-96-8	Acenaphthylene	ND	24	2.4	ug/kg	
120-12-7	Anthracene	3.4	24	2.4	ug/kg	J
56-55-3	Benzo(a)anthracene	23.5	4.9	1.2	ug/kg	
50-32-8	Benzo(a)pyrene	35.4	4.9	0.83	ug/kg	
205-99-2	Benzo(b)fluoranthene	36.7	4.9	0.97	ug/kg	
191-24-2	Benzo(g,h,i)perylene	43.1	4.9	1.1	ug/kg	
207-08-9	Benzo(k)fluoranthene	19.3	4.9	1.1	ug/kg	
218-01-9	Chrysene	36.2	4.9	0.97	ug/kg	
53-70-3	Dibenzo(a, h)anthracene	ND	4.9	1.4	ug/kg	
206-44-0	Fluoranthene	62.5	24	2.4	ug/kg	
86-73-7	Fluorene	ND	24	2.4	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	40.2	4.9	1.2	ug/kg	
90-12-0	1-Methylnaphthalene	ND	24	4.9	ug/kg	
91-57-6	2-Methylnaphthalene	ND	24	4.9	ug/kg	
91-20-3	Naphthalene	ND	24	4.9	ug/kg	
85-01-8	Phenanthrene	21.1	24	2.4	ug/kg	J
129-00-0	Pyrene	60.1	24	2.4	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
4165-60-0	Nitrobenzene-d5	109%		32-1	28%	
321-60-8	2-Fluorobiphenyl	101%		48-1	22%	
1718-51-0	Terphenyl-d14	90%		48-1	48%	

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound

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35 of 99 ACCUTEST C37833

	Report of Analysis											
Client Sam Lab Sample Matrix: Method: Project:	ple ID: CAT-E e ID: C3783: SO - So SW846 Alameo	3-3-1 3-6 oil 5 8151A S' da Cross Tr	W846 3546 ail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 ent Solids: 67	2/29/14 2/31/14 7.7				
Run #1 ^a Run #2	File ID CC046779.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1	ate 5	Prep Batch F:OP54497	Analytical Batch F:GCC777				
Run #1 Run #2	Initial Weight 15.1 g	Final Vo 5.0 ml	lume									
CAS No.	Compound		Result	RL	MDL	Units	Q					
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloroph	ex) enol	ND ND ND ND ND ND ND ND ND ND	49 4.9 4.9 120 240 49 49 4900 4900 4.9	8.3 1.3 0.98 1.6 24 49 18 18 1300 1200 0.75	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg						
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	its						
19719-28-9	2,4-DCAA		80% b		31-1	32%						

(a) Analysis performed at Accutest Laboratories, Orlando FL.

(b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

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Client Sa Lab Sam Matrix: Method: Project:	mple ID: CAT-B ple ID: C37833 SO - So SW846 Alamed	-3-1 5-6 601 8015B M	A SW846 3550 Trail Phase II	В	Da Da Pe	ate Sampled: 12 ate Received: 12 ercent Solids: 67	2/29/14 2/31/14 7.7
Run #1 Run #2	File ID HH319822.D	DF 1	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430
Run #1 Run #2	Initial Weight 30.0 g	Final 1.0 ml	Volume				

Report of Analysis

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) ^a TPH (Motor Oil) ^b TPH (Mineral Spirits) TPH (Kerosene)	42.7 78.2 ND ND	4.9 9.8 4.9 4.9	2.5 4.9 2.5 2.5	mg/kg mg/kg mg/kg mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	105%		37-1	22%	

(a) Atypical Diesel pattern (C12-C28); value due on discrete peaks and heavier hydrocarbons contributing to quantitation.

(b) Estimated value due to the presence of interfering peaks in the Motor Oil range.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Page 1 of 1

				Rep	oort of	Analysis				Page 1 of 1
Client Sample Lab Sample ID	ID: CAT	-B-3-1 33-6					Da	te Sampled:	12/29/14	
Matrix:	SO -	Soil					Da Da Pei	te Received: rcent Solids:	12/31/14 67 7	
Project:	Alam	neda Cros	s Trail Pha	ase II			10	cent bonus.	07.7	
Metals Analysi	s									
Analyte	Result	RL	Units	DF	Prep	Analyzed B	y N	Viethod	Prep Me	thod

					-	•	•		-
Arsenic	8.0	0.31	mg/kg	5	01/06/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²
Lead	24.0	0.31	mg/kg	5	01/06/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4523

(2) Prep QC Batch: MP8938

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			Repo	rt of An	alysis			Page 1 of 1
Client Sample ID:	CAT-B-3	-1						
Lab Sample ID:	C37833-6	5				Date Sampled	: 12	2/29/14
Matrix:	SO - Soil					Date Received	: 12	2/31/14
						Percent Solids	: 67	'.7
Project:	Alameda	Cross Trail	Phase II					
General Chemistry	,							
Analyte		Result	RL	Units	DF	Analyzed	By	Method
Moisture, Percent		32.3		%	1	01/02/15 13:00	TN	SM2540MOD G-97

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			Repo	ort of A	analysis		Page 1 of 1
Client San Lab Sam Matrix: Method: Project:	mple ID: CAT-B ple ID: C37833 SO - So SW846 Alamed	-5-1 -7 il 8270C B a Cross T	Y SIM SW846 Frail Phase II	5 3550B	Da Da Pe	te Sampled: te Received: rcent Solids:	12/29/14 12/31/14 77.5
Run #1 Run #2	File ID T17350.D	DF 1	Analyzed 01/02/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768
Run #1	Initial Weight 30.0 g	Final V 1.0 ml	olume				

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	21	2.1	ug/kg	
208-96-8	Acenaphthylene	4.7	21	2.1	ug/kg	J
120-12-7	Anthracene	5.2	21	2.1	ug/kg	J
56-55-3	Benzo(a)anthracene	61.9	4.3	1.1	ug/kg	
50-32-8	Benzo(a)pyrene	123	4.3	0.73	ug/kg	
205-99-2	Benzo(b)fluoranthene	110	4.3	0.86	ug/kg	
191-24-2	Benzo(g,h,i)perylene	176	4.3	0.94	ug/kg	
207-08-9	Benzo(k)fluoranthene	62.0	4.3	0.99	ug/kg	
218-01-9	Chrysene	84.0	4.3	0.86	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	14.1	4.3	1.2	ug/kg	
206-44-0	Fluoranthene	162	21	2.1	ug/kg	
86-73-7	Fluorene	ND	21	2.1	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	179	4.3	1.1	ug/kg	
90-12-0	1-Methylnaphthalene	ND	21	4.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	21	4.3	ug/kg	
91-20-3	Naphthalene	ND	21	4.3	ug/kg	
85-01-8	Phenanthrene	28.6	21	2.1	ug/kg	
129-00-0	Pyrene	191	21	2.1	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
4165-60-0	Nitrobenzene-d5	110%		32-1	28%	
321-60-8	2-Fluorobiphenyl	104%		48-1	22%	
1718-51-0	Terphenyl-d14	102%		48-1	48%	

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



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	Report of Analysis											
Client Sam Lab Sample Matrix: Method: Project:	ple ID: CAT-E e ID: C3783: SO - So SW846 Alameo	8-5-1 3-7 501 58151A SV da Cross Tr	W846 3546 ail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 cent Solids: 77	2/29/14 2/31/14 7.5				
Run #1 ^a Run #2	File ID CC046780.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1	9 ate 15	Prep Batch F:OP54497	Analytical Batch F:GCC777				
Run #1 Run #2	Initial Weight 15.1 g	Final Vo 5.0 ml	lume									
CAS No.	Compound		Result	RL	MDL	Units	Q					
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloroph	ex) enol	ND ND ND ND ND ND ND ND ND ND	43 4.3 4.3 4.3 110 210 43 43 43 00 4300 4.3	7.3 1.2 0.86 1.4 21 43 16 16 1100 1000 0.65	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg						
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	iits						
19719-28-9	2,4-DCAA		80% b		31-1	32%						

(a) Analysis performed at Accutest Laboratories, Orlando FL.

(b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound

D



RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

			Repo	Page 1 of 1			
Client San Lab Samp Matrix: Method: Project:	nple ID: CAT-B ble ID: C37833 SO - So SW846 Alamed	-5-1 -7 vil 8015B N a Cross '	A SW846 35501 Trail Phase II	В	Da Da Pe	te Sampled: 12 te Received: 12 rcent Solids: 77	2/29/14 2/31/14 7.5
Run #1 Run #2	File ID HH319823.D	DF 1	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430
Run #1 Run #2	Initial Weight 30.1 g	Final ` 1.0 ml	Volume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) ^a TPH (Motor Oil) ^b TPH (Mineral Spirits)	6.17 22.7 ND	4.3 8.6 4.3	2.1 4.3 2.1	mg/kg mg/kg mg/kg	
	TPH (Kerosene)	ND	4.3	2.1	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	99%		37-1	22%	

(a) Atypical Diesel pattern (C12-C28); value due on discrete peaks and heavier hydrocarbons contributing to quantitation.

(b) Estimated value due to the presence of interfering peaks.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



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				Rep	oort of	Analysis				Page 1 of
Client Sample	D: CAT	-B-5-1								
Lab Sample ID	: C378	33-7					Date Sa	mpled:	12/29/14	
Matrix:	SO -	Soil					Date R	eceived:	12/31/14	
							Percen	t Solids:	77.5	
Project:	Alan	neda Cros	s Trail Ph	ase II						
Metals Analysis	S									
Analyte	Result	RL	Units	DF	Prep	Analyzed B	y Meth	od	Prep Me	ethod

Arsenic 6.2	0.28 mg/k	kg 5 01/06	5/15 01/08/15	RS S'	W846 6020 ¹ SW846 30501	в ²
Lead 68.4	0.28 mg/k	kg 5 01/06	5/15 01/08/15	RS S'	W846 6020 ¹ SW846 30501	в ²

(1) Instrument QC Batch: MA4523

(2) Prep QC Batch: MP8938



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		Repo	ort of Ar	nalysis			Page 1 of 1
Client Sample ID:	CAT-B-5-1						
Lab Sample ID:	C37833-7				Date Sampled	: 12	/29/14
Matrix:	SO - Soil				Date Received	: 12	/31/14
					Percent Solids	: 77	.5
Project:	Alameda Cross Tra	il Phase II					
General Chemistry	7						
Analyte	Result	RL	Units	DF	Analyzed	By	Method
Moisture, Percent	22.5		%	1	01/02/15 13:00	TN	SM2540MOD G-97

Page 1 of 1 \checkmark

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			Repo	ort of A	Analysis		Page 1 of 1
Client Sa Lab Sam Matrix: Method: Project:	mple ID: CAT-B ple ID: C3783: SO - So SW846 Alameo	9-4-5 3-8 5 8270C B da Cross T	BY SIM SW846 Frail Phase II	5 3550B	Da Da Pe	nte Sampled: 1 nte Received: 1 rcent Solids: 7	2/29/14 2/31/14 2.9
Run #1 Run #2	File ID T17351.D	DF 1	Analyzed 01/02/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768
Run #1	Initial Weight 30.3 g	Final V 1.0 ml	Volume				

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	6.8	23	2.3	ug/kg	J
208-96-8	Acenaphthylene	15.9	23	2.3	ug/kg	J
120-12-7	Anthracene	32.5	23	2.3	ug/kg	
56-55-3	Benzo(a)anthracene	156	4.5	1.1	ug/kg	
50-32-8	Benzo(a)pyrene	264	4.5	0.77	ug/kg	
205-99-2	Benzo(b)fluoranthene	239	4.5	0.91	ug/kg	
191-24-2	Benzo(g,h,i)perylene	286	4.5	1.0	ug/kg	
207-08-9	Benzo(k)fluoranthene	118	4.5	1.0	ug/kg	
218-01-9	Chrysene	204	4.5	0.91	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	30.2	4.5	1.3	ug/kg	
206-44-0	Fluoranthene	515	23	2.3	ug/kg	
86-73-7	Fluorene	12.6	23	2.3	ug/kg	J
193-39-5	Indeno(1,2,3-cd)pyrene	300	4.5	1.1	ug/kg	
90-12-0	1-Methylnaphthalene	ND	23	4.5	ug/kg	
91-57-6	2-Methylnaphthalene	ND	23	4.5	ug/kg	
91-20-3	Naphthalene	ND	23	4.5	ug/kg	
85-01-8	Phenanthrene	242	23	2.3	ug/kg	
129-00-0	Pyrene	495	23	2.3	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
4165-60-0	Nitrobenzene-d5	109%		32-1	28%	
321-60-8	2-Fluorobiphenyl	92%		48-1	22%	
1718-51-0	Terphenyl-d14	90%		48-1	48%	

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



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			Repo	rt of An	alysis			Page 1 of 1
Client Sam Lab Sample Matrix: Method: Project:	ple ID: CAT-E e ID: C3783: SO - So SW846 Alameo	8-4-5 3-8 oil 5 8151A SV da Cross Tr	W846 3546 ail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 cent Solids: 72	2/29/14 2/31/14 2.9
Run #1 ^a Run #2	File ID CC046781.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1)ate 15	Prep Batch F:OP54497	Analytical Batch F:GCC777
Run #1 Run #2	Initial Weight 15.2 g	Final Vo 5.0 ml	lume					
CAS No.	Compound		Result	RL	MDL	Units	Q	
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloroph	ex) enol	ND ND ND ND ND ND ND ND ND	$\begin{array}{c} 45\\ 4.5\\ 4.5\\ 4.5\\ 110\\ 230\\ 45\\ 45\\ 4500\\ 4500\\ 4.5\end{array}$	7.7 1.2 0.91 1.5 23 45 17 17 1200 1100 0.69	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg		
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	nits		
19719-28-9	2,4-DCAA		80% b		31-1	132%		

(a) Analysis performed at Accutest Laboratories, Orlando FL.

(b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

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RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

			Repo	ort of A	Analysis		Page 1 of 1
Client Sa	mple ID: CAT-B	-4-5					
Lab Sam	ple ID: C37833	3-8			Da	ate Sampled: 1	2/29/14
Matrix:	SO - So	oil			Da	ate Received: 1	2/31/14
Method:	SW846	8015B M	SW846 3550	В	Pe	ercent Solids: 7	2.9
Project:	Alamed	la Cross T	rail Phase II				
	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH319824.D	1	01/03/15	AG	01/02/15	OP11469	GHH1430
Run #2							
	Initial Weight	Final V	olume				
Run #1	30.0 g	1.0 ml					
Run #2							
L							

Report of Analysis

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) ^a	11.7	4.6	2.3	mg/kg	
	TPH (Motor Oil)	26.6	9.1	4.6	mg/kg	
	TPH (Mineral Spirits)	ND	4.6	2.3	mg/kg	
	TPH (Kerosene)	ND	4.6	2.3	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	95%		37-1	22%	

(a) Atypical Diesel pattern (C12-C28); value due on discrete peaks and heavier hydrocarbons contributing to quantitation.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound


Client Sample	ID: CAT	-B-4-5							
Lab Sample ID	C378	33-8					Date Sampled:	12/29/14	
Matrix:	SO -	Soil					Date Received:	12/31/14	
							Percent Solids:	72.9	
Project:	Alam	eda Cross	s Trail Pha	ise II					
Metals Analysis	s								
Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method	

01/06/15 01/08/15 RS

01/06/15 01/08/15 RS

SW846 6020 ¹

SW846 6020 ¹

SW846 3050B²

SW846 3050B 2

Report of Analysis

(1) Instrument QC Batch: MA4523

6.3

36.6

0.29

0.29

mg/kg 5

mg/kg 5

(2) Prep QC Batch: MP8938

Arsenic

Lead

Page 1 of 1

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48 of 99 ACCUTEST C37833

			Repo	rt of An	alysis			Page 1 of 1
Client Sample ID:	CAT-B-4	-5						
Lab Sample ID:	C37833-8	5				Date Sampled	: 12	/29/14
Matrix:	SO - Soil					Date Received	: 12	/31/14
						Percent Solids	: 72	9
Project:	Alameda	Cross Trail	Phase II					
General Chemistry	,							
Analyte		Result	RL	Units	DF	Analyzed	By	Method
Moisture, Percent		27.1		%	1	01/02/15 13:00	TN	SM2540MOD G-97

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			Repo	ort of A	nalysis		Page 1 of 1
Client Sar Lab Sam Matrix: Method: Project:	mple ID: CAT-B ple ID: C37833 SO - So SW846 Alamed	-4-2 3-9 bil 8270C B la Cross 7	Y SIM SW846 Frail Phase II	5 3550B	Da Da Pe	ate Sampled: 1 ate Received: 1 ercent Solids: 7	2/29/14 2/31/14 9.4
Run #1 Run #2	File ID T17352.D	DF 1	Analyzed 01/02/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768
Run #1	Initial Weight 30.2 g	Final V 1.0 ml	olume				

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	21	2.1	ug/kg	
208-96-8	Acenaphthylene	7.6	21	2.1	ug/kg	J
120-12-7	Anthracene	7.6	21	2.1	ug/kg	J
56-55-3	Benzo(a)anthracene	99.6	4.2	1.0	ug/kg	
50-32-8	Benzo(a)pyrene	219	4.2	0.71	ug/kg	
205-99-2	Benzo(b)fluoranthene	220	4.2	0.83	ug/kg	
191-24-2	Benzo(g,h,i)perylene	293	4.2	0.92	ug/kg	
207-08-9	Benzo(k)fluoranthene	114	4.2	0.96	ug/kg	
218-01-9	Chrysene	163	4.2	0.83	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	28.4	4.2	1.2	ug/kg	
206-44-0	Fluoranthene	285	21	2.1	ug/kg	
86-73-7	Fluorene	ND	21	2.1	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	320	4.2	1.0	ug/kg	
90-12-0	1-Methylnaphthalene	ND	21	4.2	ug/kg	
91-57-6	2-Methylnaphthalene	ND	21	4.2	ug/kg	
91-20-3	Naphthalene	ND	21	4.2	ug/kg	
85-01-8	Phenanthrene	60.0	21	2.1	ug/kg	
129-00-0	Pyrene	295	21	2.1	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
4165-60-0	Nitrobenzene-d5	109%		32-1	28%	
321-60-8	2-Fluorobiphenyl	103%		48-1	22%	
1718-51-0	Terphenyl-d14	90%		48-1	48%	

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



			Repo	rt of An		Page 1 of 1		
Client Sam Lab Sampl Matrix: Method: Project:	ple ID: CAT-E e ID: C3783: SO - So SW846 Alameo	-4-2 3-9 5 8151A S da Cross Ti	W846 3546 ail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 eent Solids: 79	2/29/14 2/31/14 9.4
Run #1 ^a Run #2	File ID CC046782.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1	Pate 15	Prep Batch F:OP54497	Analytical Batch F:GCC777
Run #1 Run #2	Initial Weight 15.5 g	Final V 5.0 ml	olume					
CAS No.	Compound		Result	RL	MDL	Units	Q	
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloroph	ex) enol	ND ND ND ND ND ND ND ND ND 2.6	$\begin{array}{c} 41 \\ 4.1 \\ 4.1 \\ 4.1 \\ 100 \\ 200 \\ 41 \\ 41 \\ 4100 \\ 4100 \\ 4.1 \end{array}$	6.9 1.1 0.82 1.4 20 41 15 15 1100 980 0.62	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J	
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	uits		
19719-28-9	2,4-DCAA		70% b		31-1	32%		

(a) All hits confirmed by dual column analysis. Analysis performed at Accutest Laboratories, Orlando FL. (b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

E = Indicates value exceeds calibration range

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound

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RL = Reporting Limit

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Client San Lab Samj Matrix: Method: Project:	mple ID: CAT-B ple ID: C37833 SO - So SW846 Alamed	-4-2 3-9 bil 8015B M la Cross T	SW846 3550 rail Phase II	В	D: D: Pe	ate Sampled: 12 ate Received: 12 ercent Solids: 79	2/29/14 2/31/14 9.4
Run #1 Run #2	File ID HH319825.D	DF 1	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430
Run #1 Run #2	Initial Weight 30.1 g	Final V 1.0 ml	olume				

Report of Analysis

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) ^a TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	8.76 28.2 ND ND	4.2 8.4 4.2 4.2	2.1 4.2 2.1 2.1	mg/kg mg/kg mg/kg mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	94%		37-1	22%	

(a) Atypical Diesel pattern (C12-C28); value due on discrete peaks and heavier hydrocarbons contributing to quantitation.

- J = Indicates an estimated value
- $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$
- N = Indicates presumptive evidence of a compound



				Rep	ort of	Analysis			Page 1 of 1
Client Sample I	D: CAT	-B-4-2							
Lab Sample ID:	C378	33-9					Date Sampled:	12/29/14	
Matrix:	SO -	Soil					Date Received:	12/31/14	
							Percent Solids:	79.4	
Project:	Alan	neda Cross	s Trail Pha	ase II					
Metals Analysis									
Analyte	Result	RL	Units	DF	Prep	Analyzed By	v Method	Prep Me	ethod

•					•	·	·		•
Arsenic	6.8	0.27	mg/kg	5	01/06/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²
Lead	37.0	0.27	mg/kg	5	01/06/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4523

(2) Prep QC Batch: MP8938

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			Repo	rt of An	alysis			Page 1 of 1
Client Sample ID:	CAT-B-4	-2						
Lab Sample ID:	C37833-9)				Date Sampled	: 12	/29/14
Matrix:	SO - Soil					Date Received	: 12	/31/14
Project:	Alameda	Cross Trail	Phase II			Percent Solids	: 79	9.4
General Chemistry	7							
Analyte		Result	RL	Units	DF	Analyzed	By	Method
Moisture, Percent		20.6		%	1	01/02/15 13:00	TN	SM2540MOD G-97

<u>3.9</u>



			Repo	ort of A	nalysis		Page 1 of 1
Client San Lab Sam Matrix: Method: Project:	mple ID: CAT-B ple ID: C3783: SO - So SW846 Alameo	9-5-5 3-10 5 8270C B da Cross T	Y SIM SW846 Frail Phase II	5 3550B	Da Da Pe	ate Sampled: 12 ate Received: 12 ercent Solids: 9	2/29/14 2/31/14 1.8
Run #1 Run #2	File ID T17353.D	DF 1	Analyzed 01/02/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768
Run #1	Initial Weight 30.5 g	Final V 1.0 ml	olume				

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	18	1.8	ug/kg	
208-96-8	Acenaphthylene	ND	18	1.8	ug/kg	
120-12-7	Anthracene	ND	18	1.8	ug/kg	
56-55-3	Benzo(a)anthracene	7.8	3.6	0.89	ug/kg	
50-32-8	Benzo(a)pyrene	14.7	3.6	0.61	ug/kg	
205-99-2	Benzo(b)fluoranthene	14.2	3.6	0.71	ug/kg	
191-24-2	Benzo(g,h,i)perylene	18.5	3.6	0.79	ug/kg	
207-08-9	Benzo(k)fluoranthene	7.4	3.6	0.82	ug/kg	
218-01-9	Chrysene	10.2	3.6	0.71	ug/kg	
53-70-3	Dibenzo(a, h)anthracene	1.9	3.6	1.0	ug/kg	J
206-44-0	Fluoranthene	17.7	18	1.8	ug/kg	J
86-73-7	Fluorene	ND	18	1.8	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	18.8	3.6	0.89	ug/kg	
90-12-0	1-Methylnaphthalene	ND	18	3.6	ug/kg	
91-57-6	2-Methylnaphthalene	ND	18	3.6	ug/kg	
91-20-3	Naphthalene	ND	18	3.6	ug/kg	
85-01-8	Phenanthrene	ND	18	1.8	ug/kg	
129-00-0	Pyrene	21.2	18	1.8	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
4165-60-0	Nitrobenzene-d5	107%		32-1	28%	
321-60-8	2-Fluorobiphenyl	100%		48-1	22%	
1718-51-0	Terphenyl-d14	98%		48-1	48%	

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



			Repo	rt of An	alysis			Page 1 of 1
Client Sam Lab Sampl Matrix: Method: Project:	ple ID: CAT-B e ID: C37833 SO - So SW846 Alameo	-5-5 3-10 bil 8151A S la Cross T	SW846 3546 rail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 cent Solids: 91	2/29/14 2/31/14 1.8
Run #1 ^a Run #2	File ID CC046783.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1	ate 5	Prep Batch F:OP54497	Analytical Batch F:GCC777
Run #1 Run #2	Initial Weight 15.4 g	Final V 5.0 ml	olume					
CAS No.	Compound		Result	RL	MDL	Units	Q	
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloropho	ex) enol	ND ND ND ND ND ND ND ND 2.9	35 3.5 3.5 3.5 88 180 35 35 3500 3500 3.5	$\begin{array}{c} 6.0\\ 0.96\\ 0.71\\ 1.2\\ 18\\ 35\\ 13\\ 13\\ 940\\ 850\\ 0.54 \end{array}$	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J	
CAS No.	Surrogate Rec	coveries	Run# 1	Run# 2	Lim	iits		
19719-28-9	2,4-DCAA		40% b		31-1	32%		

(a) All hits confirmed by dual column analysis. Analysis performed at Accutest Laboratories, Orlando FL. (b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

E = Indicates value exceeds calibration range

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound

3.10

C37833

RL = Reporting Limit

			Repo	ort of A	Analysis		Page 1 of 1	3.10
Client Sam Lab Samp Matrix: Method: Project:	nple ID: CAT-E le ID: C3783: SO - So SW846 Alameo	3-5-5 3-10 5 8015B M da Cross 7	SW846 3550 Trail Phase II	В	Da Da Pe	ate Sampled: 12 ate Received: 12 ercent Solids: 91	2/29/14 2/31/14 1.8	ယ
Run #1 Run #2	File ID HH319826.D	DF 1	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430	j
Run #1 Run #2	Initial Weight 30.2 g	Final V 1.0 ml	olume					

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	3.6	1.8	mg/kg	
	TPH (Motor Oil)	ND	7.2	3.6	mg/kg	
	TPH (Mineral Spirits)	ND	3.6	1.8	mg/kg	
	TPH (Kerosene)	ND	3.6	1.8	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	97%		37-1	22%	

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



	ľ	5	e
Client Sample ID:	CAT-B-5-5		
Lab Sample ID:	C37833-10	Date Sampled:	12/29/14
Matrix:	SO - Soil	Date Received:	12/31/14
		Percent Solids:	91.8
Project:	Alameda Cross Trail Phase II		
Metals Analysis			

Report of Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^a	1.7	0.52	mg/kg	5	01/09/15	01/12/15 RS	SW846 6020 ²	SW846 3050B ⁴
Lead	3.3	0.23	mg/kg	5	01/06/15	01/08/15 RS	SW846 6020 ¹	SW846 3050B ³

(1) Instrument QC Batch: MA4523

(2) Instrument QC Batch: MA4533

(3) Prep QC Batch: MP8938

(4) Prep QC Batch: MP8965

(a) Elevated RL/MDL due to positive bias of Method Blank.

			Repo	rt of An	alysis			Page 1 of 1
Client Sample ID:	CAT-B-5	-5						
Lab Sample ID:	C37833-1	0				Date Sampled	: 12	2/29/14
Matrix:	SO - Soil					Date Received	: 12	2/31/14
						Percent Solids	: 91	.8
Project:	Alameda	Cross Trail	Phase II					
General Chemistry	7							
Analyte		Result	RL	Units	DF	Analyzed	By	Method
Moisture, Percent		8.2		%	1	01/02/15 13:00	TN	SM2540MOD G-97



			Repo	ort of A	nalysis		Page 1 of 1
Client Sa Lab Sam Matrix: Method: Project:	mple ID: CAT-B ple ID: C37833 SO - So SW846 Alamed	-6-4 3-11 bil 8270C B la Cross 7	Y SIM SW846 Frail Phase II	5 3550B	Da Da Pe	ate Sampled: 1 ate Received: 1 ercent Solids: 6	2/29/14 2/31/14 7.9
Run #1 Run #2	File ID T17354.D	DF 1	Analyzed 01/02/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768
Run #1	Initial Weight 30.3 g	Final V 1.0 ml	olume				

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	24	2.4	ug/kg	
208-96-8	Acenaphthylene	ND	24	2.4	ug/kg	
120-12-7	Anthracene	ND	24	2.4	ug/kg	
56-55-3	Benzo(a)anthracene	5.6	4.9	1.2	ug/kg	
50-32-8	Benzo(a)pyrene	7.4	4.9	0.83	ug/kg	
205-99-2	Benzo(b)fluoranthene	8.3	4.9	0.97	ug/kg	
191-24-2	Benzo(g,h,i)perylene	8.6	4.9	1.1	ug/kg	
207-08-9	Benzo(k)fluoranthene	4.3	4.9	1.1	ug/kg	J
218-01-9	Chrysene	7.8	4.9	0.97	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	4.9	1.4	ug/kg	
206-44-0	Fluoranthene	10.8	24	2.4	ug/kg	J
86-73-7	Fluorene	ND	24	2.4	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	8.7	4.9	1.2	ug/kg	
90-12-0	1-Methylnaphthalene	ND	24	4.9	ug/kg	
91-57-6	2-Methylnaphthalene	ND	24	4.9	ug/kg	
91-20-3	Naphthalene	ND	24	4.9	ug/kg	
85-01-8	Phenanthrene	3.1	24	2.4	ug/kg	J
129-00-0	Pyrene	10	24	2.4	ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts	
4165-60-0	Nitrobenzene-d5	114%		32-12	28%	
321-60-8	2-Fluorobiphenyl	106%		48-12	22%	
1718-51-0	Terphenyl-d14	102%		48-14	18%	

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



C37833

3.11 ω

			Repo	ort of An	alysis			Page 1 of 1
Client Sam Lab Sampl Matrix: Method: Project:	ple ID: CAT-E e ID: C3783: SO - So SW846 Alamed	3-6-4 3-11 oil 5 8151A S da Cross Tr	W846 3546 rail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 cent Solids: 67	2/29/14 2/31/14 7.9
Run #1 ^a Run #2	File ID CC046784.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1	Pate 15	Prep Batch F:OP54497	Analytical Batch F:GCC777
Run #1 Run #2	Initial Weight 15.0 g	Final Vo 5.0 ml	olume					
CAS No.	Compound		Result	RL	MDL	Units	Q	
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloroph	ex) enol	ND ND ND ND ND ND ND 1.4	49 4.9 4.9 120 250 49 49 4900 4900 4.9	8.3 1.3 0.99 1.6 25 49 18 18 1300 1200 0.75	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J	
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	iits		
19719-28-9	2.4-DCAA		90% b		31-1	32%		

(a) All hits confirmed by dual column analysis. Analysis performed at Accutest Laboratories, Orlando FL. (b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



RL = Reporting Limit

E = Indicates value exceeds calibration range

			Repo	ort of A	Analysis		Page 1 of 1	3.11
Client Samp Lab Sample Matrix: Method: Project:	ole ID: CAT-B ID: C37833 SO - Sc SW846 Alamed	-6-4 3-11 bil 8015B M la Cross Ti	SW846 3550 ail Phase II	В	Da Da Pe	ate Sampled: 12 ate Received: 12 ercent Solids: 67	2/29/14 2/31/14 7.9	<u>د</u>
Run #1 Run #2	File ID HH319828.D	DF 1	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430	ĺ
Run #1 Run #2	Initial Weight 30.1 g	Final Vo 1.0 ml	olume					

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) ^a TPH (Motor Oil) ^b TPH (Mineral Spirits) TPH (Kerosene)	5.74 9.43 ND ND	4.9 9.8 4.9 4.9	2.4 4.9 2.4 2.4	mg/kg mg/kg mg/kg mg/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	93%		37-1	22%	

(a) Atypical Diesel pattern (C12-C28); heavier hydrocarbons contributing to quantitation.

(b) Estimated value due to the presence of interfering peaks in the Motor Oil range.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Alameda Cross Trail Phase II		
	Percent Solids:	67.9
SO - Soil	Date Received:	12/31/14
C37833-11	Date Sampled:	12/29/14
CAT-B-6-4		
	CAT-B-6-4 C37833-11 SO - Soil Alameda Cross Trail Phase II	CAT-B-6-4 C37833-11 SO - Soil Alameda Cross Trail Phase II

Report of Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^a	3.9	0.68	mg/kg	5	01/09/15	01/12/15 RS	SW846 6020 ²	SW846 3050B ⁴
Lead	185	0.31	mg/kg	5	01/06/15	01/08/15 RS	SW846 6020 ¹	SW846 3050B ³

(1) Instrument QC Batch: MA4523

(2) Instrument QC Batch: MA4533

(3) Prep QC Batch: MP8938

(4) Prep QC Batch: MP8965

(a) Elevated RL/MDL due to positive bias of Method Blank.

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Acculest Laboratori	65							
		Repo	ort of Ar	nalysis			Page 1 of	1 <mark>3</mark>
Client Sample ID: Lab Sample ID: Matrix:	CAT-B-6-4 C37833-11 SO - Soil				Date Sampled Date Received Percent Solids	: 12 I: 12 S: 67	2/29/14 2/31/14 7.9	ω
Project:	Alameda Cross Trail	Phase II						
General Chemistry	7							
Analyte	Result	RL	Units	DF	Analyzed	By	Method	
Moisture, Percent	32.1		%	1	01/02/15 13:00	TN	SM2540MOD G-97	



			Repo	ort of A	nalysis		Page 1 of 1
Client Sar Lab Sam Matrix: Method: Project:	mple ID: CAT-E ple ID: C3783 SO - S SW846 Alame	B-6-1 3-12 oil 5 8270C B da Cross T	Y SIM SW846 Frail Phase II	5 3550B	Da Da Pe	ate Sampled: 1 ate Received: 1 ercent Solids: 7	2/29/14 2/31/14 8.1
Run #1 Run #2	File ID T17355.D	DF 1	Analyzed 01/02/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768
Run #1	Initial Weight 30.9 g	Final V 1.0 ml	olume				

Run #2

BN PAH List

Compound	Result	RL	MDL	Units	Q
Acenaphthene	ND	21	2.1	ug/kg	
Acenaphthylene	4.4	21	2.1	ug/kg	J
Anthracene	2.9	21	2.1	ug/kg	J
Benzo(a)anthracene	22.6	4.1	1.0	ug/kg	
Benzo(a)pyrene	47.6	4.1	0.71	ug/kg	
Benzo(b)fluoranthene	49.3	4.1	0.83	ug/kg	
Benzo(g,h,i)perylene	57.6	4.1	0.91	ug/kg	
Benzo(k)fluoranthene	30.4	4.1	0.95	ug/kg	
Chrysene	41.5	4.1	0.83	ug/kg	
Dibenzo(a,h)anthracene	8.4	4.1	1.2	ug/kg	
Fluoranthene	57.6	21	2.1	ug/kg	
Fluorene	ND	21	2.1	ug/kg	
Indeno(1,2,3-cd)pyrene	63.0	4.1	1.0	ug/kg	
1-Methylnaphthalene	ND	21	4.1	ug/kg	
2-Methylnaphthalene	ND	21	4.1	ug/kg	
Naphthalene	ND	21	4.1	ug/kg	
Phenanthrene	26.1	21	2.1	ug/kg	
Pyrene	69.3	21	2.1	ug/kg	
Surrogate Recoveries	Run# 1	Run# 2	Limi	ts	
Nitrobenzene-d5	109%		32-12	28%	
2-Fluorobiphenyl	99%		48-12	2%	
Terphenyl-d14	94%		48-14	8%	
	Compound Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(g,h,i)perylene Benzo(k)fluoranthene Chrysene Dibenzo(a,h)anthracene Fluorene Indeno(1,2,3-cd)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Phenanthrene Phenanthrene Pyrene Surrogate Recoveries Nitrobenzene-d5 2-Fluorobiphenyl Terphenyl-d14	CompoundResultAcenaphtheneNDAcenaphthylene4.4Anthracene2.9Benzo(a)anthracene22.6Benzo(a)pyrene47.6Benzo(b)fluoranthene49.3Benzo(g,h,i)perylene57.6Benzo(k)fluoranthene30.4Chrysene41.5Dibenzo(a,h)anthracene8.4Fluoranthene57.6FluoreneNDIndeno(1,2,3-cd)pyrene63.01-MethylnaphthaleneND2-MethylnaphthaleneNDPhenanthrene26.1Pyrene69.3Surrogate RecoveriesRun# 1Nitrobenzene-d5109%2-Fluorobiphenyl99%Terphenyl-d1494%	Compound Result RL Acenaphthene ND 21 Acenaphthylene 4.4 21 Anthracene 2.9 21 Benzo(a)anthracene 22.6 4.1 Benzo(a)pyrene 47.6 4.1 Benzo(a)pyrene 47.6 4.1 Benzo(a)pyrene 57.6 4.1 Benzo(g,h,i)perylene 57.6 4.1 Benzo(k)fluoranthene 30.4 4.1 Chrysene 41.5 4.1 Dibenzo(a,h)anthracene 8.4 4.1 Fluoranthene 57.6 21 Indeno(1,2,3-cd)pyrene 63.0 4.1 1-Methylnaphthalene ND 21 Naphthalene ND 21 Phenanthrene 26.1 21 Pyrene 69.3 21 Surrogate Recoveries Rum# 1 Rum# 2 Nitrobenzene-d5 109% 2-Fluorobiphenyl 99% 99% 99% 99%	Compound Result RL MDL Acenaphthene ND 21 2.1 Acenaphthylene 4.4 21 2.1 Anthracene 2.9 21 2.1 Benzo(a)anthracene 22.6 4.1 1.0 Benzo(a)anthracene 22.6 4.1 0.71 Benzo(a)pyrene 47.6 4.1 0.71 Benzo(b)fluoranthene 49.3 4.1 0.83 Benzo(g,h,i)perylene 57.6 4.1 0.91 Benzo(k)fluoranthene 30.4 4.1 0.95 Chrysene 41.5 4.1 0.83 Dibenzo(a,h)anthracene 8.4 4.1 1.2 Fluoranthene 57.6 21 2.1 Indeno(1,2,3-cd)pyrene 63.0 4.1 1.0 I-Methylnaphthalene ND 21 4.1 Naphthalene ND 21 4.1 Phenanthrene 26.1 21 2.1 Pyrene 69.3 21 2.1 Surrogate Recoveries Rum#1 Rum#2 Limit </td <td>Compound Result RL MDL Units Acenaphthene ND 21 2.1 ug/kg Acenaphthylene 4.4 21 2.1 ug/kg Anthracene 2.9 21 2.1 ug/kg Benzo(a)anthracene 22.6 4.1 1.0 ug/kg Benzo(a)pyrene 47.6 4.1 0.71 ug/kg Benzo(b)fluoranthene 49.3 4.1 0.83 ug/kg Benzo(a)hiperylene 57.6 4.1 0.91 ug/kg Benzo(k)fluoranthene 30.4 4.1 0.95 ug/kg Chrysene 41.5 4.1 0.83 ug/kg Dibenzo(a,h)anthracene 8.4 4.1 1.2 ug/kg Fluoranthene 57.6 21 2.1 ug/kg Indeno(1,2,3-cd)pyrene 63.0 4.1 1.0 ug/kg Phenanthrene ND 21 4.1 ug/kg Naphthalene ND 21 4.1</td>	Compound Result RL MDL Units Acenaphthene ND 21 2.1 ug/kg Acenaphthylene 4.4 21 2.1 ug/kg Anthracene 2.9 21 2.1 ug/kg Benzo(a)anthracene 22.6 4.1 1.0 ug/kg Benzo(a)pyrene 47.6 4.1 0.71 ug/kg Benzo(b)fluoranthene 49.3 4.1 0.83 ug/kg Benzo(a)hiperylene 57.6 4.1 0.91 ug/kg Benzo(k)fluoranthene 30.4 4.1 0.95 ug/kg Chrysene 41.5 4.1 0.83 ug/kg Dibenzo(a,h)anthracene 8.4 4.1 1.2 ug/kg Fluoranthene 57.6 21 2.1 ug/kg Indeno(1,2,3-cd)pyrene 63.0 4.1 1.0 ug/kg Phenanthrene ND 21 4.1 ug/kg Naphthalene ND 21 4.1

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

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			Repo	rt of An	alysis			Page 1 of 1
Client Sam Lab Sample Matrix: Method: Project:	ple ID: CAT-B e ID: C37833 SO - So SW846 Alameo	8-6-1 3-12 5 8151A S da Cross Tr	W846 3546 ail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 cent Solids: 78	2/29/14 2/31/14 3.1
Run #1 ^a Run #2	File ID CC046785.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1	ate 5	Prep Batch F:OP54497	Analytical Batch F:GCC777
Run #1 Run #2	Initial Weight 15.5 g	Final Vo 5.0 ml	lume					
CAS No.	Compound		Result	RL	MDL	Units	Q	
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachlorophe	ex) enol	ND ND ND ND ND ND ND ND ND	$\begin{array}{c} 41 \\ 4.1 \\ 4.1 \\ 4.1 \\ 100 \\ 210 \\ 41 \\ 41 \\ 4100 \\ 4100 \\ 4.1 \end{array}$	$7.0 \\ 1.1 \\ 0.83 \\ 1.4 \\ 21 \\ 41 \\ 16 \\ 15 \\ 1100 \\ 990 \\ 0.63$	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg		
CAS No.	Surrogate Rec	coveries	Run# 1	Run# 2	Lim	its		
19719-28-9	2,4-DCAA		80% b		31-1	32%		

(a) Analysis performed at Accutest Laboratories, Orlando FL.

(b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

N = Indicates presumptive evidence of a compound



RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

			Repo	ort of A	Analysis		Page 1 of 1	0.16
Client Samj Lab Sample Matrix: Method: Project:	ple ID: CAT-F e ID: C3783 SO - S SW844 Alame	3-6-1 3-12 oil 5 8015B M da Cross Tr	SW846 3550 ail Phase II	В	Da Da Pe	ate Sampled: 12 ate Received: 12 prcent Solids: 73	2/29/14 2/31/14 3.1	د
Run #1 Run #2	File ID HH319829.D	DF 1	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430	
Run #1 Run #2	Initial Weight 30.0 g	Final V o 1.0 ml	lume					

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) ^a TPH (Motor Oil) ^b TPH (Mineral Spirits) TPH (Kerosene)	8.22 36.5 ND ND	4.3 8.5 4.3 4.3	2.1 4.3 2.1 2.1	mg/kg mg/kg mg/kg mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	97%		37-1	22%	

(a) Atypical Diesel pattern (C12-C28); heavier hydrocarbons contributing to quantitation.

(b) Estimated value due to the presence of interfering peaks in the Motor Oil range.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



				Rep	ort of	Analysis			Page 1 of
Client Sample I	D: CAT	-B-6-1							
Lab Sample ID:	C378	333-12					Date Sampled:	12/29/14	
Matrix:	SO -	Soil					Date Received:	12/31/14	
							Percent Solids:	78.1	
Project:	Alan	neda Cros	s Trail Ph	ase II					
Metals Analysis									
Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Me	ethod

•				-	•	•	-
Arconio	5 2	0.27	ma/ka 5	01/06/15	01/08/15 p	s sweets coop 1	SW946 2050D 2
Arsenic	5.5	0.27	mg/kg J	01/00/15	01/00/13 K	.5 5W840 0020	SW840 3030B
Lead	26.2	0.27	mg/kg 5	01/06/15	01/08/15 R	S SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4523

(2) Prep QC Batch: MP8938

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Recutest Euboratori	.05							
		R	eport of A	nalysis			Page 1 of	1 12
Client Sample ID:	CAT-B-6-1					10	/20/14	ယ
Lab Sample ID: Motrive	C3/833-12				Date Sampled	· 12	/29/14 /21/14	
	50 - 5011				Percent Solids	· 12	1	
Project:	Alameda Cros	s Trail Phase l	Π		i ci cent Jonus	• 70	.1	
General Chemistry	7							
Analyte	Res	ult R	L Units	DF	Analyzed	By	Method	
Moisture, Percent	21.9)	%	1	01/02/15 13:00	TN	SM2540MOD G-97	



Section 4

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Misc. Forms	
Custody Documents and Other H	Forms

Includes the following where applicable:

• Chain of Custody



135 Main St. Suite 1800			LUSIO	uy ke	20	<u>ru</u>	N	10. <u> </u>			1		Pre	serv:	ative	e Ado	ded		
San Francisco. CA 94105 415-543-4880 Fax 415-543-5480	Lab PO#:	Lab: Acci	itest			No.	./Co	ontain	er Type	es			Aną	l Jysi	s Ro	> equi	irec	 	
Project name: Cross - Trail Alawedy Phase II	TIEMI technical contact: Murk Duffy	Field sampler	s: K Dr.	Hay				807					w(5.1.	PA SIST	SZAN DZO	220			
Project (CTO) number: 103 5 3635	TIEMI project manager: Victor Eurly	Field samplers	signatures:	Y1/	S / MSD	NOA	r Amber ni Polv	e 1 Jar (407 /	h		A PCBc	ls Is	Purgeables Extractables	thedEt	0225 41	serie 6			
Sample ID	Sample Location (Pt. ID)	Date	Time	Matrix	M	40 m	1 lite 500 r	Sleev		VOA	SVO.	Meta	HAT	2	2 2	4			
CAT - B - 1 - 2 $CAT - B - 1 - 9$ $CAT - B - 2 - 2$ $CAT - B - 2 - 5$ $CAT - B - 3 - 9$ $CAT - B - 3 - 1$ $CAT - B - 5 - 1$ $CAT - B - 9 - 5$ $CAT - B - 9 - 5$ $CAT - B - 9 - 5$ $CAT - B - 6 - 9$ $CAT - B - 6 - 1$ Relinquished by: Machine Ope	, , , , , , , , , , , , , , , , , , ,	12-29-19	$\begin{array}{c} 1/15 \\ 1/30 \\ 1/215 \\ 1/2 30 \\ 1/315 \\ 1/305 \\ 1/450 \\ 1/450 \\ 1/450 \\ 1/450 \\ 1/450 \\ 1/530 \\ 1/530 \\ 1/530 \\ 1/535 \\ 1/555 \\ 1/555 \\ 1/555 \\ 1/555 \\ 1/555 \\ 1/555 \\ 1/555 \\ $	5x./						lame		Ēcc			Dat	Х 		Tir	ne
Received by:)			F	5	5×					12	31	14	0	9 31	ゥ
Received by:		LEE	BAUT	7510-			-14	eer	mes	-				ıч	3(ιţ	0	193	С
Received by:																	+		
Tursaround time/remarks:	(2) 2) 1	<u> </u>										T	Ìm	2	U.S	511	4.7		

C37833: Chain of Custody Page 1 of 2





Accutest Laboratories Sample Receipt Summary

Accutest Job Number:	C37833	Client:	TETRA TECH		Project: CROSS-TRAIL ALAMEDA PHAS	SE II
Date / Time Received:	12/31/2014 9:30:00	AM	Delivery Method:	FedEx	Airbill #'s: 804316470333	
Cooler Temps (Initial/Ac	ljusted): <u>#1: (4.5/4.</u>	5);				

1. Temp criteria achieved: Image: Cooler temp verification: IR2; 3. Cooler media: Ice (Bag) 4. No. Coolers: 1 1. Trip Blank present / cooler: Image: Cooler temp verification: 2. Trip Blank listed on COC: Image: Cooler temp verification: 3. Samples preserved properly: Image: Cooler temp verification: 4. VOCs headspace free: Image: Cooler temp verification:	Cooler Security Y 1. Custody Seals Present: □ 2. Custody Seals Intact: □ Cooler Temperature	or N ✓ 3.0 □ 4.Sm <u>Y or N</u>	COC Present: pl Dates/Time OK	Y or N ✓ □ ✓ □	Sample Integrity - Documentation Sample labels present on bottles: Container labeling complete: Sample container label / COC agree: 	Y V V	or	
Quality Control Preservation Y or N N/A 1. Trip Blank present / cooler: Image: Cooler Cooler: Image: Cooler Coole	1. Temp criteria achieved: 2. Cooler temp verification: 3. Cooler media: 4. No. Coolers:	IR2; Ice (Bag) 1			Sample Integrity - Condition 1. Sample recvd within HT: 2. All containers accounted for: 3. Condition of sample:	Y ✓ ✓	or I	
	Quality Control Preservation 1. Trip Blank present / cooler: 2. Trip Blank listed on COC: 3. Samples preserved properly: 4. VOCs headspace free:	Y or N □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	N/A V V		 Sample Integrity - Instructions 1. Analysis requested is clear: 2. Bottles received for unspecified tests 3. Sufficient volume recvd for analysis: 4. Compositing instructions clear: 	Y	or N	<u> N/A</u>]]] ☑

Comments

Accutest Laboratories V:408.588.0200 2105 Lundy Avenue F: 408.588.0201 San Jose, CA 95131 www/accutest.com 4.1 **4**

C37833: Chain of Custody Page 2 of 2



Section 5

S



GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary

Job Number:	C37833
Account:	TETRCAO Tetra Tech EMI
Project:	Alameda Cross Trail Phase II

Sample	File ID	DF	Analyzed	By	Prep Date 01/02/15	Prep Batch	Analytical Batch
OP11467-MB	T17345.D	1	01/02/15	MT		OP11467	ET768
The QC reported here applies to the following samples:					I	Method: SW846	5 8270C BY SIM

The QC reported here applies to the following samples:

C37833-1, C37833-2, C37833-3, C37833-4, C37833-5, C37833-6, C37833-7, C37833-8, C37833-9, C37833-10, C37833-11, C37833-12

CAS No.	Compound	Result	RL	MDL	Units Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg
120-12-7	Anthracene	ND	17	1.7	ug/kg
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.77	ug/kg
218-01-9	Chrysene	ND	3.3	0.67	ug/kg
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg
206-44-0	Fluoranthene	ND	17	1.7	ug/kg
86-73-7	Fluorene	ND	17	1.7	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg
91-20-3	Naphthalene	ND	17	3.3	ug/kg
85-01-8	Phenanthrene	ND	17	1.7	ug/kg
129-00-0	Pyrene	ND	17	1.7	ug/kg

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	110%	32-128%
321-60-8	2-Fluorobiphenyl	106%	48-122%
1718-51-0	Terphenyl-d14	110%	48-148%

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5.1.1



Blank Spike/Blank Spike Duplicate Summary

Job Number:	C37833
Account:	TETRCAO Tetra Tech EMI
Project:	Alameda Cross Trail Phase II

Sample OP11467-BS OP11467-BSD	File ID T17346.D T17347.D	DF 1 1	Analyzed 01/02/15 01/02/15	By MT MT	Prep Date 01/02/15 01/02/15	Prep Batch OP11467 OP11467	Analytical Batch ET768 ET768

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C37833-1, C37833-2, C37833-3, C37833-4, C37833-5, C37833-6, C37833-7, C37833-8, C37833-9, C37833-10, C37833-11, C37833-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	167	175	105	164	98	6	67-106/9
208-96-8	Acenaphthylene	167	168	101	162	97	4	67-104/9
120-12-7	Anthracene	167	181	109* a	166	100	9	66-107/11
56-55-3	Benzo(a)anthracene	167	170	102	171	103	1	72-115/9
50-32-8	Benzo(a)pyrene	167	157	94	162	97	3	64-107/10
205-99-2	Benzo(b)fluoranthene	167	182	109	168	101	8	69-127/15
191-24-2	Benzo(g,h,i)perylene	167	179	107	186	112	4	63-125/14
207-08-9	Benzo(k)fluoranthene	167	151	91	159	95	5	73-127/14
218-01-9	Chrysene	167	174	104	168	101	4	72-119/8
53-70-3	Dibenzo(a,h)anthracene	167	169	101	183	110	8	65-128/16
206-44-0	Fluoranthene	167	174	104	168	101	4	74-119/11
86-73-7	Fluorene	167	170	102	168	101	1	71-111/10
193-39-5	Indeno(1,2,3-cd)pyrene	167	162	97	170	102	5	59-128/18
90-12-0	1-Methylnaphthalene	167	130	78	167	100	25* ^b	63-103/12
91-57-6	2-Methylnaphthalene	167	161	97	166	100	3	64-106/12
91-20-3	Naphthalene	167	161	97	160	96	1	62-99/10
85-01-8	Phenanthrene	167	173	104	163	98	6	68-111/14
129-00-0	Pyrene	167	167	100	163	98	2	62-122/15
CAS No.	Surrogate Recoveries	BSP	B	SD	Limits			
4165-60-0	Nitrobenzene-d5	111%	11	0%	32-1289	%		
321-60-8	2-Fluorobiphenyl	104%	10	1%	48-1229	%		

(a) Outside of in-house control limits; but within the method control limits.

(b) Outside laboratory control limits. BS/BSD recoveries within control limits.

105%

101%

48-148%



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ACCL

C37833

Page 1 of 1

5.2.1

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1718-51-0 Terphenyl-d14

Matrix Spike/Matrix Spike Duplicate Summary

Job Number:	C37833
Account:	TETRCAO Tetra Tech EMI
Project:	Alameda Cross Trail Phase II

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP11467-MS ^a	T17368.D	4	01/03/15	MT	01/02/15	OP11467	ET768
OP11467-MSD a	T17369.D	4	01/03/15	MT	01/02/15	OP11467	ET768
C37834-5 ^a	T17365.D	4	01/03/15	MT	01/02/15	OP11467	ET768

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C37833-1, C37833-2, C37833-3, C37833-4, C37833-5, C37833-6, C37833-7, C37833-8, C37833-9, C37833-10, C37833-11, C37833-12

CAS No.	Compound	C37834 ug/kg	-5 Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		218	227	104	218	218	100	4	67-106/9
208-96-8	Acenaphthylene	ND		218	230	105* b	218	220	101	4	67-104/9
120-12-7	Anthracene	ND		218	219	100	218	239	110* ^b	9	66-107/11
56-55-3	Benzo(a)anthracene	59.3		218	267	95	218	276	99	3	72-115/9
50-32-8	Benzo(a)pyrene	121		218	306	85	218	297	81	3	64-107/10
205-99-2	Benzo(b)fluoranthene	123		218	374	115	218	345	102	8	69-127/15
191-24-2	Benzo(g,h,i)perylene	145		218	307	74	218	316	78	3	63-125/14
207-08-9	Benzo(k)fluoranthene	54.3		218	212	72* ^b	218	217	75	2	73-127/14
218-01-9	Chrysene	86.2		218	263	81	218	264	82	0	72-119/8
53-70-3	Dibenzo(a,h)anthracene	16.0	J	218	243	104	218	246	105	1	65-128/16
206-44-0	Fluoranthene	163		218	310	67* ^b	218	357	89	14* ^b	74-119/11
86-73-7	Fluorene	ND		218	231	106	218	222	102	4	71-111/10
193-39-5	Indeno(1,2,3-cd)pyrene	153		218	356	93	218	352	91	1	59-128/18
90-12-0	1-Methylnaphthalene	ND		218	218	100	218	214	98	2	63-103/12
91-57-6	2-Methylnaphthalene	ND		218	212	97	218	216	99	2	64-106/12
91-20-3	Naphthalene	ND		218	212	97	218	205	94	3	62-99/10
85-01-8	Phenanthrene	39.9	J	218	240	92	218	222	84	8	68-111/14
129-00-0	Pyrene	181		218	314	61* ^b	218	330	68	5	62-122/15
CAS No.	Surrogate Recoveries	MS		MSD	C3	7834-5	Limits				
4165-60-0	Nitrobenzene-d5	105%		107%	115	5%	32-1289	%			

321-60-82-Fluorobiphenyl110%104%108%48-122%1718-51-0Terphenyl-d14101%98%109%48-148%

(a) Dilution required due to matrix interference (dark and viscous extract; high concentration of non-target hydrocarbons).

(b) Outside laboratory control limits.

5.3.1

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Section 6

6



GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary Job Number: C37833

Account: Project:	TETRCAO Tetra Alameda Cross T	Tech EM rail Phas	MI e II				
Sample OP11469-MB	File ID HH319843.D	DF 1	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430
The QC report	ted here applies to	the follo]	Method: SW846	5 8015B M		

C37833-1, C37833-2, C37833-3, C37833-4, C37833-5, C37833-6, C37833-7, C37833-8, C37833-9, C37833-10, C37833-11, C37833-12

CAS No.	Compound	Result	RL	MDL	Units Q
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	3.3 6.7 3.3 3.3	1.7 3.3 1.7 1.7	mg/kg mg/kg mg/kg mg/kg
CAS No.	Surrogate Recoveries		Limi	ts	
630-01-3	Hexacosane	96%	37-12	22%	



6.1.1

Blank Spike/Blank Spike Duplicate Summary

Job Number:	C37833
Account:	TETRCAO Tetra Tech EMI
Project:	Alameda Cross Trail Phase II

Sample OP11469-BS OP11469-BSD	File ID HH319841.D HH319842.D	DF 1 1	Analyzed 01/03/15 01/03/15	By AG AG	Prep Date 01/02/15 01/02/15	Prep Batch OP11469 OP11469	Analytical Batch GHH1430 GHH1430

The QC reported here applies to the following samples:

Method: SW846 8015B M

C37833-1, C37833-2, C37833-3, C37833-4, C37833-5, C37833-6, C37833-7, C37833-8, C37833-9, C37833-10, C37833-11, C37833-12

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH (Diesel) TPH (Motor Oil)	33.3 33.3	27.0 30.0	81 90	29.1 30.1	87 90	7 0	38-102/28 42-111/26
CAS No.	Surrogate Recoveries	BSP	BSL)	Limits			
630-01-3	Hexacosane	97%	98%		37-122%			

6.2.1

Matrix Spike/Matrix Spike Duplicate Summary

Job Number:	C37833
Account:	TETRCAO Tetra Tech EMI
Project:	Alameda Cross Trail Phase II

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP11469-MS	HH319839.D	3	01/03/15	AG	01/02/15	OP11469	GHH1430
OP11469-MSD	HH319840.D	3	01/03/15	AG	01/02/15	OP11469	GHH1430
C37834-5	HH319834.D	1	01/03/15	AG	01/02/15	OP11469	GHH1430

The QC reported here applies to the following samples:

Method: SW846 8015B M

C37833-1, C37833-2, C37833-3, C37833-4, C37833-5, C37833-6, C37833-7, C37833-8, C37833-9, C37833-10, C37833-11, C37833-12

CAS No.	Compound	C37834-5 mg/kg Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (Diesel) TPH (Motor Oil)	6.39 30.3	43.7 43.7	34.7 66.7	65 83	43.6 43.6	44.9 127	88 222* ^a	26 62* ^a	38-102/28 42-111/26
CAS No.	Surrogate Recoveries	MS	MSD	C37	834-5	Limits				
630-01-3	Hexacosane	92%	88%	93%		37-122%				

(a) Outside laboratory control limits.

Page 1 of 1

6.3.1

6



C37833

Section 7



Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries



Login Number: C37833 Account: TETRCAO - Tetra Tech EMI Project: Alameda Cross Trail Phase II

QC Batch ID: MP8938 Matrix Type: SOLID Methods: SW846 6020 Units: mg/kg

Prep Date:					01/06/15
Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	2.3	2.5		
Antimony	0.25	.14	.008		
Arsenic	0.25	.3	.017	0.53	* (a)
Barium	0.50	.011	.036		
Beryllium	0.25		.027		
Boron	2.5	.09	.066		
Cadmium	0.25	.0028	.011		
Calcium	250	40	38		
Chromium	1.0	.025	.053		
Cobalt	0.25	.018	.0085		
Copper	1.0	.018	.11		
Iron	25	3.1	1.6		
Lead	0.25	.0056	.038	0.024	<0.25
Magnesium	250	.54	2.1		
Manganese	0.50	.012	.18		
Molybdenum	0.50	.11	.026		
Nickel	1.0	.18	.043		
Potassium	250	2.3	1.5		
Selenium	0.25	.17	.012		
Silver	0.25	.0048	.006		
Sodium	250	2.2	2.6		
Strontium	2.5	.021	.018		
Thallium	0.25	.04	.015		
Tin	2.5	.055	.036		
Titanium	0.50	.083	.038		
Uranium	0.25	.06	.006		
Vanadium	1.0	.36	.051		
Zinc	2.0	. 22	.11		

Associated samples MP8938: C37833-1, C37833-2, C37833-3, C37833-4, C37833-5, C37833-6, C37833-7, C37833-8, C37833-9, C37833-10, C37833-11, C37833-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) All sample results < RL or > 10x method blank concentration.



Login Number: C37833 Account: TETRCAO - Tetra Tech EMI Project: Alameda Cross Trail Phase II

QC	Bato	ch	ID:	MP8938
Mat	rix	Ту	mpe:	SOLID

Methods: SW846 6020 Units: mg/kg

Prep Date:				01/06/15										
Metal	C37833-2 Original	MS	Spikelot MPIR5	% Rec	QC Limits									
Aluminum														
Antimony														
Arsenic	27.2	55.4	45.6	61.9N(a)	75-125									
Barium														
Beryllium														
Boron														
Cadmium														
Calcium														
Chromium														
Cobalt														
Copper														
Iron														
Lead	34.1	74.0	45.6	84.1	75-125									
Magnesium														
Manganese														
Molybdenum														
Nickel														
Potassium														
Selenium														
Silver														
Sodium														
Strontium														
Thallium														
Tin														
Titanium														
Uranium														
Vanadium														
Zinc														
Associated samples MP8938: C37833-1, C37833-2, C37833-3, C37833-4, C37833-5, C37833-6, C37833-7, C37833- 8, C37833-9, C37833-10, C37833-11, C37833-12														
Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (N) Matrix Spike Rec. outside of QC limits (anr) Analyte not requested (a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.														
QC Batch ID: M Matrix Type: S	MP8938 SOLID				Methods: SW846 6020 Units: mg/kg									
--	--	--	-------------------------------------	-----------------------------	-------------------------------------	---	--	--	--	--	--	--	--	--
Prep Date:					01/06/15									
Metal	C37833-2 Original	MSD	Spikelot MPIR5	% Rec	MSD RPD	QC Limit								
Aluminum														
Antimony														
Arsenic	27.2	88.2	46	132.7N(a	21.2 (b)	20								
Barium														
Beryllium														
Boron														
Cadmium														
Calcium														
Chromium														
Cobalt														
Copper														
Iron														
Lead	34.1	89.0	46	116.0	4.7	20								
Magnesium														
Manganese														
Molybdenum														
Nickel														
Potassium														
Selenium														
Silver														
Sodium														
Strontium														
Thallium														
Tin														
Titanium														
Uranium														
Vanadium														
Zinc														
Associated sam 8, C37833-9, 0	mples MP89 237833-10,	38: C3783 C37833-1	3-1, C378 1, C37833	33-2, C37 -12	833-3, C3	7833-4, c37833-5, c37833-6, c37833-7, c37833-								
Results < IDL (*) Outside of (N) Matrix Sp: (anr) Analyte (a) Spike reco	are shown f QC limit ike Rec. o not reque overy indi	as zero s utside of sted cates pos	for calcu QC limit sible mat:	lation pu s rix inter	rposes ference a	nd/or sample nonhomogeneity.								

(b) RPD acceptable due to low duplicate and sample concentrations.





QC	Bato	ch	ID:	MP8938
Mat	rix	Ту	/pe:	SOLID

Methods: SW846 6020 Units: mg/kg

Prep Date:			01/06/15	
Metal	BSP Result	Spikelot MPIR5	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	54.5	50	109.0	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	54.6	50	109.2	80-120
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				
Associated sam 8, C37833-9, C	ples MP89 37833-10,	38: C3783 C37833-1	3-1, C378 1, C37833	33-2, C37833-3, C37833-4, C37833-5, C37833-6, C37833-7, C37833- -12
Results < IDL (*) Outside of	are shown QC limit	as zero	for calcu	lation purposes

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: C37833 Account: TETRCAO - Tetra Tech EMI Project: Alameda Cross Trail Phase II

QC Batch ID: MP8938 Matrix Type: SOLID Methods: SW846 6020 Units: ug/l

Prep Date:			01/06/15	
Metal	C37833-2 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	296	366	10.5 (a)	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	388	409	10.0	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				
Associated sam 8, C37833-9, C	ples MP89 37833-10,	38: C3783 C37833-1	3-1, C378 1, C37833	33-2, C37833-3, C37833-4, C37833-5, C37833-6, C37833-7, C37833- -12
Results < IDL (*) Outside of (anr) Analyte (a) Percent di	are shown QC limit not reque fference	as zero s sted acceptabl	for calcu e due to	lation purposes low initial sample concentration (< 50 times IDL).



QC Batch ID: MP8965 Matrix Type: SOLID Methods: SW846 6020 Units: mg/kg

Prep Date:					01/09/15			
Metal	RL	IDL	MDL	MB raw	final			
Aluminum	25	2.3	2.5					
Antimony	0.25	.14	.008					
Arsenic	0.50	. 3	.017	0.26	<0.50(a)			
Barium	0.50	.011	.036					
Beryllium	0.25		.027					
Boron	2.5	.09	.066					
Cadmium	0.25	.0028	.011					
Calcium	250	40	38					
Chromium	1.0	.025	.053					
Cobalt	0.25	.018	.0085					
Copper	1.0	.018	.11					
Iron	25	3.1	1.6					
Lead	0.25	.0056	.038					
Magnesium	250	.54	2.1					
Manganese	0.50	.012	.18					
Molybdenum	0.50	.11	.026					
Nickel	1.0	.18	.043					
Potassium	250	2.3	1.5					
Selenium	0.25	.17	.012					
Silver	0.25	.0048	.006					
Sodium	250	2.2	2.6					
Strontium	2.5	.021	.018					
Thallium	0.25	.04	.015					
Tin	2.5	.055	.036					
Titanium	0.50	.083	.038					
Uranium	0.25	.06	.006					
Vanadium	1.0	.36	.051					
Zinc	2.0	.22	.11					

Associated samples MP8965: C37833-5, C37833-10, C37833-11

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits $\ensuremath{\left[}$

(anr) Analyte not requested

(a) Elevated RL/MDL due to positive bias of Method Blank.



QC Batch ID: MP8965 Matrix Type: SOLID Methods: SW846 6020 Units: mg/kg

Prep Date:				01/09/15	
Metal	C37834-1 Original	MS	Spikelot MPIR5	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	2.7	53.2	57.8	87.4	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					
Associated sa	mples MP89	65: C378	33-5, C378	33-10, C3	7833-11
Results < IDI (*) Outside c (N) Matrix Sp (anr) Analyte	are shown of QC limit oike Rec. o e not reque	as zero s utside c sted	o for calcu of QC limit	lation pu s	rposes



QC Batch ID: MP8965 Matrix Type: SOLID Methods: SW846 6020 Units: mg/kg

Prep Date:					01/09/15	
Metal	C37834-1 Original	MSD	Spikelot MPIR5	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	2.7	58.5	59.9	93.2	9.5	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						
Associated sa	mples MP89	65: C378	33-5, C378	33-10, C3	87833-11	
Results < IDL (*) Outside o (N) Matrix Sp (anr) Analyte	are shown f QC limit ike Rec. o not reque	as zero s utside o sted	for calcu f QC limit	lation pu s	irposes	



QC Batch ID: MP8965 Matrix Type: SOLID Methods: SW846 6020 Units: mg/kg

Prep Date:			01/09/15	
Metal	BSP Result	Spikelot MPIR5	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	45.1	50	90.2	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				
Associated sa	mples MP89	965: C3783	3-5, C378	33-10, C37833-11
Results < IDL (*) Outside o (anr) Analyte	are shown f QC limit not reque	n as zero Is ested	for calcu	lation purposes



SERIAL DILUTION RESULTS SUMMARY

Login Number: C37833 Account: TETRCAO - Tetra Tech EMI Project: Alameda Cross Trail Phase II

QC Batch ID: MP8965 Matrix Type: SOLID Methods: SW846 6020 Units: ug/l

Prep Date:			01/09/15	
Metal	C37834-1 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	22.5	29.1	29.4 (a)	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				
Associated sam	ples MP890	65: C3783	3-5, C378	33-10, C37833-11
Results < IDL (*) Outside of (anr) Analyte (a) Percent di	are shown QC limits not reques fference a	as zero s sted acceptabl	for calcu e due to	lation purposes low initial sample concentration (< 50 times IDL).

Section 8

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Custody Documents and Other Forms

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

Chain of Custody



l PO#: C37833	88-0201				Collect Collect Date Time											_	Time: 15:00	Time:	Time:	30
Accutest ID and	8-0200 Fax: (408)58	Custody			ođ	H8151FL	H8151FL		Date: 01/02/15	Date:	Date:	accutest.com								
	l Phone :(408)588	ct Chain of	ttories Southeast		Matrix Meth	so	so	SO	s0	08	so	so	SO	so	so	nple	d By: FedEx	4 ^B %	d By:	to: nutank@a
0 A 7 0 A 1 6 5	mue, San Jose, CA 9513.	Subcontra	.ab: Accutest Labora 02/2015 08/2015	: TETRCAO6786 on:	Customer Sample Name/Field Point ID				~							x 402 Glass Jar per sat	Receive	FedEx Receive	Received	Send Report
8 V 1	2105 Lundy Ave		Subcontract L Date Sent: 01/ Date Due: 01/	Project Name Project Locati	Accutest Lab Number	C37833-1	C37833-2	C37833-3	C37833-4	C3/833-5	C37833-7	C37833-8	C37833-9	C37833-10	C37833-11	Comments: 1	Relinquished By: Lee.B	Relinquished By: I	Relinquished By:	
																			r_{s}	geq
																	C3783	33: (Chai	n of Cust
															A	cutest La	abora	torie	es So	Page 1 outheast, 1



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ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION	
ACCUTEST'S JOB NUMBER: <u>(37833</u> CLIENT: <u>ALNC</u> PROJECT: <u>Tetrano6786</u>	
DATE/TIME RECEIVED: (2.15 {MM/DD/YY 24:00}) METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER DELIVERY: 7724 4045 6232	
COOLER INFORMATION TEMPERATURE INFORMATION CUSTODY SEAL NOT PRESENT OR NOT INTACT IR THERM ID CORR. FACTOR <u>40.44</u> CHAIN OF CUSTODY NOT RECEIVED (COC) OBSERVED TEMPS: 26 ANALYSIS REQUESTED IS UNCLEAR OR MISSING SAMPLE DEMPS: 26 SAMPLE DATES OR TIMES UNCLEAR OR MISSING SAMPLE INFORMATION TEMPERATURE CRITERIA NOT MET TRIP BLANK INFORMATION INCORRECT NUMBER OF CONTAINERS USED TRIP BLANK NOT PROVIDED DATESTIMES ON COC DO NOT MATCH LABEL TRIP BLANK NOT PROVIDED DATESTIMES CON COC DO NOT MATCH LABEL TRIP BLANK NOT ON COC VOC VIALS HAVE HEADSPACE (MACRO BUBLES) TRIP BLANK NOT INTACT BOTTLES RECEIVED FOR ANALYSIS REQUESTED TRIP BLANK NOT INTACT BOTTLES RECEIVED FOR ANALYSIS REQUESTED TRIP BLANK NOT INTACT BOTTLES RECEIVED BOR ANALYSIS REQUESTED RECEIVED WATER TRIP BLANK UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS RECEIVED WATER TRIP BLANK SAMPLE CONTAINER(S) RECEIVED BOR ANALYSIS REQUESTED NUMBER OF ENCORES ? 2-GRAM	8.1 0
TECHNICIAN SIGNATURE/DATE MULL OF 03-15 NF 10/14 receipt confirmation 102914.xls	

C37833: Chain of Custody Page 2 of 3





C37833: Chain of Custody Page 3 of 3



Section 9

9



GC Semi-volatiles

QC Data Summaries

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary

Job Number: Account: Project:	ALNCA Accutest Northern California, Inc. TETRCAO: Alameda Cross Trail Phase II							
Sample OP54497-MB	File ID CC046769.D	DF 1	Analyzed 01/06/15	By FS	Prep Date 01/05/15	Prep Batch OP54497		

The QC reported here applies to the following samples:

C37833-1, C37833-2, C37833-3, C37833-4, C37833-5, C37833-6, C37833-7, C37833-8, C37833-9, C37833-10, C37833-11, C37833-12

CAS No.	Compound	Result	RL	MDL	Units Q
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silvex) 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachlorophenol	ND ND ND ND ND ND ND ND ND ND ND	33 3.3 3.3 3.3 83 170 33 3300 3300 3.3	5.7 0.91 0.67 1.1 17 33 13 12 890 800 0.51	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg
CAS No. 19719-28-9	Surrogate Recoveries	100% ^a	Limits 31-1329	6	

(a) Surrogate recoveries corrected for actual spike amount.

Page 1 of 1

Analytical Batch

GCC777

9.1.1

6



Method: SW846 8151A

Blank Spike Summary Job Number: C37833

Account: Project:	ALNCA Accutest Northern California, Inc. TETRCAO: Alameda Cross Trail Phase II									
Sample OP54497-BS	File ID CC046768.D	DF 1	Analyzed 01/06/15	By FS	Prep Date 01/05/15	Prep Batch OP54497	Analytical Batch GCC777			
The QC repor	ted here applies to	the follo	wing samples:]	Method: SW840	5 8151A			

C37833-1, C37833-2, C37833-3, C37833-4, C37833-5, C37833-6, C37833-7, C37833-8, C37833-9, C37833-10, C37833-11, C37833-12

130% ^a 31-132%

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
94-75-7	2,4-D	167	163	98	43-124
93-72-1	2,4,5-TP (Silvex)	16.7	16.1	97	41-130
93-76-5	2,4,5-T	16.7	15.5	93	40-124
1918-00-9	Dicamba	16.7	14.8	89	32-129
88-85-7	Dinoseb	83.3	32.2	39	10-124
75-99-0	Dalapon	417	158	38	10-133
120-36-5	Dichloroprop	167	190	114	51-145
94-82-6	2,4-DB	167	134	80	42-130
93-65-2	MCPP	16700	14800	89	34-130
94-74-6	MCPA	16700	14600	88	37-124
87-86-5	Pentachlorophenol	33.4	33.3	100	45-126
CAS No.	Surrogate Recoveries	BSP	Lim	its	

(a) Surrogate recoveries corrected for actual spike amount.

9.2.1

6

Page 1 of 1

Method: SW846 8151A



19719-28-9 2,4-DCAA

Matrix Spike/Matrix Spike Duplicate Summary

Job Number:	C37833
Account:	ALNCA Accutest Northern California, Inc.
Project:	TETRCAO: Alameda Cross Trail Phase II

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP54497-MS	CC046797.D	1	01/06/15	FS	01/05/15	OP54497	GCC777
OP54497-MSD	CC046798.D	1	01/06/15	FS	01/05/15	OP54497	GCC777
C37834-5	CC046792.D	1	01/06/15	FS	01/05/15	OP54497	GCC777

The QC reported here applies to the following samples:

Method: SW846 8151A

C37833-1, C37833-2, C37833-3, C37833-4, C37833-5, C37833-6, C37833-7, C37833-8, C37833-9, C37833-10, C37833-11, C37833-12

CAS No.	Compound	C37834-5 ug/kg Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6	2,4-D 2,4,5-TP (Silvex) 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA	ND ND ND ND ND ND ND ND	216 21.6 21.6 21.6 108 540 216 216 21600 21600 21600	187 19.8 17.0 15.0 59.9 242 231 7300 19100 20000	87 92 79 69 56 45 107 3382* 88 93	213 21.3 21.3 21.3 107 533 213 213 213 21300 21300	192 16.9 16.4 13.9 45.9 174 213 909 18900 19300 22.0	90 79 77 65 43 33 100 427* 89 91	3 16 4 8 26 33 8 156* 1 4	43-124/32 41-130/31 40-124/35 32-129/34 10-124/41 10-133/35 51-145/34 42-130/34 34-130/34 37-124/35
87-86-5 CAS No. 19719-28-9	Surrogate Recoveries 2,4-DCAA	ND MS 110% ^a	43.2 MSD 80% ^a	41.3 C3 60	96 37834-5 % ^a	42.6 Limits 31-132%	39.9	94	3	45-126/32

(a) Surrogate recoveries corrected for actual spike amount.

0

99 of 99

ACCUTEST

C37833

Page 1 of 1





01/13/15

Technical Report for

Tetra Tech EMI

Alameda Cross Trail Phase II

10353635

Accutest Job Number: C37834



Sampling Date: 12/30/14

Report to:

Tetra Tech 1999 Harrison St. Suite 500 Oakland, CA 94612 mark.duffy@tetratech.com; victor.early@tetratech.com

ATTN: Mark Duffy

Total number of pages in report: 93



Jung. Musy

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Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

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Certifications: CA (ELAP 2910) AK (UST-092) AZ (AZ0762) NV (CA00150) OR (CA300006) WA (C925) DoD ELAP (L-A-B L2242)

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Table of Contents

Section 1: Sample Summary	3				
Section 2: Summary of Hits	4				
Section 3: Sample Results	8				
3.1: C37834-1: CAT-B-8-8	9				
3.2: C37834-2: CAT-B-8-2	14				
3.3: C37834-3: CAT-B-7-4	19				
3.4: C37834-4: CAT-B-7-1	24				
3.5: C37834-5: CAT-B-9-1	29				
3.6: C37834-6: CAT-B-9-6	34				
3.7: C37834-7: CAT-B-10-5	39				
3.8: C37834-8: CAT-B	44				
3.9: C37834-9: CAT-B-10-2	49				
Section 4: Misc. Forms	54				
4.1: Chain of Custody	55				
Section 5: GC/MS Semi-volatiles - QC Data Summaries	57				
5.1: Method Blank Summary					
5.2: Blank Spike/Blank Spike Duplicate Summary	61				
5.3: Matrix Spike/Matrix Spike Duplicate Summary	63				
Section 6: GC Semi-volatiles - QC Data Summaries	65				
6.1: Method Blank Summary	66				
6.2: Blank Spike/Blank Spike Duplicate Summary	68				
6.3: Matrix Spike/Matrix Spike Duplicate Summary	70				
Section 7: Metals Analysis - QC Data Summaries	72				
7.1: Prep QC MP8944: As,Pb	73				
7.2: Prep QC MP8965: As	78				
Section 8: Misc. Forms (Accutest Laboratories Southeast, Inc.)	83				
8.1: Chain of Custody	84				
Section 9: GC Semi-volatiles - QC Data (Accutest Laboratories Southeast, Inc.)	87				
9.1: Method Blank Summary					
9.2: Blank Spike Summary	90				
9.3: Matrix Spike/Matrix Spike Duplicate Summary	92				





Sample Summary

Tetra Tech EMI

Job No: C37834

Alameda Cross Trail Phase II Project No: 10353635

Sample Number	Collected Date	Time By	Received	Matri Code	ix Type	Client Sample ID
C37834-1	12/30/14	11:20 MD	12/31/14	SO	Soil	CAT-B-8-8
C37834-2	12/30/14	11:25 MD	12/31/14	SO	Soil	CAT-B-8-2
C37834-3	12/30/14	08:40 MD	12/31/14	SO	Soil	CAT-B-7-4
C37834-4	12/30/14	08:35 MD	12/31/14	SO	Soil	CAT-B-7-1
C37834-5	12/30/14	12:25 MD	12/31/14	SO	Soil	CAT-B-9-1
C37834-5D	12/30/14	12:25 MD	12/31/14	SO	Soil	CAT-B-9-1
C37834-5S	12/30/14	12:25 MD	12/31/14	SO	Soil	CAT-B-9-1
C37834-6	12/30/14	12:30 MD	12/31/14	SO	Soil	САТ-В-9-6
C37834-7	12/30/14	13:05 MD	12/31/14	SO	Soil	CAT-B-10-5
C37834-8	12/30/14	13:20 MD	12/31/14	SO	Soil	САТ-В
C37834-9	12/30/14	13:10 MD	12/31/14	SO	Soil	CAT-B-10-2

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



Job Number:	C37834
Account:	Tetra Tech EMI
Project:	Alameda Cross Trail Phase II
Collected:	12/30/14

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
C37834-1	CAT-B-8-8					
Benzo(a)anthrace	ne	2.0 J	4.3	1.1	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene		2.0 J	4.3	0.73	ug/kg	SW846 8270C BY SIM
Benzo(b)fluorantl	hene	5.0	4.3	0.86	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)pery	lene	5.0	4.3	0.95	ug/kg	SW846 8270C BY SIM
Benzo(k)fluorantl	hene	4.9	4.3	0.99	ug/kg	SW846 8270C BY SIM
Chrysene		2.8 J	4.3	0.86	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)	ovrene	3.7 J	4.3	1.1	ug/kg	SW846 8270C BY SIM
Pyrene		2.3 J	22	2.2	ug/kg	SW846 8270C BY SIM
Pentachloropheno	ol ^a	5.2 J	21	3.2	ug/kg	SW846 8151A
Arsenic ^b		2.7	0.60		mg/kg	SW846 6020
Lead		16.9	0.28		mg/kg	SW846 6020
C37834-2	CAT-B-8-2					
Benzo(a)anthrace	ne ^c	36.4	20	5.1	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene c		81.6	20	3.5	ug/kg	SW846 8270C BY SIM
Benzo(b)fluorantl	hene ^c	79.4	20	4.1	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)pery	lene ^c	105	20	4.5	ug/kg	SW846 8270C BY SIM
Benzo(k)fluorantl	hene ^c	42.6	20	4.7	ug/kg	SW846 8270C BY SIM
Chrysene ^c		54.9	20	4.1	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anth	racene ^c	12.3 J	20	5.7	ug/kg	SW846 8270C BY SIM
Fluoranthene ^c		89.6 J	100	10	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)	oyrene ^c	100	20	5.1	ug/kg	SW846 8270C BY SIM
Phenanthrene ^c	•	20.3 J	100	10	ug/kg	SW846 8270C BY SIM
Pyrene ^c		113	100	10	ug/kg	SW846 8270C BY SIM
TPH (Diesel) ^d		7.35	4.1	2.1	mg/kg	SW846 8015B M
TPH (Motor Oil)		31.8	8.2	4.1	mg/kg	SW846 8015B M
Arsenic		6.5	0.27		mg/kg	SW846 6020
Lead		40.5	0.27		mg/kg	SW846 6020
C37834-3	САТ-В-7-4					
Benzo(a)anthrace	ne	5.9	3.8	0.95	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene		9.8	3.8	0.65	ug/kg	SW846 8270C BY SIM
Benzo(b)fluorantl	hene	9.1	3.8	0.76	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)pery	lene	11.5	3.8	0.84	ug/kg	SW846 8270C BY SIM
Benzo(k)fluorantl	hene	5.8	3.8	0.88	ug/kg	SW846 8270C BY SIM
Chrysene		8.5	3.8	0.76	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anth	racene	1.7 J	3.8	1.1	ug/kg	SW846 8270C BY SIM
Fluoranthene		12.9 J	19	1.9	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)	pyrene	9.7	3.8	0.95	ug/kg	SW846 8270C BY SIM
Phenanthrene		4.9 J	19	1.9	ug/kg	SW846 8270C BY SIM
Pyrene		18.9 J	19	1.9	ug/kg	SW846 8270C BY SIM

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Job Number:	C37834
Account:	Tetra Tech EMI
Project:	Alameda Cross Trail Phase II
Collected:	12/30/14

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
TPH (Diesel) ^d TPH (Motor Oil)	8.49 19.9	3.8 7.6	1.9 3.8	mg/kg mg/kg	SW846 8015B M SW846 8015B M
Arsenic Lead	5.1 92.9	0.25 0.25		mg/kg mg/kg	SW846 6020 SW846 6020
C37834-4 CAT-B-7-1					
Acenaphthylene	2.4 J	21	2.1	ug/kg	SW846 8270C BY SIM
Anthracene	2.7 J	21	2.1	ug/kg	SW846 8270C BY SIM
Benzo(a)anthracene	49.2	4.2	1.1	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene	119	4.2	0.71	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene	105	4.2	0.84	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene	146	4.2	0.93	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene	55.8	4.2	0.97	ug/kg	SW846 8270C BY SIM
Chrysene	69.4	4.2	0.84	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene	11.6	4.2	1.2	ug/kg	SW846 8270C BY SIM
Fluoranthene	133	21	2.1	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene	123	4.2	1.1	ug/kg	SW846 8270C BY SIM
Phenanthrene	25.0	21	2.1	ug/kg	SW846 8270C BY SIM
Pyrene	192	21	2.1	ug/kg	SW846 8270C BY SIM
TPH (Diesel) ^d	6.52	4.2	2.1	mg/kg	SW846 8015B M
TPH (Motor Oil)	16.0	8.4	4.2	mg/kg	SW846 8015B M
Arsenic	4.3	0.27		mg/kg	SW846 6020
Lead	22.0	0.27		mg/kg	SW846 6020
C37834-5 CAT-B-9-1					
Benzo(a)anthracene ^c	59.3	17	4.3	ug/kg	SW846 8270C BY SIM
Benzo(a)pyrene ^c	121	17	2.9	ug/kg	SW846 8270C BY SIM
Benzo(b)fluoranthene ^c	123	17	3.4	ug/kg	SW846 8270C BY SIM
Benzo(g,h,i)perylene ^c	145	17	3.8	ug/kg	SW846 8270C BY SIM
Benzo(k)fluoranthene ^c	54.3	17	4.0	ug/kg	SW846 8270C BY SIM
Chrysene ^c	86.2	17	3.4	ug/kg	SW846 8270C BY SIM
Dibenzo(a,h)anthracene ^c	16.0 J	17	4.8	ug/kg	SW846 8270C BY SIM
Fluoranthene ^c	163	86	8.6	ug/kg	SW846 8270C BY SIM
Indeno(1,2,3-cd)pyrene ^c	153	17	4.3	ug/kg	SW846 8270C BY SIM
Phenanthrene ^c	39.9 J	86	8.6	ug/kg	SW846 8270C BY SIM
Pyrene ^c	181	86	8.6	ug/kg	SW846 8270C BY SIM
TPH (Diesel) ^d	6.39	4.4	2.2	mg/kg	SW846 8015B M
TPH (Motor Oil)	30.3	8.7	4.4	mg/kg	SW846 8015B M
Arsenic	7.8	0.27		mg/kg	SW846 6020
Lead	54.6	0.27		mg/kg	SW846 6020



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Job Number:	C37834
Account:	Tetra Tech EMI
Project:	Alameda Cross Trail Phase II
Collected:	12/30/14

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
C37834-6	САТ-В-9-6					
Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,i)perylene Chrysene Indeno(1,2,3-cd)pyrene Arsenic Lead		1.4 J 1.3 J 1.2 J 0.95 J 1.2 J 1.3 J 4.9 6.9	4.1 4.1 4.1 4.1 4.1 4.1 0.26 0.26	$ \begin{array}{c} 1.0\\ 0.70\\ 0.82\\ 0.90\\ 0.82\\ 1.0\\ \end{array} $	ug/kg ug/kg ug/kg ug/kg ug/kg mg/kg mg/kg	SW846 8270C BY SIM SW846 6020 SW846 6020
C37834-7	CAT-B-10-5					
TPH (Diesel) ^e TPH (Motor Oil) Arsenic ^b Lead		88.2 164 1.4 26.0	12 25 0.58 0.26	6.2 12	mg/kg mg/kg mg/kg mg/kg	SW846 8015B M SW846 8015B M SW846 6020 SW846 6020
C37834-8	САТ-В					
Benzo(a)pyrene ^c Benzo(b)fluoranthene ^c Benzo(g,h,i)perylene ^c Chrysene ^c Indeno(1,2,3-cd)pyrene ^c TPH (Diesel) ^e TPH (Motor Oil) Pentachlorophenol ^f Arsenic Lead		10.4 J 10.5 J 14.8 J 10.7 J 12.0 J 188 922 1.1 J 4.9 170	41 41 41 41 41 100 200 4.0 0.26 0.26	6.9 8.1 9.0 8.1 10 51 100 0.61	ug/kg ug/kg ug/kg ug/kg mg/kg mg/kg ug/kg mg/kg mg/kg	SW846 8270C BY SIM SW846 8015B M SW846 8015B M SW846 8015B M SW846 6020 SW846 6020
C37834-9	САТ-В-10-2					
Benzo(a)anthrace Benzo(a)pyrene ^g Benzo(b)fluoranth Benzo(g,h,i)peryl Benzo(k)fluoranth Chrysene ^g Fluoranthene ^g Indeno(1,2,3-cd)J Phenanthrene ^g Pyrene ^g TPH (Diesel) ^e TPH (Motor Oil)	ne ^g lene ^g lene ^g bene ^g	52.6 J 65.7 J 57.1 J 97.7 J 45.9 J 61.8 J 88.7 J 66.8 J 84.3 J 85.8 J 129 609	110 110 110 110 110 110 550 110 550 550	28 19 22 24 25 22 55 28 55 55 46 92	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg mg/kg mg/kg	SW846 8270C BY SIM SW846 8015B M

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C37834
Tetra Tech EMI
Alameda Cross Trail Phase II
12/30/14

Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
Arsenic	6.2	0.23		mg/kg	SW846 6020
Lead	126	0.23		mg/kg	SW846 6020

(a) All hits confirmed by dual column analysis. Dilution required due to matrix interference. Analysis performed at Accutest Laboratories, Orlando FL.

(b) Elevated RL/MDL due to positive bias of Method Blank.

(c) Dilution required due to matrix interference (dark and viscous extract; high concentration of non-target hydrocarbons).

(d) Atypical Diesel pattern (C12-C28); heavier hydrocarbons contributing to quantitation.

(e) Atypical Diesel pattern (C10-C28); heavier hydrocarbons contributing to quantitation.

(f) All hits confirmed by dual column analysis. Analysis performed at Accutest Laboratories, Orlando FL. Primary and confirmation results differ by more than 40%. Lower value reported due to possible coelution.

(g) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous); and high concentration of non-target hydrocarbons.



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Sample Results

Report of Analysis



	Report of Analysis								
Client Sa Lab Sam Matrix: Method: Project:	mple ID: CAT-B ple ID: C37834 SO - So SW846 Alameo	-8-8 1-1 bil 8270C B la Cross T	Y SIM SW846 Frail Phase II	5 3550B	Da Da Pe	te Sampled: 1 te Received: 1 rcent Solids: 7	2/30/14 2/31/14 7.3		
Run #1 Run #2	File ID X41457.D	DF 1	Analyzed 01/05/15	Ву ВЈ	Prep Date 01/05/15	Prep Batch OP11471	Analytical Batch EX1771		
Run #1	Initial Weight 30.0 g	Final V 1.0 ml	olume						

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	22	2.2	ug/kg	
208-96-8	Acenaphthylene	ND	22	2.2	ug/kg	
120-12-7	Anthracene	ND	22	2.2	ug/kg	
56-55-3	Benzo(a)anthracene	2.0	4.3	1.1	ug/kg	J
50-32-8	Benzo(a)pyrene	2.0	4.3	0.73	ug/kg	J
205-99-2	Benzo(b)fluoranthene	5.0	4.3	0.86	ug/kg	
191-24-2	Benzo(g,h,i)perylene	5.0	4.3	0.95	ug/kg	
207-08-9	Benzo(k)fluoranthene	4.9	4.3	0.99	ug/kg	
218-01-9	Chrysene	2.8	4.3	0.86	ug/kg	J
53-70-3	Dibenzo(a, h)anthracene	ND	4.3	1.2	ug/kg	
206-44-0	Fluoranthene	ND	22	2.2	ug/kg	
86-73-7	Fluorene	ND	22	2.2	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	3.7	4.3	1.1	ug/kg	J
90-12-0	1-Methylnaphthalene	ND	22	4.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	22	4.3	ug/kg	
91-20-3	Naphthalene	ND	22	4.3	ug/kg	
85-01-8	Phenanthrene	ND	22	2.2	ug/kg	
129-00-0	Pyrene	2.3	22	2.2	ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
4165-60-0	Nitrobenzene-d5	98%		32-1	28%	
321-60-8	2-Fluorobiphenyl	94%		48-1	22%	
1718-51-0	Terphenyl-d14	108%	48-148%			

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

9 of 93 ACCUTEST C37834

			Repo	ort of An	alysis			Page 1 of 1
Client Sam Lab Sampl Matrix: Method: Project:	ple ID: CAT-B e ID: C37834 SO - So SW846 Alameo	-8-8 4-1 bil 8151A S la Cross Ti	W846 3546 rail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 cent Solids: 77	2/30/14 2/31/14 7.3
Run #1 ^a Run #2	File ID CC046847.D	DF 5	Analyzed 01/08/15	By AFL	Prep D 01/05/1)ate 15	Prep Batch F:OP54497	Analytical Batch F:GCC779
Run #1 Run #2	Initial Weight 15.5 g	Final V 5.0 ml	olume					
CAS No.	Compound		Result	RL	MDL	Units	Q	
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloropho	ex) enol	ND ND ND ND ND ND ND 5.2	210 21 21 21 520 1000 210 21000 21000 21	35 5.7 4.2 7.0 100 210 78 78 5600 5000 3.2	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J	
CAS No.	Surrogate Rec	coveries	Run# 1	Run# 2	Lim	nits		
19719-28-9	2,4-DCAA		100% b		31-1	132%		

(a) All hits confirmed by dual column analysis. Dilution required due to matrix interference. Analysis performed at Accutest Laboratories, Orlando FL.

(b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

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RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

	Report of Analysis								
Client Sa Lab Sam Matrix: Method: Project:	mple ID: CAT-E ple ID: C3783 SO - So SW846 Alamed	8-8-8 4-1 5 8015B N da Cross 7	A SW846 3550 Trail Phase II	В	Da Da Pe	te Sampled: 12 ite Received: 12 rcent Solids: 77	2/30/14 2/31/14 7.3		
Run #1 Run #2	File ID HH319830.D	DF 1	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430		
Run #1 Run #2	Initial Weight 30.0 g	Final 1.0 ml	Volume						

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	4.3	2.2	mg/kg	
	TPH (Motor Oil)	ND	8.6	4.3	mg/kg	
	TPH (Mineral Spirits)	ND	4.3	2.2	mg/kg	
	TPH (Kerosene)	ND	4.3	2.2	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	94%		37-1	22%	

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound

Page 1 of 1

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Accutest Laboratories

	Report of Analysis			Page 1 of
Client Sample ID:	CAT-B-8-8			
Lab Sample ID:	C37834-1	Date Sampled:	12/30/14	
Matrix:	SO - Soil	Date Received:	12/31/14	
		Percent Solids:	77.3	
Project:	Alameda Cross Trail Phase II			
Metals Analysis				

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^a	2.7	0.60	mg/kg	5	01/09/15	01/12/15 RS	SW846 6020 ²	SW846 3050B ⁴
Lead	16.9	0.28	mg/kg	5	01/07/15	01/08/15 RS	SW846 6020 ¹	SW846 3050B ³

(1) Instrument QC Batch: MA4523

(2) Instrument QC Batch: MA4533

(3) Prep QC Batch: MP8944

(4) Prep QC Batch: MP8965

(a) Elevated RL/MDL due to positive bias of Method Blank.

Page 1 of 1

3. 3

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12 of 93 ACCUTEST C37834

Accutest Laboratories

		Repo	ort of Ar	nalysis			Page 1 of	1
Client Sample ID: Lab Sample ID:	CAT-B-8-8 C37834-1				Date Sampled	: 12	//30/14	
Matrix:	SO - Soil				Date Received Percent Solids	: 12 : 77	//31/14	
Project:	Alameda Cross T	rail Phase II						
General Chemistry								
Analyte	Result	RL	Units	DF	Analyzed	By	Method	
Moisture, Percent	22.7		%	1	01/02/15 13:00	TN	SM2540MOD G-97	

	Report of Analysis										
Client Sample ID:CAT-B-8-2Lab Sample ID:C37834-2Date Sampled:12/30/14Matrix:SO - SoilDate Received:12/31/14Method:SW846 8270C BY SIMSW846 3550BPercent Solids:80.7Project:Alameda Cross Trail Phase IIPercent Solids:80.7											
Run #1 ^a Run #2	File ID T17366.D	DF 5	Analyzed 01/03/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768				
Run #1	Initial Weight 30.5 g	Final V 1.0 ml	Volume								

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	100	10	ug/kg	
208-96-8	Acenaphthylene	ND	100	10	ug/kg	
120-12-7	Anthracene	ND	100	10	ug/kg	
56-55-3	Benzo(a)anthracene	36.4	20	5.1	ug/kg	
50-32-8	Benzo(a)pyrene	81.6	20	3.5	ug/kg	
205-99-2	Benzo(b)fluoranthene	79.4	20	4.1	ug/kg	
191-24-2	Benzo(g,h,i)perylene	105	20	4.5	ug/kg	
207-08-9	Benzo(k)fluoranthene	42.6	20	4.7	ug/kg	
218-01-9	Chrysene	54.9	20	4.1	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	12.3	20	5.7	ug/kg	J
206-44-0	Fluoranthene	89.6	100	10	ug/kg	J
86-73-7	Fluorene	ND	100	10	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	100	20	5.1	ug/kg	
90-12-0	1-Methylnaphthalene	ND	100	20	ug/kg	
91-57-6	2-Methylnaphthalene	ND	100	20	ug/kg	
91-20-3	Naphthalene	ND	100	20	ug/kg	
85-01-8	Phenanthrene	20.3	100	10	ug/kg	J
129-00-0	Pyrene	113	100	10	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts	
4165-60-0	Nitrobenzene-d5	65%	32-128%			
321-60-8	2-Fluorobiphenyl	85%	48-122%			
1718-51-0	Terphenyl-d14	88%	48-148%			

(a) Dilution required due to matrix interference (dark and viscous extract; high concentration of non-target hydrocarbons).

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

3.2 Page 1 of 1

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	Report of Analysis P											
Client Sam Lab Sample Matrix: Method: Project:	ple ID: CAT-B e ID: C37834 SO - So SW846 Alameo	8-8-2 4-2 5 8151A S da Cross Tr	W846 3546 ail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 cent Solids: 80	2/30/14 2/31/14 0.7				
Run #1 ^a Run #2	File ID CC046787.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1	9 ate 15	Prep Batch F:OP54497	Analytical Batch F:GCC777				
Run #1 Run #2	Initial Weight 15.2 g	Final Vo 5.0 ml	lume									
CAS No.	Compound		Result	RL	MDL	Units	Q					
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloropho	ex) enol	ND ND ND ND ND ND ND ND ND ND	$\begin{array}{c} 41 \\ 4.1 \\ 4.1 \\ 100 \\ 200 \\ 41 \\ 41 \\ 4100 \\ 4100 \\ 4.1 \end{array}$	$\begin{array}{c} 6.9\\ 1.1\\ 0.82\\ 1.4\\ 20\\ 41\\ 15\\ 15\\ 1100\\ 980\\ 0.62 \end{array}$	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg						
CAS No.	Surrogate Rec	coveries	Run# 1	Run# 2	Lim	its						
19719-28-9	2,4-DCAA		90% b		31-1	32%						

(a) Analysis performed at Accutest Laboratories, Orlando FL.

(b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound

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RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

			Repo	ort of A	Analysis		Page 1 of 1	
Client San Lab Samp Matrix: Method: Project:	nple ID: CAT-B le ID: C37834 SO - So SW846 Alameo	CAT-B-8-2 C37834-2 SO - Soil SW846 8015B M SW846 3550B Alameda Cross Trail Phase II						
Run #1 Run #2	File ID HH319831.D	DF 1	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430	
Run #1 Run #2	Initial Weight 30.2 g	Final V 1.0 ml	Volume					

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) ^a TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	7.35 31.8 ND ND	4.1 8.2 4.1 4.1	2.1 4.1 2.1 2.1	mg/kg mg/kg mg/kg mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	iits	
630-01-3	Hexacosane	83%		37-1	22%	

(a) Atypical Diesel pattern (C12-C28); heavier hydrocarbons contributing to quantitation.

- J = Indicates an estimated value
- $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$
- N = Indicates presumptive evidence of a compound

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16 of 93 ACCUTEST C37834 Accutest Laboratories

				Rep	ort of	² Analysis			Page 1 of 1
Client Sample	ID: CAT	-B-8-2						12/20/11/	
Lab Sample ID	C3/8	334-2					Date Sampled:	12/30/14	
Matrix:	SO -	Soil					Date Received:	12/31/14	
							Percent Solids:	80.7	
Project:	Alan	neda Cros	s Trail Ph	ase II					
Metals Analysis	8								
Analyte	Result	RL	Units	DF	Prep	Analyzed By	y Method	Prep Me	ethod

Arsenic	6.5	0.27	mg/kg	5	01/07/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²
Lead	40.5	0.27	mg/kg	5	01/07/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4523

(2) Prep QC Batch: MP8944



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Accutest Laboratories

]	Report	t of Ana	lysis			Page 1 of 1
Client Sample ID:	CAT-B-8-2						10	100114
Lab Sample ID:	C3/834-2					Date Sampled:	: 12/	/30/14
Matrix:	SO - Soil					Date Received	: 12/	/31/14
						Percent Solids	: 80.	.7
Project:	Alameda Cross	Trail Phas	e II					
General Chemistry								
Analyte	Resu	lt	RL	Units	DF	Analyzed	By	Method
Moisture, Percent	19.3			%	1	01/02/15 13:00	TN	SM2540MOD G-97

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			Repo	ort of A	Analysis		Page 1 of 1	
Client Sample ID:CAT-B-7-4Lab Sample ID:C37834-3Matrix:SO - SoilMethod:SW846 8270C BY SIMSW846 8270C BY SIMSW846 3550BProject:Alameda Cross Trail Phase II								
Run #1 Run #2	File ID X41458.D	DF 1	Analyzed 01/05/15	By BJ	Prep Date 01/05/15	Prep Batch OP11471	Analytical Batch EX1771	
Run #1	Initial Weight 30.0 g	Final V 1.0 ml	olume					

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	19	1.9	ug/kg	
208-96-8	Acenaphthylene	ND	19	1.9	ug/kg	
120-12-7	Anthracene	ND	19	1.9	ug/kg	
56-55-3	Benzo(a)anthracene	5.9	3.8	0.95	ug/kg	
50-32-8	Benzo(a)pyrene	9.8	3.8	0.65	ug/kg	
205-99-2	Benzo(b)fluoranthene	9.1	3.8	0.76	ug/kg	
191-24-2	Benzo(g,h,i)perylene	11.5	3.8	0.84	ug/kg	
207-08-9	Benzo(k)fluoranthene	5.8	3.8	0.88	ug/kg	
218-01-9	Chrysene	8.5	3.8	0.76	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	1.7	3.8	1.1	ug/kg	J
206-44-0	Fluoranthene	12.9	19	1.9	ug/kg	J
86-73-7	Fluorene	ND	19	1.9	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	9.7	3.8	0.95	ug/kg	
90-12-0	1-Methylnaphthalene	ND	19	3.8	ug/kg	
91-57-6	2-Methylnaphthalene	ND	19	3.8	ug/kg	
91-20-3	Naphthalene	ND	19	3.8	ug/kg	
85-01-8	Phenanthrene	4.9	19	1.9	ug/kg	J
129-00-0	Pyrene	18.9	19	1.9	ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
4165-60-0	Nitrobenzene-d5	89%		32-1	28%	
321-60-8	2-Fluorobiphenyl	89%	48-122%			
1718-51-0	Terphenyl-d14	103%	48-148%			

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Page 1 of 1

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			Repo	rt of An	alysis			Page 1 of 1
Client Sam Lab Sampl Matrix: Method: Project:	ple ID: CAT-E e ID: C3783 SO - So SW846 Alamed	3-7-4 4-3 oil 5 8151A S da Cross Tr	W846 3546 ail Phase II			2/30/14 2/31/14 7.5		
Run #1 ^a Run #2	File ID CC046788.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1	9 ate 15	Prep Batch F:OP54497	Analytical Batch F:GCC777
Run #1 Run #2	Initial Weight 15.0 g	Final Vo 5.0 ml	lume					
CAS No.	Compound		Result	RL	MDL	Units	Q	
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloroph	ex) enol	ND ND ND ND ND ND ND ND ND	38 3.8 3.8 3.8 95 190 38 38 3800 3800 3.8	$\begin{array}{c} 6.5\\ 1.0\\ 0.77\\ 1.3\\ 19\\ 38\\ 14\\ 14\\ 1000\\ 910\\ 0.58 \end{array}$	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg		
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	iits		
19719-28-9	2,4-DCAA		80% ^b		31-1	32%		

(a) Analysis performed at Accutest Laboratories, Orlando FL.

(b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound

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RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value
			Repo	ort of A	Analysis		Page 1 of 1
Client Sam Lab Samp Matrix: Method: Project:	nple ID: CAT-B le ID: C37834 SO - So SW846 Alamed	-7-4 3 vil 8015B N a Cross 7	1 SW846 3550 Frail Phase II	Da Da Pe	nte Sampled: 1 nte Received: 1 rcent Solids: 8	2/30/14 2/31/14 7.5	
Run #1 Run #2	File ID HH319832.D	DF 1	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430
Run #1 Run #2	Initial Weight 30.1 g	Final V 1.0 ml	Volume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) ^a TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	8.49 19.9 ND ND	3.8 7.6 3.8 3.8	1.9 3.8 1.9 1.9	mg/kg mg/kg mg/kg mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	85%		37-1	22%	

(a) Atypical Diesel pattern (C12-C28); heavier hydrocarbons contributing to quantitation.

- J = Indicates an estimated value
- $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$
- $N= \ Indicates \ presumptive \ evidence \ of \ a \ compound$

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				Rep	oort of	Analysis			Page 1 of 1
Client Sample I	D: CAT	-B-7-4							
Lab Sample ID:	C378	334-3					Date Sampled:	12/30/14	
Matrix:	SO -	Soil					Date Received:	12/31/14	
							Percent Solids:	87.5	
Project:	Alan	neda Cros	s Trail Pha	ase II					
Metals Analysis									
Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Me	ethod

v					•	J.	•		1
Arsenic	5.1	0.25	mg/kg	5	01/07/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²
Lead	92.9	0.25	mg/kg	5	01/07/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4523

(2) Prep QC Batch: MP8944

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			Re	port of A	Analysi	S		Page 1 of 1
Client Sample ID:	CAT-B-7-	4						
Lab Sample ID:	C37834-3					Date Sampled:	12/	30/14
Matrix:	SO - Soil					Date Received:	12/	31/14
						Percent Solids:	87.	5
Project:	Alameda	Cross Trail	Phase II					
General Chemistry	7							
Analyte		Result	RL	Unit	s DF	Analyzed	By	Method
Moisture, Percent		12.5		%	1	01/02/15 13:00	ΓN	SM2540MOD G-97

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			Repo	ort of A	Analysis		Page 1 of 1			
Client Sa Lab Sam Matrix: Method: Project:	mple ID: CAT-B ple ID: C37834 SO - Sc SW846 Alamed	-7-1 -4 bil 8270C B a Cross]	Y SIM SW846 Frail Phase II	5 3550B	Da Da Pe	Date Sampled:12Date Received:12Percent Solids:79				
Run #1 Run #2	File ID X41459.D	DF 1	Analyzed 01/05/15	By BJ	Prep Date 01/05/15	Prep Batch OP11471	Analytical Batch EX1771			
Run #1	Initial Weight 30.0 g	Final V 1.0 ml	olume							

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	21	2.1	ug/kg	
208-96-8	Acenaphthylene	2.4	21	2.1	ug/kg	J
120-12-7	Anthracene	2.7	21	2.1	ug/kg	J
56-55-3	Benzo(a)anthracene	49.2	4.2	1.1	ug/kg	
50-32-8	Benzo(a)pyrene	119	4.2	0.71	ug/kg	
205-99-2	Benzo(b)fluoranthene	105	4.2	0.84	ug/kg	
191-24-2	Benzo(g,h,i)perylene	146	4.2	0.93	ug/kg	
207-08-9	Benzo(k)fluoranthene	55.8	4.2	0.97	ug/kg	
218-01-9	Chrysene	69.4	4.2	0.84	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	11.6	4.2	1.2	ug/kg	
206-44-0	Fluoranthene	133	21	2.1	ug/kg	
86-73-7	Fluorene	ND	21	2.1	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	123	4.2	1.1	ug/kg	
90-12-0	1-Methylnaphthalene	ND	21	4.2	ug/kg	
91-57-6	2-Methylnaphthalene	ND	21	4.2	ug/kg	
91-20-3	Naphthalene	ND	21	4.2	ug/kg	
85-01-8	Phenanthrene	25.0	21	2.1	ug/kg	
129-00-0	Pyrene	192	21	2.1	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
4165-60-0	Nitrobenzene-d5	99%		32-1	28%	
321-60-8	2-Fluorobiphenyl	95%		48-1	22%	
1718-51-0	Terphenyl-d14	110%		48-1	48%	

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Page 1 of 1

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	Report of Analysis Pa											
Client Sam Lab Sample Matrix: Method: Project:	ple ID: CAT-E e ID: C3783 SO - S SW846 Alame	3-7-1 4-4 oil 5 8151A S' da Cross Tr	W846 3546 ail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 cent Solids: 79	2/30/14 2/31/14 0.2				
Run #1 ^a Run #2	File ID CC046791.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1	Pate 15	Prep Batch F:OP54497	Analytical Batch F:GCC777				
Run #1 Run #2	Initial Weight 15.5 g	Final Vo 5.0 ml	lume									
CAS No.	Compound		Result	RL	MDL	Units	Q					
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloroph	enol	ND ND ND ND ND ND ND ND ND	$\begin{array}{c} 41 \\ 4.1 \\ 4.1 \\ 4.1 \\ 100 \\ 200 \\ 41 \\ 41 \\ 4100 \\ 4100 \\ 4.1 \end{array}$	$\begin{array}{c} 6.9 \\ 1.1 \\ 0.82 \\ 1.4 \\ 20 \\ 41 \\ 15 \\ 15 \\ 1100 \\ 980 \\ 0.62 \end{array}$	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg						
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	nits						
19719-28-9	2,4-DCAA		70% ^b		31-1	132%						

(a) Analysis performed at Accutest Laboratories, Orlando FL.

(b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound

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RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

			Repo	ort of A	Analysis		Page 1 of 1
Client San Lab Samp Matrix: Method: Project:	nple ID: CAT-B le ID: C37834 SO - So SW846 Alamed	-7-1 -4 il 8015B M a Cross T	SW846 3550 rail Phase II	В	Da Da Pe	nte Sampled: 1 nte Received: 1 rcent Solids: 7	2/30/14 2/31/14 9.2
Run #1 Run #2	File ID HH319833.D	DF 1	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430
Run #1 Run #2	Initial Weight 30.0 g	Final V 1.0 ml	olume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) ^a TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	6.52 16.0 ND ND	4.2 8.4 4.2 4.2	2.1 4.2 2.1 2.1	mg/kg mg/kg mg/kg mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	iits	
630-01-3	Hexacosane	94%		37-1	22%	

(a) Atypical Diesel pattern (C12-C28); heavier hydrocarbons contributing to quantitation.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



				Rep	oort of	Analysis				Page 1 of 1
Client Sample	ID: CAT	-B-7-1						Data Sampladi	12/20/14	
Matrix:	SO -	Soil					I	Date Sampled: Date Received:	12/30/14 12/31/14 79.2	
Project:	Alam	neda Cros	s Trail Ph	ase II				ercent Sonus.	19.2	
Metals Analysi	is									
Analyte	Result	RL	Units	DF	Prep	Analyzed B	By	Method	Prep Mo	ethod

v					•	·	·		•
Arsenic	4.3	0.27	mg/kg	5	01/07/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²
Lead	22.0	0.27	mg/kg	5	01/07/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4523

(2) Prep QC Batch: MP8944

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	Report of Analysis									
Client Sample ID:	CAT-B-7	-1								
Lab Sample ID:	C37834-4					Date Sampled	: 12	/30/14		
Matrix:	SO - Soil					Date Received	: 12	/31/14		
Project:	Percent Solids: 79.2 Alameda Cross Trail Phase II 79.2							.2		
General Chemistry	7									
Analyte		Result	RL	Units	DF	Analyzed	By	Method		
Moisture, Percent		20.8		%	1	01/02/15 13:00	TN	SM2540MOD G-97		



			Repo	ort of A	nalysis		Page 1 of 1		
Client Sample ID:CAT-B-9-1Lab Sample ID:C37834-5Date Sampled:Matrix:SO - SoilDate Received:Method:SW846 8270C BY SIM SW846 3550BPercent Solids:Project:Alameda Cross Trail Phase II									
Run #1 ^a Run #2	File ID T17365.D	DF 4	Analyzed 01/03/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768		
Run #1	Initial Weight 30.6 g	Final V 1.0 ml	olume						

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	86	8.6	ug/kg	
208-96-8	Acenaphthylene	ND	86	8.6	ug/kg	
120-12-7	Anthracene	ND	86	8.6	ug/kg	
56-55-3	Benzo(a)anthracene	59.3	17	4.3	ug/kg	
50-32-8	Benzo(a)pyrene	121	17	2.9	ug/kg	
205-99-2	Benzo(b)fluoranthene	123	17	3.4	ug/kg	
191-24-2	Benzo(g,h,i)perylene	145	17	3.8	ug/kg	
207-08-9	Benzo(k)fluoranthene	54.3	17	4.0	ug/kg	
218-01-9	Chrysene	86.2	17	3.4	ug/kg	
53-70-3	Dibenzo(a, h)anthracene	16.0	17	4.8	ug/kg	J
206-44-0	Fluoranthene	163	86	8.6	ug/kg	
86-73-7	Fluorene	ND	86	8.6	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	153	17	4.3	ug/kg	
90-12-0	1-Methylnaphthalene	ND	86	17	ug/kg	
91-57-6	2-Methylnaphthalene	ND	86	17	ug/kg	
91-20-3	Naphthalene	ND	86	17	ug/kg	
85-01-8	Phenanthrene	39.9	86	8.6	ug/kg	J
129-00-0	Pyrene	181	86	8.6	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
4165-60-0	Nitrobenzene-d5	115%		32-1	28%	
321-60-8	2-Fluorobiphenyl	108%	48-122%			
1718-51-0	Terphenyl-d14	109%	48-148%			

(a) Dilution required due to matrix interference (dark and viscous extract; high concentration of non-target hydrocarbons).

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

3.5 Page 1 of 1



	Report of Analysis											
Client Sam Lab Sample Matrix: Method: Project:	ple ID: CAT-E e ID: C37834 SO - So SW846 Alamed	3-9-1 4-5 5 8151A S da Cross Tr	W846 3546 ail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 ent Solids: 76	2/30/14 2/31/14 5.2				
Run #1 ^a Run #2	File ID CC046792.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1	9 ate 15	Prep Batch F:OP54497	Analytical Batch F:GCC777				
Run #1 Run #2	Initial Weight 15.5 g	Final Vo 5.0 ml	lume									
CAS No.	Compound		Result	RL	MDL	Units	Q					
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloroph	ex) enol	ND ND ND ND ND ND ND ND ND	42 4.2 4.2 4.2 110 210 42 42 4200 4200 4.2	7.2 1.2 0.85 1.4 21 42 16 16 1100 1000 0.65	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg						
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	iits						
19719-28-9	2,4-DCAA		60% ^b		31-1	32%						

(a) Analysis performed at Accutest Laboratories, Orlando FL.

(b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound

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RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

	Report of Analysis Pa												
Client Sample ID:CAT-B-9-1Lab Sample ID:C37834-5Date Sampled:Matrix:SO - SoilDate Received:Method:SW846 8015B MSW846 3550BProject:Alameda Cross Trail Phase II													
Run #1 Run #2	File ID HH319834.D	DF 1	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430						
Run #1 Run #2	Initial Weight 30.2 g	Final V 1.0 ml	⁷ olume										

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) ^a TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	6.39 30.3 ND ND	4.4 8.7 4.4 4.4	2.2 4.4 2.2 2.2	mg/kg mg/kg mg/kg mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	93%		37-1	22%	

(a) Atypical Diesel pattern (C12-C28); heavier hydrocarbons contributing to quantitation.

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Page 1 of 1

		Report of Analysis											
Client Sample I	D: CAT	-B-9-1					Data Samuladi	12/20/14					
Matrix:	SO -	Soil					Date Sampled: Date Received:	12/30/14					
Project:	Alan	neda Cross	s Trail Pha	ase II			Percent Solius:	70.2					
Metals Analysis													
Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Mo	ethod				

Arsenic	7.8	0.27	mg/kg	5	01/07/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²
Lead	54.6	0.27	mg/kg	5	01/07/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4523

(2) Prep QC Batch: MP8944

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			R	epor	t of An	alysis			Page 1 of 1
Client Sample ID:	CAT-B-9-	·1							
Lab Sample ID:	C37834-5						Date Sampled	: 12	2/30/14
Matrix:	SO - Soil						Date Received	: 12	2/31/14
							Percent Solids	: 76	5.2
Project:	Alameda	Cross Trail	Phase	II					
General Chemistry	,								
Analyte		Result	R	L	Units	DF	Analyzed	By	Method
Moisture, Percent		23.8			%	1	01/02/15 13:00	TN	SM2540MOD G-97

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			Repo	ort of A	analysis		Page 1 of 1	
Client Sa Lab Samj Matrix: Method: Project:	mple ID: CAT-B ple ID: C37834 SO - So SW846 Alameo	-9-6 I-6 Dil 8270C B la Cross 7	SY SIM SW846 Frail Phase II	5 3550B	Da Da Pe	te Sampled: te Received: rcent Solids:	12/30/14 12/31/14 80.9	
Run #1 Run #2	File ID T17359.D	DF 1	Analyzed 01/03/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	n Analytical Batch ET768	
Run #1	Initial Weight 30.2 g	Final V 1.0 ml	Volume					

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	20	2.0	ug/kg	
208-96-8	Acenaphthylene	ND	20	2.0	ug/kg	
120-12-7	Anthracene	ND	20	2.0	ug/kg	
56-55-3	Benzo(a)anthracene	1.4	4.1	1.0	ug/kg	J
50-32-8	Benzo(a)pyrene	1.3	4.1	0.70	ug/kg	J
205-99-2	Benzo(b)fluoranthene	1.2	4.1	0.82	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	0.95	4.1	0.90	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	4.1	0.94	ug/kg	
218-01-9	Chrysene	1.2	4.1	0.82	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	4.1	1.1	ug/kg	
206-44-0	Fluoranthene	ND	20	2.0	ug/kg	
86-73-7	Fluorene	ND	20	2.0	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	1.3	4.1	1.0	ug/kg	J
90-12-0	1-Methylnaphthalene	ND	20	4.1	ug/kg	
91-57-6	2-Methylnaphthalene	ND	20	4.1	ug/kg	
91-20-3	Naphthalene	ND	20	4.1	ug/kg	
85-01-8	Phenanthrene	ND	20	2.0	ug/kg	
129-00-0	Pyrene	ND	20	2.0	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
4165-60-0	Nitrobenzene-d5	96%		32-1	28%	
321-60-8	2-Fluorobiphenyl	94%	48-122%			
1718-51-0	Terphenyl-d14	99%		48-1	48%	

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



	Report of Analysis											
Client Sam Lab Sample Matrix: Method: Project:	ple ID: CAT-E e ID: C37834 SO - So SW846 Alamed	3-9-6 4-6 5 8151A S da Cross Tr	W846 3546 ail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 cent Solids: 80	2/30/14 2/31/14).9				
Run #1 ^a Run #2	File ID CC046793.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1	Pate 15	Prep Batch F:OP54497	Analytical Batch F:GCC777				
Run #1 Run #2	Initial Weight 15.2 g	Final Vo 5.0 ml	lume									
CAS No.	Compound		Result	RL	MDL	Units	Q					
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloroph	ex) enol	ND ND ND ND ND ND ND ND ND	$\begin{array}{c} 41 \\ 4.1 \\ 4.1 \\ 4.1 \\ 100 \\ 200 \\ 41 \\ 41 \\ 4100 \\ 4100 \\ 4.1 \end{array}$	$\begin{array}{c} 6.9 \\ 1.1 \\ 0.82 \\ 1.4 \\ 20 \\ 41 \\ 15 \\ 15 \\ 1100 \\ 980 \\ 0.62 \end{array}$	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg						
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	nits						
19719-28-9	2,4-DCAA		110% b		31-1	132%						

(a) Analysis performed at Accutest Laboratories, Orlando FL.

(b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

	Report of Analysis							
Client Sa Lab Sam Matrix: Method: Project:	ample ID: CAT-1 ple ID: C3783 SO - S SW84 Alame	3-9-6 4-6 oil 5 8015B N da Cross 7	1 SW846 3550. Frail Phase II	В	Da Da Pe	2/30/14 2/31/14 0.9		
Run #1 Run #2	File ID HH319835.D	DF 1	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430	
Run #1 Run #2	Initial Weight 30.1 g	Final V 1.0 ml	Volume					

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) TPH (Motor Oil)	ND ND	4.1 8.2	2.1 4.1	mg/kg mg/kg	
	TPH (Mineral Spirits) TPH (Kerosene)	ND	4.1	2.1	mg/kg mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	iits	
630-01-3	Hexacosane	93%		37-1	22%	

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



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				Rep	ort of	Analysis				Page 1 of 1
Client Sample	e ID: CAT	-B-9-6								
Lab Sample I	D: C378	34-6					D	ate Sampled:	12/30/14	
Matrix:	SO -	Soil					D	ate Received:	12/31/14	
							Pe	ercent Solids:	80.9	
Project:	Alam	eda Cros	s Trail Pha	ase II						
Metals Analy	sis									
Analyte	Result	RL	Units	DF	Prep	Analyzed I	By	Method	Prep Me	ethod

·				•	v	v		•
Arsenic	4.9	0.26	mg/kg 5	01/07/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²
Lead	6.9	0.26	mg/kg 5	01/07/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4523

(2) Prep QC Batch: MP8944



Report of Analysis Page 1										
Client Sample ID:	CAT-B-9	-6								
Lab Sample ID:	C37834-6	5				Date Sampled	: 12	/30/14		
Matrix:	SO - Soil					Date Received	: 12	/31/14		
						Percent Solids	: 80	.9		
Project:	Alameda	Cross Trail	Phase II							
General Chemistry	,									
Analyte		Result	RL	Units	DF	Analyzed	By	Method		
Moisture, Percent		19.1		%	1	01/02/15 13:00	TN	SM2540MOD G-97		

Page 1 of 1

			Repo	ort of A	analysis		Page 1 of 1
Client Sa Lab Samj Matrix: Method: Project:	mple ID: CAT-B ple ID: C37834 SO - So SW846 Alamed	-10-5 7 iil 8270C B a Cross T	BY SIM SW846 Frail Phase II	5 3550B	Da Da Pe	ite Sampled: 1 ite Received: 1 rcent Solids: 8	12/30/14 12/31/14 80.2
Run #1 Run #2	File ID T17360.D	DF 1	Analyzed 01/03/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768
Run #1	Initial Weight 30.2 g	Final V 1.0 ml	Volume				

Run #2

BN PAH List

Compound	Result	RL	MDL	Units	Q
Acenaphthene	ND	21	2.1	ug/kg	
Acenaphthylene	ND	21	2.1	ug/kg	
Anthracene	ND	21	2.1	ug/kg	
Benzo(a)anthracene	ND	4.1	1.0	ug/kg	
Benzo(a)pyrene	ND	4.1	0.70	ug/kg	
Benzo(b)fluoranthene	ND	4.1	0.83	ug/kg	
Benzo(g,h,i)perylene	ND	4.1	0.91	ug/kg	
Benzo(k)fluoranthene	ND	4.1	0.95	ug/kg	
Chrysene	ND	4.1	0.83	ug/kg	
Dibenzo(a, h)anthracene	ND	4.1	1.2	ug/kg	
Fluoranthene	ND	21	2.1	ug/kg	
Fluorene	ND	21	2.1	ug/kg	
Indeno(1,2,3-cd)pyrene	ND	4.1	1.0	ug/kg	
1-Methylnaphthalene	ND	21	4.1	ug/kg	
2-Methylnaphthalene	ND	21	4.1	ug/kg	
Naphthalene	ND	21	4.1	ug/kg	
Phenanthrene	ND	21	2.1	ug/kg	
Pyrene	ND	21	2.1	ug/kg	
Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
Nitrobenzene-d5	112%		32-1	28%	
2-Fluorobiphenyl	101%		48-1	22%	
Terphenyl-d14	103%		48-1	48%	
	Compound Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(g,h,i)perylene Benzo(g,h,i)perylene Benzo(k)fluoranthene Chrysene Dibenzo(a,h)anthracene Fluoranthene Fluorene Indeno(1,2,3-cd)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Naphthalene Phenanthrene Pyrene Surrogate Recoveries Nitrobenzene-d5 2-Fluorobiphenyl Terphenyl-d14	CompoundResultAcenaphtheneNDAcenaphthyleneNDAnthraceneNDBenzo(a)anthraceneNDBenzo(a)pyreneNDBenzo(b)fluorantheneNDBenzo(b)fluorantheneNDBenzo(k)fluorantheneNDBenzo(k)fluorantheneNDBenzo(a, h)anthraceneNDFluorantheneNDFluorantheneNDFluorantheneNDFluorantheneNDIndeno(1, 2, 3-cd)pyreneND1-MethylnaphthaleneND2-MethylnaphthaleneNDPhenanthreneNDPyreneNDSurrogate RecoveriesRun# 1Nitrobenzene-d5112%2-Fluorobiphenyl101%Terphenyl-d14103%	CompoundResultRLAcenaphtheneND21AcenaphthyleneND21AnthraceneND21Benzo(a)anthraceneND4.1Benzo(a)pyreneND4.1Benzo(b)fluorantheneND4.1Benzo(g,h,i)peryleneND4.1Benzo(k)fluorantheneND4.1Benzo(k)fluorantheneND4.1Benzo(a,h)anthraceneND4.1Dibenzo(a,h)anthraceneND21FluorantheneND21Indeno(1,2,3-cd)pyreneND21Indeno(1,2,3-cd)pyreneND21NaphthaleneND21PhenanthreneND21Surrogate RecoveriesRun# 1Run# 2Nitrobenzene-d5112%2-Fluorobiphenyl101%Terphenyl-d14103%	Compound Result RL MDL Acenaphthene ND 21 2.1 Acenaphthylene ND 21 2.1 Anthracene ND 21 2.1 Anthracene ND 21 2.1 Benzo(a)anthracene ND 4.1 1.0 Benzo(a)anthracene ND 4.1 0.70 Benzo(b)fluoranthene ND 4.1 0.83 Benzo(g,h,i)perylene ND 4.1 0.91 Benzo(k)fluoranthene ND 4.1 0.95 Chrysene ND 4.1 0.83 Dibenzo(a,h)anthracene ND 4.1 1.2 Fluoranthene ND 21 2.1 Indeno(1,2,3-cd)pyrene ND 4.1 1.0 1-Methylnaphthalene ND 21 4.1 Naphthalene ND 21 4.1 Naphthalene ND 21 2.1 Pyrene ND 21 2.1	Compound Result RL MDL Units Acenaphthene ND 21 2.1 ug/kg Acenaphthylene ND 21 2.1 ug/kg Anthracene ND 21 2.1 ug/kg Benzo(a)anthracene ND 4.1 1.0 ug/kg Benzo(a)pyrene ND 4.1 0.70 ug/kg Benzo(k)fluoranthene ND 4.1 0.70 ug/kg Benzo(k)fluoranthene ND 4.1 0.95 ug/kg Dibenzo(a, h)anthracene ND 4.1 1.2 ug/kg Fluoranthene ND 21 2.1 ug/kg Indeno(1,2,3-cd)pyrene ND 4.1 1.0 ug/kg Indeno(1,2,3-cd)pyrene ND 21 4.1

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



Report of Analysis Pag										
Client Sam Lab Sampl Matrix: Method: Project:	ple ID: CAT-B e ID: C37834 SO - So SW846 Alameo	-10-5 4-7 bil 8151A SV la Cross Tra	W846 3546 ail Phase II			Date Date Perc	e Sampled: e Received: cent Solids: 8	12/30/14 12/31/14 80.2		
Run #1 ^a Run #2	File ID CC046848.D	DF 5	Analyzed 01/08/15	By AFL	Prep D 01/05/1	9 ate 15	Prep Batch F:OP54497	Analytical Batch F:GCC779		
Run #1 Run #2	Initial Weight 15.0 g	Final Vo 5.0 ml	lume							
CAS No.	Compound		Result	RL	MDL	Units	Q			
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloropho	ex) enol	ND ND ND ND ND ND ND ND ND ND	210 21 21 21 520 1000 210 21000 21000 21000 21	35 5.7 4.2 6.9 100 210 78 78 5500 5000 3.2	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg				
CAS No.	Surrogate Rec	coveries	Run# 1	Run# 2	Lim	iits				
19719-28-9	2.4-DCAA		60% b		31-1	32%				

(a) Dilution required due to matrix interference. Analysis performed at Accutest Laboratories, Orlando FL. (b) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

E = Indicates value exceeds calibration range

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



RL = Reporting Limit

	Report of Analysis									
Client San Lab Samp Matrix: Method: Project:	nple ID: CAT-B le ID: C37834 SO - So SW846 Alamed	-10-5 7 vil 8015B M a Cross 7	1 SW846 3550 Frail Phase II	В	Da Da Pe	2/30/14 2/31/14 0.2				
Run #1 Run #2	File ID HH319853.D	DF 3	Analyzed 01/05/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1431			
Run #1 Run #2	Initial Weight 30.2 g	Final V 1.0 ml	Volume							

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) ^a TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	88.2 164 ND ND	12 25 12 12	6.2 12 6.2 6.2	mg/kg mg/kg mg/kg mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
630-01-3	Hexacosane	94%		37-1	22%	

(a) Atypical Diesel pattern (C10-C28); heavier hydrocarbons contributing to quantitation.

- J = Indicates an estimated value
- $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$
- $N= \ Indicates \ presumptive \ evidence \ of \ a \ compound$

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41 of 93 ACCUTEST. C37834

	Report of Analysis			Page 1 of
Client Sample ID:	CAT-B-10-5			
Lab Sample ID:	C37834-7	Date Sampled:	12/30/14	
Matrix:	SO - Soil	Date Received:	12/31/14	
		Percent Solids:	80.2	
Project:	Alameda Cross Trail Phase II			
Metals Analysis				

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic ^a	1.4	0.58	mg/kg	5	01/09/15	01/12/15 RS	SW846 6020 ²	SW846 3050B ⁴
Lead	26.0	0.26	mg/kg	5	01/07/15	01/08/15 RS	SW846 6020 ¹	SW846 3050B ³

(1) Instrument QC Batch: MA4523

(2) Instrument QC Batch: MA4533

(3) Prep QC Batch: MP8944

(4) Prep QC Batch: MP8965

(a) Elevated RL/MDL due to positive bias of Method Blank.

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		Repo	ort of Ar	nalysis			Page 1 of	1
Client Sample ID: Lab Sample ID:	CAT-B-10-5				Date Sampled	• 12	2/30/14	
Matrix:	SO - Soil				Date Received	: 12	2/31/14	
Project:	Alameda Cross Tra	il Phase II			l'ercent Sonds	• 00	. 2	
General Chemistry								
Analyte	Result	RL	Units	DF	Analyzed	By	Method	
Moisture, Percent	19.8		%	1	01/02/15 13:00	TN	SM2540MOD G-97	



			Repo	ort of A	nalysis		Page 1 of 1
Client San Lab Sam Matrix: Method: Project:	nple ID: CAT ble ID: C37 SO - SW8 Alan	7-B 834-8 Soil 46 8270C B neda Cross 7	Y SIM SW846 Frail Phase II	5 3550B	Da Da Pe	ate Sampled: 1 ate Received: 1 prcent Solids: 8	2/30/14 2/31/14 1.6
Run #1 ^a Run #2	File ID T17367.D	DF 10	Analyzed 01/03/15	By MT	Prep Date 01/02/15	Prep Batch OP11467	Analytical Batch ET768
Run #1	Initial Weig	nt Final V	Volume				

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	200	20	ug/kg	
208-96-8	Acenaphthylene	ND	200	20	ug/kg	
120-12-7	Anthracene	ND	200	20	ug/kg	
56-55-3	Benzo(a)anthracene	ND	41	10	ug/kg	
50-32-8	Benzo(a)pyrene	10.4	41	6.9	ug/kg	J
205-99-2	Benzo(b)fluoranthene	10.5	41	8.1	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	14.8	41	9.0	ug/kg	J
207-08-9	Benzo(k)fluoranthene	ND	41	9.4	ug/kg	
218-01-9	Chrysene	10.7	41	8.1	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	41	11	ug/kg	
206-44-0	Fluoranthene	ND	200	20	ug/kg	
86-73-7	Fluorene	ND	200	20	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	12.0	41	10	ug/kg	J
90-12-0	1-Methylnaphthalene	ND	200	41	ug/kg	
91-57-6	2-Methylnaphthalene	ND	200	41	ug/kg	
91-20-3	Naphthalene	ND	200	41	ug/kg	
85-01-8	Phenanthrene	ND	200	20	ug/kg	
129-00-0	Pyrene	ND	200	20	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	iits	
4165-60-0	Nitrobenzene-d5	105%		32-1	28%	
321-60-8	2-Fluorobiphenyl	110%		48-1	22%	
1718-51-0	Terphenyl-d14	101%		48-1	48%	

(a) Dilution required due to matrix interference (dark and viscous extract; high concentration of non-target hydrocarbons).

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Page 1 of 1

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	Report of Analysis Pag											
Client Sam Lab Sample Matrix: Method: Project:	ple ID: CAT-B e ID: C37834 SO - So SW846 Alameo	4-8 bil 58151A S da Cross Tr	W846 3546 ail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 eent Solids: 81	2/30/14 2/31/14 6				
Run #1 ^a Run #2	File ID CC046795.D	DF 1	Analyzed 01/06/15	By AFL	Prep D 01/05/1)ate 15	Prep Batch F:OP54497	Analytical Batch F:GCC777				
Run #1 Run #2	Initial Weight 15.3 g	Final Vo 5.0 ml	olume									
CAS No.	Compound		Result	RL	MDL	Units	Q					
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloropho	ex) enol ^b	ND ND ND ND ND ND ND ND ND 1.1	$\begin{array}{c} 40 \\ 4.0 \\ 4.0 \\ 4.0 \\ 100 \\ 200 \\ 40 \\ 40 \\ 4000 \\ 4000 \\ 4.0 \end{array}$	6.8 1.1 0.80 1.3 20 40 15 15 15 1100 960 0.61	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J					
CAS No.	Surrogate Rec	coveries	Run# 1	Run# 2	Lim	uits						
19719-28-9	2.4-DCAA		60% ^c		31-1	32%						

(a) All hits confirmed by dual column analysis. Analysis performed at Accutest Laboratories, Orlando FL.

(b) Primary and confirmation results differ by more than 40%. Lower value reported due to possible coelution. (c) Surrogate recoveries corrected for actual spike amount.

ND = Not detected MDL = Method Detection Limit

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

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RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

			Repo	ort of A	Analysis		Page 1 of 1
Client Sam Lab Sampl Matrix: Method: Project:	aple ID: CAT-B le ID: C37834 SO - So SW846 Alamed	-8 il 8015B M a Cross T	SW846 35501 rail Phase II	В	Da Da Pe	ite Sampled: ite Received: rcent Solids:	12/30/14 12/31/14 81.6
Run #1 Run #2	File ID HH319854.D	DF 25	Analyzed 01/05/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1431
Run #1 Run #2	Initial Weight 30.1 g	Final V 1.0 ml	olume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) ^a TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	188 922 ND ND	100 200 100 100	51 100 51 51	mg/kg mg/kg mg/kg mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	iits	
630-01-3	Hexacosane	41%		37-1	22%	

(a) Atypical Diesel pattern (C10-C28); heavier hydrocarbons contributing to quantitation.

- J = Indicates an estimated value
- $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$
- N = Indicates presumptive evidence of a compound

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				Rep	oort of	f Analysis			Page 1 of
Client Sample I Lab Sample ID	D: CAT	'-B 834-8					Date Samnled:	12/30/14	
Matrix:	SO -	Soil					Date Sampled: Date Received: Percent Solids:	12/31/14	
Project:	Alam	neda Cros	s Trail Pha	ase II			I creent Sonus.	01.0	
Metals Analysis	1								
Analyte	Result	RL	Units	DF	Prep	Analyzed B	y Method	Prep Meth	ıod

01/07/15 01/08/15 RS

01/07/15 01/08/15 RS

SW846 6020 ¹

SW846 6020 ¹

(1) Instrument QC Batch: MA4523

4.9

170

0.26

0.26

mg/kg 5

mg/kg 5

(2) Prep QC Batch: MP8944

Arsenic

Lead



SW846 3050B²

SW846 3050B 2

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RL = Reporting Limit



			Repo	rt of An	alysis			Page 1 of	f 1	ა .8
Client Sample ID: Lab Sample ID:	CAT-B C37834-8					Date Sampled	: 12	/30/14		ယ
Matrix:	SO - Soil					Date Received Percent Solids	: 12	/31/14		
Project:	Alameda	Cross Trail	Phase II			i ci cent bonus	• 01	.0		
General Chemistry	7									
Analyte		Result	RL	Units	DF	Analyzed	By	Method		
Moisture, Percent		18.4		%	1	01/02/15 13:00	TN	SM2540MOD G-97		

				Repo	ort of A	nalysis		Page 1 of 1
Client San Lab Sam Matrix: Method: Project:	nple ID: ble ID:	CAT-I C3783 SO - S SW84 Alame	B-10-2 34-9 30il 6 8270C B eda Cross T	Y SIM SW846 Trail Phase II	5 3550B	Da Da Pe	12/30/14 12/31/14 90.1	
Run #1 ^a Run #2	File ID T17397	.D	DF 20	Analyzed 01/05/15	By MT	Prep Date 01/05/15	Prep Batch OP11471	Analytical Batch ET769
Run #1	Initial V 30.1 g	Veight	Final V 1.5 ml	olume				

Run #2

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	550	55	ug/kg	
208-96-8	Acenaphthylene	ND	550	55	ug/kg	
120-12-7	Anthracene	ND	550	55	ug/kg	
56-55-3	Benzo(a)anthracene	52.6	110	28	ug/kg	J
50-32-8	Benzo(a)pyrene	65.7	110	19	ug/kg	J
205-99-2	Benzo(b)fluoranthene	57.1	110	22	ug/kg	J
191-24-2	Benzo(g,h,i)perylene	97.7	110	24	ug/kg	J
207-08-9	Benzo(k)fluoranthene	45.9	110	25	ug/kg	J
218-01-9	Chrysene	61.8	110	22	ug/kg	J
53-70-3	Dibenzo(a,h)anthracene	ND	110	31	ug/kg	
206-44-0	Fluoranthene	88.7	550	55	ug/kg	J
86-73-7	Fluorene	ND	550	55	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	66.8	110	28	ug/kg	J
90-12-0	1-Methylnaphthalene	ND	550	110	ug/kg	
91-57-6	2-Methylnaphthalene	ND	550	110	ug/kg	
91-20-3	Naphthalene	ND	550	110	ug/kg	
85-01-8	Phenanthrene	84.3	550	55	ug/kg	J
129-00-0	Pyrene	85.8	550	55	ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	iits	
4165-60-0	Nitrobenzene-d5	90%		32-1	28%	
321-60-8	2-Fluorobiphenyl	98% 48-122%				
1718-51-0	Terphenyl-d14	86%	% 48-148%			

(a) Dilution required due to matrix interference. Extract would not concentrate (dark and viscous); and high concentration of non-target hydrocarbons.

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



	Report of Analysis											
Client Sam Lab Sample Matrix: Method: Project:	ple ID: CAT-E e ID: C37834 SO - So SW846 Alameo	8-10-2 4-9 5 8151A S da Cross Tr	W846 3546 ail Phase II			Date Date Perc	e Sampled: 12 e Received: 12 cent Solids: 90	2/30/14 2/31/14 0.1				
Run #1 ^a Run #2	File ID CC046855.D	DF 1	Analyzed 01/08/15	By AFL	Prep D 01/06/1)ate 15	Prep Batch F:OP54503	Analytical Batch F:GCC779				
Run #1 Run #2	Initial Weight 15.0 g	Final Vo 5.0 ml	lume									
CAS No.	Compound		Result	RL	MDL	Units	Q					
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silv 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachloroph	ex) enol	ND ND ND ND ND ND ND ND ND	37 3.7 3.7 3.7 92 180 37 37 3700 3700 3.7	6.3 1.0 0.74 1.2 18 37 14 14 980 890 0.57	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg						
CAS No.	Surrogate Re	coveries	Run# 1	Run# 2	Lim	iits						
19719-28-9	2,4-DCAA		15% ^b		31-1	132%						

(a) Analysis performed at Accutest Laboratories, Orlando FL.

(b) Surrogate recoveries outside of control limits, confirmed by MS/MSD.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

			Repo	ort of A	Analysis		Page 1 of 1
Client Sam Lab Sampl Matrix: Method: Project:	aple ID: CAT-B le ID: C37834 SO - So SW846 Alamed	-10-2 -9 il 8015B M a Cross T	12/30/14 12/31/14 90.1				
Run #1 Run #2	File ID HH319873.D	DF 25	Analyzed 01/05/15	By AG	Prep Date 01/05/15	Prep Batch OP11472	n Analytical Batch GHH1431
Run #1 Run #2	Initial Weight 30.2 g	Final V 1.0 ml	olume				

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel) ^a TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	129 609 ND ND	92 180 92 92	46 92 46 46	mg/kg mg/kg mg/kg mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
630-01-3	Hexacosane	55%		22%		

(a) Atypical Diesel pattern (C10-C28); heavier hydrocarbons contributing to quantitation.

- J = Indicates an estimated value
- $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$
- N = Indicates presumptive evidence of a compound



		Report of Analysis												
Client Sample I	D: CAT	-B-10-2					Data Samuladi	12/20/14						
Matrix:	SO -	Soil					Date Sampled: Date Received:	12/31/14						
Project:	Alam	eda Cross	s Trail Pha	ase II			r ercent sonus.	90.1						
Metals Analysis														
Analyte	Result	RL	Units	DF	Prep	Analyzed By	y Method	Prep Me	ethod					

Arsenic	6.2	0.23	mg/kg	5	01/07/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²
Lead	126	0.23	mg/kg	5	01/07/15	01/08/15	RS	SW846 6020 ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4523

(2) Prep QC Batch: MP8944



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	Report of Analysis										
Client Sample ID:	CAT-B-10	-2					10	12011			
Lab Sample ID:	C37834-9					Date Sampled	: 12	/30/14			
Matrix:	SO - Soil					Date Received	: 12	/31/14			
						Percent Solids	: 90	.1			
Project:	Alameda C	Cross Trail P	Phase II								
General Chemistry											
Analyte		Result	RL	Units	DF	Analyzed	By	Method			
Moisture, Percent		9.9		%	1	01/02/15 13:00	TN	SM2540MOD G-97			

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Section 4

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Misc. Forms	
Custody Documents and Other Forms	

Includes the following where applicable:

• Chain of Custody



135 Main St. Suite 1800		- r				-					P	reserv	rative A	dded	<u></u>
San Francisco. CA 94105 415-543-4880	Lab PO#:	Lab: Acci	thet					(1 (7)			Ļ	2			
Fax 415-543-5480	Tablat (0,000				NO	0./Co	ntainer Typ	es		An	alysi	s Req	uired	
Cross-trail Alumida Phase II	Murk Qaffy	Mov	k Ow	44				205				n silic	202		
Project (CTO) number:	T(EMI project manager:	Field sampler	s' signatures;		MSD	V	aber Ny	1204			geables	S I SI	5270 60		
/03) 5(35 Sample ID	Sample Location (Pt. ID)	Date	Time	Matrix	WS / I	40 ml VO.	1 liter Am 500 ml Pe	Sleeve Glass Jar	VOV	SVOA Pest/PCB	Metals TPH Pury	E PP	PAH Los		
CAT-B-8-8 CAT-B-8-2 CAT-B-7-1 CAT-B-9-1 CAT-B-9-6 CAT-B-6 CAT-B-6 CAT-B-6 CAT-B-6 CAT-B-10-2		12-30-14	1120 1125 846 835 1225 1230 1305 1320 1310	50,1 V	X						010				
Patternet bad bury 700 01		N	ame (prin	nt)			Long	Company N	Vam	e			Date	1	lime
Received by: Lee Bautista	/	Lee Ba	autista	rthy			Acc	utest	h			12/	<u>-35-/</u> 31/14	09	000 9:30
Received by:				- I											
Relinquished by:															
Turnaround time/remarks: Temp Bla	nk included	<u></u>				<u> </u>						1			

C37834: Chain of Custody Page 1 of 2



4.1

4



Accutest Laboratories Sample Receipt Summary

Accutest Job Number:	C37834	Client:	TETRA TECH		Project: C	ROSS-TRAIL ALAMEDA PHASE II
Date / Time Received:	12/31/2014 9:30:00	AM	Delivery Method:	FedEx	Airbill #'s:	804316470333
Cooler Temps (Initial/Ad	justed): <u>#1: (</u> 4.5/4.	<u>5):</u>				

Cooler Security Y	or N		Y or N	Sample Integrity - Documentation	Y	or N	_
1. Custody Seals Present:	✓ 3	. COC Present:		1. Sample labels present on bottles:	\checkmark	C	
2. Custody Seals Intact:	4. Si	mpl Dates/Time OK		2. Container labeling complete:	\checkmark	C	
Cooler Temperature	Y or N			3. Sample container label / COC agree:	\checkmark		
1. Temp criteria achieved:				Sample Integrity - Condition	Y	or N	_
2. Cooler temp verification:	IR2;			1. Sample recvd within HT:	\checkmark	C	
3. Cooler media:	Ice (Bag)			2. All containers accounted for:			
4. No. Coolers:	1			3. Condition of sample:		Intact	
Quality Control Preservation	Y or N	N/A		Sample Integrity - Instructions	Y	or N	N/A
1. Trip Blank present / cooler:		\checkmark		1. Analysis requested is clear:			
2. Trip Blank listed on COC:		\checkmark		2. Bottles received for unspecified tests		\checkmark	
3. Samples preserved properly:				3. Sufficient volume recvd for analysis:			
4. VOCs headspace free:		\checkmark		4. Compositing instructions clear:			\checkmark
				5. Filtering instructions clear:			\checkmark

Comments

Accutest Laboratories V:408.588.0200 2105 Lundy Avenue F: 408.588.0201 San Jose, CA 95131 www/accutest.com 4.1 **4**

C37834: Chain of Custody Page 2 of 2


Section 5

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GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Job Number: Account: Project:	C37834 TETRCAO Tetr Alameda Cross	a Tech EN Trail Phas	ИI e II			
Sample OP11467-MB	File ID T17345.D	DF 1	Analyzed 01/02/15	Ву МТ	Prep Date 01/02/15	Prep Batch OP11467

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

ET768

C37834-2, C37834-5, C37834-6, C37834-7, C37834-8

CAS No.	Compound	Result	RL	MDL	Units Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg
120-12-7	Anthracene	ND	17	1.7	ug/kg
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.77	ug/kg
218-01-9	Chrysene	ND	3.3	0.67	ug/kg
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg
206-44-0	Fluoranthene	ND	17	1.7	ug/kg
86-73-7	Fluorene	ND	17	1.7	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg
91-20-3	Naphthalene	ND	17	3.3	ug/kg
85-01-8	Phenanthrene	ND	17	1.7	ug/kg
129-00-0	Pyrene	ND	17	1.7	ug/kg

CAS No. Surrogate Recoveries			Limits
4165-60-0	Nitrobenzene-d5	110%	32-128%
321-60-8	2-Fluorobiphenyl	106%	48-122%
1718-51-0	Terphenyl-d14	110%	48-148%



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Job Number: Account: Project:	C37834 TETRCAO Tetr Alameda Cross	a Tech EN Trail Phas	ИI e II				
Sample OP11471-MB	File ID T17382.D	DF 1	Analyzed 01/05/15	By MT	Prep Date 01/05/15	Prep Batch OP11471	Analytical Batch ET769
The QC repor	ted here applies t	o the follo	wing samples:			Method: SW84	6 8270C BY SIM

C37834-1, C37834-3, C37834-4, C37834-9

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg	
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg	
120-12-7	Anthracene	ND	17	1.7	ug/kg	
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg	
50-32-8	Benzo(a)pyrene ^a	0.62	3.3	0.57	ug/kg J	J
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.77	ug/kg	
218-01-9	Chrysene	ND	3.3	0.67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg	
206-44-0	Fluoranthene	ND	17	1.7	ug/kg	
86-73-7	Fluorene	ND	17	1.7	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg	
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg	
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg	
91-20-3	Naphthalene	ND	17	3.3	ug/kg	
85-01-8	Phenanthrene	ND	17	1.7	ug/kg	
129-00-0	Pyrene	ND	17	1.7	ug/kg	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	98%	32-128%
321-60-8	2-Fluorobiphenyl	95%	48-122%
1718-51-0	Terphenyl-d14	113%	48-148%

(a) Associated sample(s) with "B" qualifiers indicate analyte is found at concentrations less than 10 times of method blank. Concentration present in blank is less than 1/2 RL; meeting method criteria.



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Job Number: Account: Project:	C37834 TETRCAO Tetr Alameda Cross	a Tech EN Trail Phas	MI e II				
Sample OP11471-MB	File ID X41456.D	DF 1	Analyzed 01/05/15	By BJ	Prep Date 01/05/15	Prep Batch OP11471	Analytical Batch EX1771
The QC repor	ted here applies t	o the follo	owing samples:			Method: SW84	6 8270C BY SIM

C37834-1, C37834-3, C37834-4, C37834-9

CAS No.	Compound	Result	RL	MDL	Units Q
83-32-9	Acenaphthene	ND	17	1.7	ug/kg
208-96-8	Acenaphthylene	ND	17	1.7	ug/kg
120-12-7	Anthracene	ND	17	1.7	ug/kg
56-55-3	Benzo(a)anthracene	ND	3.3	0.83	ug/kg
50-32-8	Benzo(a)pyrene	ND	3.3	0.57	ug/kg
205-99-2	Benzo(b)fluoranthene	ND	3.3	0.67	ug/kg
191-24-2	Benzo(g,h,i)perylene	ND	3.3	0.73	ug/kg
207-08-9	Benzo(k)fluoranthene	ND	3.3	0.77	ug/kg
218-01-9	Chrysene	ND	3.3	0.67	ug/kg
53-70-3	Dibenzo(a,h)anthracene	ND	3.3	0.93	ug/kg
206-44-0	Fluoranthene	ND	17	1.7	ug/kg
86-73-7	Fluorene	ND	17	1.7	ug/kg
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.3	0.83	ug/kg
90-12-0	1-Methylnaphthalene	ND	17	3.3	ug/kg
91-57-6	2-Methylnaphthalene	ND	17	3.3	ug/kg
91-20-3	Naphthalene	ND	17	3.3	ug/kg
85-01-8	Phenanthrene	ND	17	1.7	ug/kg
129-00-0	Pyrene	ND	17	1.7	ug/kg

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	97%	32-128%
321-60-8	2-Fluorobiphenyl	97%	48-122%
1718-51-0	Terphenyl-d14	115%	48-148%



Page 1 of 1

5.1.3

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Blank Spike/Blank Spike Duplicate Summary

Job Number:	C37834
Account:	TETRCAO Tetra Tech EMI
Project:	Alameda Cross Trail Phase II

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP11467-BS	T17346.D	1	01/02/15	MT	01/02/15	OP11467	ET768
OP11467-BSD	T17347.D	1	01/02/15	MT	01/02/15	OP11467	ET768

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C37834-2, C37834-5, C37834-6, C37834-7, C37834-8

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	167	175	105	164	98	б	67-106/9
208-96-8	Acenaphthylene	167	168	101	162	97	4	67-104/9
120-12-7	Anthracene	167	181	109* a	166	100	9	66-107/11
56-55-3	Benzo(a)anthracene	167	170	102	171	103	1	72-115/9
50-32-8	Benzo(a)pyrene	167	157	94	162	97	3	64-107/10
205-99-2	Benzo(b)fluoranthene	167	182	109	168	101	8	69-127/15
191-24-2	Benzo(g,h,i)perylene	167	179	107	186	112	4	63-125/14
207-08-9	Benzo(k)fluoranthene	167	151	91	159	95	5	73-127/14
218-01-9	Chrysene	167	174	104	168	101	4	72-119/8
53-70-3	Dibenzo(a,h)anthracene	167	169	101	183	110	8	65-128/16
206-44-0	Fluoranthene	167	174	104	168	101	4	74-119/11
86-73-7	Fluorene	167	170	102	168	101	1	71-111/10
193-39-5	Indeno(1,2,3-cd)pyrene	167	162	97	170	102	5	59-128/18
90-12-0	1-Methylnaphthalene	167	130	78	167	100	25* ^b	63-103/12
91-57-6	2-Methylnaphthalene	167	161	97	166	100	3	64-106/12
91-20-3	Naphthalene	167	161	97	160	96	1	62-99/10
85-01-8	Phenanthrene	167	173	104	163	98	6	68-111/14
129-00-0	Pyrene	167	167	100	163	98	2	62-122/15
CAS No.	Surrogate Recoveries	BSP	BS	D	Limits			
4165-60-0	Nitrobenzene-d5	111%	110)%	32-1289	%		
321-60-8	2-Fluorobiphenyl	104%	10	1%	48-1229	%		
1718-51-0	Terphenyl-d14	105%	10	1%	48-1489	%		

(a) Outside of in-house control limits; but within the method control limits.

(b) Outside laboratory control limits. BS/BSD recoveries within control limits.



61 of 93

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C37834

Blank Spike/Blank Spike Duplicate Summary

Job Number:	C37834
Account:	TETRCAO Tetra Tech EMI
Project:	Alameda Cross Trail Phase II

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP11471-BS	T17380.D	1	01/05/15	MT	01/05/15	OP11471	ET769
OP11471-BSD	T17381.D	1	01/05/15	MT	01/05/15	OP11471	ET769

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C37834-1, C37834-3, C37834-4, C37834-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	167	161	97	165	99	2	67-106/9
208-96-8	Acenaphthylene	167	137	82	169	101	21* a	67-104/9
120-12-7	Anthracene	167	167	100	175	105	5	66-107/11
56-55-3	Benzo(a)anthracene	167	175	105	175	105	0	72-115/9
50-32-8	Benzo(a)pyrene	167	158	95	152	91	4	64-107/10
205-99-2	Benzo(b)fluoranthene	167	197	118	192	115	3	69-127/15
191-24-2	Benzo(g,h,i)perylene	167	197	118	197	118	0	63-125/14
207-08-9	Benzo(k)fluoranthene	167	141	85	145	87	3	73-127/14
218-01-9	Chrysene	167	167	100	175	105	5	72-119/8
53-70-3	Dibenzo(a,h)anthracene	167	185	111	192	115	4	65-128/16
206-44-0	Fluoranthene	167	181	109	187	112	3	74-119/11
86-73-7	Fluorene	167	155	93	179	107	14* a	71-111/10
193-39-5	Indeno(1,2,3-cd)pyrene	167	196	118	211	127	7	59-128/18
90-12-0	1-Methylnaphthalene	167	176	106* b	162	97	8	63-103/12
91-57-6	2-Methylnaphthalene	167	173	104	159	95	8	64-106/12
91-20-3	Naphthalene	167	167	100* c	154	92	8	62-99/10
85-01-8	Phenanthrene	167	180	108	172	103	5	68-111/14
129-00-0	Pyrene	167	164	98	152	91	8	62-122/15
CAS No.	Surrogate Recoveries	BSP	BS	SD	Limits			
4165-60-0	Nitrobenzene-d5	96%	10	0%	32-1289	6		
321-60-8	2-Fluorobiphenyl	92%	10	3%	48-1229	6		
1718-51-0	Terphenyl-d14	96%	98	%	48-1489	6		

(a) Outside laboratory control limits. BS/BSD recoveries within control limits.

(b) Outside laboratory control limits; but within marginal exceedence criteria.

(c) Outside of in-house control limits; but within the method control limits.





Matrix Spike/Matrix Spike Duplicate Summary

Job Number:	C37834
Account:	TETRCAO Tetra Tech EMI
Project:	Alameda Cross Trail Phase II

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP11467-MS ^a	T17368.D	4	01/03/15	MT	01/02/15	OP11467	ET768
OP11467-MSD ^a	T17369.D	4	01/03/15	MT	01/02/15	OP11467	ET768
C37834-5 ^a	T17365.D	4	01/03/15	MT	01/02/15	OP11467	ET768

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C37834-2, C37834-5, C37834-6, C37834-7, C37834-8

CAS No.	Compound	C37834 ug/kg	-5 0	Spike ug/kg	MS ug/kg	MS z %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
	I I I		Ľ			,					
83-32-9	Acenaphthene	ND		218	227	104	218	218	100	4	67-106/9
208-96-8	Acenaphthylene	ND		218	230	105* ^b	218	220	101	4	67-104/9
120-12-7	Anthracene	ND		218	219	100	218	239	110* ^b	9	66-107/11
56-55-3	Benzo(a)anthracene	59.3		218	267	95	218	276	99	3	72-115/9
50-32-8	Benzo(a)pyrene	121		218	306	85	218	297	81	3	64-107/10
205-99-2	Benzo(b)fluoranthene	123		218	374	115	218	345	102	8	69-127/15
191-24-2	Benzo(g,h,i)perylene	145		218	307	74	218	316	78	3	63-125/14
207-08-9	Benzo(k)fluoranthene	54.3		218	212	72* ^b	218	217	75	2	73-127/14
218-01-9	Chrysene	86.2		218	263	81	218	264	82	0	72-119/8
53-70-3	Dibenzo(a,h)anthracene	16.0	J	218	243	104	218	246	105	1	65-128/16
206-44-0	Fluoranthene	163		218	310	67* ^b	218	357	89	14* ^b	74-119/11
86-73-7	Fluorene	ND		218	231	106	218	222	102	4	71-111/10
193-39-5	Indeno(1,2,3-cd)pyrene	153		218	356	93	218	352	91	1	59-128/18
90-12-0	1-Methylnaphthalene	ND		218	218	100	218	214	98	2	63-103/12
91-57-6	2-Methylnaphthalene	ND		218	212	97	218	216	99	2	64-106/12
91-20-3	Naphthalene	ND		218	212	97	218	205	94	3	62-99/10
85-01-8	Phenanthrene	39.9	J	218	240	92	218	222	84	8	68-111/14
129-00-0	Pyrene	181		218	314	61* ^b	218	330	68	5	62-122/15
GAGN											
CAS No.	Surrogate Recoveries	MS		MSD	C	57834-5	Limits				
4165-60-0	Nitrobenzene-d5	105%		107%	1	15%	32-1289	%			
321-60-8	2-Fluorobiphenyl	110%		104%	1	08%	48-1229	%			

(a) Dilution required due to matrix interference (dark and viscous extract; high concentration of non-target hydrocarbons).

109%

48-148%

98%

(b) Outside laboratory control limits.

101%

1718-51-0 Terphenyl-d14

Matrix Spike/Matrix Spike Duplicate Summary

Job Number:	C37834
Account:	TETRCAO Tetra Tech EMI
Project:	Alameda Cross Trail Phase II

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP11471-MS	T17395.D	1	01/05/15	MT	01/05/15	OP11471	ET769
OP11471-MSD	T17396.D	1	01/05/15	MT	01/05/15	OP11471	ET769
C37843-9	T17393.D	1	01/05/15	MT	01/05/15	OP11471	ET769

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C37834-1, C37834-3, C37834-4, C37834-9

CAS No	Compound	C37843-	.9 0	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
CH0 110.	Compound	ug/ Ng	Y	ug/ Kg	ug/ Kg	/0	ug/ Kg	ug/ Ng	70	ΜD	KC(KI D
83-32-9	Acenaphthene	ND		166	160	96	166	169	102	5	67-106/9
208-96-8	Acenaphthylene	ND		166	161	97	166	173	104	7	67-104/9
120-12-7	Anthracene	ND		166	164	99	166	168	101	2	66-107/11
56-55-3	Benzo(a)anthracene	ND		166	162	98	166	172	104	6	72-115/9
50-32-8	Benzo(a)pyrene	ND		166	149	90	166	155	93	4	64-107/10
205-99-2	Benzo(b)fluoranthene	ND		166	189	114	166	209	126	10	69-127/15
191-24-2	Benzo(g,h,i)perylene	ND		166	160	96	166	170	102	6	63-125/14
207-08-9	Benzo(k)fluoranthene	ND		166	132	79	166	141	85	7	73-127/14
218-01-9	Chrysene	ND		166	153	92	166	172	104	12* a	72-119/8
53-70-3	Dibenzo(a,h)anthracene	ND		166	166	100	166	175	105	5	65-128/16
206-44-0	Fluoranthene	ND		166	180	108	166	181	109	1	74-119/11
86-73-7	Fluorene	ND		166	169	102	166	179	108	6	71-111/10
193-39-5	Indeno(1,2,3-cd)pyrene	ND		166	186	112	166	180	108	3	59-128/18
90-12-0	1-Methylnaphthalene	ND		166	172	104* b	166	167	101	3	63-103/12
91-57-6	2-Methylnaphthalene	ND		166	163	98	166	168	101	3	64-106/12
91-20-3	Naphthalene	ND		166	158	95	166	161	97	2	62-99/10
85-01-8	Phenanthrene	ND		166	165	99	166	163	98	1	68-111/14
129-00-0	Pyrene	ND		166	145	87	166	149	90	3	62-122/15
CAS No.	Surrogate Recoveries	MS		MSD	C.	37843-9	Limits				
4165-60-0	Nitrobenzene-d5	96%		103%	98	3%	32-1289	%			
321-60-8	2-Fluorobiphenyl	94%		103%	87	'%	48-1229	%			
1718-51-0	Terphenyl-d14	84%		89%	95	5%	48-1489	%			

(a) Outside laboratory control limits. MS/MSD recoveries within control limits.

(b) Outside laboratory control limits.

Page 1 of 1

Section 6

6



GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary Job Number: C37834

Account: Project:	TETRCAO Tetra Alameda Cross T	Tech EN rail Phas	ИI e II								
Sample OP11469-MB	File ID HH319843.D	DF 1	Analyzed 01/03/15	By AG	Prep Date 01/02/15	Prep Batch OP11469	Analytical Batch GHH1430				
The QC report	The QC reported here applies to the following samples: Method: SW846 8015B M										
C37834-1, C37	/834-2, C37834-3, (C37834-4	4, C37834-5, C3	7834-6,	C37834-7, C378	334-8					

CAS No.	Compound	Result	RL	MDL	Units Q	
	TPH (Diesel) TPH (Motor Oil) TPH (Mineral Spirits) TPH (Kerosene)	ND ND ND ND	3.3 6.7 3.3 3.3	1.7 3.3 1.7 1.7	mg/kg mg/kg mg/kg mg/kg	
CAS No.	Surrogate Recoveries		Limi	ts		
630-01-3	Hexacosane	96%	37-12	22%		





Method Blank Summary Job Number: C37834

Account: Project:	TETRCAO Tetra Alameda Cross Tr	Tech EM ail Phase	II II							
Sample OP11472-N	File ID MB HH319860.D	DF 1	Analy 01/05/	zed 15	i By Preg AG 01/0		e p Date 05/15	Prep OP11	Batch 472	Analytical Batch GHH1431
The QC re	eported here applies to	the follo	wing samp	oles:				Method	SW840	6 8015B M
C37834-9										
CAS No.	Compound		Result	RL	,	MDL	Units	Q		
	TPH (Diesel)		ND	3.3		1.7	mg/kg			
	TPH (Motor Oil)		ND	6.7		3.3	mg/kg			
	TPH (Mineral Spirits)		ND	3.3		1.7	mg/kg			
	TPH (Kerosene)		ND	3.3		1.7	mg/kg			
CAS No.	Surrogate Recoveries	;		Li	mits					
630-01-3	Hexacosane		92%	37	-1229	6				

Blank Spike/Blank Spike Duplicate Summary

Job Number:	C37834
Account:	TETRCAO Tetra Tech EMI
Project:	Alameda Cross Trail Phase II

Sample File I	ID DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP11469-BS HH31	19841.D 1	01/03/15	AG	01/02/15	OP11469	GHH1430
OP11469-BSD HH3	19842.D 1	01/03/15	AG	01/02/15	OP11469	GHH1430

The QC reported here applies to the following samples:

Method: SW846 8015B M

C37834-1, C37834-2, C37834-3, C37834-4, C37834-5, C37834-6, C37834-7, C37834-8

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH (Diesel) TPH (Motor Oil)	33.3 33.3	27.0 30.0	81 90	29.1 30.1	87 90	7 0	38-102/28 42-111/26
CAS No.	Surrogate Recoveries	BSP	BSD)	Limits			
630-01-3	Hexacosane	97%	98%		37-122%			



Blank Spike/Blank Spike Duplicate Summary Job Number: C37834

Account: Project:	TETRCAO Tetra Alameda Cross T	Tech EMI rail Phase II								
Sample OP11472-E OP11472-E	File ID DF Analyzed By Prep Date Prep Batch An S HH319858.D 1 01/05/15 AG 01/05/15 OP11472 GH SD HH319859.D 1 01/05/15 AG 01/05/15 OP11472 GH									:h
The QC re	ported here applies to	the followi	ng san	nples:			Me	thod: SV	V846 8015B M	
C37834-9										
CAS No.	Compound	Sj m	pike g/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD	
	TPH (Diesel) TPH (Motor Oil)	33 33	3.3 3.3	28.9 30.2	87 91	28.8 28.8	86 86	0 5	38-102/28 42-111/26	
CAS No.	Surrogate Recoveries	s B	SP	BS	D	Limits				

90%

37-122%

92%

630-01-3

Hexacosane

Matrix Spike/Matrix Spike Duplicate Summary

Job Number:	C37834
Account:	TETRCAO Tetra Tech EMI
Project:	Alameda Cross Trail Phase II

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP11469-MS	HH319839.D	3	01/03/15	AG	01/02/15	OP11469	GHH1430
OP11469-MSD	HH319840.D	3	01/03/15	AG	01/02/15	OP11469	GHH1430
C37834-5	HH319834.D	1	01/03/15	AG	01/02/15	OP11469	GHH1430

The QC reported here applies to the following samples:

Method: SW846 8015B M

C37834-1, C37834-2, C37834-3, C37834-4, C37834-5, C37834-6, C37834-7, C37834-8

CAS No.	Compound	C37834-5 mg/kg Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (Diesel) TPH (Motor Oil)	6.39 30.3	43.7 43.7	34.7 66.7	65 83	43.6 43.6	44.9 127	88 222* ^a	26 62* ^a	38-102/28 42-111/26
CAS No.	Surrogate Recoveries	MS	MSD	C37	834-5	Limits				
630-01-3	Hexacosane	92%	88%	93%		37-122%				

(a) Outside laboratory control limits.

Page 1 of 1



Matrix Spike/Matrix Spike Duplicate Summary Job Number: C37834

	Account: Project:	TETRCAO Tet Alameda Cross	ra Tech EM Trail Phase	4I e II							
	Sample	File ID	DF	Analy	yzed I	By	Prep Date	e Pre	p Batch	Ana	lytical Batch
	OP114/2-MS	HH319856.	D 25	01/05	/15 A	AG AG	01/05/15	OP	11472	GHE	11431
	C37834-9	HH319857.1 HH319873.1	D 25 D 25	01/05	/15 A	AG AG	01/05/15	OP	11472	GHI	11431 11431
	The QC report	ed here applies	to the follo	wing sam	ples:			Metho	d: SW84	6 8015	B M
	C37834-9										
CAS No.	Compound	(C 37834-9 mg/kg Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (Diesel)		129	36.8	127	-5* a	36.8	96.0	-90* a	28	38-102/28
	TPH (Motor Oi	1) (509	36.8	577	-87* a	36.8	560	-133* a	3	42-111/26
CAS No.	Surrogate Reco	overies	MS	MSD	C3	7834-9	Limits				
630-01-3	Hexacosane	2	49%	45%	559	%	37-122%	, D			

(a) Outside control limits due to high level in sample relative to spike amount.





Section 7



Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries



QC Batch ID: MP8944 Matrix Type: SOLID Methods: SW846 6020 Units: mg/kg

Prep Date:					01/07/15
Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	2.3	2.5		
Antimony	0.25	.14	.008		
Arsenic	0.25	.3	.017	0.33	* (a)
Barium	0.50	.011	.036		
Beryllium	0.25		.027		
Boron	2.5	.09	.066		
Cadmium	0.25	.0028	.011		
Calcium	250	40	38		
Chromium	1.0	.025	.053		
Cobalt	0.25	.018	.0085		
Copper	1.0	.018	.11		
Iron	25	3.1	1.6		
Lead	0.25	.0056	.038	0.018	<0.25
Magnesium	250	.54	2.1		
Manganese	0.50	.012	.18		
Molybdenum	0.50	.11	.026		
Nickel	1.0	.18	.043		
Potassium	250	2.3	1.5		
Selenium	0.25	.17	.012		
Silver	0.25	.0048	.006		
Sodium	250	2.2	2.6		
Strontium	2.5	.021	.018		
Thallium	0.25	.04	.015		
Tin	2.5	.055	.036		
Titanium	0.50	.083	.038		
Uranium	0.25	.06	.006		
Vanadium	1.0	.36	.051		
Zinc	2.0	.22	.11		

Associated samples MP8944: C37834-1, C37834-2, C37834-3, C37834-4, C37834-5, C37834-6, C37834-7, C37834-8, C37834-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) All sample results < RL or > 10x method blank concentration.

7.1.1 7



QC	Bato	ch	ID:	MP8944
Mat	rix	Тγ	/pe:	SOLID

Methods: SW846 6020 Units: mg/kg

Prep Date:				01/07/15						
Metal	C37834-5 Original	MS	Spikelot MPIR5	% Rec	QC Limits					
Aluminum										
Antimony										
Arsenic	7.8	51.4	56.1	72.4N(a)	75-125					
Barium										
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead	54.6	141	56.1	151.9N	75-125					
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Uranium										
Vanadium										
Zinc										
Associated sam 8, C37834-9	ples MP89	44: C3783	4-1, C378	34-2, C37	834-3, C37834-4, C37834-5, C37834-6, C37834-7, C37834-					
Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (N) Matrix Spike Rec. outside of QC limits (anr) Analyte not requested (a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.										



QC Batch ID: MP8944 Methods: SW846 6020 Matrix Type: SOLID Units: mg/kg Prep Date: 01/07/15 C37834-5 Spikelot MSD QC Original MSD Limit Metal MPTR5 % Rec RPD Aluminum Antimony 47.2 Arsenic 7.8 56.1 64.9N(a) 8.5 20 Barium Beryllium Boron Cadmium Calcium Chromium Cobalt Copper Iron Lead 54.6 206 56.1 267.8N(a 37.5 (b) 20 Magnesium Manganese Molybdenum Nickel Potassium Selenium Silver Sodium Strontium Thallium Tin Titanium Uranium Vanadium Zinc Associated samples MP8944: C37834-1, C37834-2, C37834-3, C37834-4, C37834-5, C37834-6, C37834-7, C37834-8, C37834-9 Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (N) Matrix Spike Rec. outside of QC limits (anr) Analyte not requested (a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

(b) RPD acceptable due to low duplicate and sample concentrations.

QC Batch ID: MP8944 Matrix Type: SOLID Methods: SW846 6020 Units: mg/kg

Prep Date:			01/07/15					
Metal	BSP Result	Spikelot MPIR5	% Rec	QC Limits				
Aluminum								
Antimony								
Arsenic	46.7	50	93.4	80-120				
Barium								
Beryllium								
Boron								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead	45.8	50	91.6	80-120				
Magnesium								
Manganese								
Molybdenum								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Strontium								
Thallium								
Tin								
Titanium								
Uranium								
Vanadium								
Zinc								
Associated sam 8, C37834-9	nples MP89	44: C3783	4-1, C378	34-2, C37834-3, C37834-4, C37834-5, C37834-6, C37834-7, C37834-				
Results < IDL (*) Outside of (anr) Analyte	Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (arr) Analyte not requested							





SERIAL DILUTION RESULTS SUMMARY

Login Number: C37834 Account: TETRCAO - Tetra Tech EMI Project: Alameda Cross Trail Phase II

QC Batch ID: MP8944 Matrix Type: SOLID Methods: SW846 6020 Units: ug/l

Prep Date:			01/07/15	
Metal	C37834-5 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	71.7	112	12.7 (a)	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	500	553	8.4	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				
Associated sam 8, C37834-9	ples MP89	44: C3783	4-1, C378	34-2, C37834-3, C37834-4, C37834-5, C37834-6, C37834-7, C37834-
Results < IDL (*) Outside of (anr) Analyte (a) Percent di	are shown QC limit: not reques fference a	as zero s sted acceptabl	for calcu e due to	lation purposes low initial sample concentration (< 50 times IDL).



QC Batch ID: MP8965 Matrix Type: SOLID Methods: SW846 6020 Units: mg/kg

Prep Date:					01/09/15	
Metal	RL	IDL	MDL	MB raw	final	
Aluminum	25	2.3	2.5			
Antimony	0.25	.14	.008			
Arsenic	0.50	.3	.017	0.26	<0.50(a)	
Barium	0.50	.011	.036			
Beryllium	0.25		.027			
Boron	2.5	.09	.066			
Cadmium	0.25	.0028	.011			
Calcium	250	40	38			
Chromium	1.0	.025	.053			
Cobalt	0.25	.018	.0085			
Copper	1.0	.018	.11			
Iron	25	3.1	1.6			
Lead	0.25	.0056	.038			
Magnesium	250	.54	2.1			
Manganese	0.50	.012	.18			
Molybdenum	0.50	.11	.026			
Nickel	1.0	.18	.043			
Potassium	250	2.3	1.5			
Selenium	0.25	.17	.012			
Silver	0.25	.0048	.006			
Sodium	250	2.2	2.6			
Strontium	2.5	.021	.018			
Thallium	0.25	.04	.015			
Tin	2.5	.055	.036			
Titanium	0.50	.083	.038			
Uranium	0.25	.06	.006			
Vanadium	1.0	.36	.051			
Zinc	2.0	.22	.11			

Associated samples MP8965: C37834-1, C37834-7

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

(anr) Analyte not requested

(a) Elevated RL/MDL due to positive bias of Method Blank.



QC Batch ID: MP8965 Matrix Type: SOLID Methods: SW846 6020 Units: mg/kg

Prep Date:				01/09/15	
Metal	C37834-1 Original	MS	Spikelot MPIR5	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	2.7	53.2	57.8	87.4	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					
Associated s	amples MP89	65: C37	834-1, C378	34-7	
Results < ID (*) Outside (N) Matrix S (anr) Analyt	L are shown of QC limit pike Rec. o e not reque	as zer s utside sted	o for calcu of QC limit	lation pu s	rposes



QC Batch ID: MP8965 Matrix Type: SOLID Methods: SW846 6020 Units: mg/kg

Prep Date:					01/09/15	
Metal	C37834-1 Original	MSD	Spikelot MPIR5	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	2.7	58.5	59.9	93.2	9.5	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						
Associated sa	mples MP89	65: C3783	84-1, C378	34-7		
Results < IDL (*) Outside o (N) Matrix Sp (anr) Analyte	are shown f QC limit ike Rec. o not reque	as zero s utside of sted	for calcu QC limit	lation pu s	irposes	



7.2.2 7

QC Batch ID: MP8965 Matrix Type: SOLID Methods: SW846 6020 Units: mg/kg

Prep Date:			01/09/15	
Metal	BSP Result	Spikelot MPIR5	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	45.1	50	90.2	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				
Associated sa	mples MP89	965: C3783	4-1, C378	34-7
Results < IDL (*) Outside o (anr) Analyte	are shown f QC limit not reque	n as zero is ested	for calcu	lation purposes

SERIAL DILUTION RESULTS SUMMARY

Login Number: C37834 Account: TETRCAO - Tetra Tech EMI Project: Alameda Cross Trail Phase II

QC Batch ID: MP8965 Matrix Type: SOLID Methods: SW846 6020 Units: ug/l

Prep Date:			01/09/15	
Metal	C37834-1 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	22.5	29.1	29.4 (a)	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				
Associated sam	ples MP890	55: C3783	4-1, C378	34-7
Results < IDL (*) Outside of (anr) Analyte (a) Percent di	are shown QC limits not reques fference a	as zero s sted acceptabl	for calcu e due to	lation purposes low initial sample concentration (< 50 times IDL).



Section 8

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Custody Documents and Other Forms

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

Chain of Custody



PO#: C37834	38-0201				Collect C Date Ti											Time: 15:00	Time:		Time:	
Accutest ID and	588-0200 Fax: (408)55	of Custody	st		ethod	H8151FL	H8151FL	H8151FL	H8151FL	H8151FL (run MS/MSD)	H8151FL	H8151FL	H8151FL	H8151FL		Date: 01/02/15	Date:		Date:	Z.O Daccutest.com
	Phone :(408)	t Chain (ories Southea		Matrix M	so	so	so	so	so	so	SO	so	so	ole	3y: FedEx	¥.a.	WN	3y:	o: nutank @
10RATOR155	enue, San Jose, CA 95131	Subcontrac	.ab: Accutest Laborat 02/2015 08/2015	: TETRCAO6786 ion:	Customer Sample Name/Field Point ID										x 4oz Glass Jar per samj	Received I	FedEx Received F	1215 NUM	Received F	Send Report t
27	2105 Lundy Ave		Subcontract I Date Sent: 01/ Date Due: 01/	Project Name Project Locati	Accutest Lab Number	C37834-1	C37834-2	C37834-3	C37834-4	C37834-5 (run MS/MSD)	C37834-6	C37834-7	C37834-8	C37834-9	Comments: 1	Relinquished By: Lee.B	Relinquished By: I	01.03-15	Relinquished By:	
																				$r_{a_{g_{g_{q_q}}}}$
																С	378	334	4: C	Chain of Cust Page 1



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ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION	
ACCUTEST'S JOB NUMBER: C. 37834 CLIENT: ALNC PROJECT: TC + CCA 06786	
DATE/TIME RECEIVED: 01:03:15 12:15 (MM/DD/YY 24:00)	
METHOD OF DELIVERY: (FEDEX UPS ACCUTEST COURIER DELIVERY OTHER	
AIRBILL NUMBERS: 7724 4045 6232	
COOLER INFORMATION TEMPERATURE INFORMATION CUSTODY SEAL NOT PRESENT OR NOT INTACT IR THERM ID/ CORR. FACTOR <u>40.9</u> CHAIN OF CUSTODY NOT RECEIVED (COC) OBSERVED TEMPS:/ ANALYSIS REQUESTED IS UNCLEAR OR MISSING CORRECTED TEMPS:/ SAMPLE DATES OR TIMES UNCLEAR OR MISSING SAMPLE INFORMATION TEMPERATURE CRITERIA NOT MET INCORRECT NUMBER OF CONTAINERS USED TRIP BLANK INFORMATION SAMPLE RECEIVED IMPROPERLY PRESERVED TRIP BLANK INFORMATION INSUFFICIENT VOLUME FOR ANALYSIS TRIP BLANK NOT PROVIDED DATES/TIMES ON COC DO NOT MATCH LABEL TRIP BLANK NOT ON COC VOC VIALS HAVE HEADSPACE (MACRO BUBBLES) TRIP BLANK NOT INTACT BOTTLES RECEIVED BUT ANALYSIS REQUESTED TRIP BLANK NOT INTACT NO BOTTLES RECEIVED BUT ANALYSIS REQUESTED RECEIVED WATER TRIP BLANK UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS RECEIVED SOIL TRIP BLANK SAMPLE CONTAINER(S) RECEIVED BOKEN	8.1
MISC. INFORMATION 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS NUMBER OF ENCORES ? 25-GRAM5-GRAM NUMBER OF 5035 FIELD KITS ? % SOLIDS JAR NOT RECEIVED NUMBER OF LAB FILTERED METALS ? (APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)	00
pH PAPER LOT#s WIDE RANGE <u>A036122</u> NARROW RANGE <u>HC421754</u> OTHER (specify) <u>405-230010</u> SUMMARY OF COMMENTS:	
TECHNICIAN SIGNATURE/DATE MMM 01-03-15 REVIEWER SIGNATURE/DATE MMM 01 03 15 NF 10/14 receipt confirmation 102914.xls	

C37834: Chain of Custody Page 2 of 3





C37834: Chain of Custody Page 3 of 3



Section 9

9



GC Semi-volatiles

QC Data Summaries

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary Job Number: C37834

Account: Project:	ALNCA Accutest TETRCAO: Alar						
Sample OP54497-MB	File ID CC046769.D	DF 1	Analyzed 01/06/15	By FS	Prep Date 01/05/15	Prep Batch OP54497	Analytical Batch GCC777
The QC repor	ted here applies to	the follo	wing samples:			Method: SW84	6 8151A

C37834-1, C37834-2, C37834-3, C37834-4, C37834-5, C37834-6, C37834-7, C37834-8

CAS No.	Compound	Result	RL	MDL	Units Q
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7 75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	2,4-D 2,4,5-TP (Silvex) 2,4,5-T Dicamba Dinoseb Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachlorophenol	ND ND ND ND ND ND ND ND ND ND ND	33 3.3 3.3 3.3 83 170 33 33 3300 3300 3.3	5.7 0.91 0.67 1.1 17 33 13 12 890 800 0.51	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg
CAS No.	Surrogate Recoveries		Limits		
19719-28-9	2,4-DCAA	100% a	31-1329	6	

(a) Surrogate recoveries corrected for actual spike amount.



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Job Number:	C37834
Account:	ALNCA Accutest Northern California, Inc.
Project:	TETRCAO: Alameda Cross Trail Phase II

	SampleFile IDDFAnalyzedByOP54503-MBCC046854.D101/08/15EM	Prep Date 01/06/15	Prep Batch OP54503	Analytical Batch GCC779
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The QC reported here applies to the following samples:

Method: SW846 8151A

C37834-9

CAS No.	Compound	Result	RL	MDL	Units Q
94-75-7	2,4-D	ND	33	5.7	ug/kg
93-72-1	2,4,5-TP (Silvex)	ND	3.3	0.91	ug/kg
93-76-5	2,4,5-T	ND	3.3	0.67	ug/kg
1918-00-9	Dicamba	ND	3.3	1.1	ug/kg
88-85-7	Dinoseb	ND	83	17	ug/kg
75-99-0	Dalapon	ND	170	33	ug/kg
120-36-5	Dichloroprop	ND	33	13	ug/kg
94-82-6	2,4-DB	ND	33	12	ug/kg
93-65-2	MCPP	ND	3300	890	ug/kg
94-74-6	MCPA	ND	3300	800	ug/kg
87-86-5	Pentachlorophenol	ND	3.3	0.51	ug/kg
CAS No.	Surrogate Recoveries		Limits		
19719-28-9	2,4-DCAA	80%	31-1329	6	



Blank Spike Summary Job Number: C37834

Account:	ALNCA Accutest Northern California, Inc.								
Project:	TETRCAO: Alameda Cross Trail Phase II								
Sample	File ID	DF	Analyzed	By	Prep Date 01/05/15	Prep Batch	Analytical Batch		
OP54497-BS	CC046768.D	1	01/06/15	FS		OP54497	GCC777		
The QC repor	ted here applies to	the follo	owing samples:]	Method: SW84	5 8151A		

C37834-1, C37834-2, C37834-3, C37834-4, C37834-5, C37834-6, C37834-7, C37834-8

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
94-75-7	2,4-D	167	163	98	43-124
93-72-1	2,4,5-TP (Silvex)	16.7	16.1	97	41-130
93-76-5	2,4,5-T	16.7	15.5	93	40-124
1918-00-9	Dicamba	16.7	14.8	89	32-129
88-85-7	Dinoseb	83.3	32.2	39	10-124
75-99-0	Dalapon	417	158	38	10-133
120-36-5	Dichloroprop	167	190	114	51-145
94-82-6	2,4-DB	167	134	80	42-130
93-65-2	MCPP	16700	14800	89	34-130
94-74-6	MCPA	16700	14600	88	37-124
87-86-5	Pentachlorophenol	33.4	33.3	100	45-126
CAS No.	Surrogate Recoveries	BSP	Limi	its	
19719-28-9	2,4-DCAA	130% a	31-1	32%	

(a) Surrogate recoveries corrected for actual spike amount.



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Page 1 of 1

* = Outside of Control Limits.

Blank Spike Summary Job Number: C37834

Account: Project:	ALNCA Accutest Northern California, Inc. TETRCAO: Alameda Cross Trail Phase II							
Sample OP54503-BS	File ID CC046853.D	DF 1	Analyzed 01/08/15	By EM	Prep Date 01/06/15	Prep Batch OP54503	Analytical Batch GCC779	
The QC repor	ted here applies to	the follo	owing samples:			Method: SW84	6 8151A	

100% 31-132%

C37834-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
94-75-7	2,4-D	167	186	112	43-124
93-72-1	2,4,5-TP (Silvex)	16.7	19.1	115	41-130
93-76-5	2,4,5-T	16.7	19.4	116	40-124
1918-00-9	Dicamba	16.7	16.9	101	32-129
88-85-7	Dinoseb	83.3	36.7	44	10-124
75-99-0	Dalapon	417	134	32	10-133
120-36-5	Dichloroprop	167	214	128	51-145
94-82-6	2,4-DB	167	176	106	42-130
93-65-2	MCPP	16700	17700	106	34-130
94-74-6	MCPA	16700	16700	100	37-124
87-86-5	Pentachlorophenol	33.3	39.2	118	45-126
CAS No.	Surrogate Recoveries	BSP	Lin	nits	

Page 1 of 1

19719-28-9 2,4-DCAA



Matrix Spike/Matrix Spike Duplicate Summary

Job Number:	C37834
Account:	ALNCA Accutest Northern California, Inc.
Project:	TETRCAO: Alameda Cross Trail Phase II

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP54497-MS	CC046797.D	1	01/06/15	FS	01/05/15	OP54497	GCC777
OP54497-MSD	CC046798.D	1	01/06/15	FS	01/05/15	OP54497	GCC777
C37834-5	CC046792.D	1	01/06/15	FS	01/05/15	OP54497	GCC777

The QC reported here applies to the following samples:

Method: SW846 8151A

C37834-1, C37834-2, C37834-3, C37834-4, C37834-5, C37834-6, C37834-7, C37834-8

CAS No.	Compound	C37834-5 ug/kg Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
94-75-7	2,4-D	ND	216	187	87	213	192	90	3	43-124/32
93-72-1	2,4,5-TP (Silvex)	ND	21.6	19.8	92	21.3	16.9	79	16	41-130/31
93-76-5	2,4,5-T	ND	21.6	17.0	79	21.3	16.4	77	4	40-124/35
1918-00-9	Dicamba	ND	21.6	15.0	69	21.3	13.9	65	8	32-129/34
88-85-7	Dinoseb	ND	108	59.9	56	107	45.9	43	26	10-124/41
75-99-0	Dalapon	ND	540	242	45	533	174	33	33	10-133/35
120-36-5	Dichloroprop	ND	216	231	107	213	213	100	8	51-145/34
94-82-6	2,4-DB	ND	216	7300	3382*	213	909	427*	156*	42-130/34
93-65-2	MCPP	ND	21600	19100	88	21300	18900	89	1	34-130/34
94-74-6	MCPA	ND	21600	20000	93	21300	19300	91	4	37-124/35
87-86-5	Pentachlorophenol	ND	43.2	41.3	96	42.6	39.9	94	3	45-126/32
CAS No.	Surrogate Recoveries	MS	MSD	C37	834-5	Limits				
19719-28-9	2,4-DCAA	110% a	80% a	60%	а	31-132%				

(a) Surrogate recoveries corrected for actual spike amount.

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Matrix Spike/Matrix Spike Duplicate Summary

Job Number:	C37834
Account:	ALNCA Accutest Northern California, Inc.
Project:	TETRCAO: Alameda Cross Trail Phase II

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP54503-MS	CC046856.D	1	01/08/15	EM	01/06/15	OP54503	GCC779
OP54503-MSD	CC046857.D	1	01/08/15	EM	01/06/15	OP54503	GCC779
C37834-9	CC046855.D	1	01/08/15	EM	01/06/15	OP54503	GCC779

The QC reported here applies to the following samples:

Method: SW846 8151A

C37834-9

CAS No.	Compound	C37834-9 ug/kg Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
94-75-7 93-72-1 93-76-5 1918-00-9 88-85-7	2,4-D 2,4,5-TP (Silvex) 2,4,5-T Dicamba Dinoseb	ND ND ND ND ND	185 18.5 18.5 18.5 92.5	76.2 7.0 6.4 5.4 38.3	41* 38* 35* 29* 41	185 18.5 18.5 18.5 92.5	101 9.9 9.2 8.7 52.9	55 54 50 47 57	28 34* 36* 47* 32	43-124/32 41-130/31 40-124/35 32-129/34 10-124/41
75-99-0 120-36-5 94-82-6 93-65-2 94-74-6 87-86-5	Dalapon Dichloroprop 2,4-DB MCPP MCPA Pentachlorophenol	ND ND ND ND ND	462 185 185 18500 18500 37	44.3 96.9 992 8370 9020 16.3	10 52 536* 45 49 44*	462 185 185 18500 18500 37	151 152 502 20400 13100 23.5	33 82 271* 110 71 64	109* 44* 66* 84* 37* 36*	10-133/35 51-145/34 42-130/34 34-130/34 37-124/35 45-126/32
CAS No. 19719-28-9	Surrogate Recoveries 2,4-DCAA	MS 30% *	MSD 46%	C3	87834-9 % * a	Limits 31-132%				

(a) Surrogate recoveries outside of control limits, confirmed by MS/MSD.

Page 1 of 1

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ATTACHMENT C

Permits

Focused Phase II Investigation Report Cross Alameda Trail Alameda, California

Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street Hayward, CA 94544-1395 Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 12/22/2014 By jamesy

Permit Numbers: W2014-1180 Permits Valid from 12/29/2014 to 12/30/2014

Application Id: Site Location:	1419011003212 City of Project Site:Alameda APN: 74-905-20-3 Former railroad immediately south of Ralph Appazzato Parkway, betweer				
Project Start Date: Assigned Inspector:	Main St. and Webster St. 12/29/2014 Contact Steve Miller at (510) 670-5517 or stevem@a	Completion Date:12/30/2014 acpwa.org			
Applicant:	Tetra Tech - Mark Duffy	Phone: 510-302-6278			
Property Owner:	City of Alameda Public Works Dept.	Phone: 510-747-7948			
Client:	City of Alameda Public Works Dept. 950 West Mall Square, Alameda CA 94501	Phone: 510-747-7930			
Contact:	Mark Duffy	Phone: 510-302-6278 Cell: 518-480-5947			

	Total Due:	\$265.00
Receipt Number: WR2014-0521	Total Amount Paid:	\$265.00
Payer Name : Mark T. Duffy	Paid By: VISA	PAID IN FULL

Works Requesting Permits:

Specifications

Borehole(s) for Geo Probes-Sampling 24 to 72 hours only - 10 Boreholes Driller: Vironex - Lic #: 705927 - Method: DP

Work Total: \$265.00

opeenieulene								
Permit	Issued Dt	Expire Dt	#	Hole Diam	Max Depth			
Number			Boreholes					
W2014-	12/22/2014	03/29/2015	10	2.25 in.	8.00 ft			
1180								

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled,

Alameda County Public Works Agency - Water Resources Well Permit

properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.

7. NOTE:

Under California laws, the owner/operator are responsible for reporting the contamination to the governmental regulatory agencies under Section 25295(a). The owner/operator is liable for civil penalties under Section 25299(a)(4) and criminal penalties under Section 25299(d) for failure to report a leak. The owner/operator is liable for civil penalties under Section 25299(b)(4) for knowing failure to ensure compliance with the law by the operator. These penalty provisions do not apply to a potential buyer.

8. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

9. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.