



DALZIEL BUILDING • 250 FRANK H. OGAWA PLAZA, SUITE 5301 • OAKLAND, CALIFORNIA 94612

Public Works Agency Environmental Services (510) 238-6688 FAX (510) 238-7286 TDD (510) 238-7644

July 28, 1999

Mr. Barney Chan Alameda County Environmental Health Services 1131 Harbor Bay Parkway Alameda, California 94502-6577

Subject:

Fuel Pipeline Removal Sampling Report - City of Oakland Municipal

Service Center (94407)

Dear Mr. Chan:

Enclosed is one copy of the subject report, prepared by our consultant, Cambria Environmental Technology, Inc., for the City of Oakland's Municipal Service Center at 7101 Edgewater Drive.

As we have discussed, and as further described in the report, there were several difficulties with the U.S. Environmental Protection Agency's (EPA) contract laboratory that was used for much of the soil sample analyses. Despite these problems, we believe the data provide valuable information on the extent and magnitude of subsurface contamination that will allow us to develop an effective remediation strategy.

We are finalizing a Work Plan for installation of four additional monitoring wells and a remediation well for feasibility testing of dual-phase extraction. We anticipate sending you the Work Plan by August 13, 1999.

Please call me at (510) 238-7695 to discuss any questions or concerns you may have regarding the report or the project.

Sincerely,

Mark B. Hersh

Environmental Program Specialist

Wark B Henh

99 JUL 30 PM 3: 23

cc w/o encl: Andrew Clark-Clough, PWA/ESD TAILURG TAIL

David Elias, Cambria Environmental Technology

cc w encl: Dianne Heinz, Port of Oakland



FUEL PIPELINE REMOVAL SAMPLING REPORT

City of Oakland
Municipal Services Center
7101 Edgewater Drive
Oakland, California
Cambria Project No. 153-1247-4

July 23, 1999

Prepared for:

City of Oakland, Public Works Agency Environmental Services Division 250 Frank H. Ogawa Plaza, Ste. 5301 Oakland, California 94612-2034

Oakland, CA Sonoma, CA Portland, OR Seattle, WA

Cambria Environmental Technology, Inc.

1144 65th Street Suite B Oakland, CA 94608 Tel (510) 420-0700 Fax (510) 420-9170

FUEL PIPELINE REMOVAL SAMPLING REPORT

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Prepared by:

Cambria Environmental Technology, Inc. 1144 65th Street, Suite B Oakland, California 94608

To the best of our knowledge, the data contained herein are true and accurate and satisfy the scope of work prescribed by the client for this project. The data, findings, recommendations, specifications or professional opinions presented herein were prepared in accordance with generally accepted professional engineering and geologic practice. We make no other warranty, either express or implied.

No. 6584

Robert W. Schultz Senior Staff Geologist David C. Elias, R.G. Senior Geologist

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INTRODUCTION

This report presents the results of soil and groundwater sampling performed by Cambria Environmental Technology, Inc. (Cambria) in conjunction with the fuel piping removal that was completed by Turnkey Construction Services of San Francisco, California (Turnkey) at 7101 Edgewater Drive, Oakland, California, the City of Oakland Municipal Service Center. Presented below are a site summary; the piping removal, a description of excavation, and sampling activities; a summary of the backfill well installation; analytical results; and conclusions and recommendations.



SITE SUMMARY

Site and Area Use: The site is an approximately 17 acre corporation yard consisting of offices, shops, warehouse structures, and a vehicle maintenance and repair facility. Bordering the site to the west and to the north is the Martin Luther King Regional Shoreline park. Beyond the narrow strip of park lands lie San Leandro Bay to the west and Damon Slough to the north. Area use to the east and south is primarily light industrial.

Former Fuel Dispensing System Description: The approximately 2,650 lineal foot piping system consisted of two parallel 2-inch diameter steel pipes transporting diesel and gasoline to fuel stations across the site. The fuel dispensing system was installed in the 1970's shortly after development of the site. Based on field observations, modifications to the system occurred from time to time and included the addition of an approximately 135 foot fiberglass line and the abandonment of several fueling stations.

Environmental Investigations: In 1989, an environmental site assessment was performed, and monitoring wells MW-1 through MW-4 were installed (Figure 1). In 1992 additional investigation was performed and monitoring wells MW-5 through MW-7 were installed. In 1993, thirty-four soil borings were advanced across the site, and groundwater samples were collected. In 1995, three shallow borings were advanced as part of a geotechnical investigation and soil samples were analyzed for petroleum hydrocarbons. In 1996, ten soil borings were advanced and temporary wells were installed outside the western and northern perimeters of the site along San Leandro Bay and Damon Slough. Three of the temporary well locations were converted to monitoring wells: MW-8 through MW-10 (Figure 1). Since installation, monitoring wells MW-1 through MW-10 have been regularly gauged and sampled. In addition, eight underground storage tanks (USTs) and associated piping have been removed from the site.

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Site Hydrogeology: The site is underlain by artificial fill that was emplaced during several phases since 1945. The fill material varies significantly in character across the site. The fill is underlain by clayey silt deposits, known as Bay Mud. Based on measured groundwater elevations, groundwater generally appears to flow towards Damon Slough in the northern part of the site, and toward San Leandro Bay in the southern part of the site. The heterogeneity of the artificial fill material, the presence of underground utilities with high permeability backfill material, and the low permeability of the Bay Mud used as fill at various site locations influence local groundwater flow.



Contaminant Distribution: Petroleum hydrocarbons have been detected in soil and groundwater at multiple locations across the site. The distribution of contamination appears to be related to the former USTs and fuel dispensing systems. The former USTs near TBW-1 and TBW-2, the former USTs east of MW-6, and the recently upgraded active USTs near MW-5 are likely to have been sources of contamination (Figure 1). Low concentrations of petroleum hydrocarbons have been detected in off-site wells MW-8, MW-9, and MW-10 in each of the past three quarters. No petroleum hydrocarbons have ever been detected in off-site wells MW-3 and MW-4. The release and distribution of petroleum hydrocarbons by the former fuel piping system is the subject of the current investigation.

PIPING REMOVAL, EXCAVATION, AND SAMPLING ACTIVITIES

The activities performed as part of this pipeline removal project included:

- Removing, transporting, and properly disposing of any remaining liquids encountered in the fuel dispensing pipes (performed by Turnkey);
- Removing, transporting, and properly disposing of all piping (performed by Turnkey);
- Overexcavating soil beneath the former fuel piping to remove obviously hydrocarbonimpacted soils (performed by Turnkey, overseen by Cambria);
- Collecting soil samples from beneath the pipe joints and fueling station locations, and collecting water samples when groundwater was encountered;
- Field screening for hydrocarbons and logging the lithology of all collected soil samples;
- Submitting the soil samples to a California state-certified lab for analyses;

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- Installing two new conduit lines in the trench for possible future remediation piping and backfilling the trench (performed by Turnkey); and
- · Preparing this report.

Soil sample lithology logs are included as Attachment A. Cambria's standard piping and dispenser removal sampling procedures are included as Attachment B. The laboratory analytical reports are included as Attachment C. The United States Environmental Protection Agency (USEPA) review of the USEPA contract laboratory analytical results are included as Attachment D.

Prior to removing the soil overburden Pre-Characterization: Prior to removing the soil overburden from above the fuel piping, the soil overburden was characterized to: (1) protect site workers during piping removal, and (2) allow the City of Oakland to plan ahead for soil disposal. Based on the pre-classification sampling results, approximately 50 cubic yds of soil overburden contained hydrocarbon concentrations too high to allow the soil to be returned to the trench; the remainder of the overburden was determined to be suitable for use as backfill.

Piping Removal: Between September 23, 1998, and December 10, 1998, Turnkey removed approximately 2,650 lineal feet of fuel piping and thirty-five fuel hydrants from the site. To remove the piping, Turnkey first removed the soil overburden, stockpiling the soil adjacent to the open trench. The piping was then cut, the ends were capped, and flushed with compressed air to remove any remnant liquid fuel. Remnant fuels were captured and contained on site. After flushing, the piping was removed from the trench, then cut to transportable lengths.

Condition of Piping: The piping was generally in sound condition; however, many of the joints between the approximately 23 foot-long sections of pipe appeared to be loose. There was visible staining and hydrocarbon odor beneath both the fueling stations and the piping in some areas.

Overexcavation of Contaminated Soil: Overexcavation of contaminated soil from beneath the piping was performed along parts of the pipe run where the site lithology consisted primarily of low permeability Bay Mud. Overexcavation of what consisted primarily of bedding sands surrounding the fuel piping appeared to successfully remove the bulk of hydrocarbon contamination in these areas. In other parts of the site, because of higher permeability soils underlying the former piping, limited overexcavation would not effectively remove the majority of the contaminated soil.



[&]quot;Soil Pre-classification Sampling Results," Cambria Environmental Technology, Inc., August 11, 1998 letter to the City of Oakland.

Approximately 338 cubic yards of soil was overexcavated from the sidewalls and bottom of the pipe of trench and disposed at Altamont Landfill of Livermore, California (Altamon).

Table A below presents the excavation locations, depth, and volume of soil removed at each excavation.



	Tab	le A			
Excavation Location (between samples listed)	Excavation Width (feet)	Excavation Depth (feet, measured from beneath pipe)			
FDP 20 - FDP 22	2.5	4.2	40		
FDP 23 -FDP 43	2.5	1.2	50		
FDP 1 - FDP 8	2.5	3.7	60		
FDP 9 - FDP - 17	2.5	0.9	20		
FDP 135	7.0	0.7	5		
FDP 54	8.0	4.2	25		
FDP 55 - FDP 66	2.5	2.5	40		
FDP 71 - FDP 72	8.0	4.2	25		
FDP 77 - FDP 86	2.5	1.7	30		
FDP 76 - FDP 124	2.5	3.6	40		
FDP 115	2.5	3.5	3		
Total offhauled		`	338		

Soil and Groundwater Sampling: Cambria sampled soil and groundwater from beneath the former piping following the protocol detailed in the site Sampling and Analysis Plan². Soil samples were collected approximately every 20 feet and beneath every piping joint and fueling station. Cambria collected the soil samples by driving clean brass tubes into undisturbed soil beneath the former

[&]quot;Sampling and Analysis Plan (SAP) - City of Oakland, Municipal Service Center." City of Oakland, Public Works Agency, Environmental Services Division. Oakland, CA. July 24, 1998.

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piping or into soil collected by the backhoe. Water samples were collected whenever groundwater was encountered. Sample locations and sample depths are presented in Figures 1 - 5.

Piping Removal Inspection and Oversight: Mr. Barney Chan of the Alameda County Health Care Services Agency (ACHCSA), Mr. Peter Kozelka of USEPA, and Mr. Mario Castillo of USEPA were onsite on October 6, 1998, to observe that day's piping removal. Mr. Robert Schultz of Cambria observed piping removal over the entire period and inspected the piping upon removal.



Field Screening and Sample Logging: Soil samples were screened with a photo-ionization detector (PID) and were logged by Cambria geologist Robert Schultz, working under the supervision of Cambria geologist David Elias, California State Registered Geologist #6584. Soil sample lithology logs are included as Attachment A. Cambria's Standard Piping and Dispenser Removal Sampling Procedures are included as Attachment B.

Sample Analyses: Samples collected from adjacent locations were composited by the laboratory and analyzed for total petroleum hydrocarbons (TPH) as diesel (TPHd), TPH as gasoline (TPHg), benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tert butyl ether (MTBE) by EPA; Methods 8015 modified and 8020. Four-point composites of samples collected from adjacent locations were analyzed for organic lead (tetra ethyl lead) by CA Title 22, Chapter 11, Appendix XI Methods. Groundwater, when encountered, was analyzed for TPHg, TPHd, BTEX, and MTBE by EPA Methods 8015 modified and 8020. The laboratory analytical reports are included as Attachment C.

Seventy nine out of 95 of the collected composite soil and discrete groundwater samples, that were submitted for petroleum hydrocarbon analyses, were analyzed by a USEPA Region IX contract laboratory. The USEPA commented on the quality of the analytical data produced by their contract laboratory, Agricultural Priority Pollutants Laboratories of Fresno, California (APPL,) and stated that a number of the analytical results may be suspect due to problems with exceeded holding times (Attachment D). However, given the objectives of the sampling program to identify the more highly contaminated areas of the site, the analytical results still allow for a qualitative assessment of hydrocarbon concentrations at each sample location and an adequate assessment of contaminant distribution.

Additionally, several samples submitted to the USEPA contract laboratory were not analyzed as requested on chain-of-custody forms (COCs). Cambria has not received explanation from the USEPA for these inconsistencies. The specific deviations from the COC requests are as follows:

• Sample FDP-17-4.5' was not analyzed for BTEX or MTBE.

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- Samples FDP-19-3.5' through FDP-43-5.5' were not analyzed for MTBE.
- Samples FDP-36H-4.5' and FDP-39H-7.5' were not composited. Instead, the samples were run separately.
- Sample FDP-57-W was not analyzed for TPHg, BTEX, or MTBE.
- Sample FDP-64-6.0' was not analyzed for TPHg, TPHd, BTEX, or MTBE. Sample FDP-65-5.5' was run separately instead of being composited with FDP-64-6.0'.
- Samples FDP-95-5.5' and FDP-96-4.0' were not analyzed for TPHg, BTEX, or MTBE.
- Sample FDP-102-4.0' was not composited with sample FDP-101-4.5'. Instead, sample FDP-102-4.0' was composited with sample FDP-115-5.5'. Composited samples FDP-115-5.5' and FDP-102-4.5' were analyzed for TPHd only. Sample FDP-101-4.5' was analyzed individually.
- Sample FDP-115-5.5' was not analyzed for TPHd.

These missed analytes represent only a fraction of the total analyses completed and did not significantly effect Cambria's ability to assess the hydrocarbon concentrations beneath the former piping, and will not effect our ability to make effective decisions regarding site remediation in the future. If the EPA provides these analytic results at a future date, Cambria will submit the results in a report addendum.

All of the samples analyzed for organic lead were analyzed by McCampbell Analytical, a state-certified laboratory in Pacheco, California (McCampbell). McCampbell also analyzed samples FDP-125 through FDP-141 for TPHd, TPHg, BTEX, and MTBE.

Trench Backfilling and Conduit Installation: The soil identified during the overburden precharacterization as not-suitable for re-use on site was segregated and stockpiled with the over-excavated hydrocarbon-impacted soil. The remainder of the overburden was used to backfill the trench. Prior to backfilling, two PVC schedule 40 conduits with pull lines were installed in the piping trench. The conduits consisted of one two-inch diameter sealed pipe and one four-inch diameter sealed pipe in an imported clean sand bed. The trench was then backfilled with acceptably clean stockpiled soil and compacted. Where necessary, clean imported fill material was also used to backfill the trench. The trench was repaired to match the existing surface by placing and compacting 1 foot of road base covered by 3 inches of asphalt.

Waste Disposal: After flushing the piping and cutting it to transportable lengths, Turnkey removed the piping from the site and transported it to Ecology Control Industries, Inc., of Richmond, California, for disposal. Cambria sampled the stockpiled, overexcavated soil and submitted the



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samples to McCampbell for analysis. Cambria then furnished Turnkey with the analytical results who then transported approximately 388 cubic yds of overexcavated soil and piping overburden that was not suitable for re-use as trench backfill to Altamont landfill for disposal. Liquid waste was stored onsite in a Baker tank pending appropriate disposal by Turnkey.

BACKFILL WELL INSTALLATION



During piping removal and sampling, Cambria installed two backfill wells for the purpose of future free-product collection. Backfill well TBW-5 was installed at location FDP-54 on October 21, 1999. Cambria installed TBW-5 to a total depth of 14.8 feet below ground surface (bgs) with the following construction specifications: 6-inch well diameter, schedule 40 PVC blank from 0 feet bgs to 4.7 feet bgs, 0.020-inch well screen from 4.7 feet bgs to 13.5 feet bgs, end cap from 13.5 feet bgs to 14.8 feet bgs. Backfill well TBW-6 was installed at location FDP-72 on October 21, 1999. Cambria installed TBW-6 to a total depth of 12.9 feet bgs with the following construction specifications: 6-inch well diameter, schedule 40 PVC blank from 0 feet bgs to 2.8 feet bgs, 0.020-inch well screen from 2.8 feet bgs to 11.6 feet bgs, end cap from 11.6 to 12.9 feet bgs.

ANALYTICAL RESULTS AND DISCUSSION

SFO Risk Management Standards

As a preliminary risk-based interpretation of hydrocarbon concentrations at the site, Cambria compared the analytical results for TPHd and TPHg in soil and groundwater to the San Francisco International Airport (SFO) Tier 1 cleanup levels, March 1999 proposed amendments. These standards were presented by Stephen Morse of the San Francisco Regional Water Quality Control Board to attendees of the Groundwater Resources Association's San Francisco Bay Branch January 1999 meeting. Mr. Morse also stated that these thresholds are likely to increase. BTEX were compared to 1995 SFO Management Standards. Although the SFO environment is very similar to that of the Municipal Service Center, these standards are not considered final risk-based cleanup goals. The City of Oakland intends to propose risk-based concentration goals when the site is adequately characterized. Cambria presents these values solely to allow for a preliminary assessment of hydrocarbon impacted soil and groundwater in the vicinity of the former fuel piping system. The standards used are as follows:

SFO Management Standards										
Analyte	5 kg Soil (m	g/kg)	Groundwater (μ	g/l)						
TPHg	629	614	3700	3,700						
TPHd	5(8	360	640	314						
Benzene	2.7	2.7*	71							

^{* 1995} standard

 μ g/l = micrograms per liter

Fuel Hydrocarbons in Soil

To facilitate presentation of the extensive amount of data collected across a large portion of the site, the site has been divided into sections as presented on Figure 1. Figures 2 through 5 are larger scale close ups of these sections. The analytical results are presented in Tables 1,2, and 3.

Analytical Results for Soil - Figure 2: TPHd concentrations in soil are presented in Figure 2a. TPHg concentrations in soil are presented in Figure 2b. Benzene concentrations in soil are presented in Figure 2c.

TPHd - TPHd concentrations on Figure 2a are below the SFO management standard of 360 mg/kg in all but three of the composite results from the easternmost and central piping runs. Conversely, approximately 64% of the TPHd concentrations in composite samples from the westernmost piping run exceed 360 mg/kg.

TPHg - TPHg concentrations in Figure 2b exceed 614 mg/kg in samples from the western and central piping runs in a north-south oriented zone extending approximately from FDP-86 to FDP-53. Outside of this area in Figure 2, TPHg concentrations decrease significantly and in many samples are less than 10 mg/kg.

Benzene - Detected benzene concentrations in Figure 2c are less than 2.7 mg/kg in all but two composite samples: FDP-91/92 and FDP-53/54. Although benzene detection limits for composite samples in Figure 2 exceed 2.7 mg/kg for approximately 27% of the samples, most of the detection limits are less than 3 mg/kg.

Organic Lead - An organic lead concentration of 2.4 mg/kg was detected in sample FDP-53/54. Organic lead was not detected in any of the other samples collected from the site.



[—] new standard not available mg/kg = milligrams per kilogram

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Analytical Results for Soil - Figure 3: TPHd concentrations in soil are presented in Figure 3a. TPHg concentrations in soil are presented in Figure 3b. Benzene concentrations in soil are presented in Figure 3c.

TPHd concentrations in Figure 3a are below the 360 mg/kg threshold concentration in all but two of the sample results. Composite sample FDP-118/119 contained 840 mg/kg, and sample FDP-120 contained 1300 mg/kg. However, these samples were collected from beneath a short, 40 foot-long section of former piping, and represent a relatively small aerial extent of contamination.

<u>TPHg</u> - TPHg concentrations in Figure 3b were less than 614 mg/kg in all analyzed composite samples from the easternmost piping run. Fifty percent of the samples analyzed from the center and westernmost piping runs exceed 614 mg/kg.

Benzene - Benzene concentrations in Figure 3c are below 2.7 mg/kg in all but two of the results presented in this figure. Composite sample FDP-118/119 contained 5.5 mg/kg, and sample FDP-120 contained 35 mg/kg. As noted above, these samples were collected from beneath a short, 40 footlong section of former piping, and represent a relatively small aerial extent of contamination. The benzene detection limit for composite sample FDP-123/124 exceeds 2.7 mg/kg.

Organic Lead - Organic lead was not detected in any of the samples collected from this part of the site.

Analytical Results for Soil - Figure 4: TPHd concentrations in soil are presented in Figure 4a. TPHg concentrations in soil are presented in Figure 4b. Benzene concentrations in soil are presented in Figure 4c. In cases where the shallow sample was excavated, the deeper sample concentration was used in the assessment discussed below.

<u>TPHd</u> - Approximately 23% of the samples collected from the piping run shown in Figure 4a contained TPHd concentrations greater than 360 mg/kg.

<u>TPHg</u> - Approximately 56% of the samples collected from the piping run shown in Figure 4b⁻⁷ contained TPHg concentrations greater than 614 mg/kg.

<u>Benzene</u> - Benzene was not detected in any of the Figure 4c samples analyzed; however, detection limits for several samples in Figure 4c slightly exceed the 2.7 mg/kg SFO management threshold for approximately 67% of the samples. The analytical laboratory did not provide a benzene result for sample FDP-17-4.5'.



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Organic Lead - Organic lead was not detected in any of the samples collected from this part of the site.

Analytical Results for Soil - Figure 5: TPHd concentrations in soil are presented in Figure 5a. TPHg concentrations in soil are presented in Figure 5b. Benzene concentrations in soil are presented in Figure 5c.

<u>TPHd</u> - No TPHd concentrations greater than 360 mg/kg were detected in samples collected from locations in Figure 5a.

TPHg - TPHg concentrations in Figure 5b are above 614 mg/kg in six of the 14 composite results from the main (approximately north-south oriented) piping run. The composite sample FDP-40/41 contained 1,900 mg/kg and five composite sample results showed TPHg detection limits of 10,000 mg/kg. Although it is not clear exactly why the detection limits were so high, it was likely due to matrix interference, or laboratory error. On this basis, we are assuming that these samples have moderate to high TPHg concentrations. All but one of the samples collected from beneath the former fuel piping that ran approximately east-west, and connected to the main piping run in Figure 5b, contained less than 614 mg/kg TPHg. FDP-50-5.2' contained 800 mg/kg TPHg. The east-west oriented line was constructed of fiberglass.

Benzene - Approximately 21% of the analyzed samples from beneath the main piping run in Figure 5c had benzene concentrations greater than 2.7 mg/l. In addition, approximately 29% of the analyzed samples from beneath the main piping run in Figure 5c had benzene detection limits greater than 2.7 mg/kg. Similar to the TPHg results discussed above, six of the samples had benzene detection limits of 25 mg/kg, and these samples are assumed to contain moderate to high benzene concentrations.

Organic Lead - Organic lead was not detected in any of the samples collected from this part of the site.

Fuel Hydrocarbons in Groundwater

Groundwater samples were collected whenever groundwater was encountered in the excavation. Groundwater was encountered in locations FDP-54, FDP-57, FDP-66, and FDP-72 (Figures 2a, 2b, 2c). Sample FDP-54-W contained separate phase hydrocarbogs, so it was not submitted to the laboratory for analysis. No TPHg, BTEX, or MTBE was detected in sample FDP-66-W or FDP-72-W. The analytical laboratory detected TPHd concentrations of 13,000 µg/l, 39,000 µg/l and 49¢000 µg/l in FDP-57-W, FDP-66-W and FDP-72-W, respectively. All three of the detected TPHd



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concentrations exceed the 314 μ g/l SFO standard. The analytical laboratory also reported 32 μ g/l TPHg, 8,600 μ g/l benzene, 400 μ g/l, toluene, 510 μ g/l ethylbenzene, and 2000 μ g/l xylenes. The detected TPHg concentration does not exceed the SFO standard of 3,700 μ g/l. Cambria notes that the USEPA contract laboratory report of a greater benzene concentration than TPHg concentration in sample FDP-57-W is not an expected pattern.



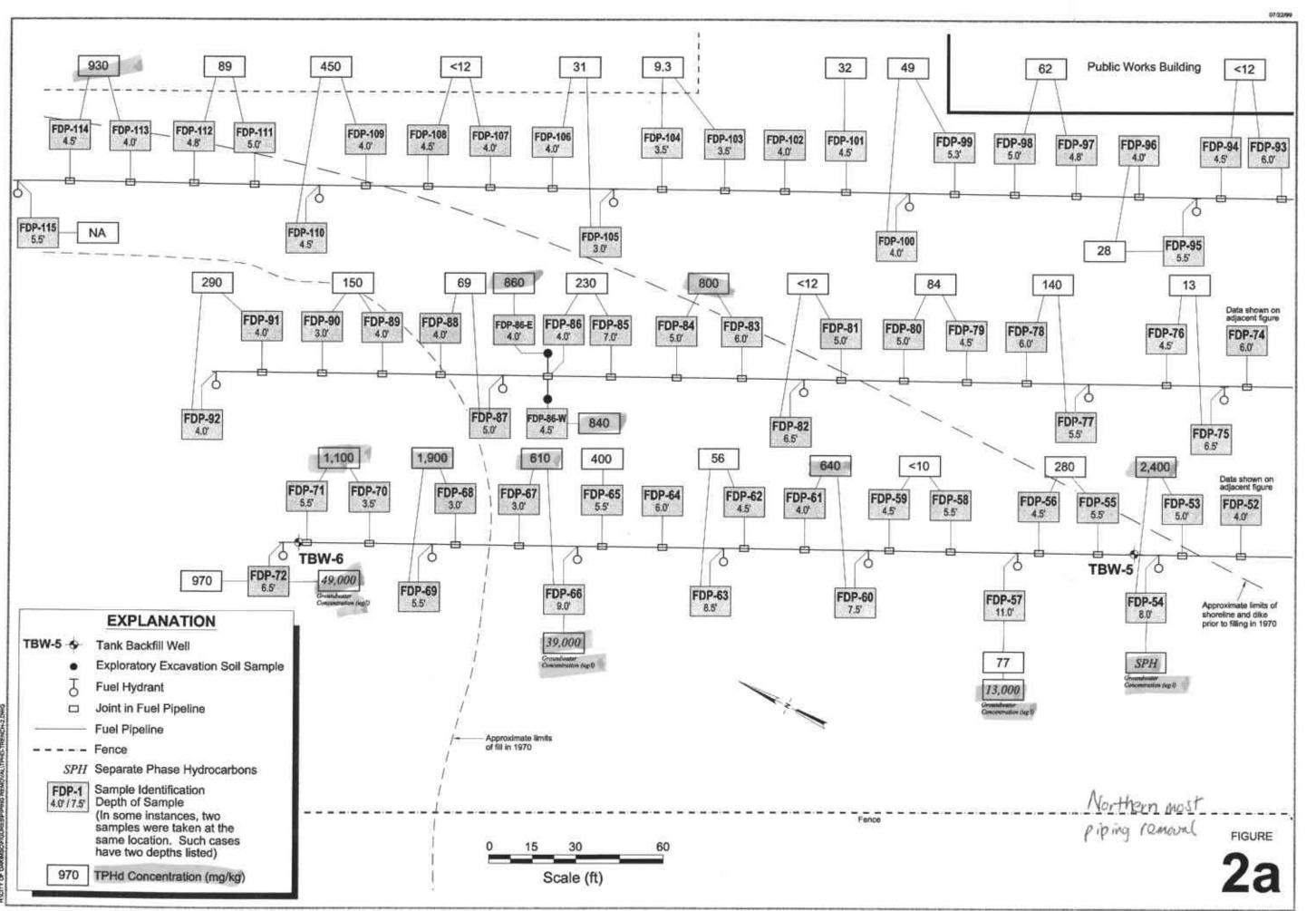
CONCLUSIONS AND RECOMMENDATIONS

Hydrocarbon concentrations in soil and groundwater exceed the SFO management standards in some site locations, however, most of the analytical results are near or below the SFO thresholds. Although a final assessment of these results will need to be completed once target risk concentrations have been accepted by the ACHCSA and the Regional Water Quality Control Board, at this time, the analytical results for many of the piping samples appear to be within likely acceptable risk-based thresholds. On this basis, and on the indication that natural attenuation processes are occurring at the site, we recommend targeted remediation of hot-spot areas consisting of removal of separate-phase hydrocarbons.

Fuel Pipeline Removal Sampling

Can't make out piping #s

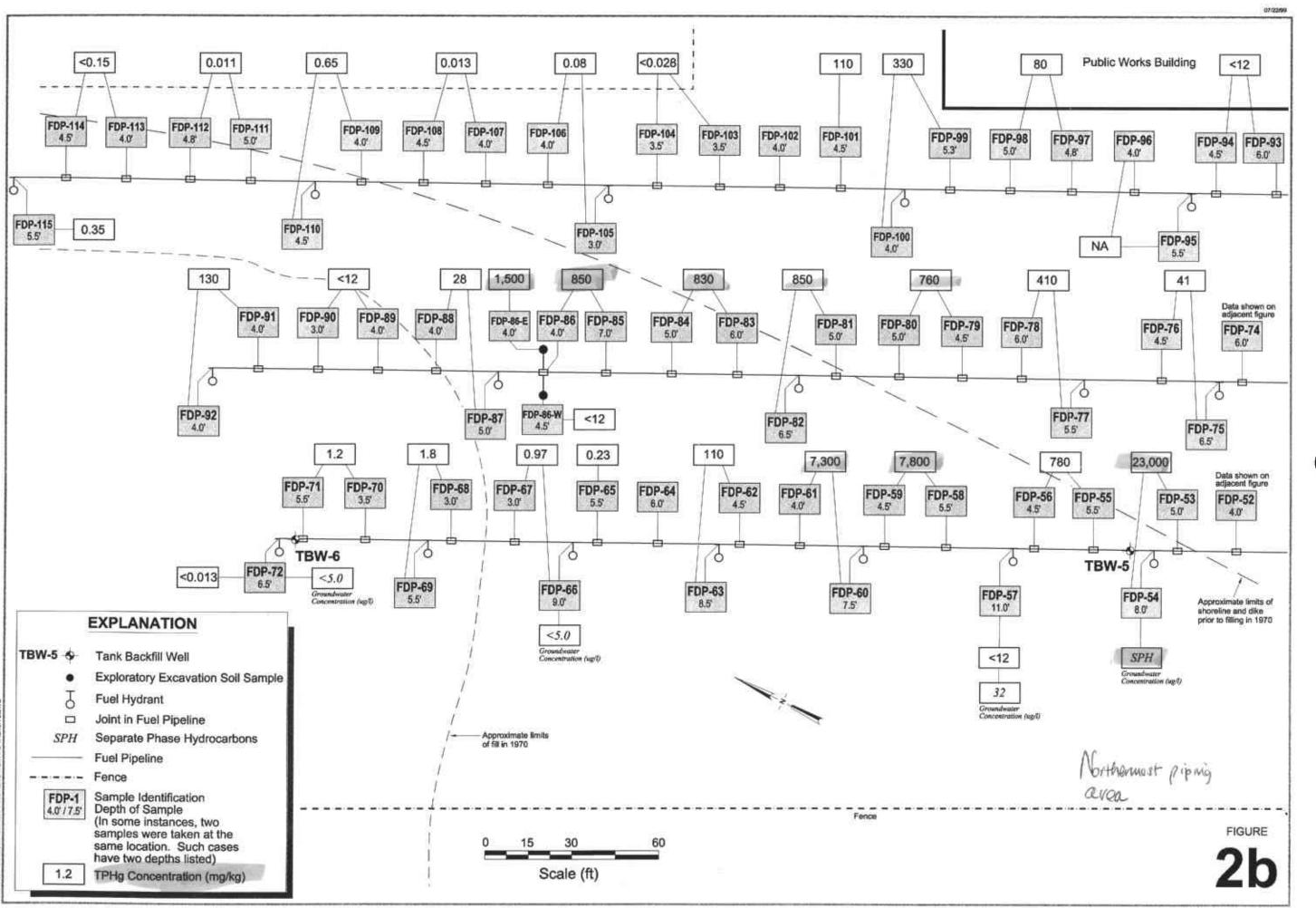
Municipal Service Center 7101 Edgewater Drive Oakland, California



Sample Locations and TPHd Concentrations

September 23, 1998 - December 10, 1998

Municipal Service Center 7101 East Edgewater Drive Oakland, California



Sample Locations and TPHg Concentrations

23, 1998 - December 10, 1998

Center Municipal Service C 7101 East Edgewater Drive Oakland, California

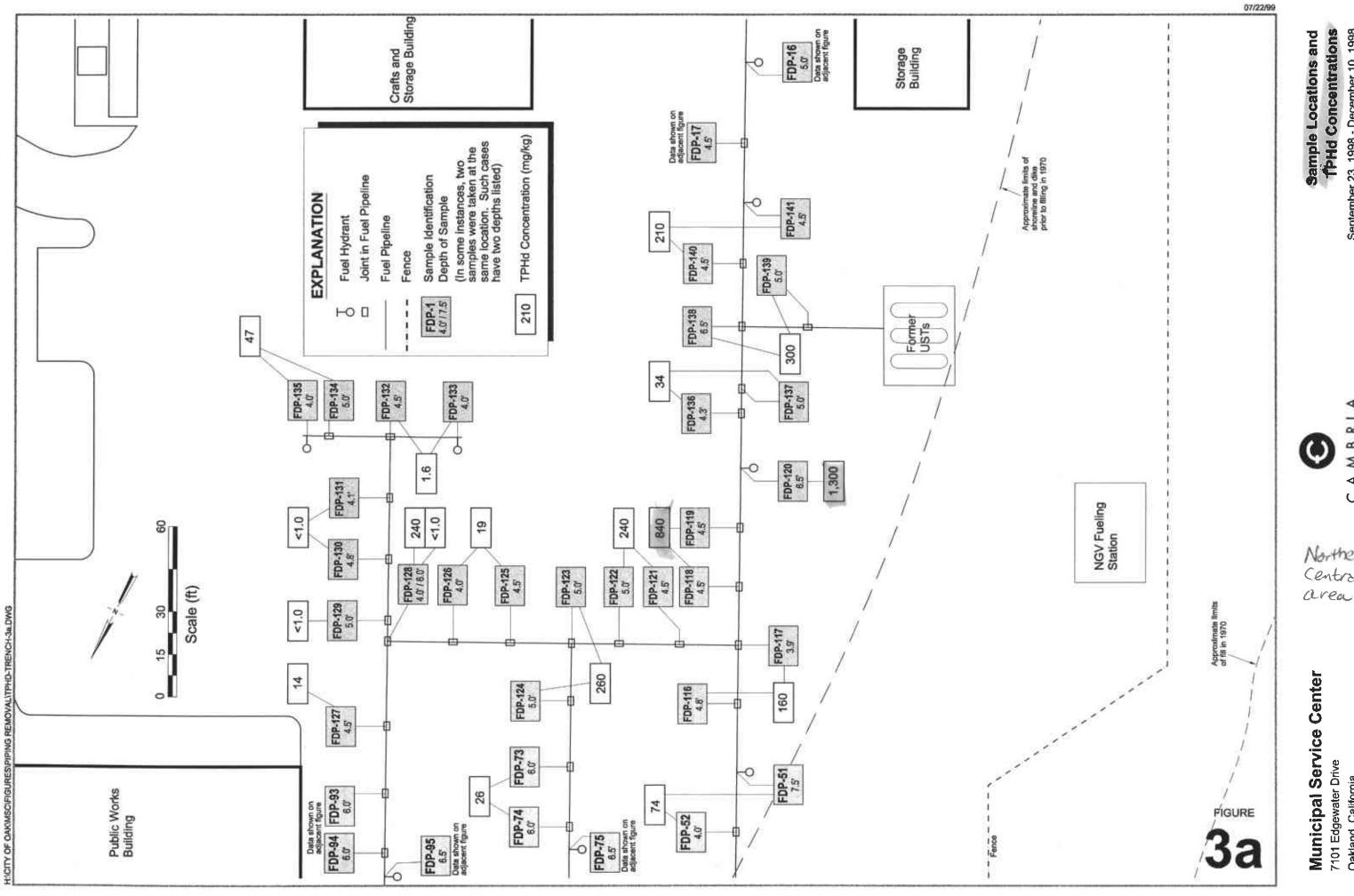
Benzene Concentrations

Sample Locations and

September 23, 1998 - December 10, 1998

Center

Municipal Service (7101 East Edgewater Drive Oakland, California

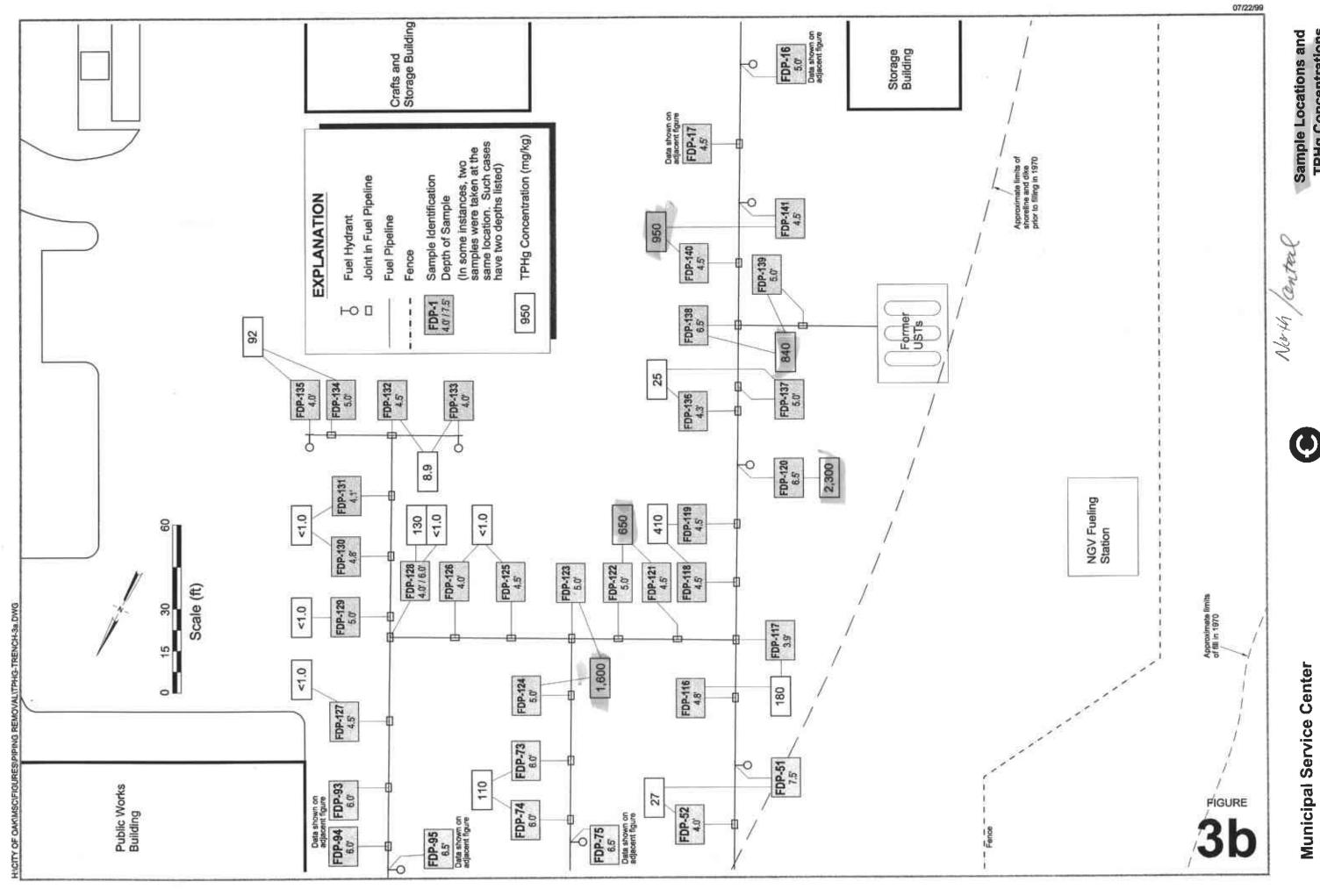


Municipal Service Center 7101 Edgewater Drive Oakland, California

Northern Central

CAMBRIA

September 23, 1998 - December 10, 1998

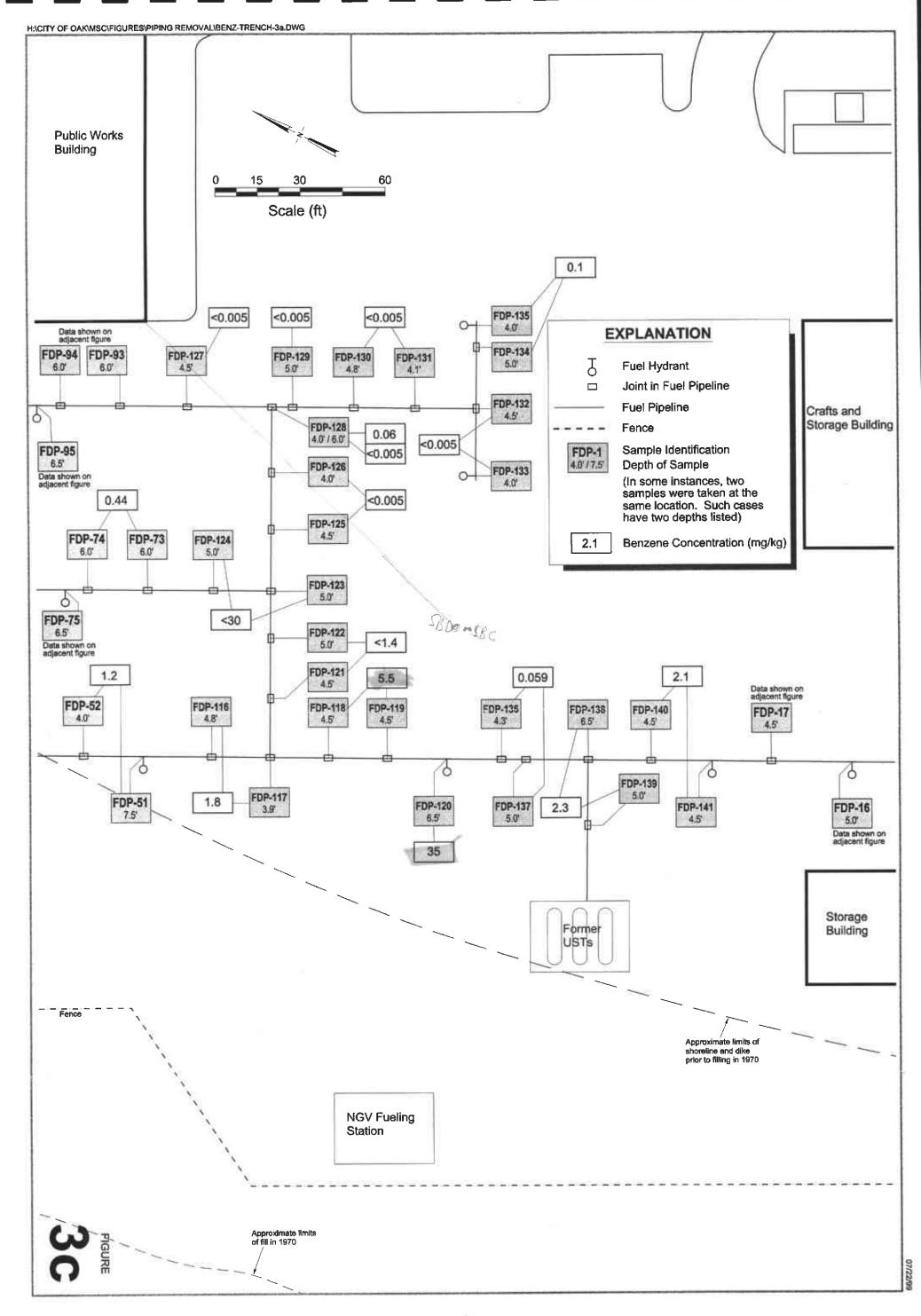


Municipal Service Center 7101 Edgewater Drive Oakland, California



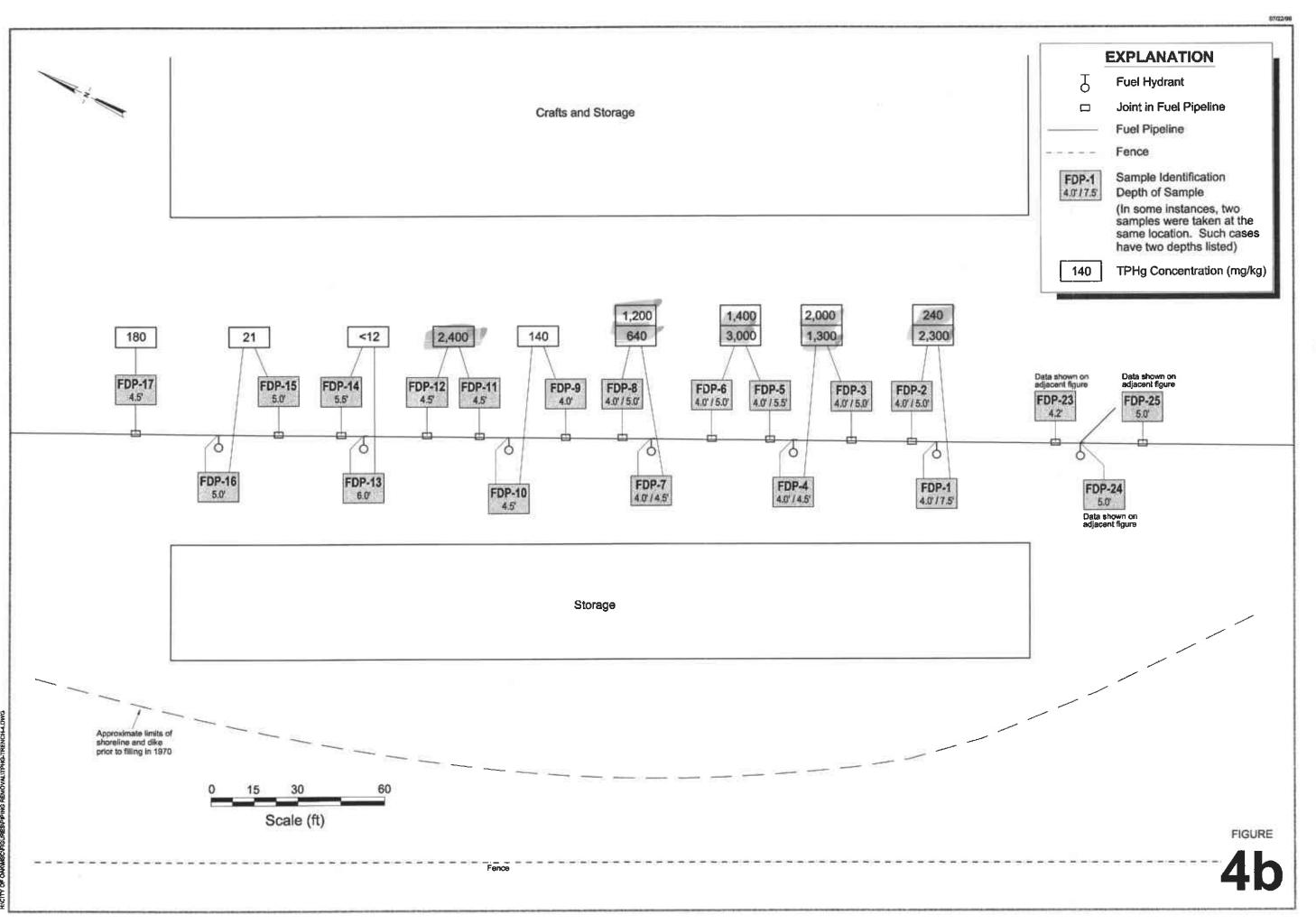
CAMBRIA

Sample Locations and TPHg Concentrations September 23, 1998 - December 10, 1998



Sample Locations and TPHd Concentrations September 23, 1998 - December 10, 1998

Municipal Service Center 7101 Edgewater Drive Oakland, California



September 23, 1998 - December 10, 1998

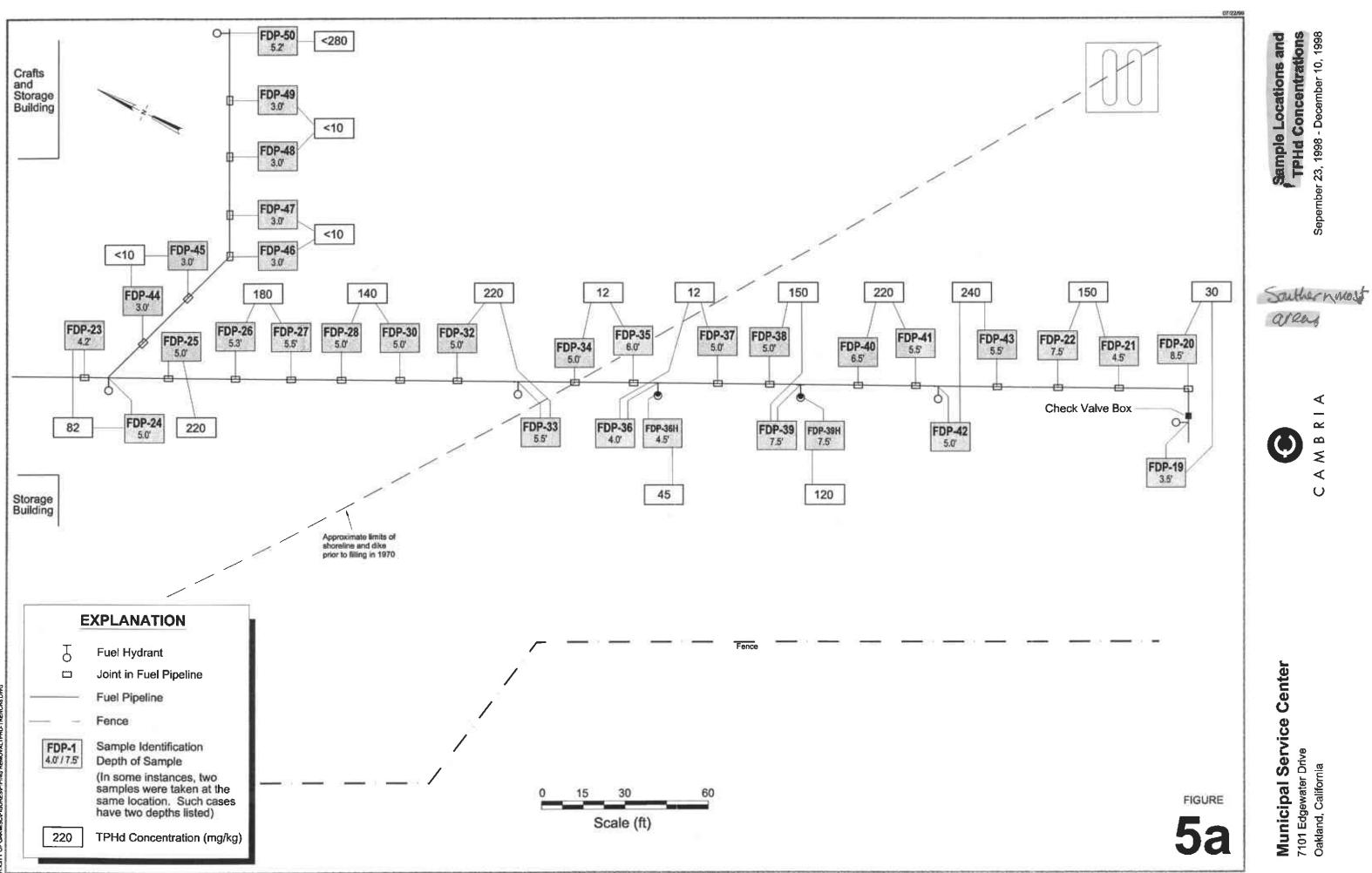
central southern area

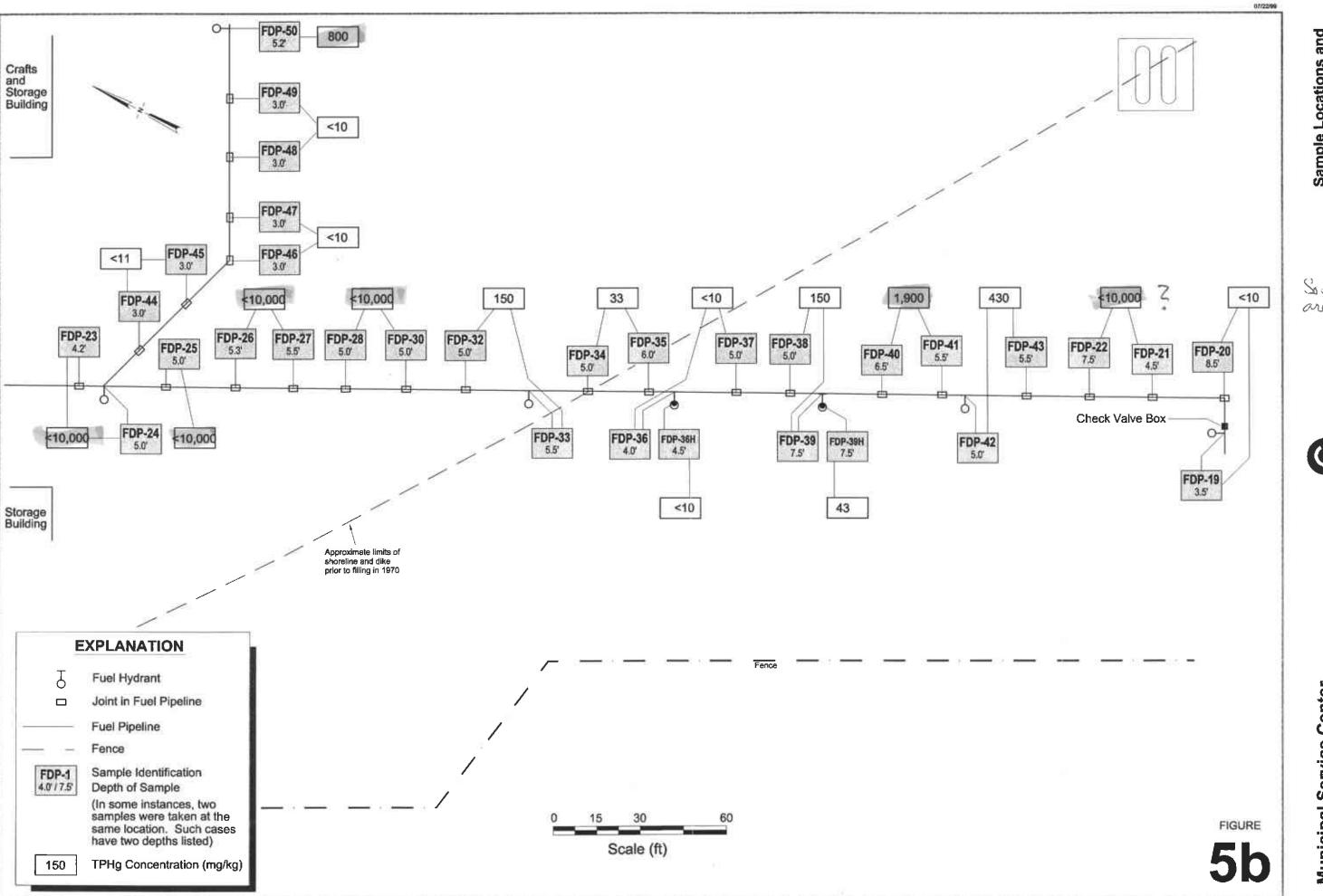
Municipal Service Center 7101 Edgewater Drive Oakland, California

Serpe Locations and Benzene

Central Southern area

Municipal Service Center 7101 Edgewater Drive Oakland, California





Sample Locations and TPHg Concentrations

Southernmest area-

Sepember 23, 1998 - December 10, 1998

Municipal Service Center 7101 Edgewater Drive Oakland, California

Sample Locations and Benzene Concentrations
Sepember 23, 1998 - December 10, 1998

Southermost area

Municipal Service Center 7101 Edgewater Drive Oakland, California

Table 1. Soil Analytical Results for Fuel Hydrocarbons

City of Oakland Municipal Service Center, Oakland, California

Sample ID	Date	ТРНg	TPHd	Benzene	Toluene	Ethyl- benzene	Xylenes	мтве	Organic Lead
		<		(mg	/kg)			>	
FDP-1-4.0',2-4.0'	09/23/98	240	48	<0.31	<0.31	2.7	6.2	< 0.62	
FDP-1-4.0',2-4.0',3-4.0',4-4.0'	09/23/98				-,-				<0.5
FDP-1-7.5',2-5.0'	09/25/98	2,300	650	<3.0	<3.0	45	77	<6.1	
FDP-1-7.5',2-5.0',3-5.0',4-4.5'	09/25/98				AL 40 Ap				<0.5
FDP-3-4.0',4-4.0'	09/23/98	2,000	230	<3.2	<3.2	29	54	<6.3	
FDP-3-5.0',4-4.5'	09/25/98	1,300	160	<3.0	<3.0	27	120	<6.0	
FDP-5-4.0',6-4.0'	09/23/98	1,400	130	<3.2	<3.2	23	52	<6.3	
FDP-5-4.0',6-4.0',7-4.0',8-4.0'	09/23/98								<0.5
FDP-5-5.5',6-5.0'	09/25/98	3,000	840	<3.0	<3.0	53	160	<6.0	
FDP-5-5.5',6-5.0',7-4.5',8-5.0'	09/25/98		· 						<0.5
FDP-7-4.0',8-4.0'	09/24/98	1,200	120	<3.1	<3.1	5.1	7.0	<6.2	
FDP-7-4.5',8-5.0'	09/25/98	640	190	<3.0	<3.0	13	52	<6.0	
FDP-9-4.0',10-4.5'	09/25/98	140	130	< 0.29	0.29	2.6	2.0	0.59	
FDP-9-4.0',10-4.5',11-4.5',12-4.5'	09/25/98								<0.5
FDP-11-4.5',12-4.5'	09/25/98	2,400	580	<3.0	<3.0	44	78	5.2 L	
FDP-13-6.0',14-5.5'	09/25/98	<12	72	< 0.029	< 0.029	< 0.029	< 0.029	< 0.058	
FDP-13-6.0',14-5.5',15-5.0',16-5.0'	09/25/98								<0.5
FDP-15-5.0',16-5.0'	09/25/98	21	29	< 0.029	< 0.029	< 0.029	< 0.029	<0.058	
FDP-17-4.5'	09/25/98	180 L	74				***		
FDP-19-3.5',20-8.5'	10/06/98	<10	30	0.26	<0.25	<0.25	<0.25		
FDP-19-3.5',20-8.5',21-4.5',22-7.5'	10/06/98								<0.5

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Table 1. Soil Analytical Results for Fuel Hydrocarbons

City of Oakland Municipal Service Center, Oakland, California

Sample ID	Date	ТРНд	ТРНа	Benzene	Toluene	Ethyl- benzene	Xylenes	MTBE	Organic Lead	
	< (mg/kg)									
FDP-21-4.5',22-7.5'	10/06/98	<10,000	150	<25	<25	7.8 L	6.6 L			
FDP-23-4.2',24-5.0'	10/06/98	<10,000	82	<25	<25	15 L	62			
FDP-23-4.2',24-5.0',25-5.0',26-5.3'	10/06/98								<0.5	
FDP-25-5.0'	10/06/98	<10,000	220	<25	<25	<25	<25			
FDP-26-5.3',27-5.5'	10/06/98	<10,000	180	<25	<25	16 L	37			
FDP-27-5.5',28-5.0',30-5.0',32-5.0'	10/06/98								<0.5	
FDP-28-5.0',30-5.0'	10/06/98	<10,000	140	5.0 L	<25	31	150			
FDP-29-5.0',31-5.0'	10/06/98	970	110	<25	<25	9.8 L	38			
FDP-32-5.0',33-5.5'	10/06/98	150	220	16 L	<25	48	170			
FDP-33-5.5',34-5.0',35-6.0',36-4.0'	10/06/98						≥		<0.5	
FDP-34-5.0',35-6.0'	10/06/98	33	12	<25	<25	<25	<25			
FDP-36-4.0',37-5.0'	10/07/98	<10	12	< 0.25	< 0.25	<0.25	< 0.25			
FDP-36H-4.5'	10/07/98	<10	45	< 0.25	< 0.25	<0.25	< 0.25			
FDP-36H-4.5',37-5.0',38-5.0',39-7.5',39	9H 10/07/98								<0.5	
FDP-38-5.0',39-7.5'	10/07/98	150	150	<2.5	<2.5	4.6	12			
FDP-39H-7.5'	10/07/98	43	120	<2.5	<2.5	0.78 L	1.2 L			
FDP-40-6.5',41-5.5'	10/07/98	1,900	220	2.9	<2.5	19	30			
FDP-40-6.5',41-5.5',42-5.0',43-5.5'	10/07/98	***					***		<0.5	
FDP-42-5.0',43-5.5'	10/07/98	430	240	1.0	<2.5	5.0	<2.5			
FDP-44-3.0',45-3.0'	10/14/98	<11	<10	<0.028	<0.028	<0.028	< 0.028	< 0.05		
FDP-44-3.0',45-3.0',46-3.0',47-3.0'	10/14/98							***	<0.5	

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Table 1. Soil Analytical Results for Fuel Hydrocarbons

City of Oakland Municipal Service Center, Oakland, California

Sample ID	Date	ТРНд	TPHd	Benzene	Toluene	Ethyl- benzene	Xylenes	МТВЕ	Organic Lead
bumpto 12	<(mg/kg)								
FDP-46-3.0',47-3.0'	10/14/98	<10	<10	<0.026	<0.026	<0.026	<0.026	<0.05	
FDP-48-3.0',49-3.0'	10/14/98	<10	<10	< 0.026	<0.026	< 0.026	<0.026	< 0.052	
FDP-48-3.0',49-3.0',50-5.2'	10/14/98		 -	# *		_==			<0.5
FDP-50-5.2'	10/14/98	800	<280	<1.5	15	17	69	<3.1	
FDP-51-7.5',52-4.0'	10/19/98	27	74	1.2	< 0.029	0.65	1.1	<0.058	
FDP-51-7.5',52-4.0',53-5.0',54-8.0	10/19/98								2.4
FDP-53-5.0',54-8.0'	10/19/98	23,000	2,400	300	180	300 😤	£,300 *	< 0.06	
FDP-55-5.5',56-4.5'	10/19/98	780	280	<1.5	1.5	18	15	<2.9	
FDP-55-5.5',56-4.5',57-11.0',58-5.5'	10/19/98								<0.5
FDP-57-11.0'	10/19/98	<12	77	< 0.031	< 0.031	< 0.031	<0.031	< 0.062	
FDP-58-5.5',59-4.5'	10/19/98	7,800	<10	< 0.03	< 0.03	0.36	< 0.03	< 0.06	
FDP-59-4.5',60-7.5',61-4.0',62-4.5'	10/19/98	·							<0.5
FDP-60-7.5',61-4.0'	10/19/98	7,300	640	<2.9	<2.9	270	1,000	< 0.057	
FDP-62-4.5',63-8.5'	10/19/98	110	56	1.1	< 0.029	1.4	1.6	0.34	
FDP-63-8.5',64-6.0'	10/19/98								<0.5
FDP-65-5.5'	10/20/98	0.23	400	<1.4	<1.4	<1.4	<1.4	<2.8	
FDP-65-5.5',66-9.0',67-3.0',68-3.0'	10/20/98								<0.5
FDP-66-9.0',67-3.0'	10/20/98	0.97	610	<1.5	<1.5	13	5.6	<3.0	
FDP-66-9.0',67-3.0'-DUP	10/20/98	0.81	540	<1.5	<1.5	3.4	4.8	<3.0	
FDP-68-3.0',69-5.5'	10/20/98	1.8	1,900	<3.0	<3.0	<3.0	<3.0	<6.0	
FDP-69-5.5'	10/20/98	870	400	< 0.03	1.0	0.86	4.3	<0.7	

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Table 1. Soil Analytical Results for Fuel Hydrocarbons

City of Oakland Municipal Service Center, Oakland, California

Sample ID	Date	ТРНд	TPHd	Benzene	Toluene	Ethyl- benzene	Xylenes	мтве	Organic Lead	
					(mg/kg)					
FDP-70-3.5',71-5.5'	10/20/98	1.2 L	1,100	<3.0	<3.0	<3.0	<3.0	<6.1		
FDP-72-6.5'	10/20/98	<0.013	970	< 0.032	< 0.032	<0.032	< 0.032	< 0.064		
FDP-73-6.0',74-6.0'	10/27/98	11 0 L	26	0.44	< 0.28	2.4	5.9	< 0.057		
FDP-73-6.0',74-6.0',75-6.5',76-4.5'	10/27/98		***						<0.5	
FDP-75-6.5',76-4.5'	10/27/98	41	13	<0.028	< 0.028	0.38	<0.028	< 0.057		
FDP-75-6.5',76-4.5'-DUP	10/27/98	<130	120	< 0.032	<0.32	< 0.32	< 0.32	< 0.065		
FDP-77-5.5',78-6.0'	10/27/98	410	140	<2.9	<2.9	10	11	<5.9		
FDP-77-5.5',78-6.0',79-4.5',80-5.0'	10/27/98								<0.5	
FDP-79-4.5',80-5.0'	10/27/98	760 L	84	<1.4	<1.4	24	10	<58		
FDP-81-5.0',82-6.5'	10/27/98	850 L	<12	<2.9	<2.9	29	68	<0.058		
FDP-81-5.0',82-6.5',83-6.0',84-5.0'	10/27/98			***					<0.5	
FDP-83-6.0',84-5.0'	10/27/98	830 L	800	<2.9	<2.9	25	57	<5.9		
FDP-85-7.0',86-4.0'	10/27/98	850 L	230	<2.8	<2.8	<24	18	<5.6		
FDP-85-7.0',86-4.0',87-5.0',88-4.0'	10/27/98								<0.5	
FDP-86E-4.0'	10/27/98	1,500 L	860	110	100	470	220	<1.2	****	
FDP-86W-4.5'	10/27/98	<12	840	< 0.029	< 0.029	< 0.029	< 0.029	<0.058		
FDP-87-5.0',88-4.0'	10/27/98	28	69	< 0.029	< 0.029	0.28	<0.56	<0.058		
FDP-89-4.0',90-3.0'	10/27/98	<12	150	< 0.029	< 0.029	< 0.029	< 0.029	<0.058	•••	
FDP-89-4.0',90-3.0',91-4.0',92-4.0'	10/27/98								<0.5	
FDP-91-4.0',92-4.0'	10/27/98	130	290	5.2	3.2	2.4	9.0	< 0.057		
FDP-93-6.0',94-4.5'	11/02/98	<12	<12	<29	<29	<29	<29	<58		

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Table 1. Soil Analytical Results for Fuel Hydrocarbons

City of Oakland Municipal Service Center, Oakland, California

Sample ID	Date	ТРНд	TPHd	Benzene	Toluene	Ethyl- benzene	Xylenes	мтве	Organic Lead
Sample 10	744			 		(mg/kg)			
FDP-93-6.0',94-4.5',95-5.5',96-4.0'	11/02/98	± ±.					≈ -←		<0.5
FDP-95-5.5',96-4.0'	11/02/98		28						
FDP-97-4.8',98-5.0'	11/02/98	80 L	62	<0.29	<0.29	0.71	0.73	<0.57	
FDP-97-4.8',98-5.0',99-5.3',100-4.0'	11/02/98								<0.5
FDP-97-4.8',98-5.0'-DUP	11/02/98	850 L	6.9 L	< 0.71	<0.71	9.3	6.8	<1.4	
FDP-99-5.3',100-4.0'	11/02/98	330	49	0.29	< 0.29	2.2	<2.7	<0.58	***
FDP-101-4.5'	11/02/98	110	32	0.038	<0.29	2.2	2.6	< 0.058	
FDP-101-4.5',102-4.0',103-3.5',104-3.5'	11/03/98								<0.5
FDP-103-3.5',104-3.5'	11/03/98	0.028	9.3 L	< 0.028	< 0.028	0.52	0.49	< 0.057	
FDP-105-3.0',106-4.0'	11/03/98	0.08	31	< 0.15	<0.15	< 0.15	2.7	<2.9	
FDP-105-3.0',106-4.0',107-4.0',108-4.5'	11/03/98								<0.5
FDP-107-4.0',108-4.5'	11/03/98	0.013	<12	0.18	< 0.03	0.22	0.35	<0.06	
FDP-109-4.0',110-4.5'	11/03/98	0.65	450	< 0.03	< 0.03	23	26	17	
FDP-109-4.0',110-4.5',112-4.8',113-4.0'	11/03/98								<0.5
FDP-109-4.0',110-4.5'-DUP	11/03/98	0.33	850	< 0.15	< 0.15	< 0.15	17	< 0.31	
FDP-111-5.0',112-4.8'	11/03/98	0.011 L	89	< 0.03	< 0.03	< 0.03	< 0.03	< 0.061	
FDP-113-4.0',114-4.5'	11/03/98	0.15	930	< 0.15	< 0.15	1.2	<0.15	< 0.3	
FDP-114-4.5',115-5.5'	11/03/98								<0.5
FDP-115-5.5'	11/03/98	0.35		< 0.61	<0.61	6.3	< 0.61	<1.2	
FDP-115-5.5',102-4.0'	11/03/98		410		+++				
FDP-116-4.8',117-3.9'	11/20/98	180	160	1.8	2.4	6.0	9.1	<0.28	

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23-Jul-99

Table 1. Soil Analytical Results for Fuel Hydrocarbons

City of Oakland Municipal Service Center, Oakland, California

Sample ID	Date	ТРНд	TPHd	Benzene	Toluene	Ethyl- benzene	Xylenes	мтве	Organic Lead	
							· · · · · · · · · · · · · · · · · · ·			
FDP-116-4.8',117-3.9',118-4.5',119-4.5'	11/20/98								<0.5	
FDP-118-4.5',119-4.5'	11/20/98	410	840	5.5	3.4	15	4.8	<0.29		
FDP-118-4.5',119-4.5'-DUP	11/20/98	270	790	0.75	2.7	14	5.9	< 0.29		
FDP-120-6.5'	11/20/98	2,300	1,300	35	150	75	400	< 0.29	<0.5	
FDP-121-4.5',122-5.0'	12/01/98	650	240	<1.4	<1.4	19	81	<3.0		
FDP-121-4.5',122-5.0',123-5.0',124-5.0'	12/01/98								<0.5	
FDP-123-5.0',124-5.0'	12/01/98	1,600	260	<30	16	28	100	<61		
FDP-123-5.0',124-5.0'-DUP	12/01/98		180							
FDP-123-5.0',124-5.0'-DUP1	12/01/98	1,200		<1.5	29	32	130	<3.0		
FDP-123-5.0',124-5.0'-DUP2	12/01/98	<12,000		<30	5.5	10	34	<60		
FDP-123-5.0',124-5.0'-DUP3	12/01/98	<600		<1.4	12	13	47	<3.0		
FDP-125-4.5',126-4.0'	12/08/98	<1.0	19	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05	<0.5	
FDP-127-4.5'	12/08/98	<1.0	14	< 0.005	0.007	0.01	0.008	< 0.05		
FDP-127-4.5',128-4.0',128-6.0',129-5.0'	12/08/98								<0.5	
FDP-128-4.0'	12/08/98	130	240	0.06	0.4	0.89	0.52	< 0.2		
FDP-128-6.0'	12/08/98	<1.0	<1.0	< 0.005	< 0.005	< 0.005	< 0.005	< 0.05		
FDP-129-5.0'	12/08/98	<1.0	<1.0	< 0.005	0.013	< 0.005	0.022	< 0.05		
FDP-130-4.8',131-4.1'	12/10/98	<1.0	<1.0	< 0.005	<0.005	< 0.005	< 0.005	< 0.05		
FDP-130-4.8',131-4.1',132-4.5',133-4.0'	12/10/98					**-			<0.5	
FDP-132-4.5',133-4.0'	12/10/98	8.9	1.6	< 0.005	0.03	0.015	0.032	< 0.05		
FDP-134-5.0',135-4.0'	12/10/98	92	47	0.1	0.15	0.69	0.37	< 0.05	<0.5	

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23-Jul-99

Table 1. Soil Analytical Results for Fuel Hydrocarbons

City of Oakland Municipal Service Center, Oakland, California

					Ethyl-			Organic	
Sample ID	Date	TPHg	TPHd	Benzene	Toluene	benzene	Xylenes	MTBE	Lead
		< (mg/kg)							
FDP-136-4.3',137-5.0'	12/10/98	25	34	0.059	0.06	0.044	0.096	<0.05	
FDP-136-4.3',137-5.0',138-6.5'	12/10/98								. <0.5
FDP-138-6.5',139-5.0'	12/10/98	840	300	2.3	2.3	7.0	28	<2.0	
FDP-139-5.0',140-4.5',141-4.5'	12/10/98		<u> </u>						<0.5
FDP-140-4.5',141-4.5'	12/10/98	950	210	2.1	5.2	13	58	<2.0	

Notes

DUP = Duplicate sample.

All concentrations in milligrams per kilogram (mg/kg)

--- = not measured/analyzed

TPHd = Total Petroleum Hydrocarbons as diesel - analyzed by Modified EPA method 8015

TPHg = Total Petroleum Hydrocarbons as gasoline - analyzed by Modified EPA method 8015

MTBE = Methyl tert-butyl ether - analyzed by EPA Method 8020 or 8260

L = Concentration reported is less than Practical Quantitation Limit; value is estimated.

Table 2. Groundwater Analytical Results for Fuel Hydrocarbons

City of Oakland Municipal Service Center, Oakland, California

Sample ID	Date	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Xylenes	МТВЕ
		<			(ug/L)			>
FDP-57-W	10/19/98	32	13,000	8,600	400	510 ³	2,000	<500
FDP-66-W	10/20/98	<5.0	39,000	<10	<10	<10	<10	<10
FDP-72-W	10/20/98	<5.0	49,000	<10	<10	<10	<10	<10

Notes

DUP = Duplicate sample.

All concentrations in micrograms per liter (ug/l)

--- = not measured/analyzed

TPHd = Total Petroleum Hydrocarbons as diesel - analyzed by Modified EPA method 8015

TPHg = Total Petroleum Hydrocarbons as gasoline - analyzed by Modified EPA method 8015

MTBE = Methyl tert-butyl ether - analyzed by EPA Method 8020 or 8260

L = Concentration reported is less than Practical Quantitation Limit; value is estimated.



ATTACHMENT A

Sample Logs

Sample L	dress: 7101	Edger	icatev	-	Geologist:	Schultz
Sample L	1				<u> </u>	JC 18 11 8
		4.0'				
	ocation:	luxon		Sand	el strice	dul Date: 9/23
Collection	n Method:	hand-d	الج صريدوا	instructions:	wil com	int, : Time: 131/15
Sample D	epth: 2	1.01				
	Perce	ntages		Color: 01	14-black	Plasticity: M. Link
Clay	Silt	Sand	Gravel	Moisture:	dano	Permeability: V. Low
60	40				raid he	
USC Cla	96.					
GW G		GC S	SW SP	SM SC	ML CL	OL MIH CH OH Pt
	Soil Strength					
	Very soft	Soft	, , , , , , , , , , , , , , , , , , , 	Firm	Stiff	Very stiff Hard
	Very loose	Loo	se	Medium de	nse Dense	Very dense
	and Comm	205424		L1. A. O.		lainbu to 14 harma
	and comm	رويد مردد ار. دو پر مردد ار.		in he of	me + stain	lain by light brown c
FDP-	2-1	f.0 '	·)
Sample L	ocation:	لمستحد	<u>- 5 e</u>	~d ed 59	Amee shed	Date: 7/23
Collection	n Method:	hand-	مىدىدىد	+ 5-co		Time: 15:00
Sample D		1.01			,	
	Soil Strength Very soft	:: Soft		Firm	Stiff	(Very stiff) Hard
grained soils:				<u> </u>		
Coarse- grained soils:	Very loose	Loo	se	Medium der	nse Dense	Very dense
USC Clas	 ss:		-	· · · · · · · · · · · · · · · · · · ·		
GW G		GC S	SW SP	SM SC	ML (CL)	OL MH CH OH Pt
	Perce	ntages		Color: A	arkeren	Plasticity: W. hueh
	1 "	Sand	Gravel	Moisture:	d stand	Permeability:
Clay	Silt					

Client	: (314)	of O	LKlane	<u>,</u> (Project Number:	(4	53-124	} -c	٥4)
Site A	ddress:	Edgel	cater	-	Geologist:	ch	ultz		
			<u> </u>	······································					
FDP.	3-4	01							,
	Location:	Joint	· <u><</u>	s end	of shareste	A	Date: $\frac{2}{3} \int dx$	23	
Collecti	ion Method:	hend-	-drive	7 50	000		Time: 15:	30 _	
Sample	Depth: ¿	1101							
	Percei	ntages		Color 1	sale-chances	Pla	sticity: 1/4 ·	hich	
Clay	Silt	Sand	Gravel		damo	Per	meability: \/	200	ري
60	40				rong he				
									7
USC CI		1 - 1	· · ·	· ·		_	T	l	
GW	GP GM	IGC IS	SW SP	SM SC	ML CI	L	мн сн	OH	Pt
	Soil Strength	-							
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Ve	ry stiff	Hard	
Coarse- grained soils:	Very loose	Loos	se	Medium de	nse Dense	Ve	ry dense		
Soil Typ	pe and Comm	nents: a	arkg	zen/Ha	ch clay				
	- 4-1	1.0'							
Sample	Location:	hydran	£		·		Date:	23	
	on Method:	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		1 50	0910		Time: 15	55	
Sample	Depth: /	1,01							
	Soil Strength	:							
Fine- grained soils:	Very soft	Soft		Firm	Stiff (Ver	ry stiff I	Hard	
Coarse- grained soils:	Very loose	Loo	se	Medium de	nse Dense	Ve	ry dense		
					· · · · · · · · · · · · · · · · · · ·				
USC CI		1 1		 				<u> </u>	
GW L	GP GM	GC S	SW SP	SM SC	ML CL/C	L	мн сн	ОН	Pt
	Percei	ntages		Color: 7	damp.	Pla	sticity: M	hig!	
Clay	Silt	Sand	Gravel		elarkaten. Nahik	Per	meability: ۱٫	1.100	,
50	40			Odor: 4	one WE.				
Soil Tv	pe and Comn	nents:		1 (
		d	ark or	en bla	el cay	 -	_		
				-	/				

		<u>ं च</u>	aklan	<u> </u>	Project N	vumber:	153-1	<u> </u>	004
Site A	ddress:	Edge	uater	-	Geologis	st: So	cheltz		
FDP.	- 5-	4.01						_	
Sample	Location:	ioint					Date:		
Collecti	ion Method:	hoemed	-drive	n / sc	صوص		Time: 1	6:15	
Sample		1.0'		,					
-	Perce	ntages		Color: c	levegran,	black	Plasticity: 1/2	hiel	
Clay	Silt	Sand	Gravel		daniel		Permeability:		
60	40	_	-	1		he			
USC C	lass:					- -			
GW	GP GM	GC ;	SW SP	SM	SC ML	<u>alo</u>	L MH C	н он	Pt
	Soil Strength	:		<u> </u>	<u></u>				
Fine- grained soils:	Very soft	Soft	t	Firm	Stiff	(Very stiff	Hard	
SOILS:									
Coarse- grained soils:	Very loose		······································	Medium	·		Very dense		
Coarse- grained soils: Soil Typ			······································		·		Very dense	.4 rene	h, sa
Coarse-grained soils: Soil Typ	pe and Comn		······································		·			.4 rene	h, sa
Coarse-grained soils: Soil Typ FDP Sample	pe and Comn		······································		·		valer is	.4 rene	h, sa
Coarse-grained soils: Soil Typ FDP Sample	pe and Comn Location: ion Method:		······································		·		Date:	.4 rene	h, sa
Coarse- grained soils: Soil Typ FDP Sample Collecti	pe and Comn Location: ion Method:	nents:	······································		·		Date:	.4 rene	h, sa
Coarse- grained soils: Soil Typ FDP Sample Collecti	pe and Comn Location: ion Method: Depth:	nents:	Je gran		·		Date:	Hard	h, sa
Coarse- grained soils: Soil Typ FDP Sample Collecti Sample Fine- grained	pe and Comn Location: ion Method: Depth:	nents:	Je gran	blac	l day		Date:		h, sa
Coarse-grained soils: Soil Tyl FDP Sample Collecti Sample Fine-grained soils: Coarse-grained	pe and Comn Location: ion Method: Depth: Soil Strength Very soft Very loose	nents:	Je gran	blac Firm	l day		Date: Time: Very stiff Very dense	Hard	
Coarse-grained soils: Soil Typ FDP Sample Collecti Sample Fine-grained soils: Coarse-grained soils:	pe and Comn Location: ion Method: Depth: Soil Strength Very soft Very loose	Soft	Je gran	Firm Medium	l day		Date: Time: Very stiff Very dense		h, sa
Coarse-grained soils: Soil Typ FDP Sample Collecti Sample Fine-grained soils: Coarse-grained soils:	pe and Comn Location: ion Method: Depth: Soil Strength Very soft Very loose lass: GP GM	Soft	t ose	Firm Medium	Stiff dense Dense		Date: Time: Very stiff Very dense	Hard	
Coarse-grained soils: Soil Typ FDP Sample Collecti Sample Fine-grained soils: Coarse-grained soils:	pe and Comn Location: ion Method: Depth: Soil Strength Very soft Very loose lass: GP GM	Soft	t ose	Firm Medium	Stiff dense Dense		Date: Time: Very stiff Very dense	Hard	

O / \(1	41DI(1	` `					
Client:	City	J & C	Aklani	<u>,</u> [Project Number	r:	33-1247-0C4
Site Ad	dress: 7101	Edgeu	cater	-	Geologist:	Sch	(FE
FDP-	6 -	4.01					,
Sample I	Location:	joint	***		•		Date: 9/24
Collection	n Method:	hand-	chiver	, 500	op for jar	<u>s</u>	Time: 11:15
	Depth: 4			•			
	Damas	enta mas		Colon (-k -une	Dia	sticity: M. Low
Clay	Silt	ntages Sand	Gravel	Moisture:	rkgiey famos	\neg	meability: V.
35	60	5		Odor: Str	tamp ong he		incubinty.
USC Cla	150°						
-	P GM	GC S	W SP	SM SC	(ML) CL	OL	MH CH OH Pt
	Soil Strength						
Fine- grained soils:	Very soft	Soft		Firm	Suff	Ve	ry stiff Hard
Coarse- grained soils:	Very loose	Loos	se	Medium de	nse Dense	Ve	ry dense
	1.0	. 1					
Soil Typ	e and Comn	nents: Sty	ong he Courter	odox of	soils decre	ase	s w/ depth
FDP-		_	م ٦٠٠٠				
	ocation:	`	- nea	center	of Storage S	Thed	Date: 9 24
Collection	n Method:	handd	riven	, Scoop	0		Time: 11:45
Sample I	Depth: 4	0'		,			
	Soil Strength						
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Ve	ry stiff Hard
Coarse- grained soils:	Very loose	Loos	se .	Medium de	nse Dense	Ve	ry dense
							
GW G	SP GM	GC S	W SP	SM SC	ML) CL	OL .	MH CH OH Pt
			,, , , , , ,			Mal	ted
Class	Pérce Silt	ntages Sand	Gravel	Color: Dro	7		meability: V low
Clay 35	6 b	Sand 5	Glavel	Moisture:		Per	meability: V Lew
				1 0001.		11	1 17
Soil Typ	e and Comm	nents: 31	ey be	emes li	ter w/de	<u>ølh</u>	clayey silf
					· •	,	

	City	04 0	aklan	<u>e(</u>	Project Nun	nber: :	53-1 <u>9</u>	47 -00
Site A	ddress:	Edge	uater	<u>.</u>	Geologist:	Sch	se (=	
F DP	8 -	4.0	f la	h du	olicule		-	
Sample	Location: on Method:	ydra	nt	· <u></u> :			Date: 9	24
Collecti	on Method:	hand	driven	150	σ φ		Time: 1	2:05
	Depth: 厶							
	Perce	ntages		Color: (A)	remish spen unt	1.1.1 10	esticity: Na	
Clay	Silt	Sand	Gravel	Moisture:	, , ,			v. low
35	60	5			strong he			
						•		·-·
USC CI				las L	- Ka Var		1, 57 57	
GW (GP GM	GC S	SW SP	SM S	SC (ML) CL	OL	МН СН	I OH I
-	Soil Strength	l:						
Fine- grained soils:	Very soft	Soft	:	Firm	Stiff	Ve	ery stiff	Hard
							•	
Coarse- grained soils:	Very loose	Loo	se .	Medium	dense Dense	V6	ery dense	
grained soils:	Very loose				rubble u			
grained soils:	pe and Comm							
grained soils: Soil Typ	pe and Comm							
grained soils: Soil Typ TDP- Sample	oe and Comn						J.	
grained soils: Soil Typ TDP- Sample	De and Communication: Location: on Method:						L Date:	
grained soils: Soil Typ TDP- Sample Collection	De and Communication: Location: on Method:	nents:					L Date:	
grained soils: Soil Typ TDP- Sample Collection Sample Fine- grained	Location: on Method:	nents:	layeys			n so	L Date:	Hard
grained soils: Soil Typ DP- Sample Collection Sample	Location: on Method: Depth:	nents:	layeys	ilf -	rubble ·	ve	Date:	Hard
grained soils: Soil Typ DP- Sample Collection Sample Fine- grained soils: Coarse- grained soils:	Location: on Method: Depth: Soil Strength Very soft Very loose	nents:	layeys	ilk –	rubble ·	ve	Date: Time:	Hard
grained soils: Soil Typ DP- Sample Collection Sample Fine- grained soils: Coarse- grained soils: USC CI	Location: on Method: Depth: Soil Strength Very soft Very loose	Soft	layeys	Firm Medium	rubble ·	ve	Date: Time:	
grained soils: Soil Typ DP- Sample Collection Sample Fine- grained soils: Coarse- grained soils: USC CI	Location: on Method: Depth: Soil Strength Very soft Very loose ass: GP GM	Soft Loo	layeys	Firm Medium of	Stiff dense Dense	Ve Ve	Date: Time:	
grained soils: Soil Typ DP- Sample Collection Sample Fine- grained soils: Coarse- grained soils: USC CI	Location: on Method: Depth: Soil Strength Very soft Very loose ass: GP GM	Soft	layeys	Firm Medium	Stiff dense Dense	Ve Ve	Date: Time: ry stiff ry dense	

Client	: City	. t C	Like	!.W.d	,(Project Nun	iber:	153-1047-004
Site A	ddress:	Ecige	wat	ev	-	Geologist:	Se	-hultz
FDP	- 1 -	7.5	!					
Sample	Location:	hydra	int					Date: 9/25
Collect	Location:	from	bac	42	~o€	-		Time: 9:30
Sample		7.5'						
·	Percei	ntages			Color: 90	rest .		Plasticity: Moderate
Clay	Silt	Sand	Grave	1	Moisture:			Permeability: V. Low
35	60	5		-		oderate q	as	
USC C	lass:				-			
GW	GP GM	GC	sw	SP	SM SC	ML/CL	. OI	MH CH OH Pt
	Soil Strength	:			· · · · · · · · · · · · · · · · · · ·			
Fine- grained soils:	Very soft	Sof	t		Firm	Stiff	(Very stiff Hard
Coarse- grained soils:	Very loose	Loc	ose		Medium de			Very dense
Soil Ty _l	-C	on A		enc	ilf -	hole: s	Dhe	gravel indayma
Sample	Location:	join						Date: 9 (25
Collecti	ion Method:		n i	4	o bac	Khoe		Time: 10:10
Sample	Depth: 5	5.01						
******	Soil Strength							
Fine- grained soils:	Very soft	Sof	t		Firm	Stiff		Very stiff Hard
Coarse- grained soils:	Very loose	Loc	ose		Medium de	nse Dense		Very dense
USC C	lass:							
GW_	GP GM	GC	sw	SP	SM SC	ML CL	OI	MH CH OH Pt_
	Percer	ntages			Color: Of	er mottled	blade	Plasticity: moderato
Clay	Silt	Sand	Grave		Moisture:	moist		Permeability: 1. 1000
35	60	5	1(<;	<u>5</u>)	Odor: 🤝	light he		
Soil Ty	pe and Comm	nents:	day	jey	Silf	- some	gra	vel -> black w/wh
F:\TEMPL	ATE\FORMS\FI	<i>c</i> ELD\sample	Proceeding.w	rpd	3 40 bc	he sto	cini	ing to in Zones

	: City	o f (Jakla	inal_	Project Num	iber:	153-126	17-004
Site A	ddress:	Ecige	wate	ev	Geologist:	Sch	hulte	
DP	- 3-5	.0 ′						
Sample	Location:	ioint	1				Date: 9	/25
Collecti	ion Method:	bach	choe				Time: 10:	00
	Depth:			-				
				1				4 4
Clay	Perce:	ntages Sand	Gravel	Color:	grey	I F	Plasticity: Vermeability: V	derate
35	60	5	Graver	I	Mary Mare	-	ermeabuity: V	900
								
USC C	lass: GP GM	GC	sw s	SP SM	sc (ML) CL	OL	мн сн	OH Pt
<u> </u>			SW I	5F 5M	SC TWIL T CL	- I UL	I Mti I Cti	TOH TH
Fine-	Soil Strength		C.				7	T7 1
rine- grained soils:	Very soft	Sof	rt	Firm	Stiff		ery stiff	Hard
Coarse-	Very loose	Lo	ose	Medium	dense Dense	7	ery dense	
grained soils:				***************************************	delise Delise			
soils: Soil Typ	pe and Comm	nents:		y silt				
soils: Soil Typ	pe and Comm	nents:	laze					25
soils: Soil Type TDP. Sample	pe and Comm	nents:	claye				Date: 9/	
soils: Soil Typ TDP- Sample Collecti	pe and Comm Location: ton Method:	nents:	claye				Date: 9/	25
soils: Soil Type TDP. Sample	pe and Comm Location: ton Method:	nents:	claye				Date: 9/	
Soil Type TDP- Sample Collecti Sample	pe and Comm Location: ion Method: Depth:	hydroback	claye ant hoe	y silt			Date: 9/	:25
soils: Soil Typ TDP- Sample Collecti	pe and Comm Location: ion Method: Depth:	hydroback	claye ant hoe				Date: 9/	
Soil Type Sample Collecti Sample Fine-grained	pe and Comm Location: ion Method: Depth:	hydroback	claye ant hoe	y silt	Stiff		Date: 9/	:25
Soil Type Sample Collecti Sample Fine-grained soils: Coarse-grained	Location: ion Method: Depth: Very soft Very loose	hydroback	claye ant hoe	y silf	Stiff		Date: 9/ Time: 10	:25
Soils: Soil Type TDP- Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	Location: ion Method: Depth: Very soft Very loose	hydroback	claye ant hoe fit	y silf	Stiff		Date: 9/ Time: 10	:25
Soils: Soil Type TDP- Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	pe and Comm Location: ion Method: Depth: Very soft Very loose lass: GP GM	hydroback Son	claye ant hoe fit	Firm Medium	Stiff dense Dense	OL	Date: 9/ Time: 10 Very stiff Very dense	Hard Pt
Soils: Soil Type TDP- Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	Location: Location: Location: Location: Location: Very soft Very soft Very loose Lass:	hydroback Son	claye ant hoe fit	Firm Medium SP SM Color: 6	Stiff dense Dense SC ML CL 3rey wattled b	OL PRIMA P	Date: 9/ Time: 10 Very stiff Very dense MH CH lasticity: M	Hard

F:\TEMPLATE\FORMS\FIELD\samplelogging.wpd (in clay math(x))

Client: C-L AAAAA	Project Number: 153-1247 - 004
Charles C+ Valetonics	
Site Address: 7101 Edgeweder	Geologist: Schultz
FDP-5-5.5'	
Sample Location: joint	Date: 9/25
Collection Method: bulchoe	Time: 11:15
Sample Depth: 5.5'	
Percentages Color:	grey-brown Plasticity: M. Low
Clay Silt Sand Gravel Moisture	
35 60 5 <5 Odor:	slight he
USC Class:	
GW GP GM GC SW SP SM	SC MIL CL OL MIH CH OH Pt
Soil Strength:	
Fine- Very soft Soft Firm grained soils:	Stiff Very stiff Hard
Coarse-grained soils: Very loose Loose Medium	n dense Dense Very dense
Soil Type and Comments: Clayer Sil	F
FDP- 6-5.0'	
Sample Location: joik	Date: 9/25
Collection Method: buckhee	Time: 11:30
Sample Depth: 5.0'	
Soil Strength:	
Fine- grained soils: Very soft Soft Firm	Stiff Very stiff Hard
Coarse-grained soils: Very loose Loose Medium	n dense Dense Very dense
USC Class:	
GW GP GM GC SW SP SM	SC ML CL OL MH CH OH Pt
Percentages Color:	grey mottled brommasticity: moderate
Clay Silt Sand Gravel Moisture	
	slight gas
Soil Type and Comments:	- 5 24.4 24.4 24.4 20.6
onight sill.	- Some growel + rock + wood of
•	•

Client: City of C:	Skland	Project Num	ber: : 5 3	- 1247 -	004
Site Address:		Geologist:	· · · · · ·		
7101 Edgen	cater	Occiogis	Schult	₹	
	_				
FDP-7 - 4.5	- <i>3</i>				
Sample Location: 10: nt			Dat	e: 9/25	•
Collection Method: back	hoe		Tin	ie: 11:45	
Sample Depth: 4.5					
Percentages	Color: 6	very mattled ha	Plasticit	w Made At	<u> </u>
Clay Silt Sand	Gravel Moisture:			vility: V. Lon	· ·
55 60 5		light he			
USC Class:		<u> </u>			
GW GP GM GC ST	V SP SM S	C ML CL	OL MH	СН ОН	Pt
Soil Strength:					•
Fine- grained Very soft Soft	Firm	Stiff	Very sti	ff Hard	
soils:					
Coarse Very loose Loose	Medium d	lense Dense	Very de	nse	ļ.
grained		201100	very de		
grained soils:	· · · · · · · · · · · · · · · · · · ·		<u>.</u>		
grained soils:	· · · · · · · · · · · · · · · · · · ·		<u>.</u>		el from I
grained soils: Soil Type and Comments:	· · · · · · · · · · · · · · · · · · ·		<u>.</u>		el from i
grained soils: Soil Type and Comments: $\mathcal{L}_{\mathbf{C}}$ FDP- \mathcal{E} - \mathcal{S} . \mathcal{O}	· · · · · · · · · · · · · · · · · · ·		ed amis	of grave	el from i
Soil Type and Comments: Jacobs Sample Location: Join 1	yey Silk —	decrease	<u>.</u>	8 grace	ربوعه
grained soils: Soil Type and Comments: $\mathcal{L}_{\mathbf{C}}$ FDP- \mathcal{E} - \mathcal{S} . \mathcal{O}	yey Silk —	decrease	ed amis	8 grace	ربوعه
Soil Type and Comments: Jacobs Sample Location: Join 1	yey Silk —	decrease	Dat	8 grace	ربوعه
Soil Type and Comments: Jacobs Sample Location: Joint Collection Method: driven	yey Silk —	decrease	Dat	8 grace	ربوعه
grained soils: Soil Type and Comments: TDP- B - 5.0 Sample Location: Collection Method: Sample Depth: 5.0'	yey Silk —	decrease	Dat	9 grace : 9/25 :: 12:44	ربوعه
Soil Type and Comments: Soil Type and Comments: Collection Method: Sample Depth: Soil Strength: Fine- grained soils: Coarse- Very loose Loose	yey Sill — into back he	clecrease	Dat Tim	# 47ace ####################################	ربوعه
Soil Type and Comments: Soil Type and Comments: Collection Method: Sample Depth: Soil Strength: Very soft Soft	yey Sill — into back he	clecrease	Dat Tim Very sti	# 47ace ####################################	ربوعه
Soil Type and Comments: Soil Type and Comments: Collection Method: Sample Depth: Soil Strength: Fine-grained soils: Coarse-grained Very loose Loose	yey Sill — into back he	clecrease	Dat Tim Very sti	# 47ace ####################################	ربوعه
Soil Type and Comments: Soil Type and Comments: CDP- 2 - 5.0 Sample Location: Collection Method: Sample Depth: 5.0 Soil Strength: Very soft soils: Coarse- grained soils: Very loose Loose grained soils:	yey Silt — into back he Firm Medium d	clecrease	Dat Tim Very sti	# 47 ave ### 12:44	ربوعه
Soil Type and Comments: Soil Type and Comments: Collection Method: Sample Depth: Soil Strength: Fine- grained soils: Coarse- grained soils: USC Class:	yey Silt — into back he Firm Medium d	Stiff dense Dense	Dat Tim Very de	e: 9/25 e: 12:46 Hard The CH OH W. Wodson	Pt_
Soil Type and Comments: CDP- 2 - 5.0 Sample Location: Collection Method: Sample Depth: 5.0 Soil Strength: Fine-grained soils: Coarse-grained soils: USC Class: GW GP GM GC SV Percentages Clay Silt Sand	yey Silt — into back he Firm Medium d	Stiff lense Dense	Dat Tim Very de	e: 9/25 e: 12:44	Pt_
Soil Type and Comments: Soil Type and Comments: Sample Location: Collection Method: Sample Depth: Soil Strength: Fine- grained soils: Very soft Very soft Soft Coarse- grained soils: USC Class: GW GP GM GC SV Percentages	yey Silk — Firm Medium d V SP SM S Color: 6 6 Gravel Moisture:	Stiff Stiff Sc ML CL	Dat Tim Very de	e: 9/25 e: 12:46 Hard The CH OH W. Wodson	Pt_
Soil Type and Comments: CDP-B-5.0 Sample Location: Collection Method: Sample Depth: 5.0 Soil Strength: Fine-grained soils: Very soft Soft Coarse-grained soils: USC Class: GW GP GM GC SV Percentages Clay Silt Sand ACO 40	yey Silk — Firm Medium d V SP SM S Color: 6 a Gravel Moisture:	Stiff Stiff Score Martheology School Mary School Mary	Dat Tim Very de	e: 9/25 e: 12:46 Hard CH OH W: Modernt ility: V. Lon	Pt

Client: City of Cakland	Project Number: 153-1247-004
Site Address: 7101 Edgewater	Geologist: Schultz
FDP- 9-4.6'	
Sample Location:	Date: 9/25
Collection Method: backhoe - alvi	ve Time:13115
Sample Depth: 4,0/	
Percentages Color:	darkgazy Plasticity: M. Low
Clay Silt Sand Gravel Moistu	
35 60 5 — Odor:	strong he
USC Class:	
GW GP GM GC SW SP SM	SC ML CL OL MH CH OH Pt
Soil Strength:	
Fine- grained Soils: Very soft Soft Firm	Stiff Very stiff Hard
Coarse- grained soils: Very loose Loose Mediu	ım dense Dense Very dense
Soil Type and Comments: Clause Cil	' +
charge fir	7
FDP- 10 - 4.5	· · · · · · · · · · · · · · · · · · ·
FDP- 10 - 4.5 Sample Location: hydrauf	Date: 95 25
Sample Location: hydrant Collection Method: backbac - drive	Date: 95 25
Sample Location: hydrant Collection Method: backhae - drive	Date: 95 25
Sample Location: hydrant Collection Method: backhae - drive	Date: 95 25
Sample Location: hydrand Collection Method: backhee — drive Sample Depth: 4.5' Soil Strength: Fine- Very soft Soft Firm	Date: 95 25
Sample Location: hydrant Collection Method: backhae - alrive Sample Depth: 4.5' Soil Strength: Fine-grained soils: Coarse-grained Very loose Loose Medium	Date: 9/25 Chinto bucket Soil Time: 13:45
Sample Location: hydrant Collection Method: backhee - drive Sample Depth: 4.5' Soil Strength: Fine-grained soils: Coarse-grained soils:	Date: 95 25 Final bucket soil Time: 13:45 Very stiff Hard
Sample Location: hydrauf Collection Method: backhae — alrive Sample Depth: 4.5' Soil Strength: Fine-grained soils: Coarse-grained soils: USC Class:	Date: 95 25 Time: 13:45 Very stiff Hard Under Dense Very dense
Sample Location: hydrant Collection Method: backlese - drive Sample Depth: 4.5' Soil Strength: Fine-grained soils: Coarse-grained soils: USC Class: GW GP GM GC SW SP SM	Date: 9525 Fint bucket soil Time: 13:45 Very stiff Hard Im dense Dense Very dense SC ML Et OL MH CH OH Pt
Sample Location: hydrand Collection Method: backbae - drive Sample Depth: 4.5' Soil Strength: Fine- grained soils: Coarse- grained soils: Coarse- grained soils: USC Class: GW GP GM GC SW SP SM Percentages Color:	Date: 95 25 Time: 13:45 Stiff Very stiff Hard Man dense Dense Very dense SC ML Et OL MH CH OH Pt Plasticity:
Sample Location: hydrand Collection Method: backbee — alrive Sample Depth: 4.5' Soil Strength: Fine-grained soils: Coarse-grained soils: USC Class: GW GP GM GC SW SP SM Percentages Color: Clay Silt Sand Gravel Moistur	Date: 95 25 Time: 13:45 Stiff Very stiff Hard Man dense Dense Very dense SC ML Et OL MH CH OH Pt Plasticity:
Sample Location: hydrand Collection Method: backbee — alrive Sample Depth: 4.5 Soil Strength: Fine-grained soils: Coarse-grained soils: USC Class: GW GP GM GC SW SP SM Percentages Color:	Date: 95 25 Time: 13:45 Stiff Very stiff Hard Man dense Dense Very dense SC ML Et OL MH CH OH Pt Plasticity:
Sample Location: hydrand Collection Method: backbac — drive Sample Depth: 4.5 Soil Strength: Fine-grained soils: Coarse-grained soils: USC Class: GW GP GM GC SW SP SM Percentages Color: Clay Silt Sand Gravel Moistur	Date: 95 25 Time: 13:45 Stiff Very stiff Hard Man dense Dense Very dense SC ML Et OL MH CH OH Pt Plasticity:

	: City	.9 + 1	<u> </u>	V31	Project	number.	155	1547	- CC4
Site A	ddress: 7101	Edge	ewate	i/	Geolog	ist: S	chulte		
F DP	-11-4	.51							
	Location:		·				Date:	9/25	
Collecti	on Method:	dri	ren —	bruckl	نو		Time	14:00	>
Sample	Depth: 4	.51							
·	Perce	ntages		Color:	grey mett	Hed 200	Plasticity:	made	ste
Clay	Silt	Sand	Gravel	Moisture	U / 2.	P		ity: V.L	
35	60	5		Odor:	podera	tohe			
USC CI	ass:								
	GP GM	GC	sw si	P SM	SC ML	CLC	L MH	CH OF	I Pt
	Soil Strength	•							
Fine- grained soils:	Very soft		oft	Firm	Stiff	7	Very stiff	Hard	
Coarse- grained soils:	Very loose	Lo	oose	Medium	dense Den	se	Very dens	se	-
Soil Tyr	e and Comm	nents:	1	00		00	,		00
Soil Typ	oe and Comm	nents:	layey	silf	- gr	ravell	y are	a asw	ell-
				silf	- gr	ravell	y are	a asw	ell-
DP-	12-	4.5	, <u> </u>	silf	- g:	ravell	<i></i>	a asw	
TDP-		1.5 join	, <u> </u>			ravell	Date:		
TDP-	Location:	1.5 join	, <u> </u>	silf		ravell	Date:	9/25	
Sample Collection	Location: on Method: Depth:	join drii	, <u> </u>			ravell	Date:	9/25	
Sample Collection	Location: on Method: Depth:	join drii 1.5'	t ven-	backh	e		Date:	9/25 14:30	
Sample Collection Sample Fine- grained	Location: on Method: Depth:	join drii	t ven-				Date:	9/25 14:30	
Sample Collection Sample	Location: on Method: Depth:	join drii 1.5'	t ven-	backh	Stiff		Date:	9/25 14:30 Hard	
Sample Collectic Sample Fine- grained soils: Coarse- grained soils:	Location: on Method: Depth: 4 Soil Strength Very soft Very loose	join drii 1.5'	t veer-1	Sack L	Stiff		Date: Time:	9/25 14:30 Hard	
Sample Collection Sample Fine- grained soils: Coarse- grained soils:	Location: on Method: Depth: 4 Soil Strength Very soft Very loose	join drii 1.5'	t veer-1	Firm Medium	Stiff		Date: Time: Very stiff Very dens	9/25 14:30 Hard	
Sample Collection Sample Fine- grained soils: Coarse- grained soils:	Location: on Method: Depth: 4 Soil Strength Very soft Very loose ass:	Join dri	over - 1	Firm Medium	Stiff I dense Dens	se (Date: Time: Very stiff Very deits	9/25 14:30 Hard	I Pt_
Sample Collection Sample Fine- grained soils: Coarse- grained soils:	Location: on Method: Depth: 4 Soil Strength Very soft Very loose ass: GP GM	Join dri	over - 1	Firm Medium SM Color:	Stiff I dense Dens	se (Date: Time: Very stiff Very deits	9/25 14:30 Hard	I Pt_

Client: City of Oakland	Project Number: 153-1247-004
Site Address:	Geologist:
7101 Edgewater	Geologist: Schultz
FDP-13-6.0'	
Sample Location: hydrant Collection Method: driken - backline	Date: 9/25
Collection Method: driken - bucklise	Time: 15;00
Sample Depth: 6.0'	
Parcentages Colon of	with a face of Distriction of the state of t
	dany Permeability: V. Low
10 30 30 30 Odor: M	
USC Class:	
GW GP GM GC SW SP SM SC	ML CL OL MH CH OH Pt
Soil Strength:	
Fine-grained soils:	Stiff Very stiff Hard
Coarse-grained soils: Very loose Loose Medium de	nse Dense Very dense
Soil Type and Comments: Silty Sand w/	gravel gravel-sand-silf
FDP- 14-5.5'	moturo
Sample Location: joint	Date: 9/25
Collection Method: backhoe - drive	Time: 15:15
Sample Depth: 5,5'	
Soil Strength:	
Fine-grained soils:	Stiff Very stiff Hard
Coarse- grained soils: Very loose Loose Medium de	nse Dense Very dense
USC Class:	
GW GP GM GC SW SP SM SC	ML CL OL MH CH OH Pt
Percentages Color: VI	jush - brown Plasticity: moderate
Clay Silt Sand Gravel Moisture:	dang Permeability: V. low
10 30 30 30 Odor: M	oderate HC

 $F: \verb|TEMPLATE| FORMS \verb|FIELD| | sample logging.wpd|$

Soil Type and Comments:

	: (14,	<u> </u>	aklan	<i>a</i> (Project Number:	153-1547-00
Site A	ddress:	Edgei	cater	-	Geologist:	chultz
FDP	- 15 -	5.0′				
Sample	Location:	ount	<u>L</u>			Date: 1/25
Collecti	on Method:	dri	en -	bruckl	roe	Time: 15:25
Sample	Depth: 5	.01		-		·
	Perce	ntages		Color &	regist brown	Plasticity: m. low
Clay	Silt	Sand	Gravel	Moisture:	of smo	Permeability: V. Loui
lo	30	30	30	-	nod. he	
TIEC C	lange					
GW G	GP GM	GC S	W SP	SM SO	ML CL C	OL MH CH OH Pt
<u></u>			11 [131		<u> </u>	, and the total little
Fine-	Soil Strength					T
grained soils:	Very soft	Soft		Firm	Stiff	Very stiff Hard
Coarse- grained soils:	Very loose	Loos	se	Medium de	ense Dense	Very dense
aum.						
	oe and Comn	nents:		1	1 . 00 .	
	oe and Comp	nents: C	newe	l-san	d-Silf	U/ clay
Soil Ty			newe	l-san	d-silf	V/ clay
Soil Typ	- 16-	5.0′		l-san	d-Silf	, , , , , , , , , , , , , , , , , , , ,
Soil Typ FDP- Sample	Location:	5.0' hydri	int			Date: 9/25
FDP- Sample Collecti	Location:	5.0' hydri	int	l-san		, , , , , , , , , , , , , , , , , , , ,
Soil Typ FDP- Sample	Location:	5.0' hydri	int			Date: 9/25
FDP- Sample Collecti	Location: on Method: Depth: 5	hydri drii	int			Date: 9/25
FDP- Sample Collecti	Location:	hydri drii	rut ven -			Date: 9/25
FIDP- Sample Collecti Sample Fine- grained	Location: on Method: Depth: 5	hydrodring.	rut ver -	- bruck	Stiff	Date: 9/25 Time: 15:35
FDP- Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	Location: on Method: Depth: 5 Soil Strength Very soft Very loose	hydrodring.	rut ver -	- bruck Firm	Stiff	Date: 9/25 Time: 15:35 Very stiff Hard
FIDP- Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	Location: on Method: Depth: Soil Strength Very soft Very loose	hydro drin Soft	rut ven -	Firm Medium de	Stiff ense Dense	Date: 9/25 Time: 15:35 Very stiff Hard Very dense
FIDP- Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	Location: on Method: Depth: 5 Soil Strength Very soft Very loose	hydro drin Soft	rut ver -	- bruck Firm	Stiff ense Dense	Date: 9/25 Time: 15:35 Very stiff Hard
FIDP- Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	Location: on Method: Depth: 5 Soil Strength Very soft Very loose ass: GP GM	hydro drin Soft	rut ven -	Firm Medium de	Stiff ense Dense	Date: 9/25 Time: /5:35 Very stiff Hard Very dense
FIDP- Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	Location: on Method: Depth: 5 Soil Strength Very soft Very loose ass: GP GM	hydro driu .o' .os Loos	rut ven -	Firm Medium de	Stiff ense Dense	Date: 9/25 Time: 15:35 Very stiff Hard Very dense

	CILA	<u>04 U</u>	aklan	<u>ą.(</u>	Project 1	Number	:	<u> </u>	124	<u> ने -</u>	CC
Site A	ddress:	Edge	cater	-	Geologi	st:	Sch	<u>. († =</u>	·		
FDP-	17	-4,5	-1								
Sample	Location:	join	_					Date:	91	125	
Collecti	on Method:	buck	hoe -	driver	_			Time:	15	:45	
Sample	Depth: ረ	t.51									
· · · ·	Perce	ntages		Color: 6	own his	tledon	Pla	sticity:	ma	dera	E.
Clay	Silt	Sand	Gravel	Moisture:	Jan		Per	meabili	ty: <i>V</i>	lo	w
35	60	5		Odor: V	nod. his				-		

USC Cl	<u> </u>	700 10				TT			1	T	Τ_
GW (GP GM	GC S	SW SP	SM S		CL	OL	MH	CH	OH	P
	Soil Strength	l:									
Fine- grained soils:	Very soft	Soft		Firm	Stiff)	Vei	ry stiff		Hard	
Coarse- grained soils:	Very loose	Loos	se	Medium de	ense Dens	e	Vei	ry dense	e		
grained soils:		· · · · · · · · · · · · · · · · · · ·			ense Dens	e	Vei	ry dense	e 		
grained soils:	Very loose	· · · · · · · · · · · · · · · · · · ·		Medium de	ense Dens	e	Ver	ry dense	e 		
grained soils:	e and Comn	· · · · · · · · · · · · · · · · · · ·			ense Dens	e	Ver	ry dense	e		
grained soils: Soil Typ	e and Comn	· · · · · · · · · · · · · · · · · · ·			ense Dens	e	Ver	Date:	e	1 2 2 2	
grained soils: Soil Typ FDP- Sample	e and Comn	· · · · · · · · · · · · · · · · · · ·			ense Dens	e	Ver				
grained soils: Soil Typ FDP- Sample	be and Comn Location: on Method:	· · · · · · · · · · · · · · · · · · ·			ense Dens	e	Ver	Date:			
grained soils: Soil Typ FDP- Sample Collection	Location: on Method:	nents:			ense Dens	e	Ver	Date:	e		
grained soils: Soil Typ FDP- Sample Collection Sample Fine- grained	be and Comn Location: on Method:	nents:	leyey		Stiff	e		Date:		Hard	
grained soils: Soil Typ FDP- Sample Collection Sample Fine-	Location: on Method: Depth:	nents:	leyey	Silf	Stiff		Ver	Date:		Hard	
grained soils: Soil Typ FDP- Sample Collectic Sample Fine- grained soils: Coarse- grained soils:	Location: On Method: Depth: Soil Strength Very soft Very loose	nents:	leyey	Silf	Stiff		Ver	Date: Time:		Hard	
grained soils: Soil Typ FDP- Sample Collection Sample Sample Sample Collection Coarse-grained soils: USC Clause-grained soils:	Location: on Method: Depth: Soil Strength Very soft Very loose	Soft	Cenyly_	Silf Firm Medium de	Stiff	e	Ver	Date: Time:			
grained soils: Soil Typ FDP- Sample Collection Sample Sample Sample Collection Coarse-grained soils: USC Clause-grained soils:	Location: On Method: Depth: Soil Strength Very soft Very loose	Soft	leyey	Silf	Stiff	e	Ver	Date: Time:		Hard	T P
grained soils: Soil Typ FDP- Sample Collection Sample Sample Sample Collection Coarse-grained soils: USC Clause-grained soils:	Location: On Method: Depth: Soil Strength Very soft Very loose ass: GP GM	Soft Loos	Cenyly_	Firm Medium de	Stiff	e	Ver	Date: Time:			P
grained soils: Soil Typ FIDP- Sample Collectic Sample Fine- grained soils: Coarse- grained soils: USC Cla GW (Comparison of the comparison of the com	Location: On Method: Depth: Soil Strength Very soft Very loose ass: GP GM Perce	Soft Loos	Seyey SP	Firm Medium de	Stiff	e	Ver Ver OL Plas	Date: Time: ry stiff ry dense MH	СН		Pi
grained soils: Soil Typ FDP- Sample Collection Sample Sample Sample Collection Coarse-grained soils: USC Clause-grained soils:	Location: On Method: Depth: Soil Strength Very soft Very loose ass: GP GM	Soft Loos	Cenyly_	Firm Medium de	Stiff	e	Ver Ver OL Plas	Date: Time:	СН		Pt

	: City	<u> </u>	aklan	e(Project Numbe	r: 153	- 1247 -	004
Site A	ddress:	Edgel	catev	-	Geologist:	Schult	E	-
	- 19 -				heele value	e tes u	ed - briting	ally
Sample	Location;	end o	f trenc	L TIX	have a	Date	e: 10 6	
	ion Method:	from	back	hoe	g.	Tim	e: 9:30	
Sample	Depth:	3.5						
	Perce	ntages		Color: a	ak grey	Plasticit	y: m. ling	4
Clay	Silt	Sand	Gravel	Moisture:	elemp	Permeab		w
30	60	5	5	Odor: ८४	rong he		· · · · · · · · · · · · · · · · · · ·	
USC CI	loect						*··	
	GP GM	GC S	SW SP	SM SO	C MIL) CL	OL MH	сн он	Pt
	·····		,			1		4.=.
Fine- grained	Soil Strength Very soft	Soft		Firm	Stiff	Very sti	ff Hard	
soils: Coarse- grained	Very loose	Loos	se	Medium de	ense Dense	Very der	nse	
soils:	1							· · ·
	pe and Comm	nents:						
Soil Typ	20 -	8 .5′						
Soil Typ	20 -	8 .5′	·	3 end	(Joint	Date	:: 10/6	
Soil Typ		B.5'	← ~ ?	S end	(joint	Date		-
Soil Typ	20 - Location:	B.5'	← ~ ?			/ 		
Soil Type FDP- Sample Collection	20 - Location:	8.5' corne bach	← ~ ?			/ 		
Soil Type FDP- Sample Collection	20 - Location: on Method: Depth:	8.5' corne bach	r= ? hoe -			/ 	e: 9:35	
Soil Type FDP Sample Collection Sample Fine-grained	Location: on Method: Depth:	B.5' corne bach 3.5'	hoe -	- dive	Stiff	Tim	e: 9:35	
Soil Type FDP- Sample Collection Sample Fine- grained soils: Coarse- grained soils:	Location: on Method: Depth: Soil Strength Very soft Very loose	B.5' corne bach 3.5'	hoe -	Firm	Stiff	Very sti	e: 9:35	
Soil Typ FIDP Sample Collection Sample Fine- grained soils: Coarse- grained soils: USC CI	Location: on Method: Depth: Soil Strength Very soft Very loose	B.5' corna buch 3.5' Soft	hoe -	Firm	Stiff ense Dense	Very sti	e: 9:35	Pt
Soil Typ CDP Sample Collection Sample Fine- grained soils: Coarse- grained soils: USC CI	Location: on Method: Depth: Soil Strength Very soft Very loose lass: GP GM	B.5' corne bach 3.5' Soft	hoe -	Firm Medium de	Stiff ense Dense	Very stil	e: 9:35	Pt_
Soil Type FIDP Sample Collection Sample Fine- grained soils: Coarse- grained soils: USC CI GW	Location: on Method: Depth: Soil Strength Very soft Very loose	B.5' corne bach 3.5' Soft	hoe -	Firm Medium de	Stiff ense Dense	Very still Very der OL MH Plasticity	e: 9:35 ff Hard ch OH y: M. hu	Pt Pt
Soil Typ FIDP Sample Collection Sample Fine- grained soils: Coarse- grained soils: USC CI	Location: on Method: Depth: Soil Strength Very soft Very loose Lass: GP GM Percer	B.5' corna bach 3.5' Soft Loos	hoe -	Firm Medium de SM Se Color: ele Moisture:	Stiff ense Dense	Very still Very der OL MH Plasticity	e: 9:35	Pt Pt

Client	: City	<u> </u>	12.6	d fr. o	(<u> </u>	roject Nu	ımber:	15	3-	124	} -	064
Site A	ddress: 7101	Eclae	سما	rev			Je ologist:	S	- أسدا	Ìξ			
DP.	- 21 - 4	.51											
Sample	Location:	brioc							D	ate:]	9/6		,
Collecti	on Method:	Aniver	٠ نه	to	buel	alex	buch	et	I	ime:	9:4	18	
	Depth: L							•					•
	Perce	ntages		l	Color:	1.	k gree		Plastic	rits:	m. l	المعدد	
Clay	Silt	Sand	Grav	/el	Moistur	_	and)			/: V.	3	س
30	60	5	5		Odor:		ng he	_					
USC CI	255.		•				<u> </u>						
	GP GM	GC	sw	SP	SM	sc	Mi) c	I O	L M	н	CH	ОН	Pt
	Soil Strength												
	Very soft	Sof			Firm		Stiff)	Very:	stiff	I	Hard	
grained	very sort	301											
grained soils: Coarse- grained	Very loose				Mediu	m dense		· ·-	Very	lense			
grained soils: Coarse- grained soils:		Loc	ose	4	Mediu Lilt	m dense			Very	dense			
grained soils: Coarse-grained soils: Soil Typ	Very loose	Loc	laze	<u>'</u>		m dense			Very	dense			
grained soils: Coarse-grained soils: Soil Typ	Very loose	Locanents:	laze	<u>'</u> 5		m dense				dense	10/.	6	
grained soils: Coarse-grained soils: Soil Typ	Very loose oe and Comm	Local	laze		Cilt		Dense		D			6	
grained soils: Coarse-grained soils: Soil Typ TDP-Sample Collecti	Very loose oe and Communication: 2 Location: on Method:	Local	laze		Cilt		Dense		D	ate:		6	
grained soils: Coarse-grained soils: Soil Typ CDP-Sample Collecti	Very loose oe and Communication: 22 Location: on Method: Depth:	Local	laze		Cilt		Dense		D	ate:		6_55	
grained soils: Coarse-grained soils: Soil Typ CDP- Sample Collecti Sample	Very loose oe and Communication: 2 Location: on Method:	Local	lage		Cilt		Dense		D	ate:	9\$9	6 55	
grained soils: Coarse-grained soils: Soil Typ CDP-Sample Collecti Sample Fine-grained soils: Coarse-grained	Very loose De and Comn 22 Location: On Method: Depth: Soil Strength	Local	laye		Silt	khoe	Dense		D	ate:	9\$9	55	
grained soils: Coarse-grained soils: Soil Typ CDP- Sample Collecti Sample Fine-grained soils: Coarse-grained soils:	Very loose De and Communication: On Method: Depth: Soil Strength Very soft Very loose	Local	laye		Silt	khoe	Dense		D T	ate:	9\$9	55	
grained soils: Coarse-grained soils: Soil Typ TDP- Sample Collecti Sample Fine-grained soils: Coarse-grained soils: USC Cl	Very loose De and Comm 22 Location: On Method: Depth: Soil Strength Very soft Very loose ass:	Local	laye	uts	Gilt back Firm Medium	k hød	Stiff Dense		Very e	ate: me:	9 \$4	Fard	Pr
grained soils: Coarse-grained soils: Soil Typ TDP-Sample Collecti Sample Fine-grained soils: Coarse-grained soils: USC Cl	Very loose De and Comm 22 Location: On Method: Depth: Soil Strength Very soft Very loose ass: GP GM	Local	laye		Firm Medium	m dense	Stiff Dense		Very (ate: me: stiff lense	P 1	Fard OH	Pt
grained soils: Coarse-grained soils: Soil Typ TDP- Sample Collecti Sample Collecti Sample Coarse-grained soils: Coarse-grained soils: USC Cl GW	Very loose 2 Z Location: on Method: Depth: Soil Strength Very soft Very loose ass: GP GM Perce	Local	laye t t	sp	Firm Medium	k hoem dense	Stiff Dense		Very (ate: me: stiff lense	CH CH	Fard OH	Pt
Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	Very loose De and Comm 22 Location: On Method: Depth: Soil Strength Very soft Very loose ass: GP GM	Local	laye	sp	Firm Medium	m dense	Stiff Dense		Very (ate: me: stiff lense	CH CH	Fard OH	Pt

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Client	: City	(h) # 30	aklan	e("	Project Nun	aber:	153-1247-004	
Site A	ddress:	Edge	cater		Geologist:	Scl	lultz	
FDP	23-	-4.2'			•		•	
Sample	Location:	road	way (hear 1	FBP-1):	Toint	Date: 10/6	
Collecti	ion Method:	from	backh	e_			Time: /6: ZD	
Sample	Depth: 4	21						
				Ta: 24:	CANDIA A . T.	alorstell		1
Clay	Silt	ntages Sand	Gravel	Color:9/es	1300	P P		
30	50	20		Odor:	damp	- P	ermeability: V. Low	
]
GW G	GP GM	GC S	W SP	SM SC	(ML) CL	OL	MH CH OH Pt	
			j UL	1 0001 1 00	7 100	1 05	, mi jon jon in	1
Fine-	Soil Strength Very soft	Soft		Firm	Stiff		Very stiff Hard	
grained soils:			· · · · · · · · · · · · · · · · · · ·					
Coarse-	1	_						
grained soils:	Very loose	Loos	se .	Medium de	ense Dense		ery dense	
grained soils:		· .	· ·			·		
grained soils:		· .	· ·	Medium de		·		n
grained soils:	pe and Comm	nents: Blu	· ·			·		n
grained soils: Soil Typ	pe and Comm	nents: 6kg	· ·			·	- strong brown le vere stiff te h le taken	n er
grained soils: Soil Typ FDP- Sample	pe and Comm	nents: 6kg	ayey S		Some ?	·	- strong brown le vere stiff to h le taken	n
grained soils: Soil Typ FDP- Sample	ce and Comm 24 — Location: on Method:	nents: Glu 5,0'	ayey S	il w/	Some ?	·	- strong brown le vere stiff teh le taken Date: 10/6	er.
grained soils: Soil Typ FDP- Sample Collection	24 — Location: on Method: Depth: 5	sents: 6le 5,0' hydr driver	ayey S	il w/	Some ?	·	- strong brown le vere stiff teh le taken Date: 10/6	n
grained soils: Soil Typ FDP- Sample Collecti Sample Fine- grained	ce and Comm 24 — Location: on Method:	sents: 6le 5,0' hydr driver	ayey S	il w/	Some ?	samp f	- strong brown le vere stiff teh le taken Date: 10/6	en en
grained soils: Soil Typ FDP- Sample Collection Sample Fine- grained soils: Coarse- grained	24 — Location: on Method: Depth: 5	byde Soft	ant	ilh w/ Jhy 5 backh	Some ?	samp L	- strong brown le vere votif teh le taken Date: 10/6 Time: 11:00 am	ar
grained soils: Soil Typ FDP- Sample Collectic Sample Fine- grained soils: Coarse- grained soils:	24 — Location: on Method: Depth: 5 Soil Strength Very soft Very loose	byde Soft	ant	ilh w/ Juy	Some ?	samp L	- strong brown le vere stiff te h le taken Date: 10/6 Time: 11:00 am	ar
grained soils: Soil Typ FDP- Sample Collecti Sample Fine- grained soils: Coarse- grained soils: USC Cl	24 — Location: on Method: Depth: 5 Soil Strength Very Soft Very Ioose ass:	byde Soft Loos	ant int	ilh w/ jly jly Firm Medium de	Some Some Some Stiff	Sand Samp V	- strong brown le vere vstiff teh le taken Date: 10/6 Time: 11:00 am Very stiff Hard	en en
grained soils: Soil Typ FDP- Sample Collecti Sample Fine- grained soils: Coarse- grained soils: USC Cl	24 — Location: on Method: Depth: 5 Soil Strength Very soft Very loose	byde Soft Loos	ant	ilh w/ Juy	Some Some Some Stiff	samp L	- strong brown le vere stiff te h le taken Date: 10/6 Time: 11:00 am	Ju Start
grained soils: Soil Typ FDP- Sample Collection Sample Fine- grained soils: Coarse- grained soils: USC Cl GW	e and Common 24— Location: on Method: Depth: 5 Soil Strength Very Soft Very Ioose ass: GP GM Percer	Soft Loos GC S Satages	ant int	Firm Medium de SM SC Color: ayle	Some Some Some Stiff Stiff The Dense	Jand Samp V V	- strong brown le vere vetiff teh le taken Date: 10/6 Time: 11:00 am Very stiff Hard Very dense MH CH OH Pt Lasticity: M. high	en est
grained soils: Soil Typ FDP- Sample Collection Sample Fine- grained soils: Coarse- grained soils: USC Cl GW C	De and Comm 24 — Location: on Method: Depth: 5 Soil Strength Very soft Very loose ass: GP GM Percer Siit	Soft Loos Acc S Sand	ant int	Firm Medium de SM SC Color: a/re Moisture:	Some Some Some Stiff Stiff The Dense	Jand Samp V V	- strong brown le vere stiff te he laken Date: 10/6 Time: 11:00 am Tery stiff Hard Tery dense	e di
grained soils: Soil Typ FDP- Sample Collection Sample Fine- grained soils: Coarse- grained soils: USC Cl GW	e and Common 24— Location: on Method: Depth: 5 Soil Strength Very Soft Very Ioose ass: GP GM Percer	Soft Loos GC S Satages	ant int	Firm Medium de SM SC Color: ayle	Some Some Some Stiff Stiff The Dense	Jand Samp V V	- strong brown le vere vetiff teh le taken Date: 10/6 Time: 11:00 am Very stiff Hard Very dense MH CH OH Pt Lasticity: M. high	en en

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Client:	City .	<u>. f</u> O	welch	gĺ	Project	Number:	153-	1247 - 004
Site Ac	Idress:	Edgeu	cater	-	Geolog	• ,	hults	
FDP-	25-	5.0'						
Sample :	Location:	Soint					Date:	10/6
Collection	on Method:	driver	into!	rackhoe	-		Time:	11:30
Sample	Depth: 5.	01						
	Percer	ntages		Color: da	itgreen	ish grey	Plasticity:	m. high
Clay	Silt	Sand	Gravel	Moisture:	,			". V. low
25	55	10	10	Odor: SU	told b	رو		
USC Cla	nss:				<u></u>			
T-	P GM	GC S	W SP	SM SC	MIL	CL OL	МН	CH OH Pt
	Soil Strength:							
Fine- grained soils:	Very soft	Soft		Firm	Stiff		Very stiff	Hard
Coarse- grained soils:	Very loose	Loos	e 	Medium der	nse Den	se	Very dense	
Soil Typ	e and Comm	ents:	ayey	Sill w	/San	d tor	avel	
FDP-	26-			!		4		
Sample I	ocation:	joint					Date:	10/6
Collection	n Method:	drive	n int	to buck	hoe		Time:	2:15
	Depth: 5.							
	Soil Strength:				· · · · · · · · · · · · · · · · · · ·			
Fine- grained soils:	Very soft	Soft		Firm	Stiff	· (Very stiff	Hard
Coarse- grained soils:	Very loose	Loose	•	Medium der	ise Den:	<u> </u>	Very dense	·
USC Cla	SS:			·	·	· .		
1	P GM	GC ST	W SP	SM SC	M	CL OL	МН	СН ОН Рt
	Percen	tages		Color: 970	erish	green 1	Plasticity: 1	m. high
Clay	Silt	Sand	Gravel	Moisture:	glany	11 / 1	Permeability	· V· low
25	55	10	10	Odor: S	rong '	hc		
Soil Type	and Comme	ents: L	ayen (ilt w/	Sana	(+ gra	vel	
			<u>U</u>			U		

CHOME	: (: -	e 4 (Jak (il, fr. c	<u> </u>		Project N	umb	er: ;	53-1	247	- 0	24
Site A	ddress:	Edge	wat	ev	-	;	Geologist	**	Sch	ultz			
DP	Z 4	-5.	5′								_		
Sample	Location:	isin	L							Date:	10/	6	
Collecti	ion Method:								-	Time: t.	3:00	(pw	()
Sample	Depth:											ī	·
								ام	Ded-	Lyrey			
Clay	Silt	ntages Sand	Grave		1		Kprown !	<u>~~</u>		asticity: ′ rmeability	mn	- 0 -	17
35	60	5	Chavi		Moiste Odor:	ire:	pun A	nole		тпеавшту	. V · .	こもし	
								'n	L				
USC CI GW	GP GM	GC	sw	SP	SM	sc	<u>(AL</u>)	CL .	OL	MH	СН	ОН	Pt
<u> </u>			011		<u> </u>	100				14117		<u> </u>	
Fine- grained soils:	Soil Strength Very soft	Sc	ft		Firm	·	Stiff		Ve	ery stiff	Ha	ırd	
Coarse- grained soils:	Very loose	Lo	oose		Mediu	ım den	se Dense		Ve	ery dense			
Coarse- grained soils:	Very loose			<u> </u>	1.	ım der	se Dense		Ve				
Coarse- grained soils:			lager	y Si	14					ery dense			
Coarse- grained soils: Soil Ty	pe and Comm	nents:	lager	Si	14			· ca			oP-	29	-5.
Coarse-grained soils: Soil Typ	pe and Comm	nents:	lager	Si	14		dupli	· ea					-5.
Coarse-grained soils: Soil Type Sample	pe and Comm	nents: c	lagen	ud	lf Lie	es	dupli	ea		FI		6	-5.
Coarse- grained soils: Soil Typ TDP Sample Collecti	pe and Comm 28 Location: on Method:	nents: c 5.0'	lagen	ud	lf Lie	es	dupli	ea		Date:	10/	6	-5.
Coarse- grained soils: Soil Typ TDP Sample Collecti	pe and Comm 28 - Location: on Method: Depth:	10 to	lagen	ud	lf Lie	es	dupli	· ca		Date:	10/	6	-5.
Coarse- grained soils: Soil Typ Sample Collecti Sample	pe and Communication: Location: on Method: Depth:	1ents: c 5.0'	lagen	ud	It free	es	dupli Loc	ea	te	Date: Time:	10/-	5	-5.
Coarse- grained soils: Soil Typ TDP Sample Collecti	pe and Comm 28 - Location: on Method: Depth:	10 to	lagen	ud	lf Lie	es	dupli	e a	te	Date:	10/	5	-5.
Coarse- grained soils: Soil Typ Sample Collecti Sample	pe and Communication: Location: on Method: Depth:	driv	lagen	ud	It free	ed sch	dupli Loc Stiff		E (Ve	Date: Time:	10/-	5	-5.
Coarse-grained soils: Soil Typ FDP Sample Collecti Sample Fine-grained soils: Coarse-grained soils:	Depth: Soil Strength Very loose	driv	lagen	ud	to b	ed sch	dupli Loc Stiff	· ·	E (Ve	Date: Time:	10/-	5	-5.
Coarse-grained soils: Soil Typ Collecti Sample Collecti Sample Collecti Sample Collecti Coarse-grained soils: USC Cl	Depth: Soil Strength Very loose	driv	lagen	ud	to b	ed sch	dupli Loc Stiff	CL	E (Ve	Date: Time: ery stiff	10 (- 13:11	e S	5 ·
Coarse-grained soils: Soil Typ Collecti Sample Collecti Sample Collecti Sample Collecti Coarse-grained soils: USC Cl	Depth: Soil Strength Very loose	drive So	ft ose	in	Firm Mediu	od m den	dupli Loc Stiff	CL	Ve	Date: Time: ery stiff	10 (- 13:1	e on	
Coarse-grained soils: Soil Typ Collecti Sample Collecti Sample Collecti Sample Collecti Coarse-grained soils: USC Cl	Depth: Soil Strength Very soft Very loose ass: GP GM	drive So	ft ose	in	Firm Mediu SM Color: Moistu	Isc are:	Stiff Se Dense	CL	Ve Ve	Date: Time:	10	oh]	Pt

Client	City	E	Dale lay	ie(Project Numb	oer:	53-124	(} - 0	004
Site A	ddress: 구(⊙)	Eclope	water	,	Geologist:	Sch			
					1				
		-50'	······································	an	d C	eldal	uplical	& F	DP
Sample	Location:	joint					Date: 10	6	
Collecti	on Method:	dri	ven	> back	hee		Time: 13	:45	
Sample	Depth:	5.0					•		
					- :	/ / 0200	wish ever	7	
		ntages		Color: 318	mebracop met	va Plas	ticity:	n.hi	95
Clay	Silt	Sand	Gravel	Moisture:	damp	Perr	neability: (1. loc	ت ا
25	55	5	15	Odor: //	an opm			<u> – </u>	
USC CI	ass:								
GW (GP GM	I GC	SW SP	SM S	c (MI) CL	. OL	мн сн	OH	Pt
	Soil Strength	 L :							
Fine- grained soils:	Very soft	Sof	t .	Firm	Stiff	Ver	y stiff	Hard	
Coarse- grained soils:	Very loose	Loc	ose	Medium de	ense Dense	Ver	y dense	-	
Soil Typ	e and Comm	nents:	claye	n Silt	W/gra	vel	(cour	se) t	ome
FDP-	32 -	,	- 6-		/ 0	<u> </u>			J
	Location:						Date: 17	1/6	
	on Method:			buck	hoe		Time: 14	100	
Sample l	Depth:	5.01		_				· · · · · ·	
ļ	Soil Strength	:				~			
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Very	stiff	Hard	
Coarse- grained soils:	Very loose	Loo	se	Medium de	ense Dense	Very	dense		
USC Cla	ass:	·						<u> </u>	
	P GM	GC S	SW SP	SM SC	: [ML] CL	OL	мн сн	ОН	Pt
	В			10: 1-	bon nottled w	areau	and gen	11.	/
Clay	Silt	ntages Sand	Gravel	Color: 5/1.			icity: " n	c o-	Yh
25	55	5	15	Moisture: Odor: M	dary	Perm	neability: U	· · voc	<u></u>
	<u> </u>		- '		D pp h				
Soil Typ	e and Comn	nents:	loyey	silt i	Jarave	(
:\TEMPI A	TE\FORMS\FI	EI D\samnlai	ngging word						
	474744	sembici	resms.whn						

	City	<u> </u>	Daklan.	g(Project Numl	ber: :	53-1	247 -004
Site A	ddress:	Edgei	water	_	Geologist:	Sch	u. (} =	
FDP	- 31, -5	5.5						
Sample	Location:	hydr	ant				Date:	10/6
Collecti	ion Method:	dri	ven –	> back	èbre.		Time:	14:15
	Depth: 5					·	-	
						lad a	ach of	27
	Percer		1	Color: Stre	my brown may	PI VYPI	asticity:	m. high
Clay	Silt	Sand	Gravel	Moisture:	damp	Pe	rmeability	U. low
<i>2</i> 5	55	<i><5</i>	20	Odor: Me				
USC C	ass:				DID: 90A	777		
1	GP GM	GC :	SW SP	SM SC	MIL) CL	OL	MH C	H OH Pt
	Soil Strength	•						
Fine- grained soils:	Very soft	Soft	t	Firm	Stiff		ery stiff	Hard
жи								
Coarse- grained soils:	Very loose			Medium de			ery dense	
grained soils: Soil Typ	Very loose pe and Comm	nents:			w/lows			cobblex
grained soils: Soil Type	pe and Comm	ments: (ewel.	cobble
grained soils: Soil Type Sample	pe and Comm	ments: (lozey		w/lows		Date: /	
grained soils: Soil Type Sample	pe and Comm 34 - Location:	ments: (lozey	silt	w/lows		Date: /	0/6
grained soils: Soil Typ FDP Sample Collecti	pe and Comm 34 - Location: Son Method: Depth: 5	soint	lozey	silt	w/lows		Date: /	0/6
grained soils: Soil Typ FDP Sample Collecti	pe and Comm 34 - Location:	soint	lozey iven-	silt	w/lows	gri	Date: /	0/6
grained soils: Soil Type TDP. Sample Collecti Sample Fine-grained	pe and Communication: Location: on Method: Depth: 5	sents: (lozey iven-	silt > backl	W/Course Stiff	y y y	Date: /	0/ <u>6</u> 5:00
grained soils: Soil Type Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	pe and Common Superior Superio	soft	lozey iven-	silf > back	W/Course Stiff	y y y	Date: / Time: /	0/ <u>6</u> 5:00
grained soils: Soil Type TDP Sample Collecti Sample Fine-grained soils: Coarse-grained soils: USC Cl	pe and Common Superior Superio	soft	lozey iven-	silf > back	W/Course Stiff ense Dense	y y y	Date: / Time: /	0/ <u>6</u> 5:00
grained soils: Soil Type TDP Sample Collecti Sample Fine-grained soils: Coarse-grained soils: USC Cl	pe and Common Superior Soil Strength: Very soft Very loose ass: GP GM	Soft GC S	larey wen-	Silf Silf Firm Medium de	Stiff ML CL	V.	Date: / Time: /	0 / G 5:00 Hard
grained soils: Soil Type of the property of t	pe and Common 34 Location: Son Method: Depth: 5 Soil Strength: Very soft Very loose ass:	Soft GC S	larey wen-	Firm Medium de	Stiff CL Wellerse	Ve JOL	Date: / Time: / ery stiff ery dense	O/G 5:00 Hard
grained soils: Soil Type TDP Sample Collecti Sample Fine-grained soils: Coarse-grained soils: USC Cl	pe and Common Superior Superio	Soft Loo GC S stages	larey wen-	Silf Silf Firm Medium de	Stiff CL Wellerse	Ve JOL	Date: / Time: / ery stiff ery dense	0 / G 5:00 Hard

Client	: City	<u>.</u>	aklan	<u> </u>	Project Nun	nber:	53-154	7 -004
	ddress:		icater		Geologist:	Sch		
FDP.	35'-	- 6.0'						
Sample	Location:	NJOEN.	4				Date: 10	4
Collecti	on Method:	drive	n-7 k	sackhe	e.		Time: 15:	15
	Depth:						al	
	Perce	entages		Color:	ma the will		sticity: 14.	high
Clay	Silt	Sand	Gravel	Moisture:	damp		meability: 🗸	
25	55	10	10	Odor: Gl	ight he			
USC CI	lass:				12 ppm			
GW	GP GM	GC	SW SP	SM S	c (ML) CL	. OL	мн сн	OH Pt
	Soil Strengt	h;						
Fine- grained soils:	Very soft	Sof	ţ	Firm	Stiff	Ve	ry stiff	Hard
Coarse- grained soils:	Very loos	e Loo	ese	Medium d	ense Dense	Ve	ry dense	
Soil Typ	e and Com	ments:	Clay	en Sil	A			
FDP-	- 36-	4.01	·.					
Sample	Location:	hydra	int				Date: 16	16
Collecti	on Method:	dri	en->	back	role.		Time: 15:	3 0
Sample	Depth:	4.01						
	Soil Strengt	h:						
Fine- grained soils:	Very soft	Soft	<u>. </u>	Firm	Stiff	√(e	ry stiff	Hard
Coarse- grained soils:	Very loose	Loc	se	Medium d	ense Dense	Ve	ry dense	
USC CI	ass:							
GW (GP GM	GC :	SW SP	SM S	C (ML) CL	OL	мн сн	OH Pt
	Perce	entages		Color: bi	windtles la	Pla	sticity. M.	righ
Clay	Silt	Sand	Gravel	Moisture:	damp	1 1	meability: $oldsymbol{V}$	·low
				Odor: 15	ppm			
Soil Typ	e and Com	ments:	lange	in Si	ero he			
			ð	J	· · · · · · · · · · · · · · · · · · ·		-	

Client:	City	<u> </u>	Lillan	.e ⁽	Project Number	153-1547-084
Site A	idress:	Edge	uater		Geologist:	Schultz
FDP-	36 H	- 4.5	. /			
Sample	Location:	sereal	Lhudro	ent not	joint to hydra	of Date: 10/7
Collection	on Method:	Drive	en ->	backhoe	s usual)	Time: 8:45
Sample		.51			·	
					· · · ·	
	Perce		<u> </u>	Color: 912	vish brown	Plasticity: M. lugh
Clay	Silt	Sand	Gravel	Moisture:	damp	Permeability: V. Cow
30	60	10		Odor:	d: 12 your	1
USC CL	ass:			P	a. IDIAM (bad ground 21 101
GW (P GM	GC S	SW SP	SM SO	ML CL	OL MH CH OH Pt
	Soil Strength					
		Soft		Firm	Stiff	Very stiff Hard
Fine- grained	Very soft	JOIL		гиш		
grained soils: Coarse- grained	Very loose	Loos		Medium de		Very dense
grained soils: Coarse- grained soils:	Very loose	Loos	se	Medium de	ense Dense	Very dense
grained soils: Coarse- grained soils:		Loos	se	Medium de	ense Dense	<u> </u>
grained soils: Coarsegrained soils: Soil Typ	Very loose	Loos	se		ense Dense	Very dense
grained soils: Coarse-grained soils: Soil Typ	Very loose	Loos nents: C	se	Medium de	ense Dense	Very dense
grained soils: Coarse-grained soils: Soil Typ	Very loose e and Comm	Loos nents: C	se Layey	Medium de	ense Dense — mettles	Very dense Date: 10/7
grained soils: Coarse-grained soils: Soil Typ TDP- Sample I Collection	Very loose e and Comm 37 Location:	Loos nents: C	se Layey	Medium de	ense Dense — mettles	Very dense 1 black, brown, +
grained soils: Coarse-grained soils: Soil Typ TDP- Sample I Collection	Very loose e and Comm	Loos nents: C	se Layey	Medium de	ense Dense — mettles	Very dense Date: 10/7
grained soils: Coarse-grained soils: Soil Typ TDP- Sample I Collectic Sample I	Very loose e and Comm 3 7 - Location: jon Method: Depth: 5	Look tents: C	layey	Medium de Silt Sack he	ense Dense - mettle	Very dense Wack, brown, + Date: 10/7 Time: 8: 5-5
grained soils: Coarse-grained soils: Soil Typ TDP- Sample I Collection	Very loose e and Comm 3 7 Location: 5 on Method: Depth: 5	Look tents: C	layey	Medium de	ense Dense — mettles	Very dense Date: 10/7
grained soils: Coarse-grained soils: Soil Typ TDP- Sample I Collectic Sample I	Very loose e and Comm 3 7 - Location: jon Method: Depth: 5	Look tents: C 5.0 oinf drive .0 Soft	layey	Medium de Silt Sack he	ense Dense - mettles Stiff	Very dense Wack, brown, + Date: 10/7 Time: 8: 5-5
grained soils: Coarse-grained soils: Soil Typ TDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained soils:	Very loose e and Comm 3 7 Location: 5 on Method: Depth: 5 Soil Strength: Very soft Very loose	Look tents: C 5.0 oinf drive .0 Soft	layey	Medium de Sill Dack he	ense Dense - mettles Stiff	Very dense Clack, brown, + Date: 10/7 Time: 8: 5-5
grained soils: Coarse-grained soils: Soil Typ TDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained soils:	Very loose e and Comm 3 7 Location: 5 on Method: Depth: 5 Soil Strength: Very soft Very loose	Loos soft Loos	layey	Medium de Sill Dack he	ense Dense — mettles Stiff ense Dense	Very dense Clack, brown, + Date: 10/7 Time: 8: 5-5
grained soils: Coarse-grained soils: Soil Typ TDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained soils:	Very loose e and Comm 37- cocation: on Method: Depth: 5 Soil Strength: Very soft Very loose	Loos sint drive Cos Soft	layey n >	Medium de Sill Sack he Firm Medium de	ense Dense — mettles Stiff ense Dense	Very dense Date: 10 / 7 Time: 8: 5-5 Very stiff Hard Very dense
grained soils: Coarse-grained soils: Soil Typ TDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained soils:	Very loose e and Comm 3 7 Location: 5 on Method: Depth: 5 Soil Strength Very soft Very loose uss: GP GM	Loos sint drive Cos Soft	layey n >	Medium de Sill Sack he Firm Medium de	ense Dense — Mettles Stiff ense Dense	Very dense Date: 10 / 7 Time: 8: 5-5 Very stiff Hard Very dense

								
Client:	City	<u> </u>	Aklan	g (Project Number:	<u>;</u>	53-104	17 -004
Site A	ddress:	Edger	cater	-	Geologist:	دلا	u(tz	
FDP.	. 38-	5.0						
	Location:				-		Date: 19	/7
Collecti	on Method:	drive	en -	7 back	hoe		Time: 9.	45
Sample	Depth:	5.0'						
	Percer	ntages		Color: and	yish brown	Pla	sticity: M.	lich
Clay	Silt	Sand	Gravel	Moisture:			meability: [/	
20	40	20	20		eight he		· · · · · · · · · · · · · · · · · · ·	
		···			oppm			
USC CI		V. T.	· 1 ·		1 1			
GW I	GP GM	$\frac{\text{GC}/\text{Is}}{\text{Is}}$	W SP	SM SC	ML CL O	L_	MH_CH	OH Pt
	Soil Strength	:			······································			
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Ve	ry stiff	Hard
Coarse- grained soils:	Very loose	Loos	e	Medium de	nse Dense	Ve	ry dense	
Soil Typ	e and Comm	nents: S	ilf w	/ Jay	sand, +9	ra	vel	
	39- 3	7.5		,			* . '	
Sample l	Location:	nydra	ut				Date: Lo	7
Collection	on Method:	Driver	\sim	backh	ol		Time: /0	00
Sample 1	Depth: 7	.51	· · · · · · · · · · · · · · · · · · ·		A - 2 A //			
i	Soil Strength:							
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Ve	ry stiff	Hard
Coarse- grained soils:	Very loose	Loos	e	Medium der	nse Dense	Ve	ry dense	
USC Cla			·					
	GP GM	GC S	W SP	SM SC	ML CL O	L	мн Сн	OH Pt
	Percer	ntages		Color dar	Egrey + Hack	Plas	sticity: M.	hick
Clay	Silt	Sand	Gravel	Moisture:	lains		meability:	1. Low
35	65			•//	nough c			
Soil Typ	e and Comm	ents:	men S	ild 6	20 ppm			
	····		-7~) 0	1				

Client:	City of Oxkland	Project Number:	153-1547-064
Site Add	Iress: 7101 Edgewater	Geologist:	- hulte
FDP-	40-6.5		
Sample L	ocation: cipint		Date: 10/7
Collection	1 Method: driven -7	backhee	Time: /0:45
Sample D	epth: 6.5		
Clay 25	Silt Sand Gravel Me	olor: dark grey oisture: Moist lor: 40 ppm	Plasticity: M. high Permeability: V. Low
USC Clas	1 1	SM SC ML CL O	L MH CH OH Pt
	Soil Strength:		
	/1	rm Stiff	Very stiff Hard
Coarse- grained soils:	Very loose Loose M	edium dense Dense	Very dense
Soil Type	and Comments: Layer Si	U w/ Sand +	gravel
FDP-	41-5.5'		v
Sample Lo	ocation: joint		Date: 10/7
Collection	Method: driven -> bac	ckhoe	Time: ((:00
Sample De	epth: 5.5		
	Soil Strength:		
		rm Stiff	Very stiff Hard
Coarse- grained soils:	Very loose Loose M	edium dense Dense	Very dense
USC Clas	s:		
GW GF		M SC ML CL O	MH CH OH Pt
	Percentages Co	olor: greyish brown	Plasticity: M. high
Clay	Silt Sand Gravel Mo	oisture: damp	Permeability: V. Low
30	60 6 5 00	lor: 50 ppw	
Soil Type	and Comments: Olonger Si	ff he	

Client: City of Oakland	Project Number: 153-1247-004
Site Address: 7101 Edgewater	Geologist: Schultz
FDP- 42 -5.0	
Sample Location: July hydrant	Date: 10 7
Collection Method: driven > back	Lac Time: 1/:45
Sample Depth: 5.0	
Percentages Color: (creyish bown Plasticity: M-high
	Greyish brown Plasticity: M-high e: damp Permeability: V. low
30 60 5 5 Odor:	25 pm
USC Class:	
GW GP GM GC SW SP SM	SC MIL CL OL MIH CH OH Pt
Soil Strength;	
Fine- grained soils: Very soft Soft Firm	Stiff Very stiff Hard
Coarse grained soils: Coarse Jerry loose Loose Medium Medium	n dense Dense Very dense
Soil Type and Comments: clayer Sil	K
FDP- 39 A -7.5	iointin
Sample Location: beneath hy drant	- hot add trench Date: 10/7
Collection Method: driven -> back 1	Time: 2:00
Sample Depth: 7.51	
Soil Strength:	
Fine- grained soils: Very soft Soft Firm	Stiff Very stiff Hard
Coarse-grained soils: Very loose Loose Medium	i dense Dense Very dense
USC Class:	
GW GP GM GC SW SP SM	SC ML CL OL MH CH OH Pt
Percentages Color:	dark Grey Plasticity: None
Clay Silt Sand Gravel Moisture	
16 10 30 50 Odor:	60 ppm
Soil Type and Comments: Gravel w/clau	pay silt lenses
F:\TEMPLATE\FORMS\FIELD\samplelogging.wpd	

	6174	<i>o∔</i> (Ouklas	ce(Project Numbe	r: 15	3-1	247 -	<u>004</u>
Site Ad	ldress: 7101	Eclae	water		Geologist: Schultz				
FDP-	43 -	5.5	1		(plya. pr	Λ ο γ2 ·	Samp	le ta	ken
Sample I	Location: 🐧	oint					Date: 10	7/7	ب
Collection	on Method:	dri	ven.	-> ba	ckhoe		Time:	2:45	
Sample I	Depth: S	.51							
	Percer	ntages		Color: Q	revish brown	- Plast	icity:	nedin	m
Clay	Silt	Sand	Gravel	- 1	damp		neability:	V. Jo	w ≠
25	45	15	15	Odor: Sl	ight he				
USC Cla	186.			2	O ppro-				
	P GM	GC	SW SP	SM S	SC ML CL	OL	мн с	н он	Pt
···									
Fine- grained soils:	Soil Strength Very soft	So	ft	Firm	Stiff	Very	/ stiff	Hard	
Coarse- grained soils:	Very loose	Lo	ose	Medium o	dense Dense	Very	dense		
Coarse- grained soils:	Very loose		layes		w / Sand			L.	
Coarse- grained soils:	e and Comm					+ 9		<u>.</u>	
Coarse-grained soils: Soil Type FDP- Sample I	e and Comm					+ 8	lave	<u>.</u>	
Coarse-grained soils: Soil Type FDP- Sample I	e and Comm Location:					+ 8	Save	L.	
Coarse-grained soils: Soil Type FDP- Sample I Collection	e and Comm Location:	nents: C				+ 8	Save		
Coarse-grained soils: Soil Type FDP- Sample I Collection	e and Comm Location: on Method: Depth:	nents: C	layee			+ 8	Save	Hard	
Coarse- grained soils: Soil Type FDP- Sample I Collection Sample I Fine- grained	e and Common Location: on Method: Depth: Soil Strength	nents: C	layee	Silk	w/Sand Stiff	+ S	Save Date: Time:		
Coarse-grained soils: Soil Type FDP - Sample I Collection Sample I Fine-grained soils: Coarse-grained	e and Communication: on Method: Depth: Soil Strength Very soft Very loose	nents: C	layee	Silk	w/Sand Stiff	+ S	Date: Time:		
Coarse-grained soils: Soil Type FDP- Sample I Collection Sample I Fine-grained soils: Coarse-grained soils: USC Cla	e and Communication: on Method: Depth: Soil Strength Very soft Very loose	nents: C	layee	Firm Medium	w/Sand Stiff	Very	Date: Time:		Pt
Coarse-grained soils: Soil Type FDP- Sample I Collection Sample I Fine-grained soils: Coarse-grained soils: USC Cla	e and Common control c	So Lo	ft	Firm Medium of	Stiff Stiff Dense	Very Very	Date: Time: / stiff / dense	Hard	Pt
Coarse-grained soils: Soil Type FDP- Sample I Collection Sample I Fine-grained soils: Coarse-grained soils: USC Cla	e and Common Location: on Method: Depth: Soil Strength Very soft Very loose	So Lo	ft	Firm Medium	Stiff Stiff Sc ML CL	Very Very Plast	Date: Time:	Hard H OH	Pt

Спепа	: City	<u>040</u>	akland	<u>,(</u>	Project N	lumber:	153-	124	7 -	C
Site A	ddress:	Edgei	catev	-	Geologis	t: So	Lhielt E			
DP.	44	-3.0	<u>'</u>					,		
Sample	Location:	joint					Date:	10/1	4	
Collecti	on Method:	driv	en di	weth in	te grou	nd w/h	Time:	10:	15	
Sample	Depth:	3,0 ′			0	i				
				·	, ,	-				
Clay	Perce Silt	ntages Sand	, 		eyigh hare	nor	Plasticity:	- No	nl ,	
Clay	SIL	loO	Gravel	Moisture:	damp		Permeabili	ty: V	ues	
		70-	L	Odor: Pu	onc_					
USC CI)				Т	T	1_
GW]	GP GM	GC S	SW SP	SM S	C ML	CIL - O	L MH	СН	ОН	Pt
	Soil Strength						•	-		
Fine- grained soils:	Very soft	Soft		Firm	Stiff		Very stiff		Hard	
Coarse-	Very loose	Loos								
grained soils:		Look	se (Medium d	ense Dense		Very dense	e .		
soils: _										
soils: _				used to	. surrou	nd fu	el line	<u></u>		
soils: Soil Ty	pe and Comn	nents: FU		used to		nd fu	el line	<u></u>	d oc	< 5
soils: Soil Tyl	pe and Comn	nents: FU		used to	. surrou	nd fu	el line	us San ta	/	(<5
Soil Type TDP Sample	pe and Comn - 45 - Location:	3.0	Isand	used to	surrou , verfine	nd fu	l line	<u></u>	/	(<5
Soil Type TDP Sample	pe and Comn	3.0		used to	surrou , verfine	nd fu	el line	10/	/	(<5
Soil Typ CDP Sample Collecti	pe and Comn 45 - Location: on Method:	3.0	Isand	used to	surrou , verfine	nd fu	l line	10/	14	(<5
Soil Type TDP Sample	pe and Comn - 45 - Location: on Method: Depth: 3	3.0/ Joint Land	Isand	used to	surrou , verfine	nd fu	l line	10/	14	(<5
Soil Typ TDP- Sample Collecti	pe and Comn 45 - Location: on Method:	3.0/ Joint Land	-push	used to	surrou , verfine	nd fu	l line	10 5 10 10	14	(<5
Soil Type FDP- Sample Collecti Sample Fine- grained	pe and Communication: Location: on Method: Depth: 3	3.0' 3.0' hand Soft	- push	used to	surrou verfine into g	round	Date:	10 10 10	14	(<5
Soil Type Soil Type Collecti Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	pe and Communication: Location: on Method: Depth: 3 Soil Strength Very soft Very loose	3.0' 3.0' hand Soft	- push	used to	surrou verfine into g	round	Date: Very stiff	10 10 10	14	(<5
Soil Type Soil Type Sample Collecti Sample Fine-grained soils: Coarse-grained soils:	Location: on Method: Depth: Soil Strength Very loose	3.0' joint hand Soft Loo	- push	used to	Stiff ense Dense	round	Date: Very stiff Very dense	10/ 10/	//4 :30 Hard	
Soil Type Soil Type Sample Collecti Sample Fine-grained soils: Coarse-grained soils: USC Cl	pe and Communication: Location: on Method: Depth: 3 Soil Strength Very soft Very loose	3.0' joint hand Soft Loo	- push	used to	Stiff ense Dense	round	Date: Very stiff Very dense	10 10 10	14	(<5°
Soils: Soil Typ FIDP Sample Collecti Sample Fine- grained soils: Coarse- grained soils: USC Cl GW	pe and Comm U5 - Location: on Method: Depth: Soil Strength Very soft Very loose ass: GP GM Perce	Soft GC S sents: FU	se (SP)	Firm Medium d SM S Color:	Stiff C ML	round	Date: Time: Very stiff Very dense	IS Sam 10/ 10	/14 :30 Hard	
Soils: Soil Typ FDP- Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	pe and Common Location: On Method: Depth: 3 Soil Strength Very soft Very loose Lass: GP GM	Soft GC S	- push	Firm Medium d SM S Color: Moisture:	Stiff C ML	CL O	Date: Time: Very stiff Very dense	IS Sam 10/ 10	/14 :30 Hard	

				_						
Client:	City	0 f O	aklana	2.(Project	Number:	15	3-12	47 -	004
Site A	ddress:	Edgei	catev	•	Geolog	ist: S	chi.	(te		
FDP.	- 46 -	3.01								
Sample	Location:	Join	4				I	Date: 10	/14	
Collecti	on Method:	hand	l- pri	sh	• •		. 7	lime: [7]	00	
Sample	Depth:	3.01								
						1				
<u></u>		ntages	, , , , , , , , , , , , , , , , , , ,		regish			city: 🛰	one.	,
Clay	Silt	Sand	Gravel	T	dan	<u></u>	Perm	eability:	mg2	<u> </u>
	<u> </u>	100		Odor:	none		<u> </u>			
USC CI	ass:									
GW (GP GM	GC s	W SP	SM S	C ML	CI O	L!	VIH CH	OH	Pt
	Soil Strength	<u> </u>		<u> </u>						
Fine- grained soils:	Very soft	Soft		Firm	Stiff		Very	stiff	Hard	
Coarse- grained soils:	Very loose	Loos	se .	Medium	lense) Den	se	Very	dense		
Soil Typ	e and Comn	nents: 44	San	d	·	······································	 			
	. 47 -		· · · · · · · · · · · ·			/ •				~,
Sample	Location:	joint					r	Date: 10/	14	
Collection	on Method:	hay	rd-	wish		2	7	ime: //	:05	
Sample	Depth: 3	.01								
	Soil Strength	1:								
Fine- grained soils:	Very soft	Soft		Firm	Stiff	•	Very	stiff	Hard	
Coarse- grained soils:	Very loose	Loos	se	Medium	lense Den	se	Very	dense		
USC CI	ass:			· · · · · · · · · · · · · · · · · · ·				··-		
	GP GM	GC S	W SP	SM S	SC ML	CL O	LI	ин сн	ОН	Pt
					. 17		:	_		
Clay	Perce Silt	ntages Sand	Garra 1	Color: Q	regishr	nown	Plasti		pul	1
Clay	SUC	V9V	Gravel	Moisture:	oca	mp_	Perm	eability:	mg	<u> </u>
	<u></u>	1000	<u> </u>	Odor:	hone		L			
Call Tree	e and Comr		^ // _/	. /				-		

	···	 -								
Client	: City	<u>0</u> \$ 0	laklan	e.(Project	Number:	15	3- I	247 -	-004
Site A	ddress:	Edgei	catev	-	Geolog	ist: S	,ch	1/2		
FDP	48 -	- 3.0	<u> </u>							
Sample	Location:	joint						Date:	0/14	
Collecti	on Method:	hans	l-nus	人				Time:	11:20	
Sample	Depth:	3.01								
 	Perce	ntages		Color: 464	eich ha	rown	Plas	ticity:	4 9	·
Clay	Silt	Sand	Gravel	Moisture:	Kru		Т-	neability	· la est	
		wo		· · · · · · · · · · · · · · · · · · ·	one				720	
USC CI	ass:				.				<u></u> .	
	GP GM	GC S	SW SP	SM SC	ML	CL C	DL _	мн (сн он	Pt
	Soil Strength	 	<u>~</u>							
Fine- grained soils:	Very soft	Soft		Firm	Stiff	•	Ver	y stiff	Hard	
Coarse- grained soils:	Very loose	Loo	se	Medium de	nse Den	se	Ver	y dense		
Soil Ty	e and Comr	nents:	ills	and		· .				
FDP.	. 49 -		<u> </u>							
	Location:		L	•	· · · · · · · · · · · · · · · · · · ·			Date:	10/14	
	on Method:	· · · · · · · · · · · · · · · · · · ·	l-pus	1-				Time:	11:25	-
Sample	Depth: 3		- Journal						-7, -, -,	
	Soil Strength					· · · · · · · · · · · · · · · · · · ·				
Fine- grained soils:	Very soft	Soft	:	Firm	Stiff		Ver	y stiff	Hard	
Coarse- grained soils:	Very loose	Loo	se (Medium de	nse Den	se	Ver	y dense		·
USC CI	2664			`						
	GP GM	GC S	sw SP	SM SC	ML	CL C	DL .	мн (сн он	Pt
	Perce	ntages		Color: 🚜	renzh	nemi	Plas	ticity:	none	
Clay	Silt	Sand	Gravel	Moisture:	dums		4	neability	7.	
		100		Odor:	none				0	
Soil Ty	pe and Comr	nents:				 .		 -		

												
Client	City	1 Oall	and		Pr	oject N	Jumb	er:	53-1	24 7	_	4
Site A	ddress:	10 1 Ed	genst	- Dr.	Ge	eologis	t: C	Sch	147			
FDP.	- 50	-5.	<u>z</u> ′									
Sample	Location:	hyd	1						Date:	10/	14	
Collecti	on Method:		driven	w/6/re	de + he	runa	(.150	o c p	Time:);; L	15	
Sample	Depth:	5. Z!				-	H	,		`		
						10		ار العالم		4 1 1		
Clay	Silt	ntages Sand	Gravel	Color: 64 Moisture	$\overline{}$	esur h	<u>احد عب</u> ا	Pla	sticity: meability	<u>/*(*}\</u> // 1/*	igh	4.3
35	65			Odor:		ah.		16	.mcaoimt)	γ. γ •	<u></u>	
					pid		50 p	pm				
GW G	ass: GP GM	GC S	SW SP	SM	sc	Mi.)	CL ·	OL	мн	СН	ОН	Pt
GW 1	GE GWI	1.90 13	SW SP	1 2 M	<u>sc i</u>	MT /	CL	1 OL	I MILE I	Cn I	On	FL
Fine- grained	Soil Strength Very soft	soft	: ,	Firm		Stiff		(Ve	ry stiff	Н	lard	<u> </u>
soils: Coarse- grained	Very loose	: Loo	se	Medium	dense	Dense	;	Ve	ry dense			
soils:												
Soil Ty	e and Com	nents: , 0	4.4.	-11		41	1 1					
FDP.	·		***	<u></u>		<u>well</u>	ew .	cove	75 ~	Sen	ne a	reen
	Location:				-				Date:	-		
Collecti	on Method:								Time:			
Sample	Depth:									,		
	6-2164											
Fine- grained soils:	Soil Strengtl Very soft	Soft		Firm		Stiff		Ve	ry stiff	H	lard	
Coarse- grained soils:	Very loose	Loo	se	Medium	dense	Dense	;	Ve	ry dense			
USC CI	255:						-					<u> </u>
	GP GM	GC S	SW SP	SM	SC	ML_	CL	OL	мн	СН	OH	Pt
	Darce	ntages	,	Color:				Dla	sticity:			
Clay	Silt	Sand	Gravel	Moisture	<u> </u>				meability	 /:		
				Odor:				1.01				
Soil Tvi	e and Com	nents:										

			·-		ı		·
Client:	City	0 f O	aklan	g.(Project Num	ber: [53-1247-004
Site A	idress:	Edger	cater	-	Geologist:	Sch	ie (te
FDP-	51-3	,					
Sample	Location:	hydr	ant				Date: 10 19
Collection	on Method:	backle	e – d	riven			Time: 4:00
Sample	Depth:	2.51					1
			<u> </u>		11000	ttle	Www.
	Perce Silt	ntages	, _ ,		yigh blown	Pla	sticity: M. high
Clay 35	65	Sand	Gravei		dans		rmeability: V. Low
	100	<u> </u>	L	Odor: Ma	rk. nc pia	117 gm	
USC CL		· · · · · ·	· ·			1	, ,
GW (GP GM	GC S	W SP	SM SC	ML/CL	OL	MH CH OH Pt
	Soil Strength	l:					
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Ve	ry stiff Hard
Coarse- grained soils:	Very loose	Loos	se	Medium de	ense Dense	Ve	ery dense
C.:1 75	4 (7			- //			
Son Typ	e and Comn	nents: Cla	ayea S	ilt			
	52 -		· •				
Sample !	Location:	joint	•				Date: 10/19
Collection	on Method:	bare	choe				Time: 4:20
Sample l	Depth: 4	.0'					
	Soil Strength	t	, , .				
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Ve	ry stiff Hard
Coarse- grained soils:	Very loose	Loos	se .	Medium de	ense Dense	Ve	ry dense
USC CL		1 1	<u> </u>		- 1(-)	1	
GW (GP GM	GC S	W SP	SM SC	ML) CL	OL	MH CH OH Pt
	Perce	ntages		Color: 2	newm	Pla	sticity: M. high
Clay	Silt	Sand	Gravel	Moisture:	damp	Per	rmeability: V. Low
25	55		10	Odor: M	mel. he		
Soil Typ	e and Comr	nents:	laney S	2-14 0	1 come	Sand	1 teravel

OF GVIDION C	
Client: City of Cakland	Project Number: 153-1247-004
Site Address: , 7101 Edgewater	Geologist: Schultz
FDP- 53-5.0'	
Sample Location:	Date: 10/19
Collection Method: back hove	Time: 14:30
Sample Depth: 5.0	
	greatle W/bins Plasticity: m. high damp Permeability: V. Low 1:35
USC Class: GW GP GM GC SW SP SM SC	ML CL OL MH CH OH Pt
Soil Strength:	
Fine- grained soils: Very soft Soft Firm	Stiff Very stiff Hard
Coarse-grained soils: Very loose Loose Medium de	ense Dense Very dense
Soil Type and Comments: Clauser Silf	
FDP- 54 - 8.0'	
Sample Location: hydraut	Date: /0/19
Collection Method: backhoe	Time: /4:45
Sample Depth: 8.0'	
Soil Strength:	
Fine- Very soft Soft Firm grained soils:	Stiff Very stiff Hard
Coarse- grained soils: Very loose Loose Medium de	ense Dense Very dense
USC Class:	
GW GP GM GC SW SP SM SC	ML CL OL MH CH OH Pt
Percentages Color: Off	ey + black Plasticity: M. high
Clay Silt Sand Gravel Moisture:	damp rod Permeability: U. Low
60 30 5 5 Odor: S	Ma he id: /140
Soil Type and Comments: clayle Silt	some 2"-3" thick laners of Colo
F:\TEMPLATE\FORMS\FIELD\sample\logenie\wpd	et subbled into french

Was Table to

Client	City	3 f C	aklan	e(Project Nun	nber: (53-12	47 -004
Site A	ddress:	Edge	cater	-	Geologist:	Sch		
FDP.	65 -	5.5						
Sample	Location:	joint					Date:	119
Collecti	on Method:	bac	khoe	···		······································	Time: / Z	1:00
Sample	ی Depth:	5.51						
	Perce	ntages	· · ·	Color: 14	whorey	Pla	sticity: M	·hich
Clay	Silt	Sand	Gravel		damo		rmeability: V	1.600)
35	65				hod. he			
				pro	1:140			
USC Cla		100 10	·				1	
GW (GP GM	IGC IS	SW SP	SM S	C (ML) CL	OL	MH CH	OH Pt
	Soil Strength	ı;	*					
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Ve	ry stiff	Hard
Coarse- grained soils:	Very loose	Loos	se	Medium d	ense Dense	Ve	ry dense	
Soil Typ	e and Comn	nents: ()	nga S	ilt				
FDP-	56-4	51			- · - ·			
Sample I	Location:	out.					Date: 10 /	19
Collection	n Method:	back	9 0				•	:75
Sample I	Depth: 4	,51						
1	Soil Strength	:						
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Ve	ry stiff	Hard
Coarse- grained soils:	Very loose	Loos	e	Medium de	ense (Dense	Ver	ry dense	
TICC C								· · · · · · · · · · · · · · · · · · ·
USC Cla	P GM	GC S	W SP	SM SC	C (ML) CL	OL	мн сн	OH Pt
	Percer			Color: 🙏	unk grey	Plas	sticity: M	. high
Clay	Silt	Sand	Gravel	Moisture:	Laux.	- Peri	meability:	1. Low
<i>></i>	60	10		Odor: 1	15 pom	!		
Soil Type	and Comm	ents:	Charge	Silf			·	
			0.7					

Client:	City	of Oak	land	<u>(</u>	Project Nun	nber: 15	3-1	247-
Site Ad	idress:	Edge	wate	6	Geologist:	Schul	1/2	
	57 —							
Sample	Location:	hydra	nt				Date: /t	7/19
Collection	Location: on Method:	bac	Clase				Time: / (p:45
Sample	Depth: [[.	0'						
	Perce			Colom h	own nottled	J/# (01/10)	tiaitus	m. high
Clay	Silt	Sand	Gravel		damp	101	neability:	
35	65	_		Odor: A		rell	icaomity.	· ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
				r caor. at	7-75			
USC Cl	ass:							
GW (GP GM	GC S	W SP	SM S	C (ML) CL	. OL	мн с	H OH P
	Soil Strength				$\overline{}$			
		Soft		Firm	Stiff	Ver	y stiff	Hard
Fine- grained soils:	Very soft	Soit					* .	
grained soils: Coarse- grained	Very loose		 	Medium d	dense Dense	Ver	y dense	
grained soils: Coarse-		Loos	se .		dense Dense	Ver	y dense	
grained soils: Coarse- grained soils:		Loos	se .		dense Dense	Ver	y dense	
grained soils: Coarse- grained soils:	Very loose	Loos	 		dense Dense	Ver	y dense	
grained soils: Coarse- grained soils: Soil Typ	Very loose	Loos	se .		dense Dense	Ver	y dense	
grained soils: Coarse-grained soils: Soil Typ	Very loose e and Comm	Loos	se .		dense Dense			110
grained soils: Coarse-grained soils: Soil Typ	Very loose e and Comm 58-5 Location:	Loos nents: U	uyey E		lense Dense		Date: / g	/
grained soils: Coarse-grained soils: Soil Typ FDP- Sample I	Very loose e and Comm 58-5 Location: on Method:	Loos nents: U	uyey E		dense Dense			/
grained soils: Coarse-grained soils: Soil Typ FDP- Sample I	Very loose e and Comm 58-5 Location:	Loos nents: U	uyey E		dense Dense		Date: / g	/
grained soils: Coarse-grained soils: Soil Typ FDP- Sample I	Very loose e and Comm 58-5 Location: on Method:	Loos nents: U	uyey E		dense Dense		Date: / g	/
grained soils: Coarse-grained soils: Soil Typ FDP- Sample I Collection Sample I Fine-grained	Very loose e and Comm 58-5 Location: on Method:	Loos nents: U	uyin s		dense Dense Stiff		Date: / g	/
grained soils: Coarse-grained soils: Soil Typ FDP- Sample Collection Sample Fine-	Very loose e and Comm 58-5 Location: on Method: Depth: 5.	Loos nents: U joint bull	uyiy S	silk	Stiff	Ver	Date: / g	5:30
grained soils: Coarse-grained soils: Soil Typ FDP- Sample I Collection Sample I Fine-grained soils: Coarse-grained soils:	Very loose e and Comm 58-5 Location: on Method: Depth: 5. Soil Strength Very soft Very loose	Loos nents: U joint back b	uyiy S	Silf	Stiff	Ver	Date: / o	5:30
grained soils: Coarse-grained soils: Soil Typ FDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained soils: USC Cla	Very loose e and Comm 58-5 Location: on Method: Depth: 5. Soil Strength Very soft Very loose ass:	Loos nents: U joint bull Soft Loos	uyen S	Firm Medium d	Stiff lense Dense	Very	Date: / g Time: /	5:30 Hard
grained soils: Coarse-grained soils: Soil Typ FDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained soils: USC Cla	Very loose e and Comm 58-5 Location: on Method: Depth: 5. Soil Strength Very soft Very loose	Loos nents: U joint bull Soft Loos	uyiy S	Firm Medium d	Stiff lense Dense	Very	Date: / g Time: /	5:30
grained soils: Coarse-grained soils: Soil Typ FDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained soils: USC Cla	Very loose e and Comm 58-5 Location: on Method: Depth: 5. Soil Strength Very soft Very loose ass: GP GM	Loos nents: () joint bull Soft Loos	uyen S	Firm Medium d	Stiff lense Dense	Very	Date: / g Time: / y stiff y dense	Hard P
grained soils: Coarse-grained soils: Soil Typ FDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained soils: USC Cla	Very loose e and Comm 58-5 Location: on Method: Depth: 5. Soil Strength Very soft Very loose ass: GP GM Percer	Loos nents: () Soft Loos GC S	se se se	Firm Medium d	Stiff lense Dense	Very Very OL Plas	Date: / g Time: / y stiff y dense MH C	Hard Hard
grained soils: Coarse-grained soils: Soil Typ FDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained soils: USC Cla	Very loose e and Comm 58-5 Location: on Method: Depth: 5. Soil Strength Very soft Very loose ass: GP GM	Loos nents: () joint bull Soft Loos	uyen S	Firm Medium d	Stiff lense Dense	Very Very OL Plas	Date: / g Time: / y stiff y dense	Hard Hard

Chent.	City	0+	aklar	rel	Project Number	r 153-	1247 - 00
Site A	City ddress: 7101	Edgei	cater		Geologist:	Schultz	
FDP.	- 59 -	- 4,5	5/				
Sample	Location:	i vint	_			Date:	10/19
	on Method:	7-7				Time:	15:45
Sample	Depth: 4,	51					
	-				ajish brown	1 //	14 1 1
Clay	Silt	ntages Sand	Gravel				M. high
35	65	Jana	Glavei		damp	Permeabilit	y: V.Low
2 2	100	1		Odor: 5	the he		
USC CI	ass:				8		
GW	GP GM	GC	SW SP	SM S	SC MI CL	OL MH	CH OH P
	Soil Strength	1:					
Fine- grained soils:	Very soft	Sofi	t	Firm	Stiff	Very stiff	Hard
Coarse-	Very loose				. ~	Vami danaa	
grained soils:	very loose	Loo	se	Medium (dense Dense	Very dense	
soils:	pe and Comm	· · · · · · · · · · · · · · · · · · ·		Medium o	dense Dense	very dense	
soils:		7.5	layer	Silf	dense Dense		
soils: Soil Type FDP- Sample	pe and Comn	7.5	læyer 1	Silf	dense Dense		
soils: Soil Type FDP- Sample	pe and Comn	7.5	læyer 1	- 4/	dense Dense	Date:	10/19
Soil Type FDP- Sample Collection	oe and Comn	7.5	læyer 1	Silf	dense Dense	Date:	10/19
Soil Type FDP- Sample Collection	Location: — on Method:	nents: C	læyer 1	Silf	Jense Dense	Date:	10/19
Soil Type FDP- Sample Collection	De and Comn Comp Location: — on Method:	nents: C	layer,	Silf	Stiff	Date:	10/19
Soil Type FDP- Sample Collective Sample Fine- grained	De and Comn Location: — on Method: Depth: 7	nents: C	layer / = h khoe	y Silf	Stiff	Date: Time:	10/19 16:00 Hard
Soil Type FDP- Sample Collective Sample Fine- grained soils: Coarse- grained	Depth: 7. Soil Strength Very loose	nents: C	layer / = h khoe	y drant Firm	Stiff	Date: Time: Very stiff	10/19 16:00 Hard
Soil Type FIDP- Sample Collective Sample Fine- grained soils: Coarse- grained soils:	Depth: 7. Soil Strength Very loose	nents: C	layer / = h khoe	y draint Firm Medium o	Stiff	Date: Time: Very stiff	10/19 16:00 Hard
Soil Type FIDP- Sample Collective Sample Fine- grained soils: Coarse- grained soils:	Depth: 7. Soil Strength Very soft Very loose ass: GP GM	Soft GC S	layer / = h k hoe	Silf y draint Firm Medium of	Stiff lense Dense	Date: Time: Very stiff Very dense	16:00 Hard
Soil Type FIDP- Sample Collective Sample Fine- grained soils: Coarse- grained soils:	Depth: 7. Soil Strength Very soft Very loose ass: GP GM	nents: C	layer / = h k hoe	Firm Medium of SM S Color: cy	Stiff lense Dense	Date: Time: Very stiff Very dense OL MH Plasticity:	16:00 Hard
Soils: Soil Typ FDP- Sample Collectic Sample Fine- grained soils: Coarse- grained soils: USC Cl GW C	Depth:). Soil Strength Very soft Very loose ass: GP GM Percer	Soft GC S ments: C	layer / = h & hoe se	Firm Medium of SM S Color: cy Moisture:	Stiff lense Dense	Date: Time: Very stiff Very dense	16:00 Hard
Soils: Soil Type FDP- Sample Collection Sample Fine- grained soils: Coarse- grained soils: USC Cl GW Clay 35	Depth: 7. Soil Strength Very loose ass: GP GM Percer Silt	Soft Loo GC S nents: C	layer / = h & hoe se	Firm Medium of Moisture:	Stiff Stiff CL Regish brown damp	Very stiff Very dense OL MH Plasticity: Permeabilit	16:00 Hard

	···				<u> </u>		
Client:	City of O	akland			Project Number:	153	-1247-004
Site A	ddress: 710	01 Edgew	ater Dr.,	Oakland	Geologist: Bob S	chu]	ltz
FDP.	61-	4.D'					
Sample	Location:	joint					Date: 10/19
Collecti	on Method:	back	اروو —	driver			Time: 16.15
Sample	Depth:	4.0'					
	Perce	ntages		Color for	enish brown	Pla	esticity: In high
Clay	Silt	Sand	Gravel	Moisture:	ð	1	meability: Lew
35	65			Odor:	inf	1	Reading (ppm): 4
		'					
USC CI		GC S	W7 CD		ML) CL C	<u>.</u>	мн Сн Он Ра
GW (GP GM	160 18	SW SP	SM SC	ML CL C)L	MH CH OH Pt
	Soil Strength	1:					· ·
Fine- grained	Very soft	Soft		Firm	(Stiff)	Ve	ry stiff Hard
soils:		<u> </u>	<u> </u>			- 14 L	
Coarse- grained soils:	Very loose	Loos	se	Medium de	nse Dense	Ve	ry dense
Soil Typ	e and Comin	nents:	largery	9.11	· · · · · · · · · · · · · · · · · · ·		
<u>_</u>			- uncher	2011			
FDP-	. 62-	-4.5 '	·				<u> </u>
Sample	Location:	cont				<u>.</u>	Date: 10/19
Collecti	on Method:	back	hoe -	drive	<u> </u>		Time: 16:30
Sample	Depth: 4	.5 '		•		j	
· .	Soil Strength	<u> </u>	***			-	·
Fine- grained soils:	Very soft	Soft	,	Firm	Stiff	Ve	ry stiff Hard
Coarse- grained soils:	Very loose	,Loos	se	Medium de	nse Dense	Ve	ry dense
ae.							
GW C	ass: GP GM	GC S	W SP	SM SC	(MI) CL C)L	MH CH OH Pt
	Dages	ntogac		Colore		D1°	sticity: m, high
Clay	Silt	ntages Sand	Gravel	Color: 6	wish prown		sticity: m, h, ch
35	65				rone.		pid: 15
L	17	·		J401.			
Soil Typ	e and Comn	nents:					

Client: City of Oakland	Project Number	153-1247-004
Site Address: 7101 Edgewater Dr., Oakland	Geologist: Bob	Schultz
TDP- 63-8.5'		
Sample Location: malron		Date: 16/19
Collection Method: But hoe - driver	<u></u>	Time: 16:45
Sample Depth: 8.5 '		
Percentages Color: (brevish brown	Plasticity: m. hish
Clay Silt Sand Gravel Moisture	: domp	Permeability: (000
35 65 — Odor:	Mono	PID Reading (ppm): 10
USC Class:		
GW GP GM GC SW SP SM	SC ML) CL	OL MH CH OH Pt
Soil Strength:		
Fine- Very soft Soft Firm soils:	Stiff	Very stiff Hard
Coarse- grained soils: Loose Medium	dense Dense	Very dense
Soil Type and Comments: Clayer Sill	<u> </u>	
FDP- 64-6,0'		·
<u> </u>		
Sample Location: Jourt		Date: 10/19
Sample Location: Joint	ver	Date: 10 /19 Time: 17! 00
Sample Location: Joint Collection Method: buthoe - din	ver	
Sample Location: Joint Collection Method: buthoe - din	ver	
Sample Location: Joint Collection Method: buckhoe - driv Sample Depth: 6.0	Stiff	
Sample Location: Journal Collection Method: buckhoe drive Sample Depth: 6.0 Soil Strength: Fine-grained soils: Very soft Soft Firm Soils: Very loose Loose Medium Medium Coarse-grained Very loose Loose Medium Coarse-grained Very loose Coarse-grained Very lo	Stiff	Time: 17! 00
Sample Location: Jour Collection Method: buckhoe - drive Sample Depth: 6.0 Soil Strength: Fine-grained soils: Very loose Loose Medium grained soils:	Stiff	Time: 17!00
Sample Location: Journal Collection Method: butchee drive Sample Depth: 6.0' Soil Strength: Fine-grained soils: Very soft Soft Firm Firm Very loose Loose Medium Soils: USC Class: USC Class:	Stiff n dense Dense	Time: 17!00
Sample Location: Collection Method: butchee dim Sample Depth: 6.0 Soil Strength: Fine-grained soils: Coarse-grained soils: USC Class: GW GP GM GC SW SP SM	Stiff In dense Dense SC ML CL	Very stiff Hard Very dense OL MH CH OH Pt
Sample Location: Journal Collection Method: butchee drive Sample Depth: 6.0' Soil Strength: Fine-grained soils: Very soft Soft Firm Firm Soils: Very loose Loose Medium Soils: USC Class: US	Stiff In dense Dense SC (ML) CL Grenith Grown	Very stiff Hard Very dense OL MH CH OH Pt
Sample Location: Jour Collection Method: buckhoe - driven Sample Depth: 6.0 Soil Strength: Fine-grained soils: Very soft Soft Firm	Stiff In dense Dense SC (ML) CL Grenith Grown	Very stiff Hard Very dense OL MH CH OH Pt Plasticity: M. high
Sample Location: Collection Method: buckhoe drive Sample Depth: 6.0 Soil Strength: Fine-grained soils: Coarse-grained soils: USC Class: GW GP GM GC SW SP SM Percentages Color: Clay Silt Sand Gravel Moisture	Stiff Sc ML CL Grenigh Grown Clamp	Very stiff Hard Very dense OL MH CH OH Pt Plasticity: M. high Permeability: (end)

	:: City of O	akland			Project Numb	er: 153-124	17-004
Site A	ddress: 71	01 Edgev	vater Dr.,	Oakland	Geologist: Bo	b Schultz	
FDP	-65-	-5.4	_ /				
Sample	Location:)ōm	F.			Da	te: 10/20
Collect	ion Method:	back	choe			Tir	ne: 9:45 a
Sample	Depth:	3.51	-				
	Perce	ntages		Color: de	wk aren	Plastici	ty: low
Clay	Silt	Sand	Gravel	Moisture:	damp	Permea	bility: (
20	15	20	45	Odor: ali	Ad he	PID Re	ading (ppm): 13
USC C	lass:				<u> </u>		
	GP GM	GC)	SW SP	SM SC	C ML CL	OL MI	H CH OH Pt
	Soil Strength	1:					
Fine- grained soils:	Very soft	Sof	t	Firm	Stiff	Very st	iff Hard
Coarse-	Very loose	: Loc	ose /	Medium de	ense Dense	Very de	ense
grained soils:			(/		
soils:	pe and Comr	· · · · ·		1 1			1 . 2.00
soils:	pe and Comr	· · · · ·	layez (bravel		ly sor	ted, fill
soils: Soil Ty		nents:	layez (bravel eld du		lg sar	ted, fill writer Sany
soils: Soil Ty		nents:	layez (bravel eld de		ls sor	witersun
soils: Soil Ty FDP Sample	- 66 —	nents: 0	out_	bravel eld den		+	wrter Sang 10/20
Soils: Soil Ty FDP Sample Collecti	- 66 - Location:	nents: 0 9.0' hyd,	out_	bravel eld dey		-f Dai	wrter Sang 10/20
Soils: Soil Ty FDP Sample Collecti	Location: ion Method: Depth:	nents: (out_	bravel eld den		-f Dai	wrter Suy
Soils: Soil Ty FDP Sample Collecti Sample	Location: ion Method: Depth: 4	nents: 0 9.0' hyd, back	ant Live		- poor	Dai Tin	witer Surp te: 10/20 ne: 9:30 cyn
Soils: Soil Ty FDP Sample Collecti	Location: ion Method: Depth:	nents: (ant Live	bravel eld den		-f Dai	witer Surp te: 10/20 ne: 9:30 cm
Soils: Soil Ty FDP Sample Collecti Sample Fine-grained	Location: ion Method: Depth: 4	nents: (t		Stiff	Dai Tin	wter Sang te: 10/20 ne: 9:30 cm
Soils: Soil Ty Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	Location: ion Method: Depth: G Soil Strength Very soft Very loose	nents: (t	Firm '	Stiff	Dat Tim	wter Sang te: 10/20 ne: 9:30 cm
Soils: Soil Ty FIDP Sample Collect: Sample Fine- grained soils: Coarse- grained soils:	Location: ion Method: Depth: G Soil Strength Very soft Very loose	nents: () 9.0' hyd; back Sof	t	Firm Medium de	Stiff Ense Dense	Very st	wter Sam 10/20 10: 9:30 am iff Hard ense
Soils: Soil Ty FIDP Sample Collect: Sample Fine- grained soils: Coarse- grained soils:	Location: ion Method: Depth: O Soil Strength Very soft Very loose lass: GP GM	nents: () 9.0' hyd; back Sof	t see	Firm Medium de	Stiff Ense Dense	Very st	wter Samp 10/20 10: 9:30 cm 1
Soils: Soil Ty FDP Sample Collecti Sample Fine- grained soils: Coarse- grained soils: USC C GW	Location: ion Method: Depth: G Soil Strength Very soft Very loose Class: GP GM Perce	nents: () 9.0' hyd; back Sof	t see	Firm Medium de	Stiff Stiff CI MI CL MON Mother way	Very st	wter Samp te: 10/20 ne: 9:30 cm iff Hard ense
Soils: Soil Ty FDP Sample Collect Sample Fine- grained soils: Coarse- grained soils: USC C GW	Location: ion Method: Depth: O Soil Strength Very soft Very loose Class: GP GM Perce Silt	nents: (t SP	Firm Medium de	Stiff Stiff CI ML CL Mon Mottled W	Very st Very de	wter Sam ie: 10/20 ne: 9:30 am iff Hard ense

	: City of O	akland					Project	Numb	er:	153-12	7-004			
Site A	ddress: 71	01 Edge	water	Dr., (Oakland	l	Geolog	ist: Bo	b So	chultz				
DP	- 67-	3.0'	r											
	Location:									Da	te: l	ן ט	20	
Collecti	ion Method:	bue	æh.	φ						Ti	ne:	9	:50	7
	Depth: 3						<u> </u>							_
						()			1				0	
Clay	Perce Silt	ntages Sand	Gr	avel	Color:					Plastic: Permea			loc	
20	30	20	 -	(O	Odor:		ed.h	<u> </u>			omiy. ading (p	*		<u>~</u>
		•							· · ·					
USC C	lass: GP GM	(GC)	sw	SP	SM	sc	ML	CL	OI	L M	і Сн	П	ОН	Pt
	· _r · · · · · -		, W11	1 01	1 5171	, 00						- 1		
ine-	Soil Strength Very soft		oft	·	Firm		Stif	 f		Very s	iff	Н	ard	
grained soils:	Voly soil	.51		10 m		-	Jul.	•		·		11		
Coarse- grained	Very loose	: L	oose	(Mediu	m den	se Der	ise		Very d	ense			
-	1			_										
oils:	1					•							401	
oils:	pe and Comi	nents: (luz	en G	ravel	1 -	- Ru	bble	10	lebri	, fil	<u></u>	(e)	ranci
Soils:	pe and Com	nents: (lay	in G	ravel	1 -	- Ru	Able	10	lebri	, fil] : 	(e) 107	ranci
Soil Ty		50		-y G	ravel	1 -	- Ru	bble	10					conic
Soil Ty TDP Sample	Location:	join	t		ravel	1 -	- Re	Sble	10	Da	te: <i>lE</i>	1	ZO	
Soil Ty Sample Collecti	Location:	join bac	t kho		ravel	1 -	- Re	SBCe	10		te: <i>lE</i>	1		
Soil Ty Sample Collecti	Location:	join	t Cho		ravel	! -	- Re	BBCe	10	Da	te: <i>lE</i>	1	ZO	
Soil Ty Sample Collecti	Location:	bac	t Cho		ravel	1 -	- Ru	SBCe	10	Da	te: <i>lE</i>	1	ZO	
Soil Ty Sample Collecti	Location: ion Method:	join bac	t Cho		Firm	1 -	Stiff		10	Da	te: <i>l</i> &	0:	ZO	
Soil Ty Sample Collecti Sample Fine-grained soils: Coarse-grained	Location: ion Method: Depth: 2	join bac 0	t Lhe				Stif	f	1/0	Da	ne: /	0:	20	
Soil Ty Soil Ty Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	Location: ion Method: Depth: 2 Soil Strengt Very soft Very loose	join bac 0	t khe		Firm		Stif	f	10	Da Tir	ne: /	0:	20	
Soil Ty Soil Ty Sample Collecti Sample Sample Coarse-grained soils: Coarse-grained soils:	Location: ion Method: Depth: 2 Soil Strengt Very soft Very loose	join bac Bac Bac Bac Bac Bac Bac Bac Bac Bac B	t khe	(Firm	m den	Stiff	f		Very s	iff	H	20 05 ard	
Soil Ty Soil Ty Sample Collecti Sample Sample Coarse-grained soils: Coarse-grained soils:	Location: ion Method: Depth: 2 Soil Strengt Very soft Very loose	join bac 0	t khe		Firm		Stif	f	10	Very s	iff	H	20	
Soil Ty Soil Ty Sample Collecti Sample Sample Coarse-grained soils: Coarse-grained soils:	Location: ion Method: Depth: 2 Soil Strengt Very soft Very loose lass: GP GM	bac bac So L	t khe	(Firm Medium SM Color:	m den	Stiff	f		Very d	iff iff case	H	20 05 ard	
Soil Ty Soil Ty Sample Collecti Sample Sample Coarse-grained soils: Coarse-grained soils:	Location: ion Method: Depth: 2 Soil Strengt Very soft Very loose lass: GP GM	join bac So L	t khe	(Firm Medium SM Color: Moistur	m den	Stiff	f		Very d	iff iff case	H	20 05 ard	
Soil Ty Soil Ty Sample Collecti Sample Sample Coarse-grained soils: Coarse-grained soils:	Location: ion Method: Depth: 2 Soil Strengt Very soft Very loose lass: GP GM	bac bac So L	t khe	(Firm Medium SM Color:	m den	Stiff	f		Very d	iff iff case	H	20 05 ard	
Soil Ty Soil Ty Sample Collecti Sample Sample Coarse- grained soils: Coarse- grained soils: USC C GW Clay	Location: ion Method: Depth: 2 Soil Strengt Very soft Very loose lass: GP GM	bac bac Bac Bac Sentages	oft SW	(SP	Firm Medium SM Color: Moistur	m den	Stif	f cL	lo	Very d Very d L M Plastic: Permea	iff iff case	н	ZO 5	Pt

OHOH.	City of Oa	akianu			Project Numb	er. 155-1	247-004		
Site Add	dress: 710	1 Edgew	vater Dr.,	Oakland	Geologist: Bo	b Schult	Z		
TDP-	69-5	55			·				
Sample L	ocation:	hydra	ent,				Date: 10	120	
Collection	n Method:	ba	ect ho	و		,	Time: /O	1:15	
Sample D	epth: 5	·5′		···········					
	Percei	ntages		Color:	urk gren	Plast	icity: V	hodium	~
Clay	Silt	Sand	Gravel	Moisture:	damp	Perm	eability:	V. lou	<u> </u>
25	30	<5	45	Odor: 5	trong he	PID	Reading (pp	m): 25	
USC Clas	ss:				<u>, , , , , , , , , , , , , , , , , , , </u>				
GW GI		(GC)	SW SP	SM S	C MIL CL	OL	мн сн	ОН Р	
	Soil Strength	÷	·		·				
	Very soft	Soft		Firm	Stiff	Very	stiff	Hard	
soils: Coarse- grained	Very loose	Loo	se	Medium de	ense Dense	Very	dense		
soils: Coarse- grained soils:									
soils: Coarse- grained soils:	Very loose			Medium do		Very			
soils: Coarse- grained soils: Soil Type		nents: (layey						
soils: Coarse-grained soils: Soil Type	and Comn	3.5	layey			u deco	n's	120	
soils: Coarse- grained soils: Soil Type TDP- Sample L	and Comm	3.5'	Layen			1 de 6	C'S	120	
soils: Coarse- grained soils: Soil Type TDP- Sample Le Collection	and Comm	3.5	Layen			1 de 6	C'S	·	
soils: Coarse- grained soils: Soil Type TDP- Sample Le Collectior Sample D	and Comm	3.5' sint buck	Layen			1 de 6	C'S	·	
soils: Coarse-grained soils: Soil Type TDP- Sample La Collection Sample D	and Commodition:	3.5' sint buck	layen			1	C'S	·	
soils: Coarse-grained soils: Soil Type FDP- Sample Lo Collectior Sample D Fine-grained soils:	and Common and Common Method: Depth: 3	sents: Co	layen	Gave	Stiff	Very	(1'S) Date: 10	: 25	
soils: Coarse-grained soils: Soil Type TDP- Sample Le Collection Sample D Fine-grained soils: Coarse-grained soils:	and Common	soft	layen	Grave	Stiff	Very	Oate: 10	: 25	
soils: Coarse- grained soils: Soil Type DP- Sample La Collection Sample D Fine- grained soils: Coarse- grained soils: USC Clas	and Common and Common Method: Depth: 3 Soil Strength Very soft Very loose ss:	somb buck Soft	layen hoe	Firm Medium de	Stiff ense Dense	Very	Oate: 10 Fime: 10	: Z \	
soils: Coarse- grained soils: Soil Type TDP- Sample La Collection Sample D Fine- grained soils: Coarse- grained soils: USC Clas	and Common	Soft GC S	layen	Firm Medium de	Stiff ense Dense	Very	Oate: 10 Sime: 10 Stiff dense	: 25	
soils: Coarse-grained soils: Soil Type TDP- Sample Le Collection Sample D Fine-grained soils: Coarse-grained soils: USC Clas GW GI	and Common	Soft GC S sents: CC Soft	hoe se sp	Firm Medium de	Stiff ense Dense	Very Very	Date: 10 Fime: 10 stiff dense MH CH	: Z \	
soils: Coarse-grained soils: Soil Type CDP- Sample La Collection Sample D Fine-grained soils: Coarse-grained soils: USC Clas	and Common	Soft GC S	layen hoe	Firm Medium de	Stiff ense Dense	Very Very Plast Perm	Oate: 10 Cime: 10 Stiff dense MH CH city: eability:	Hard P	

Client:	City of Oa	akland				Project	Number:	153	-1247-	004		
Site Ac	ldress: 710	1 Edgew	ater I)r., (Oakland	Geologi	st: Bob S	Schul	ltz			
DP-	71-	5.5						+	phy	s. pr	ър · с	ams
Sample 1	Location:	Soint			"				Date:	10/	20	
Collection	on Method:	hack	<u>.</u> ho	æ			,		Time:	lo:	55	
Sample l	Depth:	5.5'						:				
			·				•			h	oplin	m
		ntages			Color: do	wk gree	1	Pla	sticity:	7/12-7	hoge	-
Clay	Silt	Sand	Grave	1	Moisture:	damp	-marst	1	meabili		eu	
<i>2.5</i>	45	30		-	Odor: h	<u>, – и</u>	word.	PII) Readi	ng (ppn	i): Z i	2
USC Cl	ass:			•	K							
GW (GP GM	GC S	sw	SP	SM SC	ML	CL (OL	МН	СН	OH	Pt
	Soil Strength	<u>-</u>										
Fine- grained	Very soft	Soft		/(Firm	Stiff		Ve	ry stiff]	Hard	
soils:			.,				·					
Coarse- grained soils:	Very loose	Loo	se		Medium de	ense Dens	se	Ve	ry dens	e 		
Soil Tyn	e and Comn	nents. (-11				/			· · · · ·		
			y Ur	•	- Clou	py 1 3	unde	7				
DP-	72-	-6.5	_ /		•		(+ win	ten	Sa	mpl	le (a)	10:
Sample l	Location:	hydr	ant	_	en	d of	NW le	ine	Date:	10/	20	
Collectio	on Method:	back	/			0			Time:	10	: 35	_
Sample 1	Depth: 6	5.51										
	Soil Strength	<u>.</u>							-			
Fine- grained soils:	Very soft	Soft			Firm	Stiff)	Ve	ry stiff]	Hard	·
Coarse- grained soils:	Very loose	Loo	se		Medium de	ense Dens	se	Ve	ry dens	e		
USC CI	ass:					<u></u>				. i.		
GW (GP GM	GC 5	sw	SP	SM SC	ML	CL	OL	MH	CH	OH	Pt
	Daron	ntages			Color: de	erk or		Dia	sticity:	m	rio/	
Clay	Silt	Sand	Grave	:l	Moisture:	400 F			meabili		200	
30	60	10	1		Odor: M	ent h	<u> </u>		is/:	50		
		· ·								-		
Soil Typ	e and Comn	nents: U	seger	'n (Silt w	/ fin	Q Sar	ral				
					•	/ / -						
\TEMPLA	TE\FORMS\F	ELD\samplel	ogging.v	vpd								

Client: City of Oakland	Project Number: 153-1247-004
Site Address: 7101 Edgewater Dr., Oakland	Geologist: Bob Schultz
FDP- 73 (6')	
Sample Location: TOINT 73	Date: 10 · 27 · 93
Collection Method: PAZ CA 12	Time: 955
Sample Depth: (3)	
Percentages Color: ?	9ww Plasticity: /1/e_/
Clay Silt Sand Gravel Moisture:	Permeability: Lores
25 15 10 40 Odor: 57	PID Reading (ppm):
USC Class:	·····
GW GP GM (GC) SW SP SM S	C ML CL OL MH CH OH Pt
Soil Strength:	`
Fine-grained soils:	Stiff Very stiff Hard
	ense Dense Very dense
Soil Type and Comments: Chyc. Gana	(Kill)
FDP- 74((1)	<u> </u>
Sample Location: Janut 74	Date: 10 27 .98
Collection Method: Backhae	Time: /005
Sample Depth: ()	
Soil Strength:	
Fine- grained soils:	Stiff Very stiff Hard
Coarse grained soils: Very loose Loose Medium de la Medi	ense Dense Very dense
USC Class:	
GW GP GM GC SW SP SM SG	ML CL OL MH CH OH Pt
Percentages Color: 7/	NW Plasticity: Low - Mel
Clay Silt Sand Gravel, Moisture: 7	Permeability: - Low
Soil Type and Comments: Clark GRAVEL	· (FILL)

Sample Location: Joint Date: 10/27/9	
Sample Location: Joinf Date: 10/27/5 Collection Method: Child Sample Depth: 4.5 Date: 10/27/5 Sample Depth: 4.5 Date: 10/27/5 Time: 9/56 Percentages Clay Silt Sand Gravel Moisture: The Permeability: -L D 42 23 15 Odor: 45 - gas PID Reading (ppm): 13 USC Class: GW GP GM GC SW SP SM SC MI CL OL MH CH OH Soil Strength: Fine Very soft Soft Firm Stiff Very stiff Hard soils: Soil Type and Comments: Strong HC Gd. A Taw's Sundy Silver Sample Location: 475 Hydrand 75 Collection Method: Parkhar TS Sample Depth: 6,5 Soft Firm Stiff Very stiff Hard duplicate Sample Depth: 6,5 Soft Strength: Fine Stiff Very stiff Hard duplicate Sample Depth: 6,5 Soft Firm Stiff Very stiff Hard soils: Very soft Soft Firm Stiff Very stiff Hard soils: Very soft Soft Firm Stiff Very stiff Hard soils: Very soft Soft Firm Stiff Very stiff Hard soils: Very soft Soft Firm Stiff Very stiff Hard soils: Very soft Soft Firm Stiff Very stiff Hard soils: Very soft Soft Firm Stiff Very stiff Hard soils: Very soft Soft Firm Stiff Very stiff Hard soils: Very soft Soft Firm Stiff Very stiff Hard soils: Very soft Soft Firm Stiff Very stiff Hard soils: Very soft Soft Firm Stiff Very stiff Hard soils: Very soft Soft Firm Stiff Very stiff Hard soils: Very soft Soft Firm Stiff Very stiff Hard soils: Very soft Soft Firm Stiff Very stiff Hard soils: Very soft Soft Firm Stiff Very stiff Hard Soils: Very soft Soft Firm Stiff Very stiff Hard Soils: Very soft Soft Firm Stiff Very stiff Hard Soils: Very soft Soft Firm Stiff Very stiff Hard Soils: Very soft Soft Firm Stiff Very stiff Hard Soils: Very soft Soft Firm Stiff Very stiff Hard Soils: Very soft Soft Firm Stiff Very stiff Hard Soils: Very soft Soft Firm Stiff Very stiff Hard Soils: Very soft Soft Firm Stiff Very stiff Hard Soils: Very soft Soft Firm Stiff Very stiff Hard Soils: Very soft Soft Firm Stiff Very stiff Hard Soils: Very soft Soft Firm Stiff Very stiff Hard Soils: Very soft Soft Firm Stiff Very stiff Hard Soils: Very soft Soft Firm Stiff Very stiff Hard Soils: Very soft Soft Firm Stif	
Sample Location:	s. Δ
Collection Method: CACLESE Sample Depth: 15 1945 Percentages Clay Silt Sand Gravel Moisture: Think Permeability: - L 2D 40 23 15 Odor: 15 - 925 PID Reading (ppm): 13 USC Class: GW GP GM GC SW SP SM SC ML/CL OL MH CH OH Soil Strength: Fine grained soils: Soil Type and Comments: Strom HC Gdw & think Suff Soil Type and Comments: Strom HC Gdw & think Suff FDP- 75 (6.5') Field dupheat Sample Location: 175 find 1 mm 75 Collection Method: Racker Soil Strength: Fine Soil Strength: Fine Soil Strength: Fine Soil Strength: Soil Strength: Fine Stiff Very stiff Hard	
Percentages Color: ANN ACATIA Plasticity: AN AMA Clay Silt Sand Gravel, Moisture: The Permeability: - L Odor: Les - 945 PID Reading (ppm): 13 USC Class: GW GP GM GC SW SP SM SC MI CL OL MH CH OH Soil Strength: Fine- grained soils: Coarse- grained soils: Soil Type and Comments: Strong HC Gdw & Tawis Sample Location: Last Andrew To Date: 10, 27, 9 Collection Method: Rackage Soil Strength: Fine- Sample Location: Last Andrew To Date: 10, 27, 9 Collection Method: Rackage Soil Strength: Fine- grained Soils: Soil Strength: Fine- grained Very soft Soft Firm Stiff Very stiff Hard Soils: Soil Strength: Fine- grained Soils: Very soft Soft Firm Stiff Very stiff Hard Soils: Coarse- grained Very soft Soft Firm Stiff Very stiff Hard Soils: Coarse- grained Soils: Very loose Loose Medium dense Dense Very dense	7
Percentages Color: 7/11/11 125/11/2 Plasticity: 11/2 11/2	
Clay Silt Sand Gravel, Moisture: The Permeability:	
Clay Silt Sand Gravel, Moisture: Titled Permeability: - 20 43 23 /5 Odor: V5 - 945 PID Reading (ppm): /3 USC Class: GW GP GM GC SW SP SM SC ML/CL OL MH CH OH Soil Strength: Fine-grained soils: Very soft Soft Firm Stiff Very stiff Hard Soil Type and Comments: Strong HC 6dw & Jaws Sandy Silventh Sample Location: V75 Hydrand 75 Date: /0.27.9 Collection Method: Rackage Time: /b:/o Sample Depth: (, 5) Soil Strength: Fine-grained soils: Soil Strength: Fine-grained soils: Very stiff Hard Stiff Very stiff Hard Time: /b:/o	
USC Class: GW GP GM GC SW SP SM SC ML/CL OL MH CH OH Soil Strength: Fine grained soils: Coarse-grained soils: Soil Type and Comments: Strong HC 6d w & taws Sample Location: U75 Hydrand 75 Collection Method: Parkhard Soil Strength: Fine Stiff Very stiff Hard Date: 10,27,9 Collection Method: Parkhard Soil Strength: Fine grained soils: Soil Strength: Fine grained soils: Very soft Soft Firm Stiff Very stiff Hard Coarse-grained soils:	
GW GP GM GC SW SP SM SC ML/CL OL MH CH OH Soil Strength:	<u>'</u>
GW GP GM GC SW SP SM SC ML/CL OL MH CH OH Soil Strength:	
Fine-grained soils: Coarse-grained soils: Very loose Loose Medium dense Dense Very dense Soil Type and Comments: Strong HC 6d of Haws Sandy Silver Sample Location: U75 Hydrand 75 Collection Method: PALLAGE Soil Strength: Fine-grained soils: Coarse-grained Very soft Soft Firm Stiff Very stiff Hard Coarse-grained Very loose Loose Medium dense Dense Very dense	Pt
Fine-grained soils: Coarse-grained soils: Very loose Loose Medium dense Dense Very dense Soil Type and Comments: Strong HC 6d at A tails Sandy Sill FDP- 75 (6.5') field duplicat Sample Location: U.75 fty diant 75 Date: 10.27.9 Collection Method: Fackbase Time: 10.10 Sample Depth: 6.5' Soil Strength: Fine-grained soils: Coarse-grained Very loose Loose Medium dense Dense Very dense	
Coarse-grained soils: Soil Type and Comments: Strong HC 6d at \$ stands FDP- 75 (6.5') Field dupheet Sample Location: U75 Hydrand 75 Collection Method: Frickles Sample Depth: 6.5' Soil Strength: Fine-grained soils: Coarse-grained Very loose Loose Medium dense Dense Very dense Very dense	
Soil Type and Comments: Strong HC 6der & Jaws Sundy Sill FDP- 75 (6.5') Field dupheed Sample Location: 475 Hydrand 75 Date: 10.27.9 Collection Method: Field dupheed Time: 10.10 Sample Depth: 6.5' Soil Strength: Fine grained soils: Coarse grained Very loose Loose Medium dense Dense Very dense	
Sample Location: U75 Hydrand 75 Collection Method: Reclare Sample Depth: Soft Strength: Fine-grained soils: Coarse-grained Very loose Loose Medium dense Date: /0' 27.9 Time: /0' 27.9	
Sample Location: U75 And/and 75 Collection Method: Reclare Sample Depth: (.5 Soil Strength: Fine-grained soils: Coarse-grained Very loose Loose Medium dense Dense Date: /0' 27.9 Time: /8:/0 Time: /8:/0	1+ (
Collection Method: Zaclase Sample Depth: 0.5 Soil Strength: Fine-grained soils: Coarse-grained Very loose Loose Medium dense Dense Very dense	
Sample Depth: (3,5) Soil Strength: Fine-grained soils: Coarse-grained Very loose Loose Medium dense Dense Very dense	77
Sample Depth: 6.5 Soil Strength: Fine-grained soils: Coarse-grained Very loose Loose Medium dense Dense Very dense	
Soil Strength: Fine-grained soils: Coarse-grained Very loose Loose Medium dense Dense Very dense	
Fine-grained soils: Coarse-grained Very soft Soft Firm Stiff Very stiff Hard Hard Very stiff Hard Very stiff Hard Very loose Medium dense Dense Very dense	
Coarse-grained Very loose Loose Medium dense Dense Very dense	
SOILS;	$\neg \neg$
USC Class: GW GP GM /GC &W SP SM SC ML CL OL MH CH OH	
	Pt
Percentages Color: Prop Plasticity: 100 20 Ma	Pt
Clay Silt Sand Gravel Moisture: Permeability: Low	
25 20 15 40 Odor: 1/2	
Soil Type and Comments: Clarcy GANA (F.LL) - Staining /Odine	

Client	City of O	akland			Project Number	er: 153	-1247-004
Site A	ddress: 710	01 Edgew	ater Dr.,	Oakland	Geologist: Bol	Schu	ltz
FDP	- 77 -	5:5 ¹		·			
Sample	Location:	hydr	ant				Date: 10/27
Collecti	on Method:	back	hoe				Time: 10:46
Sample	Depth: 4	5.51					
	**				1 10 ours	N W	offiche
		ntages	T	Color: do	I SOUTH WAY	\neg	sticity: h.lingh
Clay	Silt	Sand	Gravel	Moisture:	dary	\neg	rmeability: من
15	25	1 25	127	Odor:	Tone he	PII	D Reading (ppm):
USC CI	ass:		•				
GW (GP GM	(GC) [SW SP	SM S	C ML CL	OL	MH CH OH Pt
	Soil Strength	<u> </u>					
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Ve	ry stiff Hard
Coarse- grained soils:	Very loose	Loo	se	Medium de	ense Dense	Ve	ry dense
Soil Typ	e and Comm	nents:	lazen	Craw	<u>.</u> l		
FDP-	78-6	6.0	ر)			
Sample	Location:	نستائ	4				Date: (0/27
Collection	on Method:	buc	& hoe				Time: 11:00
Sample	Depth: 6	.01				•	·
	Soil Strength						
Fine- grained soils:	Very soft	Soft	· · · · · · ·	Firm	Stiff	Ve	ry stiff Hard
Coarse- grained soils:	Very loose	Loos	se	Medium de	ense Dense	Ve	ry dense
USC Cl	255.				·	· •• • • •	1
	GP GM	GC S	W SP	SM SC	ML CL	OL	MH CH OH Pt
Clay	Percei Silt	ntages Sand	Gravel	Moisture:	own mottled &	Pla	meability: Low
15	50	15	20	Odor:	tone he	rei	incaomity.
Soil Typ	e and Comm		: 0L .		0	1.	clay
		•	<u>~~~ </u>	1 60	aver, Samo	V 4	- vuc

Client	: City of O	akland			Project Numbe	r: 153-1247-00	04
Site A	ddress: 71()1 Edgew	ater Dr.,	Oakland	Geologist: Bob	Schultz	
FDP	- 79- 4	4.5					
Sample	Location:) ou	*			Date:	10 27
Collecti	ion Method:	back	choe			Time:	11:15
Sample	Depth:	1.51			· · · · · · · · · · · · · · · · · · ·		
					<u></u>		Lucia.
		ntages	T	Color: bc	own milledy	Plasticity:	m. Willy
Clay	Silt	Sand	Gravel	Moisture:	donne	Permeability	
30	150	25		Odor: 5	trong des	PID Reading	(ppm):
USC C	lass:						
GW	GP GM	GC S	SW SP	(SM) S	C MH/ CL	OL MH	CH OH Pt
	Soil Strength	- 1:		<u>·</u>			
Fine- grained	Very soft	Soft		Firm	Stiff	Very stiff	Hard
SOIIS:							
coarse- grained soils:	Very loose	Loo	se	Medium de	ense Dense	Very dense	
Coarse- grained soils:	Very loose				. 1	4004:0	1
Coarse-grained soils:	pe and Comm		sande		. 0	4004:0	moll quant
Coarse-grained soils: Soil Ty	pe and Comm				. 1	1+grave	mollquant
Coarse-grained soils: Soil Ty FDP Sample	pe and Comm	nents: (Sande		. 1	1+grave	0/27
Coarse-grained soils: Soil Ty FDP Sample Collect	pe and Comm	nents: (Sande		. 1	1+grave	10/27 11:23
Coarse- grained soils: Soil Ty FDP Sample Collect	pe and Communication. Location: ion Method: Depth:	nents: (5.0' sorul buch 5.0'	Sande		. 1	1+grave	0/27
Coarse-grained soils: Soil Ty FDP Sample Collecti Sample	pe and Communication. Location: ion Method: Depth:	nents: (5.0' Soint buck 5.0'	Sande	1 Silk	w / clay	Date:	11:23
Coarse- grained soils: Soil Ty FDP Sample Collect	pe and Communication. Location: ion Method: Depth:	nents: (5.0' sorul buch 5.0'	Sande		. 1	1+grave	0/27
Coarse- grained soils: Soil Ty FDP Sample Collect: Sample	pe and Communication. Location: ion Method: Depth:	soint buch	Sande	1 Silk	w / color	Date:	11:23
Coarse-grained soils: Soil Ty FDP Sample Collect: Sample Fine-grained soils: Coarse-grained soils:	pe and Communication: Location: ion Method: Depth: Soil Strength Very soft Very loose	soint buch	Sande	J Silk Firm	w / color	Date: Time:	11:23
Coarse- grained soils: Soil Ty FDP Sample Collect: Sample Fine- grained soils: Coarse- grained soils:	pe and Communication: Location: ion Method: Depth: Soil Strength Very soft Very loose	sorul Soft	Sande	J Silk Firm	Stiff Dense	Date: Time: Very stiff Very dense	11:23
Coarse-grained soils: Soil Ty FDP Sample Collect: Sample Fine-grained soils: Coarse-grained soils:	pe and Communication: Location: ion Method: Depth: Soil Strength Very soft Very loose lass: GP GM	sorul Soft Loo	Sanole	Firm Medium de	Stiff C ML CL	Date: Time: Very stiff Very dense	0 27 11:.25 Hard
Coarse-grained soils: Soil Ty FDP Sample Collect: Sample Fine-grained soils: Coarse-grained soils:	pe and Communication: Location: ion Method: Depth: Soil Strength Very soft Very loose lass: GP GM	sorul Soft	Sanole	Firm Medium de	Stiff Dense	Date: Time: Very stiff Very dense	0 27 11'. 23 Hard
Coarse-grained soils: Soil Ty FDP Sample Collect: Sample Fine-grained soils: Coarse-grained soils: USC C GW	pe and Communication: Location: ion Method: Depth: Soil Strength Very soft Very loose lass: GP GM Perce	sorul Soft Loo	Sande Lhop se	Firm Medium de	Stiff C ML CL	Date: Time: Very stiff Very dense	0 27 11'. 23 Hard
Coarse-grained soils: Soil Ty FDP Sample Collect: Sample Fine-grained soils: Coarse-grained soils: USC C GW Clay	pe and Comm Location: ion Method: Depth: Soil Strength Very soft Very loose lass: GP GM Perce Silt	sorul Soft Loo GC S ntages Sand	Sande Luce se SW SP	Firm Medium de SM Se Color: 6- Moisture:	Stiff C ML CL	Date: Time: Very stiff Very dense	0 27 11'. 23 Hard

													
Client	: City of C	Dakland					Projec	t Numl	ber: 15	3-1247-	-004		
Site A	ddress: 71	101 Edge	ewater	Dr.,	Oaklan	d	Geolo	gist: Bo	ob Sch	ultz /2	491		•
FDP	- 81 (´5')											
	Location:		5 51							Date:	101	7.7	197
	on Method:									Time:		<u>~~/</u> ?⁄\	12
	Depth:							·			7 7		
	Perc	entages		•	Color:	⊋,	SWN .		P	lasticity:	· ·		
Clay	Silt	Sand	Gra	vel				<u> </u>		ermeabili	ity:		
<u> 15</u>	20	15	4	0	1		الأيبان	-		ID Readi	•	n):	
USC CI	ass:						3			 -			
	GP GM	(GC	św	SP	SM	SC	ML	CL	OL	МН	СН	ОН	Pt
	Soil Strengt	h:											
Fine- grained soils:	Very soft		oft	•	Firm		Stil	f	V	ery stiff		Hard	
Coarse- grained soils:	Very loose	e L	oose	-	Mediu	m den	ise Dei	nse	v	ery dense	e		
Soil Ty _l	e and Com	ments:	Clark	201	SAA.	استاد		PEU	<u>,)) </u>				
DP.	82-		1	7.		سيامي		(, , , -	1				
	Location:		lran	+						Date:	10/	27	·····
	on Method:			و						Time:	17:	43	
Sample	Depth: 💪	5'											
	Soil Strengt	h: `			<u> </u>								
Fine- grained soils:	Very soft	Sc	oft		Firm		Stif	f	V	ery stiff		Hard	
Coarse- grained soils:	Very loose	e Lo	oose		Mediu	m den	se Der	ise	V	ery dense	;		
USC Cl	966*		· · · · · · · · · · · · · · · · · · ·										
	GP GM	(GC)	sw	SP	SM	SC	ML	CL	OL	МН	СН	ОН	Pt
	Perce	entages	-		Color:	artico N	rey	10/h	DI.	asticity:	184	elim	
Clay	Silt	Sand	Grav	el	Moistur	e: A	TANK!	<u> </u>	PI:	asucity: rmeabilit		1	<u></u>
25	25	35	1	5	Odor:	Skr	me	he			-y• • •		
Soil Typ	e and Com	nents:		Su	nd-0		wel.	-sil	J- (len	ni	xt.	<u> </u>
		3		<u>ی در</u>	ours	e c	wer	elar	Cran		.,, 1	- /\\	<u>, (y</u>
TEMPLA	TE\FORMS\F	TELD\samp	lelogging.	wpd			۵	•	2-0-		-		

Chone. C	ity of Oa	Klanu			Project Num	Der: 133	-1247-0	104	
Site Add	ress: 710	1 Edgewa	ater Dr., (Dakland	Geologist: B	ob Schu	ltz	_	
FDP-	83((G')				,		_	
Sample Lo	ocation:	TOINT_	83				Date:	13.27	1.95
Collection	Method:	Barlet	بربي				Time:	1307	
Sample De	/	9	1.100			<u></u>			
	Percen	itages		Color: 7	Yana	Pla	sticity:	2020	11:1
Clay	Silt	Sand	Gravel	Moisture:				y: Linus	4.
25	20	15	الملك	Odor: 🎸	tream the	PI	D Readin	g (ppm):	· <u>-</u>
USC Class	F•	**************************************	•		J	*			·
GW GP		Ger s	W SP	SM S	C ML CL	OL	МН	СН ОН	Pt
s	Soil Strength:								
Fine- \\ grained	Very soft	Soft		Firm	Stiff	Ve	ery stiff	Hard	
soils:	Very loose	Loos	se	Medium d	lense Dense	Ve	ery dense		
soils: Coarse- grained soils:	Very loose	······································	se La la ()					, .	
soils: Coarse-grained soils: Soil Type		······································	fau a f	Medium d		Fill		,	
soils: Coarse-grained soils: Soil Type	and Comm	ents: C	tomaj)	10.27.	93
soils: Coarse-grained soils: Soil Type FDP- Sample Lo	and Comm	ents: () S')	tanjaj 84				Date:	10.27.	93
soils: Coarse-grained soils: Soil Type	and Comm	ents: C	tanjaj 84)	1316	91
soils: Coarse-grained soils: Soil Type FDP- Sample Lo Collection Sample De	and Comm	ents: C S') Bist S Brik	tanjaj 84				Date:	1316	91
soils: Coarse-grained soils: Soil Type FDP- Sample Lo Collection Sample De S Fine-grained	and Comm	ents: C S') Bist S Brik	Annag 14 1975 E			Fill	Date:	10 .27. /316 Hard	
soils: Coarse-grained soils: Soil Type FDP- Sample Lo Collection Sample De S Fine-grained soils:	and Comm	ents: C S') Birth S Brik S'	Amaj 194 1955	GRA	Stiff	Fice	Date:	/3/6 Hard	
soils: Coarse-grained soils: Soil Type FDP- Sample Lo Collection Sample De Fine-grained soils: Coarse-grained soils:	and Common	ents: C	Amaj 194 1955	Firm	Stiff	Fi UU Vi	Date: Time:	/3/6 Hard	
Soils: Coarse-grained soils: Soil Type FDP- Sample Lo Collection Sample De S Fine-grained soils: Coarse-grained	and Comm 84 (3 ocation: 3 Method: epth: Soil Strength: Very soft Very loose	ents: C	Amaj 194 1955	Firm Medium d	Stiff	Fi UU Vi	Date: Time:	/3/6 Hard	***
soils: Coarse-grained soils: Soil Type FDP- Sample Lo Collection Sample De S Fine-grained soils: Coarse-grained soils: USC Clas	and Comm 84 (3) Decation: Method: Epth: Soil Strength: Very soft Very loose SS: GM	ents: (C) Sin Sin Sin Soft Loos	Anney By By Ses	Firm Medium of	Stiff lense Dense	V. V.	Date: Time: ery stiff ery dense	Hard	***
soils: Coarse-grained soils: Soil Type FDP- Sample Lo Collection Sample De S Fine-grained soils: Coarse-grained soils: USC Clas	and Comm 84 (3 ocation: 3 Method: epth: Soil Strength: Very soft Very loose	ents: (C) Sin Sin Sin Soft Loos	Anney By Shire	Firm Medium of SM S	Stiff lense Dense	Ve Ve	Date: Time: ery stiff ery dense	Hard CH OH	***
Soils: Coarse-grained soils: Soil Type FDP- Sample Lo Collection Sample De Sample De Service S	and Comm 84 (3 Decation: 5 Method: Epth: Soil Strength: Very soft Very loose SS: GM Percer	ents: C	Amely By By Sw Sp	Firm Medium of SM S Color: Moisture:	Stiff lense Dense	Ve Ve	Date: Time: ery stiff ery dense	Hard	***

	: City of O	akland			Project	Numbe	er: 153	3-1247	-004		
Site A	ddress: 710	01 Edgew	ater Dr.,	Oakland	Geologi	ist: Bol	b Schu	ıltz			
FDP	- 85										
Sample	Location: 🤇	13125T	.35					Date:	10,	27.	93
Collect	ion Method:	かえにけ	ನಿ ೭					Time	: 137	21	
Sample	Depth:	7'		,							
	Poros	ntages		Color: B	Kuni		Di	asticity:	Ma		
Clay	Silt	Sand	Gravel	Moisture:				rmeabil			
.20	20	20	40	Odor:		كرسيطا		D Readi			
USC C	lass:	····		 							
	GP GM	GC_PS	SW SP	SM SC	ML.	CL	OL	МН	СН	ОН	P
	Soil Strength	•									
Fine- grained soils:	Very soft	Soft		Firm	Stiff		V	ery stiff		Hard	•
Coarse- grained soils:	Very loose			Medium de				ery dens	e		
grained soils:	pe and Comm			Medium de				ery dens	e		
grained soils: Soil Ty	pe and Comm							Date:	e		
grained soils: Soil Type FDP Sample	pe and Comn										
grained soils: Soil Type FDP Sample	pe and Communication: Location:							Date:			
grained soils: Soil Type FDP Sample Collecti	pe and Comm Location: ion Method: Depth:	nents:						Date:			
grained soils: Soil Type FDP Sample Collecti	pe and Communication: Location:	nents:	lay en			Fice)	Date:		Hard	
grained soils: Soil Type Sample Collecti Sample	pe and Comm Location: ion Method: Depth: Soil Strength	nents:	layen	GUNE	Stiff	Fice	Ve	Date: Time:		Hard	
grained soils: Soil Type FDP: Sample Collecti Sample Fine-grained soils: Coarse-grained soils:	pe and Communication: Location: ion Method: Depth: Soil Strength Very soft Very loose	nents:	layen	GUNE	Stiff	Fice	Ve	Date: Time:		Hard	
grained soils: Soil Type FIDP Sample Collecti Sample Fine-grained soils: Coarse-grained soils: USC Cl	pe and Communication: Location: ion Method: Depth: Soil Strength Very soft Very loose	Soft	layen	GUNE	Stiff	Fice	Ve	Date: Time:		Hard	I P
grained soils: Soil Type FIDP Sample Collecti Sample Fine-grained soils: Coarse-grained soils: USC Cl	pe and Comm Location: ton Method: Depth: Soil Strength Very soft Very loose lass:	Soft Loos	ling en	GUN:	Stiff	Five e	Ve	Date: Time: ery stiff ery dens	е		P
grained soils: Soil Type FIDP Sample Collecti Sample Fine-grained soils: Coarse-grained soils: USC Cl	pe and Communication: Location: ion Method: Depth: Soil Strength Very soft Very loose lass: GP GM	Soft Loos	ling en	Firm Medium de	Stiff	Five e	Ve Ve	Date: Time:	е		P

Client: City of Oakland	Project Number: 153-1247-004
Site Address: 7101 Edgewater Dr., Oakland	Geologist: Bob Schultz
FDP-86 - 4.0'	
Sample Location: Doub	Date: 16 2 7
Collection Method: backhae	Time: 2:05
Sample Depth: 4.51	
Percentages Color: d	who well Plasticity: Medium
Clay Silt Sand Gravel Moisture:	
	Fronc hc PID Reading (ppm):
USC Class:)
GW GP GM (SC) SW SP SM S	C ML CL OL MH CH OH Pt
Soft Strength:	
Fine- grained estile:	Stiff Very stiff Hard
soils:	
Coarse- grained soils: Loose Medium d	lense Dense Very dense
grained soils: Soil Type and Comments: Debris - Cill TDP-87-5.0'	lense Dense Very dense Charge Silb W/ gravel + Sand roots, wires, glass, Brick
grained soils:	
Soil Type and Comments: Debris - fill **DP-87-5.0' Sample Location: hydrauf	Charge Silt w/ gravel + Sand roots, wires, glass, brick
Soil Type and Comments: Debris - fill TDP-87-5.0' Sample Location: hydrauf Collection Method: buck hel	Charge Silt w/ gravel + Sand roots, wires, glass, brick
Soil Type and Comments: Debris - fill TDP-87-5.0' Sample Location: hydrauf Collection Method: buck hel Sample Depth: 5.0'	Charge Silt w/ gravel + Sand roots, wires, glass, brick
Soil Type and Comments: Debris - fill TDP-87-5.0' Sample Location: hydrauf Collection Method: buck hel	Charge Silt w/ gravel + Sand roots, wires, glass, brick
Soil Type and Comments: Debris - Cill TDP-87-5.0' Sample Location: hydrauf Collection Method: buck her Sample Depth: 5.0' Soil Strength: Fine-grained Very soft Soft Firm	Charge Silt w/ gravel + Sand noots, wires, glass, Brick Date: (0/27 Time: 14:17
Soil Type and Comments: Debris - Cill DP-87-5.0' Sample Location: hydraul Collection Method: buck hel Sample Depth: 5.0' Soil Strength: Fine-grained soils: Coarse-grained Very loose Loose Medium desired.	Clayer Silb w/ gravel + Sand roots, wires, glass, Brick Date: (0/27 Time: 14:17
Soil Type and Comments: Debris - Lill TDP-87-5.0' Sample Location: hydrauf Collection Method: buck hee Sample Depth: 5.0' Soil Strength: Fine-grained soils: Coarse-grained soils: USC Class:	Clayer Silb w/ gravel + Sand roots, wires, glass, Brick Date: (0/27 Time: 14:17
Soil Type and Comments: Debris - Lill TDP-87-5.0' Sample Location: hydrauf Collection Method: buck hee Sample Depth: 5.0' Soil Strength: Fine-grained soils: Coarse-grained soils: USC Class:	Chayes Silk w/ gravel + Sand roots, wires, glass, Bricks Date: (0/27 Time: 14:17 Stiff Very stiff Hard Hense Dense Very dense
Soil Type and Comments: Debris - Cill TDP-87-5.0' Sample Location: hydraut Collection Method: buck hel Sample Depth: 5.0' Soil Strength: Fine-grained soils: Coarse-grained soils: USC Class: GW GP GM GC SW SP SM S	Charge Silk w/ gravel + Sand Proots, wires, glass, Brick Date: (0/27 Time: 14:17 Stiff Very stiff Hard Hense Dense Very dense CC ML CL OL MH CH OH Pt

	: City of O	akland ——			Project Number	: 153-	1247-00) 4		
Site A	ddress: 710)1 Edgew	ater Dr.,	Oakland	Geologist: Bob	Schult	z			
F D P-	· 68 -	4.0								
Sample	Location:	joint	<u>'</u>				Date: 1	0/27		
Collecti	on Method:	back	hoc				Time:	14:25	_	
Sample	Depth:	4.0'	· · · · · · · · · · · · · · · · · · ·							
	-				1	(d ni	. 4 .	1 : - 1	(), 41,	
Clay	Percer Silt	ntages Sand	Gravel	Moisture:	ukgren = blace		neability:	ww 1	(noti	10 M
20	35	25	20	Odor: 10	roderat acs	_	Reading		_	
	· · · · · · · · · · · · · · · · · · ·				300 112 430 5	1 1 112	Roduing	(DDIII).		
USC CL	1	TGC Is	777 OD	[m.] as		<u> </u>	107 6		15.	
GW (GP GM	160 13	SW SP	SM SC	ML CL	OL	MH C	н он	_Pt	
	Soil Strength									
Fine- grained soils:	Very soft	Soft		Firm	Štiff	Very	y stiff	Hard		
Coarse-	Very loose	Loo	-	1 C - 2' 1-	B	Vor	dense		i	
grained soils:	Cry Rose	100	se	Medium de	nse Dense	V CI J	dense			
soils:	oe and Comm			C: / L				E:11	1. 10	ies
soils:			loyez-	sif w	1 gravel + 2			Fil	1:det	ies
soils: Soil Typ	pe and Comm			sif w				Fil	1:det	ies
soils: Soil Typ	pe and Comm			sif w		Suns	K			ies
soils: Soil Typ FDP- Sample !	pe and Comm	nents: C	loyez-	Silf w		Suns	Date: (0 (27		ies
Soil Typ FDP- Sample	be and Comm 89-6 Location: on Method:	nents: C	loyez-	Silf w/		Suns	K			ùs
soils: Soil Typ FDP- Sample !	be and Comm 89-6 Location: on Method:	nents: C	loyez-	Silf w/		Suns	Date: (0 (27		ies
Soil Typ FDP- Sample Collection Sample	be and Comm 89-6 Location: on Method:	nents: c	loyez-	silf wy	1 gravel + 2	Suns	Date: (0 (27		ies
Soil Typ FDP- Sample	be and Comm 89-6 Location: on Method: Depth: 4	nents: c	loyez-	Firm		Suns	Date: (0 (27		ies
Soil Typ FDP- Sample Collection Sample	be and Communication: Location: on Method: Depth: 4	buck	loyer-	silf wy	Stiff)	Very	Date: (o(27 14:3		ies
Soil Typ FDP- Sample Collection Sample Fine- grained soils: Coarse- grained soils:	Depth: 4 Soil Strength Very loose	buck	loyer-	Silf wy	Stiff)	Very	Date: (o(27 14:3		ies
Soil Typ FDP- Sample Collection Sample Fine- grained soils: Coarse- grained soils: USC Cla	Depth: 4 Soil Strength Very loose	buck Soft	loyer-	Silf wy	Stiff) nse Dense	Very	Date: [o(27 14:3		ies
Soil Typ FDP- Sample Collection Sample Fine- grained soils: Coarse- grained soils: USC Cla	Location: On Method: Depth: 4 Soil Strength Very soft Very loose	soft Contact Contac	loyes-	Firm Medium de	Stiff) nse Dense	Very	Date: [0 (2 7 14:3 Hard	3	ies
Soil Typ FDP- Sample Collection Sample Fine- grained soils: Coarse- grained soils: USC Cla	Depth: 4 Soil Strength Very soft Very loose ass: GP GM	soft Contact Contac	loyes-	Firm Medium de SM SC Color: Ja Moisture:	Stiff) mse Dense	Very Very	Date: (0 (2 7 14:3 Hard	3 Pt	

G! . C: . CO.11 .	D : N
Client: City of Oakland	Project Number: 153-1247-004
Site Address: 7101 Edgewater Dr., Oakland	Geologist: Bob Schultz
FDP- 90- 3.0'	
Sample Location: joint	Date: (0 / 27
Collection Method: Buck hoe	Time: 14:47
Sample Depth: 3.0'	
Percentages Color: de	rekaren Plasticity: hone
Clay Silt Sand Gravel Moisture:	Arms Permeability: m. hich
10 30 60 45 Odor: St	
USC Class:	
GW GP GM GC SW SP SM S	C ML CL OL MH CH OH Pt
Soil Strength:	
Fine- grained soils: Very soft Soft Firm	Stiff Very stiff Hard
Coarse-grained soils: Very loose Loose Medium de la constant de l	ense Dense Very dense
Soil Type and Comments: Sand w/ chun (sheding sand w/ c FDP- 91 - 460'	hs of blayer silt (Filmbelow)
Sample Location:	Date: 10/27
C. W. d. J.	Time: 14:55
Sample Depth: 4.0'	
Soil Strength:	
Fine- grained soils: Soil Strength: Soft Firm Firm	Stiff Very stiff Hard
Coarse- grained soils: Very loose Loose Medium d	ense Dense Very dense
USC Class:	
GW GP GM GC SW SP SM S	C ML CL OL MH CH OH Pt
Percentages Color:	dank Cree Plasticity: Medin
Clay Silt Sand Gravel Moisture:	dans Permeability: Medium
10 30 50 10 Odor: S	from, he
Soil Type and Comments:	W/ dry + gravel
	, , , , ,

Client	City of O	akland			Project Number	: 153-1247-004	
Site A	ddress: 710)1 Edgew	ater Dr.,	Oakland	Geologist: Bob	Schultz	
FDP.	- 92-	4.0		- phy	s.prop.	·	
Sample	- 92- Location: on Method:	hydra	nt	' 0	•	Date: 60 Z	.7
Collecti	on Method:	buch	thoe			Time: 15:	00
Sample		1.0'					
	Perce	ntages		Color: of	arkery	Plasticity: W.	hish
Clay	Silt	Sand	Gravel	Moisture:	dams	Permeability:	ورو
25	145	. 15	15	Odor: \$	from gus	PID Reading (ppm):	_
USC CI	acc.				70		
- 1	GP GM	GC S	w SP	SM SC	ML) CL	OL MH CH	ОН Р
-							
Fine-	Soil Strength Very soft	: Soft		Firm	Stiff	Very stiff Ha	ard
grained	,		and the second				
soils:	•				\ \ \		
Coarse- grained	Very Ioose	Loos	see	Medium de	nse Dense	Very dense	
Coarse- grained soils:			·				
Coarse- grained soils:	Very loose		layen		nse Dense O Send +		
Coarse- grained soils: Soil Typ	pe and Comm	nents:	·				
Coarse-grained soils: Soil Typ	pe and Comm	nents: §	Jazen 1	Silte	0/Send+	gravll	
Coarse-grained soils: Soil Typ	pe and Comm	nents: §	Jayen 1 5-tre	Silf w	0/Send+		ر د ۲
Coarse- grained soils: Soil Typ TDP- Sample	pe and Comm	nents: §	Jazen 1	Silf w	0/Send+	gravll	
Coarse- grained soils: Soil Typ TDP- Sample	e and Comm	nents: §	Jayen 1 5-tre	Silf w	0/Send+	gravel encl Date: 10/2	
Coarse- grained soils: Soil Typ FDP- Sample Collection	e and Comm 66± Location: on Method: Depth:	rents: 6 Cross Duct 1.0'	Jayen 1 5-tre	Silf w	0/Send+	gravel encl Date: 10/2	
Coarse- grained soils: Soil Typ FDP- Sample Collection Sample	e and Comm	rents: 6 Cross Duct 1.0'	dazez 1 5-tro k hol	Silf w	0/Send+	gravel encl Date: 10/2	3
Coarse- grained soils: Soil Typ FDP- Sample Collecti Sample	be and Communication: Location: on Method: Depth:	ents: § -4,0 Cross buck	dazez 1 5-tro k hol	Silf w	0/Send+	gravel encl Date: 10/2 Time: 15:4	3
Coarse- grained soils: Soil Typ FDP- Sample Collecti Sample Fine- grained	be and Communication: Location: on Method: Depth:	ents: § -4,0 Cross buck	dayey 1 5-tre de hoe	Silf w	B' from to	gravel encl Date: 10/2 Time: 15:4	3
Coarse-grained soils: Soil Type FIDP- Sample Collectic Sample Fine-grained soils: Coarse-grained soils:	Depth: Soil Strength Very soft Very loose	rents: (dayey 1 5-tre de hoe	Silf c	B' from to	gravel Puck Date: 10 2 Time: 5:4 Very stiff Ha	3
Coarse-grained soils: Soil Type TDP- Sample Collection Sample Fine-grained soils: Coarse-grained soils: USC Cl	Location: on Method: Depth: Very soft Very loose ass:	rents: § -4.0 Cross buck 1.0' Soft	lazen 1 5-tre le hol	Silf uneh: Firm Medium de	B' from to	Pravel Date: 10 2 Time: 5:44 Very stiff Ha	3 ard
Coarse-grained soils: Soil Type TDP- Sample Collection Sample Fine-grained soils: Coarse-grained soils: USC Cl	Depth: Soil Strength Very soft Very loose	rents: § -4.0 Cross buck 1.0' Soft	dayey 1 5-tre de hoe	Silf c	B' from to	Pravel Puck Date: 10 2 Time: 5:4 Very stiff Ha Very dense	3 ard
Coarse-grained soils: Soil Type FIDP- Sample Collection Sample Collection Sample Coarse-grained soils: Coarse-grained soils: USC Cl GW	Depth: Soil Strength Very soft Very loose ass: GP GM Percer	Soft GC S stages	layer / - tre k hol	Sill Color: Cla	B' from to	Plasticity: M.h	3 ard
Coarse-grained soils: Soil Type TDP- Sample Collection Sample Fine-grained soils: Coarse-grained soils: USC Cl	Depth: Soil Strength Very soft Very loose ass: GP GM	Soft Loos	lazen 1 5-tre le hol	Firm Medium de SM SC Color: Cla Moisture:	Stiff Stiff CL	Pravel Puch Date: 10 2 Time: 5:4 Very stiff Ha Very dense	3 ard

	: City of Oa	ikland			Project Numl	per: 153-	1247-0	04	
Site A	ddress: 710	1 Edgew	ater Dr.,	Oakland	Geologist: Bo	ob Schul	tz		
FDP	- 86W-	-4.5	<u>.</u>	÷					
Sample	Location:	cros	stren	ch: 7	" west of t	Trench	Date:	W0/27	
Collecti	ion Method:	buc	khoe				Time:	15:35	-
		1.51				···			
				·····		7 1			
	Percer	r 	Τ	Color: de	''''		sticity:	m.hig	4
Clay	Silt	Sand	Gravel	Moisture:	1		meability		<u>ر</u>
26	45	7-61	15	Odor: S	trong Mas	I PIC	Reading	g (ppm):	
USC C	lass:		· ·						
GW	GP GM	GC S	SW SP	SM S	C (ML) CL	OL	MH	сн он	
	Soil Strength	<u> </u>							•
Fine-	Very soft	Soft	<u> </u>	Firm	Stiff	Vei	y stiff	Hard	
grained			, see a				-		
soils:	1								
Coarse- grained	Very loose	Loo	se	Medium d	ense Dense	Ve	y dense		
Coarse-	Very loose	Loo	se- ^{-/-}	Medium d	ense Dense	Ver	y dense		
Coarse- grained soils:	Very loose								
Coarse- grained soils:					ense Dense				
Coarse- grained soils:	pe and Comm								
Coarse-grained soils: Soil Type	pe and Comm								
Coarse-grained soils: Soil Type FDP Sample	pe and Comm						vel		
Coarse-grained soils: Soil Type FDP Sample	pe and Comm Location:						Date:		
Coarse-grained soils: Soil Type FDP Sample Collecti	pe and Comm Location: ion Method: Depth:	nents:					Date:		
Coarse-grained soils: Soil Type FDP Sample Collecti Sample	pe and Comm Location: ion Method: Depth: Soil Strength	nents:	lazez S	ill w	/= sund +	gran	Date:		
Coarse-grained soils: Soil Type FDP Sample Collecti	pe and Comm Location: ion Method: Depth:	nents:	lazez S			gran	Date:	Hard	
Coarse-grained soils: Soil Type FDP Sample Collecti Sample Fine-grained	pe and Comm Location: ion Method: Depth: Soil Strength	nents: C	lazez S	ill w	Stiff	- gran	Date:	Hard	
Coarse-grained soils: Soil Type FDP Sample Collecti Sample Fine-grained soils: Coarse-grained soils:	Location: Location: Location: Depth: Soil Strength Very soft Very loose	nents: C	lazez S	Firm	Stiff	- gran	Date: Time:	Hard	
Coarse-grained soils: Soil Type FDP Sample Collection Sample Fine-grained soils: Coarse-grained soils: USC Coarse-grained soils:	Location: Location: Location: Depth: Soil Strength Very soft Very loose	Soft	lazez S	Firm	Stiff ense Dense	- gran	Date: Time:	Hard	
Coarse-grained soils: Soil Type FDP Sample Collection Sample Fine-grained soils: Coarse-grained soils: USC Coarse-grained soils:	Depth: Soil Strength Very soft Very loose lass: GP GM	Soft Loo	layer S	Firm Medium d	Stiff ense Dense	Ver	Date: Time: y stiff y dense		
Coarse-grained soils: Soil Type FDP Sample Collection Sample Fine-grained soils: Coarse-grained soils: USC Consecution Coarse-grained soils:	Location: ion Method: Depth: Soil Strength Very soft Very loose lass: GP GM Percer	Soft Loo	layer S	Firm Medium d	Stiff ense Dense	Ver Ver Pla:	Date: Time: Ty stiff y dense MH	сн он	
Coarse-grained soils: Soil Type FDP Sample Collection Sample Fine-grained soils: Coarse-grained soils: USC Coarse-grained soils:	Depth: Soil Strength Very soft Very loose lass: GP GM	Soft Loo	layer S	Firm Medium d	Stiff ense Dense	Ver Ver Pla:	Date: Time: y stiff y dense	сн он	

O/ (IVIDICI) (
Client: City of Oakland	Project Number: 153-1247-004
Site Address: 7101 Edgewater Dr., Oakland	Geologist: Bob Schultz
FDP- 93-6.0	
Sample Location: Joint	Date: 4 2 98
Collection Method: Tuck hoe	Time: 15:30
Sample Depth: 6.0'	
Clay Silt Sand Gravel Moisture:	dams Permeability: (shight) V. lor
USC Class:	
GW GP GM GC SW SP SM (SC	ML CL OL MH CH OH Pt
Soil Strength: Fine- grained soils: Soft Firm	Stiff Very stiff Hard
Coarse-grained soils: Very loose Loose Medium de	nse Dense Very dense
Soil Type and Comments: Clauses Sund u	of anguel
FDP- 94 - 4.5	
Sample Location: joint	Date: 11 2/98
Collection Method: buck we	Time: 15:45
Sample Depth: 4,5	
Soil Strength:	
Fine-grained soils:	Stiff Very stiff Hard
Coarse- grained soils: Medium de	nse Dense Very dense
USC Class:	
GW GP GM GC SW SP SM SC	ML CL OL MH CH OH Pt
Percentages Color: Welland	with In willed ync / Plasticity: low
Clay Silt Sand Gravel Moisture:	Laws Permeability: Maderato
10 15 50 25 Odor: m	ool-strong he
Soil Type and Comments:	vanel

Client: City of Oakland	Project Number: 153-1247-004
Site Address: 7101 Edgewater Dr., Oakland	Geologist: Bob Schultz
FDP- 95 – 5.5	
	Date: N/Z
Sample Location: Ingolant Collection Method: backhoe	Time: 15:50
Sample Depth: 5.5'	
Percentages Color:	moren mottled w/grey Plasticity: Low
	re: damp Permeability: mool.
10 15 56 24 Odor:	
. , , , , , , , , , , , , , , , , , , ,	700
USC Class:	
GW GP GM GC SW SP SM	SC MIL CL OL MH CH OH Pt
Soil Strength:	
Fine-grained soils:	Stiff Very stiff Hard
Coarse- grained soils: Coarse- Very loose Loose Medium	n dense Very dense
. 0	d w gravel
FDP- 96- 4.0 1	Date: UZ
Sample Location:	
Collection Method: gucklive	Time: 15155
Sample Depth: 24.6	
Soil Strength:	
Fine-grained soils:	Stiff Very stiff Hard
Coarse- grained soils: Very loose Loose Medium	n dense Very dense
TIGGO	
USC Class: GW GP GM GC SW SP SM	SC MIL CL OL MH CH OH Pt
Percentages Color:	from by mottledney Plasticity: Low
Clay Silt Sand Gravel Moistur	· · · · · · · · · · · · · · · · · · ·
16 15 50 25 Odor:	ngol he
Soil Type and Comments: (lough	Sand

Client: City of Oakland	Project Number:	153-1247-004
Site Address: 7101 Edgewater Dr., Oakland	Geologist: Bob S	· · · · · · · · · · · · · · · · · · ·
FDP- 97 - 4.8' field	lephists	
Sample Location: Joint		Date: u/Z
Collection Method: buck hoe		Time: 16:10
Sample Depth: 4.8'		
Percentages Color: 7	m not arrea	Plasticity: Low
	: dans	Permeability: work.
15 15 50 25 Odor: St	your he	PID Reading (ppm):
USC Class:		
	SC ML CL O	L MH CH OH Pt
		- Imm (cm On Pt
Soil Strength:		
Fine- Very soft Soft Firm soils:	Stiff	Very stiff Hard
Coarse-grained soils: Medium	dense	Very dense
Soil Type and Comments: Clauses Sund	1 42/ 040,00	P
	10 / 3 / 1000	\
	•	
TDP- 98-5.0 diel	delimbicat.	
	delupticat	Date: 11/2/98
Sample Location: joint	delupticat	Date: U/2/98 Time: 16:15
Sample Location: joint Collection Method: packing	delupticat	<u> </u>
Sample Location: joint Collection Method: backhoe Sample Depth: 5.0'	delupticat	<u> </u>
Sample Location: joint Collection Method: backing Sample Depth: 5.0' Soil Strength: Fine-grained Very soft Soft Firm	Stiff	<u> </u>
Sample Location: joint Collection Method: backboc Sample Depth: 5.0' Soil Strength: Very soft Soft Firm grained soils: Coarse-grained Very loose Loose Medium	Stiff	Time: 16:15
Sample Location: joint Collection Method: parelle Collection Method: parel	Stiff	Time: 16:15 Very stiff Hard
Sample Location: joint Collection Method: packbook Sample Depth: 5.0/ Soil Strength: Fine- grained wils: Coarse- grained wils: Very loose Loose Medium of the collection	Stiff	Time: 16:15 Very stiff Hard
Sample Location: joint Collection Method: back to Collection Method: Soil Strength: Soil Strength: Fine-grained soils: Coarse-grained soils: USC Class:	Stiff	Time: 16:15 Very stiff Hard Very dense
Sample Location: South Collection Method: So	Stiff dense Dense	Time: 16:15 Very stiff Hard Very dense
Sample Location: South Collection Method: So	Stiff dense Dense Sc ML CL O	Very stiff Hard Very dense MH CH OH Pt
Sample Location: South Collection Method: So	Stiff dense Dense Sc ML CL O	Very stiff Hard Very dense MH CH OH Pt Plasticity: low

	: City of O	akland			Project l	Number:	153-1247-0	04
Site A	ddress: 71	01 Edgev	vater Dr.	, Oakland	Geologia	st: Bob S	chultz	
DP	- @0j-	5.B'						
Sample	Location:	hudra	£				Date:	11/2
Collecti	ion Method:	Truch	-hoe				Time:	16:25
Sample		5.3'			·			
	Doros	entages		Colomb		rey	Plasticity:	low
Clay	Silt	Sand	Gravel	Color: Moisture:	dams		Permeability	
10	15	50	25	Odor:	-00.	3 C	PID Reading	·
USC C	locc•							
	GP GM	GC	SW SP	SM S	C ML	CL C	L MH	CH OH Pt
	Soil Strength				·			
Fine- grained	Very soft	Sofi	ī.	Firm	Stiff		Very stiff	Hard
soils: Coarse- grained	Very loose	: Loo	se	Medium d	ense Dense	e	Very dense	<u> </u>
soils:							·	
soils: Soil Typ	pe and Com		laye	y Same				
soils: Soil Typ	100-4	4.0	læye	y Same			Date:	1/2
soils: Soil Type TDP Sample	- 100 - 4 Location:	4.0		z Same				1/2
soils: Soil Type TDP Sample	Location:	4.0 hydre buck		3 Same				1/2 6:35
Soil Type TDP- Sample Collecti	Location: ion Method: Depth:	4.0 hydre buck t.o'		3 Same				
Soils: Soil Type Sample Collecti Sample Fine-grained	Location:	4.0 hydre buck t.o'	hoe	Firm	Stiff			
Soils: Soil Type Sample Collecti Sample Fine-grained soils: Coarse-grained	Location: ion Method: Depth:	t.0 hydre buck t.0'	hoe	Firm Medium d		е	Time:	6:35
Soils: Soil Type Sample Collecti Sample Fine-grained soils: Coarse-grained	Location: ion Method: Depth:	t.0 hydre buck t.0'	hoe			e	Time:	6:35
Soils: Soil Typ TDP Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	Location: ion Method: Depth: Soil Strengti Very soft Very loose	t.O hydre buck t.O' :: Soft	hoe	Medium d	ense Dense		Very stiff Very dense	6:35 Hard
Soils: Soil Typ TDP Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	Location: ion Method: Depth: Soil Strengti Very soft Very loose	t.O hydre buck t.O' :: Soft	hoe		ense Dense		Very stiff Very dense	6:35
Soils: Soil Type TDP Sample Collecti Sample Fine-grained soils: Coarse-grained soils:	Location: ion Method: Depth: Soil Strengti Very soft Very loose lass: GP GM	t.O hydre buck t.O' :: Soft	hoe	Medium d	ense Dense		Very stiff Very dense	6:35 Hard
Soils: Soil Type TDP Sample Collecti Sample Fine-grained soils: Coarse-grained soils:	Location: ion Method: Depth: L Soil Strengti Very soft Very loose lass: GP GM Perce Silt	H.O hydra buck t.o' Soft Loo GC Sand	hoe	Medium d	ense Dense		Very stiff Very dense	Hard CH OH Pt
Soils: Soil Type Fine- grained soils: Coarse- grained soils: USC Cl	Location: ion Method: Depth: Soil Strengti Very soft Very loose lass: GP GM Perce	hydre busk t. o' Soft GC S	se SW SP	Medium d	ense Dense		Very stiff Very dense	Hard CH OH Pt
Soils: Soil Type Soil Type Sample Collecti Sample Fine-grained soils: Coarse-grained soils: USC Cl GW Clay	Location: ion Method: Depth: L Soil Strengti Very soft Very loose lass: GP GM Perce Silt	H.O. hydrebusk t.o' Soft Loo GC S ntages Sand	se SW SP	Medium d	ense Dense	CL C	Very stiff Very dense	Hard CH OH Pt

Client	: City of O	akland		·	Project Nun	aber: 153	-1247-004	
Site A	ddress: 710	01 Edgev	vater Dr.,	Oakland	Geologist: I	Bob Schu	ltz	
FDP	- 101 -	- 4,5	- 1					
Sample	Location:	Join	A				Date: 11	/z
Collecti	ion Method:	buch	& live			,	Time: [6:45
Sample	Depth:	4.5	I					
Clay	Silt	ntages Sand	Gravel	Color: 04-0 Moisture:	sith lon		asticity: \mathscr{L} rmeability:	mod
10	15	50	25	Odor: M	ed-Stone	hc PII	D Reading (pp	om):
USC CI	GP GM	GC :	sw sp	SM (SC	7 м. Та.	OL	мн сн	OH Pt
	Soil Strength	i:						
Fine- grained soils:	Very soft	Soft	t	Firm	Stiff	Ve	ery stiff	Hard
Coarse- grained soils:	Very loose	Loo	se (Medium de	nse Dense	Ve	ery dense	
Soil Ty	oe and Comn	nents:	luzen	Sund	w/ gr	nuel	Î .	
FDP.	•		<u>0</u> . J -		7 7	·		
Sample	Location:						Date:	· · · · · · · · · · · · · · · · · · ·
Collecti	on Method:						Time:	
Sample	Depth:							
	Soil Strength	:						
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Ve	ry stiff	Hard
Coarse- grained soils:	Very loose	Loo	se	Medium de	nse Dense	Ve	ery dense	
USC CI	ass:			· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·	
GW (GP GM	GC S	SW SP	SM SC	ML CL	OL	мн сн	OH Pt
	Percer	ntages		Color:		Pla	sticity:	
Clay	Silt	Sand	Gravel	Moisture:			meability:	
				Odor:				
Soil Typ	oe and Comn	nents:						-

Client:	: City of Oakland	Project Number:	153-1247-004
Site A	ddress: 7101 Edgewater Dr., Oakland	Geologist: Bob S	chultz
DP-	- 102 - 4.0'		
Sample	Location: Went		Date: 11/3
		n into bucket	Time: 8:40
	Depth: 4.0'	, pool, 12000)	
Clay		drup	Plasticity: low (nutrix) Permeability: had
10	10 60 20 Odor: 10	, ,	PID Reading (ppm):
LISO O			
USC CL		SC ML CL C	OL MH CH OH Pt
Fine- grained soils:	Soil Strength: Very soft Soft Firm	Stiff	Very stiff Hard
OI43-	· · · · · · · · · · · · · · · · · · ·		
grained	Very loose Loose Medium	dense Dense	Very dense
grained soils: Soil Typ	pe and Comments: Clayer Sand	dense Dense w/ growel	Very dense
DP-	pe and Comments: Clayer Sand - 103 - 3.5		
grained soils: Soil Typ TDP- Sample	pe and Comments: Clayer Sand 103 - 3.5 Location: Joint		Date: 11 3
grained soils: Soil Typ TDP- Sample 1 Collection	ce and Comments: Clargey Sand 103 - 3.5 Location: 5 oinf on Method: buck hap		
grained soils: Soil Typ TDP- Sample	De and Comments: Clayer Sand 103 - 3.5 Location: Joint on Method: buck hap		Date: 11 3
grained soils: Soil Typ TDP- Sample Collection Sample	Depth: 3.5' Soil Strength:	wlgravel	Date: 11 3 Time: 8:45
grained soils: Soil Typ FDP- Sample Collection Sample Fine- grained	Depth: 3.5'		Date: 11 3
grained soils: Soil Typ Collectic Sample Fine-grained soils: Coarse-grained	Depth: 3.5' Soil Strength:	w/gravel Stiff	Date: 11 3 Time: 8:45
grained soils: Soil Typ TDP Sample : Collection Sample : Fine- grained soils: Coarse- grained soils:	Depth: 3.5' Soil Strength: Very loose Loose Medium of	w/gravel Stiff	Date: 11 3 Time: 8:45 Very stiff Hard
grained soils: Soil Typ FDP- Sample: Collection Sample: Fine- grained soils: Coarse- grained soils: USC Cla	Depth: 3.5' Soil Strength: Very loose Loose Medium of the same o	Stiff Dense	Date: 11 3 Time: 8:45 Very stiff Hard Very dense
grained soils: Soil Typ TDP- Sample: Collection Sample: Fine- grained soils: Coarse- grained soils: USC Cla	Depth: 3.5' Soil Strength: Very loose Loose Medium of the Strength of the St	Stiff Stiff CL C	Date: 11 3 Time: 8:45 Very stiff Hard Very dense
grained soils: Soil Typ FIDP Sample: Collectic Sample: Fine-grained soils: Coarse-grained soils: USC Cla	Depth: 3.5' Soil Strength: Very loose Loose Medium of the Strength of the Str	Stiff Stiff dense Dense	Date: 11 3 Time: 8:45 Very stiff Hard Very dense L MH CH OH Pt Plasticity: (600)
grained soils: Soil Typ Collection Sample in the soils: Coarse-grained soils: USC Clay Clay	Depth: 3.5 Soil Strength: Very loose Loose Medium of Percentages Silt Sand Gravel Moisture:	Stiff Stiff dense Dense	Date: 11 3 Time: 8:45 Very stiff Hard Very dense
grained soils: Soil Typ TDP- Sample: Collectic Sample: Fine- grained soils: Coarse- grained soils: USC Clay Clay	Depth: 3.5 Soil Strength: Very loose Loose Medium of Percentages Silt Sand Gravel Moisture:	Stiff Stiff dense Dense	Date: 11 3 Time: 8:45 Very stiff Hard Very dense L MH CH OH Pt Plasticity: (600)

	t: City of O	akland			Project Numbe	r: 153-12	47-004	
Site A	Address: 710	01 Edgew	ater Dr.,	Oakland	Geologist: Bob	Schultz		
F DP	- 104- 3	3.5				-		·
	Location:					Da	ite: ((/3	
	ion Method:		-0				me: 8:55	
	Depth: 3			<u>.</u>				
Gumpre	, 20pan 5	•>				ŀ		
	Perce	ntages		Color: de	urle grey	Plastic	ty: low	
Clay	Silt	Sand	Gravel	Moisture:	damp	Permea	bility: Mod.	
16	10	60	ZD	Odor: 4	trong he	PID Re	ading (ppm):	-
USC C	lass:				\sim			
GW	GP GM	GC S	SW SP	SM SO	ML CL	OL M	н сн он	Pt
	Soil Strength	<u> </u>	· · ·					
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Very s	iff Hard	
Coarse- grained	Very loose	Loos	se	(Medium de	ense Dense	Very d	ense	
soils:	1 .					•		
	no and Come	- · · · · ·						
	pe and Comn	nents: (ayer S	and u				
Soil Ty		<u> </u>	ages S	and u				/ chan
Soil Ty	- 105-	3.0		and re	fravel test bit	+ co	bles	/.stron
Soil Ty TOP Sample	Location:	3.0		and u		+ co here -	bbles - @4.5' i te: 11/3	/.stron
T DP Sample	- 105-	3.0 nyd (0		and re		+ co here -	bles	/.stron
Soil Ty CDP Sample Collecti	Location: \	3.0 nyd (0	int	and u		+ co here -	bbles - @4.5' i te: 11/3	/.stron
Soil Ty CDP Sample Collecti	Location: \	3.0 nyd (0 bne 3.0'	int	and re		+ co here -	bbles - @4.5' i te: 11/3	/.strou
Soil Ty CDP Sample Collecti	Location: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	3.0 nyd (0 bne 3.0'	kloe	and re		+ co here -	bles - @4.5' i te: 11/3 ne: 7:05	/.stron
Soil Ty Sample Collecti Sample Fine-grained	Location: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	3.0 nyd o bne 3.0'	kloe		fravel fest bit	+ Co here - Da	bles - @ 4.5' v te: 11 3 ne: 7:05	/.stron
Soil Ty Sample Collecti Sample Fine- grained soils: Coarse- grained soils:	Location: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	3.0 nyd o bne 3.0'	kloe	Firm	fest bit	+ Co here - Da Tir	bles - @ 4.5' v te: 11 3 ne: 7:05	/.stron
Soil Ty TOP Sample Collecti Sample Fine-grained soils: Coarse-grained soils:	Location: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	3.0 ydio bue 3.0' Soft	le loe	Firm Medium de	Stiff Dense	tere - Da Tir	bles - @ 4.5' v te: 11 3 ne: 9:05 iff Hard	
Soil Ty CDP Sample Collecti Sample Fine-grained soils: Coarse-grained soils:	Location: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	3.0 Nyd G Soft Loos	kloe	Firm Medium de	Stiff Stiff MIL CL	+ Co here - Da Tin Very st	bles - @ 4.5' v te: 1 3 ne: 7:05 iff Hard ense	/.stron
Soil Ty Sample Collecti Sample Fine- grained soils: Coarse- grained soils: USC C: GW	Location: ion Method: Depth: Soil Strength Very soft Very loose lass: GP GM Percer	3.0 Mydea Soft Loos GC S	se sp	Firm Medium de	Stiff Dense	Very di	te: 11 3 ne: 7:05 iff Hard ense	Pt
Soil Ty CDP Sample Collecti Sample Fine-grained soils: Coarse-grained soils:	Location: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	3.0 Nyd G Soft Loos	le loe	Firm Medium de SM SC Color: M Moisture:	Stiff Stiff MIL CL	+ Co here - Da Tin Very st	te: 11 3 ne: 7:05 iff Hard ense	Pt

Client	: City of Oakland	Project Number	: 153-1247-004
Site A	ddress: 7101 Edgewater Dr., Oakland	d Geologist: Bob	Schultz
	· · · · · · · · · · · · · · · · · · ·		<u></u>
FDP.	- 106 - 4.0		
	Location: \eint		Date: 11/3
Collecti	ion Method: back hoe	7000	Time: 9'. 20
Sample	Depth: 4.0'		
		4	
<u></u>		grey	Plasticity: Low
Clay	4- 20 40	ire: damp	Permeability: Wood
10	120 50 20 Odor:	strong he	PID Reading (ppm):
USC CI	lass:	\sim	
GW (GP GM GC SW SP SM	SC ML CL	OL MIH CH OH Pt
	Soil Strength:		
Fine- grained soils:	Very soft Soft Firm	Stiff	Very stiff Hard
Coarse- grained soils:	Very loose Loose Mediu	um dense Dense	Very dense
Soil Typ	pe and Comments: Larger Sen	id u/ graves	- increased of
FDP.	107 - 4.0		
	Location:) vind	· · · · · · · · · · · · · · · · · · ·	Date: 11/3
Collecti	ion Method: backhoe		Time: 9:30
Sample	Depth: 4.0		
	Soil Strength:		
Fine- grained soils:	Very soft Soft Firm	Stiff	Very stiff Hard
Coarse- grained soils:	Very loose Loose Mediu	nm dense Dense	Very dense
USC CI	lass:		
· · · · · · · · · · · · · · · · · · ·	GP GM GC SW SP (SM)	SC ML CL	OL MH CH OH Pt
	Parmentages C.1	- Maria	Plasticity: loss - med.
Clay	Percentages Color: Silt Sand Gravel Moistu	- <u> </u>	Plasticity: Lors - McC. Permeability: Mod - Lov
(5 5	Silt Sand Gravel Moistu 2 5 40 20 Odor:	etrought	remeaunty.
Soil Ty	pe and Comments: Sille Sand		claus
	July June	w Grance -	neu
:\TEMPL	ATE\FORMS\FIELD\samplelogging.wpd		

	Client: City of Oakland	Project Number: 153	3-1247-004
	Site Address: 7101 Edgewater Dr., Oakland	Geologist: Bob Schu	ltz
fald	ANAJORAN FDP- 108-4.5 test p	if to 7.5' - va	Strong odor at b
	Sample Location: joint		Date: 1/3
	Collection Method: Sadeluse		Time: 9:40
	Sample Depth: 4,5	·	
•		//	
	Percentages Color: 714 Clay Silt Sand Gravel Moisture:	7 0 1	asticity: Ned. high
	Moisture.		rmeability: Low
	20 60 15 5 Odor: 8	Tong he IPI	D Reading (ppm):
	USC Class:		
	GW GP GM GC SW SP SM SC	ML CL OL	MH CH OH Pt
	.Soil Strength:		
	Fine- grained soils: Very soft Soft Firm	Stiff Ve	ery stiff Hard
	1 20112.	47	
	Coarse- Very loose Loose Medium de grained soils:	nse Dense Ve	ry dense
	Coarse-grained soils: Very loose Loose Medium de	- · · · · · · · · · · · · · · · · · · ·	ery dense
: (Coarse-grained soils: Very loose Loose Medium de	Send of grant	ery dense
<u>ilel de</u>	Coarse- grained soils: Very loose Loose Medium de soils: Soil Type and Comments: Unger Silf w/	- · · · · · · · · · · · · · · · · · · ·	ery dense
ilel da	Coarse- grained soils: Soil Type and Comments: Coarse- grained soils: Medium de Mediu	- · · · · · · · · · · · · · · · · · · ·	Date: 14/3
<u>ilel de</u>	Coarse- grained soils: Very loose Loose Medium de soils: Soil Type and Comments: Unger Silf w/ PDP = 109-4.0 Sample Location: joint	- · · · · · · · · · · · · · · · · · · ·	l
<u>ilel de</u>	Coarse- grained soils: Soil Type and Comments: Unger Silf w/ PDP = 109-4.0 Sample Location: joint	- · · · · · · · · · · · · · · · · · · ·	Date: 11/3
elel da	Coarse- grained soils: Very loose Loose Medium de soils: Soil Type and Comments: Unger Silf w/ PDP = 109-4.0 Sample Location: joint Collection Method: bucklise Sample Depth: 4.0	- · · · · · · · · · · · · · · · · · · ·	Date: 11/3
<u>eld de</u>	Coarse- grained soils: Soil Type and Comments: Unger Silf w/ FDP = 109 - 4 . 0 Sample Location: joint Collection Method: buckling Sample Depth: 4.0' Soil Strength: Fine- grained Very soft Soft Soft Firm	Sand I grant	Date: 11/3
elel da	Coarse- grained soils: Soil Type and Comments: Unger Sulf w/ FDP- 109-4.0 Sample Location: joint Collection Method: buckled Sample Depth: 4.0 Soil Strength: Fine- grained soils: Coarse- grained Very loose Loose Medium de	Stiff Ve	Date: 11/3 Time: 10:30
ild de	Coarse- grained soils: Soil Type and Comments: Unger Sulf w/ FDP- 109-4.0 Sample Location: joint Collection Method: beckere Sample Depth: 4.0' Soil Strength: Fine- grained soils: Coarse- grained soils: Very loose Loose Medium de soils:	Stiff Ve	Date: 11/3 Time: 10:30 ery stiff Hard
elel de	Coarse- grained soils: Soil Type and Comments: Clarge Silf w/ PDP = 109 - 4 . C Sample Location: cinf Collection Method: buckles Sample Depth: 4.0' Soil Strength: Fine- grained soils: Coarse- grained soils: USC Class:	Stiff Ve	Date: 11/3 Time: 10:30 ery stiff Hard ery dense
elel de	Coarse-grained soils: Soil Type and Comments: Unger Sulf w/ FDP - 169 - 4 . C Sample Location: joint Collection Method: beckling Sample Depth: 4.0' Soil Strength: Fine-grained soils: Coarse-grained soils: USC Class: GW GP GM GC SW SP SM SC	Stiff Ve	Date: 11/3 Time: 10:30 ery stiff Hard ery dense
eld de	Coarse-grained soils: Soil Type and Comments: Coarse-grained soils: Soil Type and Comments: Coarse-grained soils: Coarse-grained soils: USC Class: GW GP GM GC SW SP SM SC Percentages Medium de Medium de Medium de Soils: Medium de Medium de Medium de Soils: Loose Medium de Soils: Percentages Color: Medium de Soils:	Stiff Vense Dense Ve	Date: 1(/3 Time: 10:30 ery stiff Hard ery dense MH CH OH Pt asticity: M. hoft
retrix:	Coarse- grained soils: Soil Type and Comments: Umy Silver W/ FDP- 69-4.0 Sample Location: conf Collection Method: buckled Sample Depth: 4.0' Soil Strength: Fine- grained soils: Coarse- grained soils: Coarse- grained soils: USC Class: GW GP GM GC SW SP SM SC Percentages Color: buckled Clay Silt Sand Gravel Moisture:	Stiff Ve	Date: 11/3 Time: 10:30 ery stiff Hard ery dense

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						·	
Client:	City of Oa	akland	<u></u> .		Project Number:	153-1247-004	
Site Ad	ldress: 710)1 Edgew	ater Dr.,	Oakland	Geologist: Bob S	chultz	
F DP -	110-	4.5		field	"duplicate		
Sample l	Location:	trydr	al _		*	Date: [[/	3
Collection	on Method:	back	luce			Time: 41.6	3 0
Sample	Depth: L	51					
	Percei	ntages		Color:	ink area	Plasticity: M.	d
Clay	Silt	Sand	Gravel del	¿Moisture:			rod
K 0	30	20	30	Odor: A	rong he	PID Reading (ppm	ı):
USC Cla	ass:				· · · · · · · · · · · · · · · · · · ·		
	GP GM	GC ∫ S	W SP	SM S	C ML CL C	L MH CH	OH Pt
	Soil Strength				-	<u></u>	
Fine- grained soils:	Very soft	Soft	;	Firm	Stiff	Very stiff	Hard
Coarse- grained soils:	Very loose	Loos	se >	Medium d	ense Dense	Very dense	
Soil Typ	e and Comm	nents: D	bris ki	U - 0	Causes Silt	inatrix a	around
FDP-	111-5	. D	V	brie	layer Sit	ougs, sho	es, etc
Sample l	Location:	Joint				Date: / (/ -	3
	on Method:	back	noe			Time: [/	: 25
Sample l	Depth: 5	01					
	Soil Strength	:					
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Very stiff]	Hard
Coarse- grained soils:	Very loose	Loos	se)	Medium d	ense Dense	Very dense	
TIEC CI	0.551						
USC Cla	ass: GP GM	GC S	W SP	SM S	C ML CL C	L MH CH	OH Pt
	Percer	ntages		Color: d	ankeren/black	Plasticity: M.	al -
Clay	Silt	Sand	Gravel del	Moisture:	down	Permeability: //	/
20	40	15	25	1	trong he		
Soil Typ	e and Comn	nents: Do	bris Fr		clauses silt	w/ Suns	(
							

Shud

Site Address: 7101 Edgewater Dr., Oakland Geologist: Bob Schultz TDP-	Client: City of Oakland		Project Numb	er: 153-	1247-004	
Sample Location: Girf Collection Method: Dack loc Sample Depth: J. & Percentages Color: Lark Grey Permeability: M. J. Sample Depth: J. & Percentages Color: Lark Grey Permeability: M. J. Sample Depth: J. & Permeability: M. J. Substrength: Very soft Soft Firm Stiff Very stiff Hard Soil Type and Comments: Whis Fill—Silty Jank Malix TDP-1/3—4:0 Sample Location: Jinf Collection Method: Lack Loc Sample Depth: J. O' Soil Strength: Very soft Soft Firm Stiff Very stiff Hard Date: 1/3 Time: 12:50 Sample Location: Jinf Collection Method: Lack Loc Sample Depth: J. O' Soil Strength: Very soft Soil Type and Comments: Whis Firm Stiff Very stiff Hard Soil Strength: Collection Method: Lack Loc Sample Depth: J. O' Soil Strength: Very soft Soil Strength: Very soft Soil Firm Stiff Very stiff Hard Oils: Collection Method: Location: Jinf Collection Method: Location: Jinf Soil Strength: Very soft Soil Strength: Very soft Soil Strength: Very soft Soil Firm Stiff Very stiff Hard Oils: Colors: Jank Grey Medium dense Dense Very dense Very dense Very dense Very loose Loose Medium dense Dense Very dense Pasticity: Med Permeability: Med Perme	Site Address: 7101 Edgewater Dr.,	Oakland	Geologist: Bo	b Schult	Z	
Collection Method: Dack hoe Percentages Color: Lank Green Percentages	DP- 1/2- 4.8					
Percentages Clay Sit Sand Gravel fully Moisture: Aug Permeability: Med Permeability	Sample Location: out				Date: U/3	
Percentages Clay Sit Sand Gravel fully Moisture: Aug Permeability: Med Permeability	Collection Method: back has	-	· · · · ·		Time: /1.45	
Clay Silt Sand Gravel In Moisture: I amy Permeability: Wheel . 5	· · · · · · · · · · · · · · · · · · ·					
Clay Silt Sand Gravel In Moisture: I amy Permeability: Wheel . 5	Percentages	Colon Very	A Gran	Dlass	inion is a d	•
USC Class: GW GP GM GC SW SP SM SC ML CL OL MH CH OH PR Soil Strength: Very soft Soft Firm Stiff Very stiff Hard oblis: Occarse-grained colls: Occarse-grained colls: Collection Method:			J		.,	
USC Class: GW GP GM GC SW SP SM SC ML CL OL MH CH OH PR Soil Strength: Very soft Soft Firm Stiff Very stiff Hard objection Coarse-prained colis: Soil Type and Comments: DATE: 1/3 - 400 Sample Location: 711		Odor: <	from he			
Soil Strength: Very soft Soft Firm Stiff Very stiff Hard oblis: Soil Type and Comments: Whis Fill - Silty Sand walrax TOP- 13 - 400 Sample Location: Firm Stiff Very stiff Hard oblis: 1/3 Collection Method: Lackhal Time: 12:90 Sample Depth: 4,6' Soil Strength: Very loose Loose Medium dense Dense Very dense oblis: 1/4 Soil Strength: Very soft Soft Firm Stiff Very stiff Hard oblis: 1/4 Soil Strength: Very soft Soft Firm Stiff Very stiff Hard oblis: 1/4 Very loose Loose Medium dense Dense Very dense Very dense oblis: 1/4 Very loose Loose Medium dense Dense Very dense Very dense Oblis: 1/4 Very loose Loose Medium dense Dense Very dense Very dense Oblis: 1/4 Very loose Loose Medium dense Dense Very dense Very dense Oblis: 1/4 Very loose Loose Medium dense Dense Very dense Very dense Oblis: 1/4 Very loose Loose Medium dense Dense Very dense Very dense Oblis: 1/4 Very loose Loose Medium dense Dense Very dense Very dense Oblis: 1/4 Very loose Loose Medium dense Dense Very dense Very dense Very dense Very dense Oblis: 1/4 Very loose Loose Medium dense Dense Very de	ISC Class					
Soil Strength: Very soft Soft Firm Stiff Very stiff Hard		SM) SC	ML CL	OL	мн сн он	Pt
Very soft Soft Firm Stiff Very stiff Hard						
Soil Type and Comments: Color Col	ine- Very soft Soft	Firm	Stiff	Very	stiff Hard	 .
TOP- 1/3 - 400 Sample Location: Junf Date: 1/3 Collection Method: backhol Time: 12:50 Sample Depth: 4,6' Soil Strength: Very soft Soft Firm Stiff Very stiff Hard roils: Coarse-prained coils: Coarse-p	oils:					
Soil Type and Comments: Collection Method:	oarse Very loose (Loose)	Medium de:	nce Dance	\$7.com	/ dense	
Sample Location: June Ju			nse Dense	very		
Sample Location: June Ju	oils:					
Sample Location: Time: 12.00 Collection Method: backers! Sample Depth: 4,6' Soil Strength: Time- Time: 12.00	oils:					
Collection Method: backled Sample Depth: 4,6' Soil Strength: Fine-trained rained soils: Coarse-trained soils:	Soil Type and Comments: Jehris Fi					
Soil Strength: Soil Strength: Fine- Trained prained soils: Coarse- Trained prained soils: Coarse- Trained soils: Very soft Soft Firm Stiff Very stiff Hard soils: Coarse- Trained soils: Very loose Loose Medium dense Dense Very dense Soil Strength: Firm Stiff Very stiff Hard soils: Coarse- Trained soils: C	Soil Type and Comments: Jehris Fi			malr	ix	
Soil Strength: Very soft Soft Firm Stiff Very stiff Hard	DP- 1/3 - 400 Sample Location: Finf			malr	Date: 11/3	
Very soft Soft Firm Stiff Very stiff Hard oils: Coarse-trained oils: Very loose Loose Medium dense Dense Very dense USC Class: Were GP GM GC SW SP SM SC ML CL OL MH CH OH Pt Percentages Color: daul gruy Plasticity: used Clay Silt Sand Gravel Moisture: daung Permeability: Mod.	DP-113-410 Collection Method: backbol			malr	Date: 11/3	
Very soft Soft Firm Stiff Very stiff Hard rained oils: Coarse-prained oils: USC Class: Wery loose Loose Medium dense Dense Very dense Wery dense Wery dense Wery dense Very dense	DP-113-410 Collection Method: backbol			malr	Date: 11/3	
Percentages Color: dank are Permeability: wed.	Soil Type and Comments: Jehris Fi DP-1/3-40 Jample Location: Junf Collection Method: Jackhol Jample Depth: 4,6'			malr	Date: 11/3	
Percentages Color: dant gray Plasticity: uned.	Soil Type and Comments: Jebris Fi DP- 1/3 - 4:0 Sample Location: Junf Collection Method: Jude hale Sample Depth: 4,6' Soil Strength: ine- rained Very soft Soft	U-Si	lty Sand	malr	Date: 11/3 Fime: 12:00	
Percentages Color: dant gray Plasticity: uned.	Soil Type and Comments: Jebris Fi DP- 1/3 - 410 Cample Location: Finf Collection Method: Lackhol Cample Depth: 4,6' Soil Strength: Tine- Trained Soils: Coarse- Trained Coa	U-Si	Stiff	malr Very	Date: 11/3 Fime: [Z:50]	•
Percentages Color: dankare, Plasticity: wed	Soil Type and Comments: Debris Fi TOP- 1/3 - 400 Sample Location: Fine- Collection Method: Lackhol Sample Depth: 4,6' Soil Strength: Coarse- rained oils: Coarse- rained oils:	Firm Medium der	Stiff	malr Very	Date: 11/3 Fime: [Z:50]	
Clay Silt Sand Gravel Moisture: June Permeability: Wool.	Soil Type and Comments: DP- 1/3 - 4/0 Cample Location: Collection Method: Collecti	Firm Medium der	Stiff Dense	Very	Date: 11/3 Fime: [Z:50] stiff Hard dense	Pt
Transmiss (All)	Soil Type and Comments: DP- 1/3 - 400 Cample Location: Collection Method: backbal Cample Depth: 4,6' Soil Strength: The collection Method: backbal Collection Metho	Firm Medium der	Stiff NSE Dense	Very	Date: 11/3 Time: {Z:60 stiff Hard dense	Pt
5 20 50 25 Odor. Straw he pid: 2.8 mm	Soil Type and Comments: DP- 1/3 - 4/0 Cample Location: Collection Method: Collection Method: Complete Depth: Collection Method: Collection	Firm Medium der SM SC Color: Ca	Stiff Stiff ME CL	Very Very Plast	Date: 11/3 Fime: 12:50 stiff Hard dense MH CH OH icity: Med	

	City of Oa	ıkland		•	Project Num	ber: 153	-1247-0	04		
Site A	ddress: 710	l Edgew	ater Dr.,	Oakland	Geologist: B	ob Schu	ltz			
FDP.	- 114 -	4,5	,	· .						
·····	Location:	join	f-		· · · · · · · · · · · · · · · · · · ·		Date:	u/3		
Collecti	on Method:	packle	r (rol				Time:	12:	!5	
Sample	Depth: (1,51								
<u></u>	Percer			Color: de	rherry	Pla	asticity:	iluo	(,	
Clay	Silt	Sand	Gravel	Moisture:	dans		rmeabilit			·ME
5	20	50	25	Odor: <	rong lic	PI	D Readin	g (ppm)	: 14	0
USC CI							1			
GW I	GP GM	GC S	SW SP	SM / SI	C ML CL	OL	MH	CH_	OH	Pt
Ei	Soil Strength:			T-1	G. tee	**		-		
Fine- grained soils:	Very soft	Soft	:	Firm	Stiff	V(ery stiff	E	lard	
Coarse- grained soils:	Very loose	Loo	se A	Medium de	ense Dense	V	ery dense			
Soil Ty	pe and Comm	ients: (et Ca	iel w	gravel	~ 1. 7	1 ca	110.00	1 L 1	669
		_	,	~~ /	France	F (Jes		man	<u> </u>	<u>esu</u>
FDP-	• 115 -	5.5		·-	<u> </u>			. 7.	~	
		. /								
Sample	Location:	hydr				· · · · · · · · · · · · · · · · · · ·	Date:	/-	3	
Sample Collection	Location: on Method:	pack					Time:	/-		
Sample	Location: on Method:						<u> </u>	/-		
Sample Collection Sample	Location: on Method: Depth: Soil Strength	ouck 5.5'	hoe				Time:	12:	25	
Sample Collection	Location: on Method: Depth:	pack 5.5'	hoe	Firm	Stiff	V	<u> </u>	12:		
Sample Collection Sample Fine-grained	Location: on Method: Depth: Soil Strength	on che 5.5'	hoe	Firm Medium d	\sim		Time:	/ Z:	25	
Sample Collectic Sample Fine- grained soils: Coarse- grained soils:	Location: on Method: Depth: Soil Strength Very soft Very loose	on che 5.5'	hoe		\sim		Time:	/ Z:	25	
Sample Collectic Sample Fine- grained soils: Coarse- grained soils:	Location: on Method: Depth: Soil Strength Very soft Very loose	Soft	hoe		ensé Dense		Time:	/ Z:	25	Pt
Sample Collectic Sample Fine- grained soils: Coarse- grained soils:	Location: on Method: Depth: Soil Strength Very soft Very loose ass: GP GM	Soft GC	t pse	Medium d	Dense C ML CL	OL	Time: ery stiff ery dense	/ Z :	Z S	Pt
Sample Collectic Sample Fine- grained soils: Coarse- grained soils:	Location: on Method: Depth: Soil Strength Very soft Very loose	Soft GC	t pse	Medium d	ensé Dense	OL Ofrice Pl	Time:	L Z :	Z/S Iard OH	Pt_
Sample Collectic Sample Fine- grained soils: Coarse- grained soils: USC CI GW	Location: on Method: Depth: Soil Strength Very soft Very loose Lass: GP GM Percer	Soft GC :	t SW SP	(SM) So Color: %	ensé Dense C ML CL Carl Gray f	OL OL OPILI PI	Time: ery stiff ery dense MH asticity:	L Z :	Z/S Iard OH	
Sample Collectic Sample Fine- grained soils: Coarse- grained soils: USC CI GW Clay	Location: on Method: Depth: Soil Strength Very soft Very loose Lass: GP GM Percer Silt	Soft GC Itages Sand 50	sw sp	Medium d (SM) Se Color: 96 Moisture:	ensé Dense C ML CL ark Vrey / dump	OL OL PI	Time: ery stiff ery dense MH asticity:	CH Me 2 12.50	Z5 Iard OH	n Sk &

	ıt. Cit	y of O	akland	1			Project Nu	mber: 1	53-1247-0	04	
Site A	Addre	ss: 710	01 Edg	gewat	er Dr.,	Oakland	Geologist:	Bob Sc	hultz	, .,	
FDF	<u>- 1</u>	67	-2 j	&'	_		·				
Sampl	e Loca	tion:	<u>١٢</u>	in	,ŧ				Date:	W/2C)
Collec	tion M	ethod:	Ь	m	kh	æl			Time:	2.16	6
Sample	e Dept	h: 4	1.8	•				. 8		14.	-
		Perce	ntages			Color:	Cet 316	T.	DI A to	— [.	• 1
Clay	Sil		Sand	Ī	ravel	Moisture:	Alam d		Plasticity:	IN N	49.
35		5				Odor:	Ad L		Permeability PID Reading		
ueca	70						~~~~~		TO INCAULIE	, (ppin).	- 3
USC C	Class: GP	GM	GC	sw	SP	SM SO	c Mil C	L OL	307	CTI OTT	1
					, OF	1 21AT 2C	ML C	- OL	MH	СН ОН	Pt
Fine-		Strength y soft		oft	·	17:	ميد د. بس				
rained oils:	V 61	y 501£		on		Firm	Stiff		Very stiff	Hard	
Coarse- grained	Ver	y loose	I	oose		Medium de	ense Dense		Very dense		
soils:							Also Bollso		very dense		
soils:	me and	l Comm	ianto.	of .		- A	Jones Dones	·	very dense		
soils:	pe and	l Comm	ents:	Ch	44	SIF					
soils: Soil Ty		i Comm	dents:	Cho	yey	SIF	- Ahus	<u> </u>		Se	
soils: Soil Ty	- [[7.	ents:	9 - 1	<i>44</i>	SIF	phys	5_6		. Sa	mys
Soil Ty DP Sample	- Locat	7 -	- 3.	Classian African	44	SIF	phys	5{	Date:	. Sa 1/20	mys
Soils: Soil Ty Sample Collect	Locat	ion:	3.	Go 9 nt	yey lo	SIF	phys	5		. Sa 1/20 13:14	mys 5
Soils: Soil Ty Sample Collect	Locat	ion:	ents:	9 nt	yey	SIF	phys	5	Date:	. Sa 1/20 13:14	mys 5
Soils: Soil Ty TOP Sample Collect Sample	Location Me	ion: ethod: : 3	3.)ei ba	Go 9 nt	yey ko	SIF e	phys	5_4	Date:	. Sa 1/20 13:14	mys
Soils: Soil Ty FDP Sample Collect Sample	Location Me	ion:	3.)ei ba	Cha 9 Nt Nt	yey	S#	Phy:	S _ f	Date:	. Sa 1/20 13:14	mys
Soils: Soil Ty TOP Sample Collect Sample Fine- grained oils: Coarse- grained	Location Me	ion: ethod: : 3	3.)0: - - - -	oft)	The state of the s	SIF	Phys	5 6	Date: Time:	. Sa 1/20 13:14 Hard	mys
Soils: Soil Ty FDP Sample Collect Sample Fine-grained soils: Coarse-grained soils:	Location Me	ion: ethod: : 3 Strength:	3.)0: - - - -	_	149 101	S#	Phys	5 6	Date: Time:	. Sa 1/20 13:14 Hard	mys
Soils: Soil Ty FDP Sample Collect: Sample Sample Coarse- grained toils: Coarse- grained toils:	Location Me	ion: ethod: : 3 Strength:	3.)0: - - - -	_	ISP	S#	Stiff nse Dense	5	Date: Time: Very stiff	. Sa 1/20 13:14 Hard	Pt
Soils: Soil Ty TDP Sample Collect Sample coils: Coarse- prained oils: USC C	Location Medical Depth Soil S	ion: ethod: Strength: y soft y loose GM	3.)0; 50 GC	oose	LSP	Firm Medium de	Stiff nse Dense	S f	Date: Time: Very stiff Very dense		Pt
Soils: Soil Ty TDP Sample Collect Sample Fine-grained soils: Coarse-grained soils:	Location Medical Depth Soil S	ion: ethod: a: 3 Strength: y soft y loose GM Percen	S. C. L. GC	oose	,	Firm Medium de	Stiff nse Dense	, OL	Date: Time: Very stiff Very dense	н он	Pt Jh
Soils: Soil Ty FDP Sample Collect Sample Sample Collect Sample USC C. GW	Location Me Depth Soil S Very Very	ion: ethod: a: 3 Strength: y soft y loose GM Percen	3.)0; 50 GC	oose	SP avel	Firm Medium de	Stiff nse Dense	, OL	Date: Time: Very stiff Very dense	н он	Pt Jh

Hent: City of	Oakland		· .	Project Numb	oer: 153-1247-00)4
ite Address:	7101 Edge	water Dr.,	Oakland	Geologist: Bo	ob Schultz	
DP- 11 6	3-4	.5		Lie	ld de	φ.
Sample Location	ناوز	nt	•		Date:	1/20
Collection Metho	d:	ck h	مر ا		Time:	12.413
Sample Depth:	и.	51				131-10
D				- C4W		1 1 · · ·
Clay Silt	rcentages Sand	Gravei	Color: 6 Moisture:	40	Plasticity: Permeability:	the d
10 30	30	20	Odor: 6	Cohe La	PID Reading	(ppm): 4
USC Class:				1011		
	M GC	SW SP	SM S	C ML CL	OL MH C	H OH Pt
Soil Stre	igth:					
Fine- Very so grained soils:	ft So	ft	Firm	Stiff	Very stiff	Hard
Coarse- Very lo	ose Lo	ose	Medium d	erke Dense	Very dense	
grained soils:						: · · · · · · · · · · · · · · · · · · ·
grained						:
grained soils: Soil Type and Co			Medium d			dup.
Soil Type and Co	mments:			eric Dense		dup.
Soil Type and Co	mments:	loyer .5	y + 5i		evel ield	dup. 1/20
grained soils:	mments:	loyer .5			evcl ield Date: 1	dup. 1/20 13:45
Soil Type and Co TDP- 11 Sample Location Collection Methology Sample Depth:	mments: (loyer .5	y + 5i		evcl ield Date: 1	dup. 120 13:45
Soil Type and Co Sample Location Collection Metho Sample Depth: Soil Street	mments:	layer .5 nt ckh	y 15i	Hy Gr	Date:	dup. 1/20 13:45
Soil Type and Co TDP- 11 Sample Location Collection Methology Sample Depth:	mments:	layer .5 nt ckh	y + 5i		evcl ield Date: 1	dup. 1/20 13:45
Soil Type and Co TDP - 11 Sample Location Collection Metho Sample Depth: Soil Stree Fine- grained soils: Coarse- grained Very so	mments: (layer .5 nt ckh	y 15i	Ity 600	Date:	dup. 1/20 13:45 Hard
Soil Type and Co TDP- 11 C Sample Location Collection Methor Sample Depth: Soil Street Fine- grained soils:	mments: (layer .5 nt ckh	y + Si	Ity 600	Date: Time: Very stiff	dup. 120 13:45 Hard
Soil Type and Co TDP- 11 Sample Location Collection Methor Sample Depth: Soil Street Very sortions: Coarse-trained toils: USC Class:	mments: d: d: ds: do ds: ds: ds: ds:	layer ,5 nt ckh 5	Y + Si	Stiff ense Dense	Date: Time: Very stiff Very dense	
Soil Type and Co TDP - 11 Sample Location Collection Metho Sample Depth: Soil Stree Fine- grained soils: Coarse- grained Very so	mments:	layer .5 nt ckh	y + Si	Stiff ense Dense	Date: 1 Time: Very stiff Very dense	dup. 1/20 1/3:45 Hard
Soil Type and Co Sample Location Collection Metho Sample Depth: Soil Stree Very so grained soils: Very lo grained soils: USC Class: GW GP G	mments: d: d: M GC rcentages	loyer .5 nt ckh sse	Firm Medium de SM Scolor:	Stiff C ML CL	Date: Time: Very stiff Very dense	
Soil Type and Co Soils: Soil Type and Co Sample Location Collection Methor Sample Depth: Soil Street Fine- grained soils: Coarse- grained soils: USC Class: GW GP G	mments: - 4 - 4 - 4 - 4 - 4 - 4 - 5 - 6 - 6 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7	layer ,5 nt ckh 5	Y + Si	Stiff C ML CL	Date: Time: Very stiff Very dense	

 $F: \verb|TEMPLATE| FORMS \verb|| Field | Sample logging. wpd$

Client	: City of	Oakland			Project	Numbe	er: 153-124	17_004		
			water D	r., Oakland			Schultz			
	1									
FDP.	- 12	0-	6	5'					•	
Sample	Location:	hv	de	ant			Da	te: { 	120	<u> </u>
Collecti	on Method	- 1					Tir	ne:	• • 4	20
Sample	Depth:	5.5	,						, c	
	Pero	entages		Color:	olack.	-da	Plastici	v: 1	Bal	· .
Clay	Silt	Sand	Gravel			10	Permea		1 2	ر ما
30	40	30	-	Odor:	1. 4 1	Le		ding (pr	m):	-61
USC CL	ass:						· •			
GW (GP GM	GC	sw s	SP SM	SC ML	CL	OL ME	СН	ОН	Pt
	Soil Streng	th:					 			
Fine- grained soils:	Very soft	So	ft	Firm	Stiff		Very sti	ff	Hard	<u>.</u>
Coarse-	Vo-, les-									
grained `	Very loos	e Lo	ose 	Medium	dense Dens	se 	Very de	nse		
grained soils:			ose	Medium	dense Dens	Λ.	Very de	nse		
grained soils: Soil Typ	e and Com		Loy	Medium	dense Dens	fin	Very de	nse	M	LK:
grained soils: Soil Typ	e and Com		iley	Medium	dense Dens	fin	Very de	d.	M	LK:
grained soils: Soil Typ	e and Com		cloy	Medium	dense Dens	fin:	Very de	d.	M	
grained soils: Soil Typ DP- Sample I	e and Com	ments:	ose Lloy	Medium	dense Dens	fin.	e Sav	ol.	M	
grained soils: Soil Typ DP- Sample I Collection	be and Com Location:	ments:	ose Lloy	Medium	dense Dens	fin.	Sau Dat	ol.	M	X
grained soils: Soil Typ DP- Sample I Collection	Location: On Method:	ments:	iley	Medium	dense Dens	fin:	Sau Dat	ol.	M	X
grained soils: Soil Typ DP- Sample I Collectic Sample I	be and Com Location:	ments:	Lloy 	Medium - Sili	dense Dens	fine	Sau Dat	e:	Hard	
grained soils: Soil Typ DP- Sample I Collection Sample I Fine-grained soils: Coarse-grained	Location: on Method: Depth:	th:	:log	-Sil	Stiff	fin.	Dat Tim	e:	Hard	
grained soils: Soil Typ DP- Sample I Collection Sample I Fine- grained soils: Coarse- grained soils:	Location: Depth: Soil Streng: Very loos	th:	:log	-Sill	Stiff	fin.	Dat Tim	e:	Hard	
Soil Typ DP- Sample I Collection Sample I Conservation Coarse- prained toils: Coarse- prained toils: Coarse- prained toils:	Location: Depth: Soil Streng: Very loos	th: Sof	t	Firm Medium	Stiff	fin.	Dat Tim	e: e:	Hard	Pt
Soil Typ DP- Sample I Collection Sample I Conservation Coarse- prained toils: Coarse- prained toils:	Location: Depth: Soil Streng: Very loos Ass: GP GM	th: Sof	t ose	Firm Medium	Stiff dense Dens	fin.	Date Time Very sti	e: e:		Pt
grained soils: Soil Typ FDP Sample I Collectic Sample I Fine- grained soils: Coarse- grained soils: USC Cla GW G	Location: Depth: Soil Streng: Very loos Ass: GP GM	th: Sof	t ose	Firm Medium P SM Color:	Stiff dense Dens	fin.	Dat Tim Very sti Very de OL MH	e: e: CH		Pt
grained soils: Soil Typ DP- Sample I Collectic Sample I Fine- grained soils: Coarse- grained soils: USC Cla	Location: Depth: Soil Streng Very soft Very loos ass: GP GM Perce	h: Sof	t sw s	Firm Medium	Stiff dense Dens	fin.	Date Time Very sti	e: e: CH		Pt

Chem.	City of O	akland			Project Number:	153-1247-004
Site Ad	ldress: 71(01 Edgew	ater Dr., (Oakland	Geologist: Bob S	Schultz
DP-	121 -	4.5				
	Location:		•	· · · · · ·		Date: 12/1/98
Collection	on Method:	buck	hoe			Time: 11:30
Sample I		1.51				Ad- 315
	Регсе	ntages		Color: de	nk greenish gran	Plasticity: Loc
Clay	Silt	Sand	Gravel	Moisture:	damp.	Permeability: Moc
5	40	50	5	Odor: M	od·he	PID Reading (ppm): 375
USC Cla	ass:					
	GP GM	GC S	SW SP	(SM) s	C ML CL	OL MH CH OH P
	Soil Strength	ı.		 		•
Fine-	Very soft	Soft		Firm	Stiff	Very stiff Hard
grained						
-	1 14	· ·	1			
soils: Coarse- grained soils:	Very loose	Loo		Medium d	ense Dense	Very dense
soils: Coarse- grained soils:			se (Medium d		
soils: Coarse- grained soils:	e and Comm		se (
soils: Coarse-grained soils: Soil Typ	e and Comm	nents: 9	se (
soils: Coarse- grained soils: Soil Typ TDP- Sample I	e and Comm	nents: S.	se (Very dense
soils: Coarse- grained soils: Soil Typ TDP- Sample I	e and Comm	nents: S.	se (Very dense Date: 12/1/98
soils: Coarse- grained soils: Soil Typ TDP- Sample I	e and Comm	nents: S. 5.0 joint back	se (Very dense Date: 12/1/98
soils: Coarse- grained soils: Soil Typ TDP- Sample I Collectic Sample I	e and Comment of the second comment of the s	nents: S. 5.0 joint back	the Sou			Very dense Date: 12/1/98
soils: Coarse-grained soils: Soil Typ TDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained	e and Comm 122 Location: on Method: Depth:	nents: g. 5.0 joint back 5.0'	se (J - L	Stiff	Date: [2] 9 8 Time: [1:45
soils: Coarse-grained soils: Soil Typ TDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained soils:	e and Comm ZZ- Location: On Method: Depth: E Soil Strength Very soft Very loose	nents: g. 5.0 joint back 5.0'	se (J. L.	Stiff	Date: 12/1/98 Time: 11:45 Very stiff Hard
soils: Coarse-grained soils: Soil Typ TDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained soils: USC Cla	e and Comm ZZ- Location: on Method: Depth: Soil Strength Very soft Very loose ass:	nents: g. 5.0 ibint back 5.0' E. Soft	se choe	Firm Medium d	Stiff ense Dense	Date: 12/1/98 Time: 11:45 Very stiff Hard Very dense
soils: Coarse-grained soils: Soil Typ TDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained soils: USC Cla	e and Comm ZZ- Location: On Method: Depth: E Soil Strength Very soft Very loose	nents: g. 5.0 ibint back 5.0' E. Soft	se (J. L.	Stiff ense Dense	Date: [2] 9 8 Time: 11:45 Very stiff Hard Very dense
soils: Coarse-grained soils: Soil Typ FIDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained soils: USC Cla	e and Comm ZZ- Location: On Method: Depth: E Soil Strength Very soft Very loose ass: GP GM Perce	soft GC S	se (lh Sour	Firm Medium d	Stiff ense Dense C ML CL	Very dense Date: 12/1/98 Time: 11:45 Very stiff Hard Very dense OL MH CH OH P
soils: Coarse-grained soils: Soil Typ TDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained soils: USC Cla	e and Comm 22	soft GC Sand	se Sw SP Gravel	Firm Medium d Color: Mo Moisture:	Stiff ense Dense C ML CL	Date: [2] 98 Time: [1:45] Very stiff Hard Very dense OL MH CH OH P Plasticity: Low Permeability: Mod.
soils: Coarse-grained soils: Soil Typ FIDP- Sample I Collectic Sample I Fine-grained soils: Coarse-grained soils: USC Cla	e and Comm ZZ- Location: On Method: Depth: E Soil Strength Very soft Very loose ass: GP GM Perce	soft GC S	se (lh Sour	Firm Medium d SM S Color: M	Stiff ense Dense C ML CL	Very dense Date: 12/1/98 Time: 11:45 Very stiff Hard Very dense OL MH CH OH P

	ity of Oa	kland			Project Number:	153-1247-004						
Site Add	ress: 710	1 Edgew	ater Dr., O	akland	Geologist: Bob Schultz							
FDP-	123-	5.0										
Sample Lo	cation:	jour	\			Date: 12/1/98						
Collection	Method:	buc	Khoe			Time: 11:54						
Sample De	epth:	5.01										
	Percer	ntages		Color:	ive gren	Plasticity: medum						
Clay	Silt	Sand	Gravel	Moisture:	damp	Permeability: Low						
(0)	60	30		Odor: 1	nod: hc	PID Reading (ppm): 50						
USC Class	S:											
GW GP		GC S	W SP	(SM) SC	ML CL C	OL MH CH OH I						
	oil Strength											
1	ery soft	Soft		Firm	Stiff	Very stiff Hard						
	ery loose	Loos	e	Medium de	nse Dense	Very dense						
Soil Type	and Comm	ents: (and a	CIF	- 171/							
Soil Type	and Comm	ents:	Sindy	Sulf	- FÜ							
Soil Type		<u>`</u>	Sendy	Self	- FÜ							
	124.	5.0' Soint	Sendy	Self	- FÜ	Date: 12/1/98						
FDP-	124 cation:	5.0' Soint	Sindy	Self	- FÜ	Date: 2 1 98						
FDP- Sample Lo Collection	124 cation:	5.0'Sout	Elipe	Self	- FW							
FDP- Sample Lo	124 cation:	5.0' Soint	Sandy Elipe	Self	- FW							
FDP- Sample Lo Collection Sample De	cation: Method: pth: 5	5.0' Sout back	Endy	Silf	- FW	Time: 12:05						
FDP- Sample Lo Collection Sample De	cation: Method:	5.0' Sout back	Elve	Sulf	Stiff							
Sample Lo Collection Sample De	cation: Method: pth: 5	5.0' Sout back		Sulf-		Time: 12:05						
Sample Lo Collection Sample De S Fine- grained soils: Coarse- grained soils:	cation: Method: ppth: 5 oil Strength Very soft	5.0' Sout				Time: 12:05 Very stiff Hard						
Sample Lo Collection Sample De S Fine- grained soils: Coarse- grained soils: USC Class	cation: Method: pth: 5 oil Strength Very soft	Soft Loos	е (Medium de	nse Dense	Very stiff Hard Very dense						
Sample Lo Collection Sample De S Fine- grained soils: Coarse- grained soils:	cation: Method: pth: 5 oil Strength Very soft Very loose GM	Soft Loos	e (Medium de	nse Dense	Very stiff Hard Very dense						
Sample Lo Collection Sample De S Fine- grained soils: Coarse- grained soils: USC Class GW GP	cation: Method: ppth: 5 oil Strength Very soft Very loose GM Percer	Soft Loos	w SP	Medium de	nse Dense	Very stiff Hard Very dense L MH CH OH F Plasticity: Low						
Sample Lo Collection Sample De S Fine- grained soils: Coarse- grained soils: USC Class GW GP	cation: Method: pth: 5 oil Strength Very soft Very loose GM	Soft Loos	e (W SP Gravel	Medium de	nse Dense	Very stiff Hard Very dense						

		<u> </u>							
Client:	City of O	akland			Project Nur	nber: 15	3-1247-004	1	
Site Ac	ldress: 710	01 Edgew	ater Dr.,	Oakland	Geologist: I	3ob Sch	ultz		
	125		5						
Sample 1	Location:	joint	-		·		Date: [2/8	
Collection	n Method:	back	hoe				Time: 7	:42	
Sample l	Depth: 4	.51							
	Perce	ntages		Color: Sh	ma bn.	P	lasticity: /	red. Si	ربعاد
Clay	Silt	Sand	Gravel	Moisture:	Lanno	P	ermeability:	med	-lo
5	35	40	20	Odor: N	one!	P	D Reading (ppm): -	
USC Cla	iss:		<u> </u>			 			
GW C	P (GM)	GC S	SW SP	SM SC	ML CL	OL	мн с	н он	Pt
	Soil Strength	L;			· · · · · · · · · · · · · · · · · · ·				
Fine- grained soils:	Very soft	Soft		Firm	Stiff	V	ery stiff	Hard	
Coarse- grained soils:	Very loose	Loo	se	Medium de	nse (Dense)	V	ery dense		
Soil Typ	e and Comm	nents: ()	I C DA 1	\\de		c:14	C /	, Grav	0
		30	ام اللا الم	s ejgu	ivel -	- 200	ol	, Grav	<u> </u>
FDP-	126-	4.0					ч		
Sample I	ocation:	join	Ø-				Date: 2	18	
Collection	n Method:	buck	hol		·	•	Time:	, 7:48	
Sample I	Depth: 4	.01							
	Soil Strength	:	· · · · · · · · · · · · · · · · · · · 		·······	····	. ·		
Fine- grained soils:	Very soft	Soft		Firm	Stiff	V	ery stiff	Hard	
Coarse- grained soils:	Very loose	Loo	se	Medium de	nse (Dense)	V	ery dense		
USC Cla	000								<u>-</u>
	P GM	GC S	SW SP	SM SC	ML CL	OL	мн ст	и он	Pt
	Perce	ntages		Color: 2h		PI	asticity:	low	
Clay	Silt	Sand	Gravel	Moisture:	a a		ermeability:	mod.	low
生	293	30	40	Odor: h	الم				
Soil Typ	e and Comm	nents: Gr	wel-Su	nd-Sil	t File	1		· · · · · · · · · · · · · · · · · · ·	

Client: City of Oakland	Project Number: 153-1247-004
Site Address: 7101 Edgewater Dr., Oakland	Geologist: Bob Schultz
FDP- 127-4.5'	
Sample Location:	Date: 12/8
Collection Method: Sackive	Time: 7:59
Sample Depth: 4,5'	
Percentages Color: Clay Silt Sand Gravel Moisture	m mou grey Plasticity: Low
Clay Silt Sand Gravel Moisture 5 35 40 20 Odor:	Permeability: Low PID Reading (ppm):
	y roading (ppin).
GW GP GM GC SW SP SM	SC ML CL OL MH CH OH Pt
	SC ML CL OL MH CH OH Pt
Soil Strength:	
Fine- Very soft Soft Firm soils:	Stiff Very stiff Hard
Coarse-grained soils: Very loose Loose Medium	dense Dense Very dense
Soil Type and Comments: Gravel-Saud	Silt Fill
FDP- 12 B - 4.0	
Sample Location: 10rul	Date: 12/8
Collection Method: buck hel	Time: 8: 28 am
Sample Depth: 4.0'	
	····
Soil Strength:	0.166
Fine- Very soft Soft Firm grained soils:	Stiff Very stiff Hard
Coarse- grained soils: Very loose Loose Medium	dense Very dense
USC Class:	
GW GP GM GC SW SP SM	SC ML CL OL MH CH OH Pt
Percentages Color:	resish yren Plasticity: low
Clay Silt Sand Gravel Moisture:	
2 28 40 30 Odor: 8	
Soil Type and Comments: (Stare - Shu,	d-Silf Fill

Client:	City of Oa	akland			Project Number	: 153-1247-004
Site A	idress: 710)1 Edgew	ater Dr.,	Oakland	Geologist: Bob	· · · · · · · · · · · · · · · · · · ·
FDP-	128	-6.0	2	· .		
	Location:	Join	4		· · · · · · · · · · · · · · · · · · ·	Date: 2/8
Collection	on Method:	Bac	Chol			Time: \$3:45
Sample	Depth: 6	0'				
	Perce	ntages		Color:	ZVL.	Plasticity: Medium
Clay	Silt	Sand	Gravel	Moisture:	dams	Permeability: Low
15	45	35	5	Odor:	none	PID Reading (ppm):
USC CL	255:					
	GP GM	GC S	SW SP	VSM) so	ML CL	OL MH CH OH Pt
	Soil Strength):	_			
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Very stiff Hard
Coarse- grained soils:	Very loose	Loo	se	Medium de	ense Dense	Very dense
····	e and Comn	<u> </u>	udy Si	if till		
	Location:	Soin	<u>. </u>			Date: 1 Z/8
	on Method:		h hop		······································	Time: 9:05
Sample	Depth:	5.0	1702			
	6.864					
Fine- grained soils:	Soil Strength Very soft	Soft		Firm	Stiff	Very stiff Hard
Coarse- grained soils:	Very loose	Loo	se	Medium de	ense Dense	Very dense
USC CI	nect					<u> </u>
	GP GM	GC :	SW SP	SM S	ML CL	OL MH CH OH Pt
	Perce	ntages		Color:	m_	Plasticity: Low
Clay	Silt	Sand	Gravel	Moisture:	dame	Permeability: Low
25	30	35	35	Odor:	ight he	
Soil Ty	e and Comn	nents: &	ravel-	- rand-	salt til	/



F:\TEMPLATE\FORMS\FIELD\samplelogging.wpd

	· · · · · · · · · · · · · · · · · · ·	
Client: City of Oakland	Project Number: 1:	53-1247-004
Site Address: 7101 Edgewater Dr., Oakland	Geologist: Bob Scl	nultz
FDP- 130-4.8		
Sample Location:		Date: 12/10
Collection Method: buck wo		Time: (3',2'3
Sample Depth: 4.0	·	
Clay Silt Sand Gravel Moisture:	dry	Plasticity: Work Permeability: Work PID Reading (ppm):
USC Class: GW GP GM GC SW SP SM SG	C ML CL OL	MH CH OH Pt
Soil Strength:		
Fine-grained soils: Very soft Soft Firm	Stiff	Very stiff Hard
Coarse- grained soils: Loose Medium de	ense Dense (Very dense
Soil Type and Comments: Fill - greve	l-sand si	lt ning
FDP- 13/-4.1	•	
Sample Location: Joint		Date: (2/10
Collection Method: Suckhol		Time: (3! 36)
Sample Depth: 4./		
Soil Strength:		
Fine-grained soils: Very soft Soft Firm	Stiff	Very stiff Hard
Coarse-grained soils: Very loose Loose Medium de	ense (Dense)	Very dense
USC Class:		
GW GP GM GC SW SP SM SC	ML CL OL	MH CH OH Pt
Percentages Color:	on I	Plasticity: Low
Clay Silt Sand Gravel Moisture:		Permeability: Mocl.
5 25 45 25 Odor:	rone	pid: 0
Soil Type and Comments: Fill: Erewe	l cand cil	f mix

Client: City of Oakland	Project Number: 153-1247-004							
	Geologist: Bob Schultz							
Site Address: 7101 Edgewater Dr., Oakland	Geologist; Boo Schultz							
FDP- (32 - 4.5	~1ft f L=							
Sample Location: joint and	T") Ofter Date: 12/10							
Collection Method: backhoe	Time: 13:35							
Sample Depth: 4,5								
	t externish							
Percentages Color:	n mat argu Plasticity: Low							
Clay Silt Sand Gravel Moisture:	dams Permeability: Mod.							
5 25 45 25 Odor: St	Your he PID Reading (ppm): 300							
USC Class:								
GW GP GM GC SW SP SM SC	ML CL OL MH CH OH Pt							
Soil Strength:								
Fine- grained soils:	Stiff Very stiff Hard							
Coarse-grained soils: Coarse-grained soils:	ense Dense Very dense							
	d-sill fill							
, ,	Date: 1 2 / / 0							
	Time: 13: 47							
Sample Depth: 4.0'	1 mile. (5.47							
Soil Strength:								
Fine- grained soils: Very soft Soft Firm	Stiff Very stiff Hard							
Coarse- grained soils: Very loose Loose Medium de								
USC Class:								
GW GP GM GC SW SP SM SC	ML CL OL MH CH OH Pt							
Percentages Color:	mott a cpy Plasticity: low							
Clay Silt Sand Gravel Moisture:	dans Permeability: Wool							
	The state of the s							
5 25 45 25 Odor: C	light he Rid: 1.5							
9.4-								

F:\TEMPLATE\FORMS\FIELD\samplelogging.wpd

	City of O	akland			Project Number:	153-1247-004					
Site A	idress: 710)1 Edgew	ater Dr.,	Oakland	Geologist: Bob Schultz						
		· .									
TDP-	134 -	- 5.0		P	hys. prop.						
Sample :	Location:	1		out	0 1 1	Date:	2/10				
Collection	on Method:	ba	ek ho	2		Time: 14	1:00				
Sample	Depth: 5	.01									
	Perce	ntages		Color: K	n	Plasticity:	ned.				
Clay	Silt	Sand	Gravel	Moisture: 6		Permeability:	<i>II</i>				
10	30	40	20	Odor: 5	dicht	PID Reading (
יים מי					0						
USC CL	GP GM	GC S	SW SP	SM SC	ML CL (OL MH CH	OH Pt_				
	Soil Strength										
ine-	Very soft	Soft		Firm	Stiff	Very stiff	Hard				
rained oils:		1 1 1									
oarse- rained	Very loose	Loos	se	Medium de	nse (Dense	Very dense					
Soil Typ	e and Comm	nents: 1	10	and-S	.11 -11.		1 + 1				
	-	97	avec = =	and - 5	er fer,	en Tuck	clay to he				
DP-	135-	4.0				sample -					
			1		··· · · -						
	Location:	herde	ant	<u> </u>		Date:	2/10				
Sample l			khoe			-	4:05				
Sample l	Location: on Method:					-					
Sample l	Location: on Method: Depth:	600				-					
Sample l Collection Sample l	Location: on Method:	600	khoe	Firm	Stiff	-					
Sample l Collection Sample l Fine- prained oils:	Location: on Method: Depth: L Soil Strength Very soft	640 1.0'	khoe	Firm		Time: /	4:05				
Collectic Collectic Cample I	Location: on Method: Depth: L Soil Strength Very soft	Soft Loos	khoe se			Time: /	4:05				
Sample I	Location: on Method: Depth: L Soil Strength Very soft Very loose	Soft Loos	khoe	Firm		Time: /	4:05				
Sample I	Location: on Method: Depth: L Soil Strength Very soft Very loose	Soft Loos	khoe se	Firm	nse (Dense	Very stiff Very dense	4:05 Hard				
Sample I Collectic Sample I Fine- grained oils: Coarse- grained oils:	Location: on Method: Depth: L Soil Strength Very soft Very loose ass:	Soft Loos	thoe	Firm Medium de	nse (Dense	Very stiff Very dense	4:05 Hard				
Sample I Collectic Sample I Fine- grained soils: Coarse- grained soils: USC Cla GW C	Location: on Method: Depth: L Soil Strength Very soft Very loose ass: GP GM Percer Silt	Soft Loos GC S ntages Sand	Elioe Se Gravei	Firm Medium des SM SC Color: 4 Moisture:	ML CL C	Very stiff Very dense OL MH CH Plasticity: ** Permeability:	Hard OH Pt				
Sample I Collectic Sample I Fine- grained soils: Coarse- grained soils: USC Cla	Location: on Method: Depth: L Soil Strength Very soft Very loose ass: GP GM Percer	Soft Loos GC S	e SP	Firm Medium de	ML CL C	Very stiff Very dense DL MH CH	Hard OH Pt				
Sample I Collectic Sample I Fine- grained oils: Coarse- grained oils: USC Cla SW C	Location: on Method: Depth: L Soil Strength Very soft Very loose ass: GP GM Percer Silt	Soft Loos GC S sand 40	Elioe Se Gravei	Firm Medium de SM SC Color: 4 Moisture: Odor: 44	ML CL C	Very stiff Very dense OL MH CH Plasticity: ** Permeability:	Hard OH Pt Red Med.				

Client:	City of Oakland	Project Number: 153-1247-004							
Site Ac	ldress: 7101 Edgewater Dr., Oakland	Geologist: Bob Schultz							
FDP-	136-4.3								
	Location: joint	Date:							
Collection	on Method: back be	Time: /4:20							
Sample l	Depth: 4.3								
	Percentages Color:	dated war Plasticity: med high							
Clay	Silt Sand Gravel Moisture								
2.0	40 30 10 Odor:	Strong he PID Reading (ppm): 90							
USC Cla	ass:								
<u>1</u>	GP GM GC SW SP SM	SC MIL CL OL MH CH OH Pt							
	Soil Strength:								
Fine- grained soils:	Very soft Soft Firm	Stiff Very stiff Hard							
Coarse- grained soils:	Very loose Loose Medium	n dense Dense Very dense							
Soil Typ	e and Comments: Gravel Sand-	Clay nix fill							
FDP-	137 -5.0								
Sample l	Location: wint	Date:							
Collection	on Method: buckbe	Time: (4: 30							
Sample l									
·	Soil Strength:								
Fine- grained soils:	Very soft Soft Firm	Stiff Very stiff Hard							
Coarse- grained soils:	Very loose Loose Medium	n dense Dense Very dense							
USC CI	ass:								
	GP GM CC SW SP SM	SC MIL CL OL MIH CH OH Pt							
	Percentages Color:	dank over Plasticity: med. high							
Clay	Silt Sand Gravel Moisture 40 30 10 Odor:	e: dany Permeability: Low strong hC hd: 15							
	be and Comments:	id -clay miny fill							

Client	: City of O	akland	· · · · · · · · · · · · · · · · · · ·		Project Number	: 153-1247-004							
Site A	ddress: 710	01 Edgew	ater Dr.,	Oakland	Geologist: Bob Schultz								
FDP.	- 138	<u> </u>	5′		. 2	consrete v	ent is						
Sample	Location:	Wilde	and .	ioint	(Main (or	if) Date: \2/1	o T						
Collecti	on Method:	ba	ck ho	-		Time: 14:4	4						
Sample	Depth: 6	5'					· .						
Clay	Perce Silt 40	ntages Sand 2.0	Gravel	Color: al Moisture: Odor: %	dams tong he	Plasticity: Permeability: PID Reading (ppm):	elun 125						
USC CI	ass:												
	GP GM	GC S	SW SP	SM SC	ML (CL)	OL MH CH C)H Pt						
	Soil Strength	:		· · · · · · · · · · · · · · · · · · ·									
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Very stiff Har	rd						
Coarse- grained soils:	Very loose	Loo	se	Medium de	ense Dense	Very dense							
Soil Typ	e and Comn	nents:	clares	Silfu	/Sund+ &	ravel - 4	ill						
FDP-	139-	-5.0											
Sample	Location:	oint				Date: (2/1	O						
Collection	on Method:	buc	& hoe			Time: 14.5	5						
Sample	Depth: 5	.0/											
	Soil Strength	:											
Fine- grained soils:	Very soft	Soft		Firm	Stiff	Very stiff Har	rd						
Coarse- grained soils:	Very loose	Loo	se	Medium de	ense Dense	Very dense							
USC CI	ass:				· .								
	GP GM	IGC) s	SW SP	SM SC	ML CL	OL MH CH C	H Pt						
	Perce	ntages	 -	Color:	ark cres	Plasticity: We	7.						
Clay	Silt	Sand	Gravel	Moisture:	don	Permeability:	ore						
20	140	30	10	Odor: S	trong he	pid: 10	2						
Soil Typ	pe and Comn	nents: 6	ravel	-Sino	d- clay mi	y: All							

Client	: City of O	akland			Project Nun	aber: 15	3-1247-004					
Site A	ddress: 71(01 Edgew	ater Dr.,	Oakland	Geologist: Bob Schultz							
FDP	- 140	-4.5										
Sample	Location:	joi	nt				Date: (7)	10				
Collecti	ion Method:	bue	khoe	-	.3		Time: 15:0	4				
Sample	Depth: (1.51										
	Derce	ntages		Color: d	ark gren	р	lasticity: med.					
Clay	Silt	Sand	Gravel	Moisture:	dame		ermeability: Lou	5				
15	40	25	20	Odor:	Frome h		ID Reading (ppm):	20				
USC C	lass:											
GW	GP GM	(GC) (SW SP	SM S	C ML CL	OL	мн сн он	Pt				
	Soil Strength	:		1-3.41								
Fine- grained soils:	Very soft	Soft		Firm	Stiff	V	ery stiff Hard					
Coarse-	V1											
grained soils:	Very loose	Loo	se	Medium de	ense Dense		ery dense					
grained soils:					ense Dense		1.00					
grained soils:	pe and Comn				ense Dense	\ 	1.00	1. 40 m				
grained soils:	pe and Comn			Sund-	clay ni	<u> </u>	fill tout	le tany				
grained soils: Soil Type Sample	pe and Comn - / 4/ - Location:	nents: O	iwel-	Sund-	clay vi	<u> </u>	fill tout	k tany				
grained soils: Soil Type Sample	pe and Comn	nents: O	iwel-	Sund-	clay ni	<u> </u>	fill tout					
grained soils: Soil Type FDP: Sample Collecti	pe and Comn - / 4/ - Location:	nents: 6 -4.5 joint back	iwel-	Sund-	clay ni	<u> </u>	fill ajout took					
grained soils: Soil Type FDP: Sample Collecti	pe and Comm - / 4/ - Location: ion Method:	nents: O -4.5 joint back	iwel-	Sund-	clay ni	<u> </u>	fill ajout took					
grained soils: Soil Type FDP: Sample Collecti	pe and Comm Location: ion Method: Depth: 4	nents: O -4.5 joint back	hoe_	Sund-	clay ni	s:	fill ajout took					
grained soils: Soil Type CDP Sample Collection Sample Fine-grained	pe and Comm Location: ion Method: Depth: 4	nents: 6 -4.5 joint back .5 Soft	hoe	Send-	clay ni	s:	fill ajoint took Date: 12/10 Time: 15:15					
grained soils: Soil Type Sample Collecti Sample Fine-grained soils: Coarse-grained	pe and Communication: Location: ion Method: Depth: 4 Soil Strength Very soft Very loose	nents: 6 -4.5 joint back .5 Soft	hoe	Send-	clay ni	s:	Date: 12/10 Time: 15:1:					
grained soils: Soil Type TDP Sample Collecting Sample Fine-grained soils: Coarse-grained soils: USC Collecting Coarse-grained soils:	pe and Communication: Location: ion Method: Depth: 4 Soil Strength Very soft Very loose	nents: 6 -4.5 joint back Soft	hoe	Send-	Stiff ense Dense	s: we bee	Date: 12/10 Time: 15:1:					
grained soils: Soil Type TDP Sample Collecting Sample Fine-grained soils: Coarse-grained soils: USC Collecting Coarse-grained soils:	pe and Comm Location: ion Method: Depth: 4 Soil Strength Very soft Very loose lass: GP GM	nents: 6	hoe_	Firm Medium de	Stiff ense Dense	oL	Date: 12/10 Time: 15:1: Very stiff Hard Very dense	2				
grained soils: Soil Type TDP Sample Collecting Sample Fine-grained soils: Coarse-grained soils: USC Collecting Coarse-grained soils:	pe and Comm Location: ion Method: Depth: 4 Soil Strength Very soft Very loose lass: GP GM Perce	nents: 6 -4.5 joint back Soft	hoe_	Firm Medium de	Stiff ense Dense	oL	Date: 12/10 Time: 15:17 Very stiff Hard Very dense MH CH OH lasticity: Wed.	Pt Pt				
grained soils: Soil Type CDP Sample Collection Sample Sample Collection Sample Sample Grained soils: Coarse-grained soils: USC Clark GW	pe and Comm Location: ion Method: Depth: 4 Soil Strength Very soft Very loose lass: GP GM Perce	Soft IGC s	hoe_	Firm Medium de SM Se Color: de Moisture:	Stiff ense Dense	oL	Date: 12/10 Time: 15:1: Very stiff Hard Very dense MH CH OH lasticity: Wed.	Pt Pt				
grained soils: Soil Type CDP Sample Collection Sample Sample Collection Sample Sample Grained soils: Coarse-grained soils: USC Comparison Coarse-grained Soils:	pe and Comm Location: ion Method: Depth: 4 Soil Strength Very soft Very loose lass: GP GM Perce	Soft Loo GC Sand 45	hoe SP Gravel 25	Firm Medium de SM So Color: de Moisture:	Clay Nin	OL P	Date: 12/10 Time: 15:17 Very stiff Hard Very dense MH CH OH lasticity: Wed.	Pt Pt				

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	ne: (510) 798					ax: (22															RU	SH	2	24 H	OUI			HOU	
Report To:	25cmlt	7		ill To	: (A.H	J)	Ci.	4						,				Ana	alys	is R	equ	est							Otl	er		Comments
Company: Cambria			iology		· 											63														Į			
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Tele: (510) 420-07	d, CA 94608			ax: (5	10) 4	20.0	1170	<u> </u>						MTBE		E&1	<u> </u>		i					831						-	i		
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Project #: 153-	7/0/ F	2000	رک، وی	Tojeci	. 1 (211)		اعت	, 0,	YV	20	<u> </u>			+		Grease (5520 E&F/B&F)	SE (8		5			EPA 625 / 8270 / 8310			6)		1	.			
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SAMPLE ID	LOCATION			# Containers	幫		Ì	ŀ		1				PH.	iese	Total Petroleum	ള	EPA 601 / 8010	Ž	EPA 608 / 8080	8	/ 82	EPA 625 / 8270	PNA	CAM-17 Metals	LUFT 5 Metals	50	ļ	2				Maria Parla Del Salar
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FDP-8-4.0'			12:05		1		₩	\dashv	+	┧	+	\vdash	H																15	7	7		7
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QC REPORT FOR ICP and/or AA METALS

Date: 09/29/98-09/30/98 Matrix: SOIL

Extraction:

	Concent	ration			% Reco	very	
Analyte	(mg	g/kg,mg/	L)	Amount			RPD
	Sample	MS	MSD	Spiked 	MS	MSD	
Total Lead	N/A	n/a	N/A	N/A	N/A	n/A	N/A
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickle	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Organic Lead	0.00	4.06	4.09	5.0	81	82	0.9

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) \times 2 \times 100



Cambria Env	rironmental Technology		eject ID: #153-1247-4; City	Date Sampled: 09/23-09/24/98			
1144 65 th Str	eet, Suite C	of Oaklan	d	Date Received: 09/25/98			
Oakland, CA	. 94608	Client Co	ntact: Bob Schultz	Date Extracted: 09/29/98			
		Client P.C);	Date Analyzed: 09/30/98			
CA Title 22, Ch	apter 11, Appendix XI		Organic Lead				
Lab ID	Client ID	Matrix	Orga	anic Lead *			
95787	FDP-5-8-4.0'	S		ND			
		w.****************************					
stated; ND me	mit unless otherwise ans not detected above			0.1 mg/L			
	eporting limit	S	0.5 mg/kg				
_			s in mg/kg and wipes in mg/wipe nple that contains greater than ~5 vol	l. % sediment.			

McCAMPBELL ANALYTICAL INC.

110 Second Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622 http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Environmental Technology	Client Project ID: #153-1247-4;	Date Sampled: 09/23-09/24/98		
1144 65 th Street, Suite C	City of Oakland	Date Received: 09/25/98		
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 09/25/98		
	Client P.O:	Date Analyzed: 09/25/98		

10/02/98

Dear :Bob

Enclosed are:

- 1). the results of 1 samples from your #153-1247-4; City of Oakland project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Ce1/./

Edward Hamilton, Lab Director

CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC.

CHAIN OF CUSTODY

1144 65th Street, Suite C, Oakland, CA 94608 (510) 420-0700 Fax: (510) 420-9170

(510) 420-0700						15	444	XC	_36	28.	do	C		Page of
Cambria Manag Cambria Sample Client: Cty Site Address: Project Number:	er: <u>Bb Sch</u> of Oakl MSC, 7	ultz land 101 Edd	gewater 4	Dr.	organic lead				YSES					AB: Mc Campbell - Pacheco, CA (925) 798-1620
SAMPLE ID	DATE	TIME	MATRIX	# OF SAMPLES										
FDP-1400	9/2.3	13:15	Soil	1	×								-	195/37/
FDP-240 FDP-340	<u> </u>	15:00	1		×					<u> </u>			-(for one analysis
FDP-4		15:30 15:55			X								-5	dor one analysis
FDP- 5	V	16:15	V	V	X								4	please hold for composito
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Received by:		()		v: <u>S</u> ma:			Receive	ed by:_				I	Received by:	
Time/Date: 9	123 10	100	Time/Date:	9/24/95	3 /3	<u>></u>	Time/E	ate:					Fime/D	nte:

QC REPORT FOR ICP and/or AA METALS

Date: 09/29/98-09/30/98 Matrix: SOIL

Extraction:

	Concent	ration			% Reco	very	
Analyte	(mg	g/kg,mg/l	៤)	Amount			RPD
 	Sample	MS	MSD	Spiked 	MS	MSD	
Total Lead	 N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickle	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
 Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
 Organic Lead	0.00	4.06	4.09	5.0	. 81	82	0.9

% Rec. = (MS - Sample) / amount spiked x 100

 $RPD = (MS - MSD) / (MS + MSD) \times 2 \times 100$



Cambria Env	rironmental Technology	Client Pro	oject ID: #153-1247-4	Date Sampled: 09/23/98			
1144 65 th Str	eet, Suite C			Date Received: 09/24/98			
Oakland, CA	nd, CA 94608 Client Contact: Dave Elias D			Date Extracted: 09/29/98			
		Client P.C):	Date Analyzed: 09/30/98			
CA Title 22, Ch	apter 11, Appendix XI		Organic Lead				
Lab ID	Client ID	Matrix	Orga	mic Lead *			
95737	FDP1-4 4.0°	S		ND			
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·							
		i					
		<u>-</u>					
	mit unless otherwise	w	0.	.1 mg/L			
stated; ND me	ans not detected above eporting limit	S	0.5 mg/kg				
_	-		s in mg/kg and wipes in mg/wipe mple that contains greater than ~5 vol.	% sediment.			



Cambria Environmental Technology	Client Project ID: #153-1247-4	Date Sampled: 09/23/98
1144 65 th Street, Suite C		Date Received: 09/24/98
Oakland, CA 94608	Client Contact: Dave Elias	Date Extracted: 09/24/98
	Client P.O:	Date Analyzed: 09/24/98

10/01/98

Dear Dave:

Enclosed are:

- 1). the results of 1 samples from your #153-1247-4 project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly

Edward Hamilton, Lab Director



ATTACHMENT B

Standard Piping and Dispenser Removal Sampling Procedures

STANDARD PIPING AND DISPENSER REMOVAL SAMPLING PROCEDURES

Cambria Environmental Technology, Inc. (Cambria) has developed standard operating procedures for collecting soil samples during petroleum dispenser and piping removal. These procedures ensure that the samples are collected, handled, and documented in compliance with California Administration Code Title 23: Waters; Chapter 3: Water Resources Control Board; Subchapter 16: Underground Storage Tank Regulations (Title 23). Cambria's sampling procedures are based on guidelines contained in the California State Regional Water Quality Control Board Tri-Regional Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites dated August 10, 1990.

Piping and Dispenser Removal Sampling

The objective of sample collection during routine dispenser and piping removals is to determine whether hydrocarbons or other stored chemicals have leaked to the subsurface. We collect one soil sample from the native soil beneath each dispenser unit, at each piping elbow, and at every 20 ft of product piping, as applicable.

The soil samples are collected in steam cleaned brass or steel tubes from either a driven split-spoon type sampler or the bucket of a backhoe. When a backhoe is used, approximately three inches of soil are scraped from the surface and the tube is driven into the exposed soil.

Upon removal from the split-spoon sampler or the backhoe, the samples are trimmed flush, capped with Teflon sheets and plastic end caps, labeled, logged and refrigerated for delivery under chain of custody to a State certified analytic laboratory.



ATTACHMENT C

Laboratory Analytical Reports

Cambria Environmental Technology	Client Project ID: #153-1247-4;	Date Sampled: 09/25/98	
1144 65th Street, Suite C	City of MSC	Date Received: 09/28/98	
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 09/28/98	
	Client P.O:	Date Analyzed: 09/28/98	

10/05/98

Dear Bob:

Enclosed are:

- 1). the results of 4 samples from your: #153-1247-4; City of MSC project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director



		Client Pro of MSC	oject ID: #153-1247-4; City	Date Sampled: 09/25/98 Date Received: 09/28/98		
Dakland, CA	94608	Client Co	Date Analyzed: 09/30	Date Extracted: 09/29/98		
		Client P.C);	Date Analyzed: 09/30/98		
CA Title 22, Ch	apter 11, Appendix XI		Organic Lead			
Lab ID	Client ID	Matrix	Org	anic Lead *		
95940	FDP-1-4	S		ND		
95941	FDP-5-8	S		ND		
95942	FDP-9-12	S		ND		
95943	FDP-13-16	S		ND		
		,				
Renorting Li	mit unless otherwise	w		0.1 mg/L		
stated; ND mea	ans not detected above	S		0.5 mg/kg		

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

QC REPORT FOR ICP and/or AA METALS

Date:

09/29/98-09/30/98

Matrix: SOIL

Extraction:

	Concent	ration			% Reco	very	
Analyte	(mg	g/kg,mg/:	다)	Amount	RPD		
	Sample	MS	MSD	Spiked 	MS	MSD	
Total Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickle	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Organic Lead	0.00	4.06	4.09	5.0	81	82	0.9

% Rec. = (MS - Sample) / amount spiked \times 100

 $RPD = (MS - MSD) / (MS + MSD) \times 2 \times 100$

Page 1012 12492 xc339 CHAIN OF CUSTODY RECORD McCAMBELL ANALYTICAL INC. 110 2nd AVENUE SOUTH, #D7 M TURN AROUND TIME PACHECO, CA 94553 24 HOUR 48 HOUR RUSH **5DAY** Telephone: (510) 798-1620 Fax: (510) 798-1622 Report To: Schalle Bill To: Cambria Analysis Request Other Comments Company: Cambria Environmental Technology Grease (5520 E&F/B&F) 1144 65th Street, Suite Oakland, CA 94608 EPA 625 / 8270 / 8310 Total Petroleum Hydrocarbons (418.1) Tele: (510) 420-0700 Fax: (510) 420-9170 Project Name: Calo MSC Project #: 153~ 1247 - 4 BTEX ONLY (EPA 602 / 8020) Project Location: 7101 Edgewater EPA 608 / 8080 PCB's ONLY Lead (7240/7421/239.2/6010) Sampler Signature: Sula-BTEX & TPH as Gas (602 Total Petroleum Oil & EPA 624 / 8240 / 8260 MATRIX TPH as Diesel (8015) SAMPLING PRESERVED PAH's / PNA's by Organic CAM-17 Metals EPA 625 / 8270 EPA 601 / 8010 EPA 608 / 8080 LUFT 5 Metals SAMPLE ID LOCATION Sludge Date Time Water Soil HNO, Other eg E FDP-1-7,5' Sar 9/25/9:30 Composito FDP-2-5,0' 95940 10:10 FDP-3-5.0' 10:00 FDP-4- 4.5' NO:25 FD9-5-5.5' 1015 FDP-6-5.0' 11:30 95941 907 FDP-7-4.5' 11:45 FDP-8-5,6' 12:45 FDP-9 - 4.0' 13:15 FDP-10- 4.5' 13:45 95942 EDP9-12 14:00 FDP-11-4.5' 14:30 FDP. 12~4.5" Time: Remarks: VOAS O&G METALS OTHER ICE/I **GOOD CONDITION** HEAD SPACE ABSENT

page 2 of Z 12492 XC339 CHAIN OF CUSTODY RECORD McCAMBELL ANALYTICAL INC. 110 2nd AVENUE SOUTH, #D7 PACHECO, CA 94553 TURN AROUND TIME RUSH 24 HOUR 48 HOUR 5 DAY Fax: (510) 798-1622 Telephone: (510) 798-1620 Comments Analysis Request Other Bill To: Report To: Company: Cambria Environmental Technology Total Petroleum Oil & Grease (5520 E&F/B&F) 1144 65th Street, Suite C EPA 625 / 8270 / 8310 Oakland, CA 94608 Total Petroleum Hydrocarbons (418.1) Fax: (510) 420-9170 Tele: (510) 420-0700 Project Name: Project #: BTEX ONLY (EPA 602 / 8020) Lead (7240/7421/239.2/6010) RCI EPA 608 / 8080 PCB's ONLY Project Location: Sampler Signature: BTEX & TPH 28 G28 (602/8 EPA 624 / 8240 / 8260 METHOD TPH as Diesel (8015) MATRIX **SAMPLING** PRESERVED PAH's / PNA's by Organic Type Comtainers EPA 625 / 8270 CAM-17 Metals EPA 608 / 8080 LUFT 5 Memls EPA 601 / 8010 # Containers LOCATION SAMPLE ID Sludge Time HCI HNO, Date Soil 95943 9/25 15,00)01 FDP-13-6.0 FBP-14-5,51 15:15 FDP-15-5.0' 15:25 FDP-16-5,8 15:35 FDP-17-45 15:45 Remarks: Time: Date: 9/28 THE RESERVE OF THE PERSON NAMED IN VOAS O&G METALS OTHER Reseived 135: KE/IP_ GOOD CONDITION MEAD SPACE ASSENT Time: Received By:

Cambria Environmental Technology	Client Project ID: #153-1247; City	Date Sampled: 10/06/98	
1144 65 th Street, Suite C	of MSC	Date Received: 10/08/98	
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 10/08/98	
	Client P.O:	Date Analyzed: 10/08/98	

10/15/98

Dear Bob:

Enclosed are:

- 1). the results of 3 samples from your #153-1247; City of MSC project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4), a bill for analytical services.

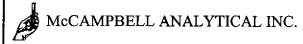
All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director



Cambria Environmental Technology			oject ID: #153-1247; City of	Date Sampled: 10/06/98		
1144 65 th St	reet, Suite C	MSC	Date Received: 10/08/98			
Oakland, CA	A 94608	Client Co	ntact: Bob Schultz	Date Extracted: 10/08/98		
		Client P.C	D:	Date Analyzed: 10/09/98		
CA Title 22, Cl	napter 11, Appendix XI		Organic Lead			
Lab ID	Client ID	Matrix	Org	anic Lead *		
96537	FDP-19-22	S		ND		
96528A	FDP-23-26	S		ND		
96539	FDP-27,28,30,32	S		ND		
96540	FDP-33-36	S		ND		
		house or and this				
						
	imit unless otherwise	W	C).1 mg/L		
	eans not detected above eporting limit	S	0	.5 mg/kg		



110 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone: 925-798-1620 Fax: 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Environmental Technology 1144 65 th Street, Suite C				roject ID: #153-	1247; City of	Date Sampled: 10/06/98		
				MSC			Date Received: 10/08/98	
Oakland,	CA 94608			Client C	Contact: Bob Sch	ultz	Date Extracted:	10/08/98
				Client P	P.O:		Date Analyzed:	10/08-10/16/98
Ап	alytical method	S	М	oisture	Bulk Density	Porosity	Air Filled Void Space	Fractional Organic Content
			AST.	M E3173	¥	&	&	ASTM 2974c
Lab ID	Client ID	Matrix	We	eight %	Grams / cc	Vol % Porosity	Vol % Porosity	Weight %
96538B	FDP-24-5.0	S		18	1.8	46		1.9
•	-							
• •								
								
Accuracy u stated; N detected abo	Limit or Method inless otherwise ID means not ove the reporting limit	S	-	± 2%	± 0.1g/cc	± 2%	± 2%	± 0.3%
calculated calculated v	olume percentage	assuming t	hat the	specific or	avity of soil is 2.65	grams/cc.		

DHS Certification No. 1644

Edward Hamilton, Lab Director

QC REPORT FOR ICP and/or AA METALS

Date: 10/09/98

Matrix: SOIL

Extraction:

	Concent	ration			% Reco	very	
Analyte	(mg	g/kg,mg/	L)	Amount			RPD
<u> </u>	Sample	MS	MSD	Spiked	MS	MSD	
Total Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickle	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Organic Lead	0.00	44.00	42.70	50.0	88	85	3.0

% Rec. = (MS - Sample) / amount spiked x 100

RPD = $(MS - MSD) / (MS + MSD) \times 2 \times 100$

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Page 10f 2

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110 Second Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622 http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Environmental Technology	Client Project ID: #153-1247-4;	Date Sampled: 10/07/98
1144 65 th Street, Suite C	City of MSC	Date Received: 10/08/98
Oakland, CA 94608	Client Contact: Bob Shultz	Date Extracted: 10/08/98
	Client P.O:	Date Analyzed: 10/08/98

10/05/98

Dear Bob:

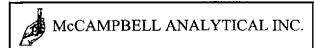
Enclosed are:

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- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director



	ironmental Technology	Client Proof MSC	oject ID: #153-1247-4; City	Date Sampled: 10/07/98
144 65 th Str	eet, Suite C			Date Received: 10/08/98
Dakland, CA	94608	Client Co	ontact: Bob Shultz	Date Extracted: 10/08/98
		Client P.0	O:	Date Analyzed: 10/09/98
CA Title 22. Ch	apter 11, Appendix XI		Organic Lead	
Lab ID	Client ID	Matrix	Org	anic Lead *
96535	FDP-36-39	S		ND
96536A	FDP-40-43	S		ND
<u></u>				
				-
Reporting L	imit unless otherwise	W		0.1 mg/L
stated; ND me	ans not detected above eporting limit	S		0.5 mg/kg



Cambria I	Environmental	Technol	ogy	Client F	roject ID: #153-	1247-4; City	Date Sampled:	10/07/98				
	Street, Suite C			of MSC		•	Date Received:	10/08/98				
Oakland,	CA 94608			Client C	Contact: Bob Shu	ltz	Date Extracted: 10/08/98 Date Analyzed: 10/08-10/21/98					
				Client F	P.O:							
An	alytical methods		Мо	oisture	Bulk Density	Porosity	Air Filled Void Space	Fractional Organic Conten				
7.11	•	ASTM E3173		#	&	&	ASTM 2974c					
Lab ID	Client ID	Matrix	We	eight %	Grams / cc	Vol % Porosity	Vol % Porosity	Weight %				
96536B	FDP-43-5.5	S		14	1.9	39		3.3				
						-						
,	 											
Accuracy u stated; N detected abo	imit or Method nless otherwise D means not we the reporting limit	S	-	± 2%	± 0.1g/cc	± 2%	± 2%	± 0.3%				
calculated v	olume percentage	assuming t	hat the	specific gr	ravity of soil is 2.65 g	grams/cc.						

DHS Certification No. 1644

_____Edward Hamilton, Lab Director

QC REPORT FOR ICP and/or AA METALS

Date: 10/09/98

Matrix: SOIL

Extraction:

	Concent				% Reco	very	
Analyte] (mg	g/kg,mg/1	L)	Amount			RPD
 	Sample	MS	MSD	Spiked	MS	MSD	
 Total Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickle	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
 Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
 Organic Lead 	 0.00 	44.00	42.70	50.0	88	85	3.0

% Rec. = (MS - Sample) / amount spiked x 100

 $RPD = (MS - MSD) / (MS + MSD) \times 2 \times 100$

12600 x C348

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Telephor	ne: (510) 798			1000	F	ax: (510)	798-	-162	22													1	RUS	SH	2	4 H	OUI	R 4	8 H	OU	R 5 DAY
Report To: 26	Schulte		В	ill To	: <i>C</i>	clin	brie	·										Ana	alys	is R	equ	est							Oth	er	\Box	Comments
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	d, CA 94608												МТВЕ		SEF.				ļ		l		8					ŀ	2	Meisture	14	
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Project #: 153-				rojeci	Nam	ie:	Cot	<u>O</u> ,	W	<u> 5</u> C			÷ 8015)		(55)	45 (4		ଛ		<u>,</u>			82			_	ļ		y	. ∤⊊	3	
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SAMPLE ID	LOCATION	Data	Time	Containers	Ę			۰					12	Ę	Ē	P.	=	뒭	8 / 8	%	8 / 8	5/8	₹	Σ	LUFT 5 Metals	8		organic	tical distribution	4	٦,	
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Cambria Environmental Technology	Client Project ID: #153-1247-4;	Date Sampled: 10/14/98
1144 65 th Street, Suite C	City of MSC	Date Received: 10/14/98
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 10/14/98
	Client P.O:	Date Analyzed: 10/14/98

10/21/98

Dear Bob:

Enclosed are:

- 1). the results of 2 samples from your #153-1247-4; City of MSC project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,



Cambria Env	rironmental Technology	Client Pro	eject ID: #153-1247-4; City	Date Sampled: 10/14/98
1144 65 th Str	eet, Suite C	or Misc		Date Received: 10/14/98
Oakland, CA	94608	Client Co	ntact: Bob Schultz	Date Extracted: 10/16/98
		Client P.C):	Date Analyzed: 10/16/98
CA Title 22, Ch	apter 11, Appendix XI		Organic Lead	
Lab ID	Client ID	Matrix	Org	anic Lead *
96990	FDP-44-47-3.0'	S		ND
96991	FDP-48-50-3.0'- 5.2'	S		ND
				·
stated; ND me	imit unless otherwise ans not detected above	W		0.1 mg/L
the re	eporting limit	S	C	0.5 mg/kg
			s in mg/kg and wipes in mg/wipe	1. % sediment.

QC REPORT FOR ICP and/or AA METALS

Date:

10/16/98

Matrix: SOIL

Extraction:

	Concent				% Reco	very	
Analyte	(m	g/kg,mg/	L)	Amount			RPD
	Sample	MS	MSD	Spiked	MS	MSD	
Total Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickle	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	A\N	N/A	N/A	N/A	N/A	N/A	А\И
Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Organic Lead	0.00	4.37	4.22	5.0	87	84	3.4

% Rec. = (MS - Sample) / amount spiked x 100

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Cambria Environmental Technology	Client Project ID: #153-1247-4;	Date Sampled: 10/19/98
1144 65 th Street, Suite C	City of MSC	Date Received: 10/21/98
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 10/21/98
	Client P.O:	Date Analyzed: 10/21/98

10/28/98

Dear Bob:

Enclosed are:

- 1). the results of 5 samples from your #153-1247-4; City of MSC project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Willer



	vironmental Technology reet, Suite C	Client Pro of MSC	oject ID: #153-1247-4; City	Date Sampled: 10/19/98 Date Received: 10/21/98
Oakland, CA		Client Co	ntact: Bob Schultz	Date Extracted: 10/21-10/26/98
		Client P.C	D:	Date Analyzed: 10/22-10/27/98
CA Title 22 Cl	napter 11, Appendix XI	00 00 1 00 1 00 1 00 10 10 0 0 0 0	Organic Lead	
Lab ID	Client ID	Matrix	Org	anic Lead *
97468	FDP51-54	S		2.4
97469	FDP-55-58	S		ND
97470	FDP-59-62	S		ND
97471	FDP-63-64	S		ND
97472	FDP-57-W	W		ND
		• · • • · · ·		
				144-00
Reporting L stated: ND me	imit unless otherwise eans not detected above	W		0.1 mg/L
	eporting limit	S	C).5 mg/kg

QC REPORT FOR ICP and/or AA METALS

Date:

10/22/98-10/23/98 Matrix: WATER

Extraction:

	Concent	ration	(mg/L)		% Reco	very	
Analyte 	 Sample	MS	MSD	Amount 	MS	MSD	RPD
Total Iron	N/A	N/A	n/A	N/A	N/A	N/A	N/A
Total Manganese Total Chromium	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
Total Nickle	N/A	N/A	N/A N/A	N/A	N/A	N/A	N/A
Total Zinc 	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Organic Lead	0.00	5.03	4.72	5.00	101	94	6.3

% Rec. = (MS - Sample) / amount spiked x 100

QC REPORT FOR ICP and/or AA METALS

Date: 10/27/98-10/28/98 Matrix: SOIL

Extraction:

	Concent:			1	% Reco	very	
Analyte	(me	g/kg,mg/:	L)	Amount			RPD
	Sample	MS	MSD	Spiked	MS	MSD	
Total Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
 Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
 Organic Lead 	0.00	4.67	4.77	5.0	93	95	2.1

% Rec. = (MS - Sample) / amount spiked \mathbf{x} 100

12758 x C354

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Telenhon	ne: (510) 798-		ECO, CA 9	4553	Fa	x: (5	10)	798-	162	2													R	USF	Į :	24 H	IOU	R 4	8 H	OUI	₹ 51	DAY		
Report To: Bols		1020	В	ill To				ia										Ana	lysi	s Re	que	st						Oth	er		Comn	nents	_	
Company: Cambria	Environmen	tal Techn	ology			*****	, , ,								6													1 1					1	
	th Street, Suit												447		공							- 1								1				
Oakland	I, CA 94608		,										IIBE	'	78.F				1		- {		<u>2</u>				1	t l	1					
Tele: (510) 420-070					10) 4								8015) MTBE		Grease (5520 E&F/B&F)	18	1]	1				EPA 625 / 82/0 / 8510						ļ	ı				
Project #: 153-1	247-4		Pı	roject	Nam	e: <u>C</u>	<u>c</u> ((<u>2, n</u>	<u>15</u>	<u>_</u>			- 801		(5)	4) 21	-	ଛ	l	ᆛ			8					1	1	ı			- 1	
Project Location:	7101	edgen	pler	<u>-</u>									2		cas	다.		8		PCB's ONLY			ĝ		100	1]						
Sampler Signature:	706S								-	- 147	THO	315	ĝ		S S	1963	İ	8	ŀ	2	8		<u> </u>		9.77		چ	1	-				- 1	
		SAMP	LING	٠,	ĸ	N	MA?	TRIX		PRE	SER'	VED	Gas (602/	(8015)	Oil	Total Petroleum Hydrocarbons (418.1)		(EPA 602 / 8020)		2	EPA 624 / 8240 / 8260	_	֓֞֞֞֞֞֞֞֓֓֓֓֓֓֓֓֓֓֓֓֡֞֡֓֡֓֡֡֡֡֡֡֡֡֡֡		Lead (7240/7421/239.2/6010)		lood	1	Ì	İ				
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SAMPLE ID	LOCATION			Containers	Type Comtainers	1					1		H	TPH as Diesel	Total Petroleum	ioi:	EPA 601 / 8010	BTEX ONLY	EPA 608 / 8080	EPA 608 / 8080	<u>4</u>	EPA 625 / 8270	PAH's / PNA's	CLIFT 5 Metals	5.		13		-				- [
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Fbr-62 -4,5'			14:30	17	Π^{-}								1	9.			_	Ŀ	_					-	_		_		_					
FDP-63-8.5'			16:45	1/					l]-	2	-		10	1		20	n,	<i>9</i> 0	Enf	ט ש		38-4	杉	*				7		
FDP-64-6.0'		V	17:60	1	V		V			M		_	_[_`	1/2	2	-				10	10	#	4	242		- -		,		_	374	1/2/		
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50 Jehul	CAMBRIA			<u> </u>	X,	\geq							4	7	r.c	₽r	np	04	~Q	u	بارس و	ملت	Jac	∢ / .¹	, , , , , , , , , , , , , , , , , , ,	•						<i>(i)</i>		
Relinquisted By:		Date:	Time:		elved I	•	1	1 Bc		1%.				4	٠.,	10	rat	*	Ş	an F/K	pu	C	MA	1 lysi	رر	. הר	ורטרו	יבאונט	V	OAS	0&G	METALS	OTH	ER
ı		Date:	11:36 Time:		eived	م ش By:	//	<u> IN</u>	a.	w			1										<u>-</u> ON_					NATI(لِـــا	<u> </u>	Ц	_
Relinquished By:		, , , , ,	.]			•																	32E7		_			PRIAT INERS						ı
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McCAMPBELL ANALYTICAL INC.

110 Second Avenue South, #D7, Pacheco, CA 94553-5560 Telephone: 925-798-1620 Fax: 925-798-1622 http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Environmental Technology	Client Project ID: #153-1247-4; C	Date Sampled: 10/20/98
1144 65 th Street, Suite C	Of O MSC	Date Received: 10/21/98
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 12/29/98
	Client P.O:	Date Analyzed: 12/29/98

01/06/99

Dear Bob:

Enclosed are:

- 1). the results of 1 samples from your #153-1247-4; C Of O MSC project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,



Cambria Env	ironmental Technolo	рду		at Project ID: #153-1247-4; C Of	Date Sampled: 10/20/98
1144 65 th Str	eet, Suite C		O MS	SC	Date Received: 10/21/98
Oakland, CA	. 94608	Ī	Clien	t Contact: Bob Schultz	Date Extracted: 12/29/98
		Ī	Clien	ıt P.O:	Date Analyzed: 12/29/98
CA Title 22. Ch	apter 11, Appendix XI		·	Organic Lead	
Lab ID	Client ID	Mat	trix	Organic	Lead *
97473	FDP-65-68	s		N	D
		, ,			
		ļ			
<u> </u>			_		
Reporting L	imit unless otherwise	V	v	0.1 r	ng/L
stated; ND me	ans not detected above eporting limit	S	5	0.5 n	ng/kg
-				samples in mg/kg and wipes in mg/wipe	
h) lighter than v	vater immiscible sheen is	preser	nt; i) liq	uid sample that contains greater than ~5 vo	ol. % sediment.

QC REPORT FOR ICP and/or AA METALS

Date: 12/29/98-12/30/98 Matrix: SOIL

Extraction:

	Concent				% Reco	very	
Analyte	(m	g/kg,mg/	L)	Amount			RPD
 	Sample	MS	MSD	Spiked 	MS	MSD	
Total Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Thallium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Copper	N/A	N/A	N/A	N/A	n/a	N/A	N/A
Organic Lead	0.00	4.65	4.67	5.0	93	93	0.5

% Rec. = (MS - Sample) / amount spiked x 100

xc354A xC354 2158 CHAIN OF CUSTODY RECORD McCAMBELL ANALYTICAL INC. 110 2nd AVENUE SOUTH, #D7 TURN AROUND TIME \Box PACHECO, CA 94553 24 HOUR 48 HOUR RUSH Telephone: (919) 798-1620 Fax: (929) 798-1622 Bill To: Combria Analysis Request Other Comments Report To: Bobs Celu (+2 Company: Cambria Environmental Technology Total Petroleum Oil & Grease (5520 E&F/B&F) 1144 65th Street, Suite C EPA 625 / 8270 / 8310 Oakland, CA 94608 Total Petroleum Hydrocarbons (418.1) Tele: (510) 420-0700 Fax: (510) 420-9170 Project #: 153-1247 - 4 Project Name: Colo, MSC BTEX ONLY (EPA 602 / 8020) EPA 608 / 8080 PCB's ONLY Lead (7240/7421/239,2/6010) Project Location: 7101 Edgewater BIEX & TPH 28 G28 (602/8020 Sampler Signature: EPA 624 / 8240 / 8260 METHOD TPH as Diesel (8015) **SAMPLING MATRIX** PRESERVED Type Comtainers PAH's / PNA's by CAM-17 Metals EPA 601 / 8010 EPA 608 / 8080 EPA 625 / 8270 LUFT 5 Metals # Containers LOCATION SAMPLE ID Air Sludge Date Time HCI HNO3 Other Other Soil ន្ទ 5 FDP-65-5.5' 10/20 9145 FNP-66-9.0' 9:30 TNP-67-3,0 4:50 FDP-- 68-3,0 10:05 FDP 69-5.5 10:15 TDF-70-35 10:25 FDP-71-55 10:55 10:35° 10/20 10:55 7:45 10120 10/20 7:45 ٨ FDP-69-55 14/20 10:15 tube Relinquished By: Received By: Remarks: Time: Date: 9:454 10/21 CAMBRIA VOASIO&GIMETALSIOTHER Time: Received By: Date: PRESERVATION 10/21 11:70 Date: Time: Received By: Relinquished By: HEAD SPACE ABSENT



Cambria Environmental Technology	Client Project ID: #153-1247-4;	Date Sampled: 10/20/98
1144 65 th Street, Suite C	City of MSC	Date Received: 10/21/98
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 10/21/98
	Client P.O:	Date Analyzed: 10/21/98

10/28/98

Dear Bob:

Enclosed are:

- 1). the results of 6 samples from your #153-1247-4; City of MSC project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Cambria Environmental Technology	Client Project ID: #153-1247-4; City	Date Sampled: 10/20/98	
1144 65 th Street, Suite C	of MSC	Date Received: 10/21/98	
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 10/21/98	
	Client P.O:	Date Analyzed: 10/21-10/23/98	

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	ods 5030, modified Client ID	Matrix	TPH(g) ⁺	МТВЕ	Benzene	Toluene	Ethylben- zene	Xylenes	% Recovery Surrogate
97476	Comp 1-4	S	34,g,j	ND	0.037	0.017	0.071	0.18	93
97477	Comp 5-8	S	2.7,g	ND	ND	0.006	0.017	0.026	97
97478	FDP 69-5.5	S	870,g,j	ND<0.70	ND<0.03	1.0	0.86	4.3	93
									78 to 11
-									
otherw	ng Limit unless ise stated; ND	w	50 ug/L	5.0	0.5	0.5	0.5	0.5	
	t detected above porting limit	S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

^{*} water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

^{*} cluttered chromatogram; sample peak coelutes with surrogate peak

^{*}The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

110 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone: 925-798-1620 Fax: 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Environmental Technology	Client Project ID: #153-1247-4; City of MSC	Date Sampled: 10/20/98	
1144 65 th Street, Suite C	City of Misc	Date Received: 10/21/98	
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 10/21/98	
	Client P.O:	Date Analyzed: 10/21-10/25/98	
Diesel Range (C10-C23) Extractable Hydrocarbo	ns as Diesel *	

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d) ⁺	% Recovery Surrogate
97476	Comp 1-4	s	510,b,g	102
97477	Comp 5-8	S	100,b,g	101
Reporting Li	mit unless otherwise ans not detected above	W	50 ug/L	
the re	eporting limit	S	1.0 mg/kg	

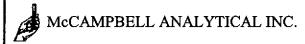
^{*} water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

^{*} cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

^{&#}x27;The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.



		1		1		
Cambria Environmental Technology		Client Pro	eject ID: #153-1247-4; City	Date Sampled: 10/20/98		
1144 65 th Str	eet, Suite C			Date Received: 10/21/98		
Oakland, CA	94608	Client Co	ntact: Bob Schultz	Date Extracted: 10/21-10/26/98		
		Client P.C):	Date Analyzed: 10/22-10/27/98		
CA Title 22. Cb	apter 11, Appendix XI		Organic Lead			
Lab ID	Client ID	Matrix	Orga	anic Lead *		
97474	FDP-69-71	S		ND		
				<u> </u>		
<u> </u>						
		····				
stated; ND me	imit unless otherwise ans not detected above	W).1 mg/L		
the re	eporting limit	S	0	.5 mg/kg		
-	_		es in mg/kg and wipes in mg/wipe	l. % sediment.		



Cambria Environmental Technology 1144 65 th Street, Suite C			ogy	Client Project ID: #153-1247-4; City			Date Sampled: 10/20/98		
			;	of MSC			Date Received: 10/21/98		
Oakland,	CA 94608			Client C	Contact: Bob Sch	ultz	Date Extracted:	10/22-10/29/98	
				Client F	.O:		Date Analyzed:	10/22-10/29/98	
			М	oisture	Bulk Density	Porosity	Air Filled Void Space	Fractional Organic Content	
	Analytical	methods	AST	TM E3173	#	å	&	ASTM 2974c	
Lab ID	Client ID	Matrix	W	eight %	Grams / cc	Vol % Porosity	Vol % Porosity	Weight %	
97475	FDP-71-5.5'	s		13	1.3	57		2.0	
Accuracy t stated; N detected abo	Limit or Method inless otherwise ID means not ove the reporting limit	S		± 2%	± 0.1g/cc	± 2%	± 2%	± 0.3%	
" calculated & calculated v	volume percentage	assuming t	hat th	e specific g	ravity of soil is 2.65	grams/cc.			

QC REPORT FOR HYDROCARBON ANALYSES

Date: 10/21/98

Matrix: SOIL

	Concent	ration	(mg/kg)		% Reco	very	
Analyte	Sample			Amount			RPD
	(#90401)	MS	MSD	Spiked	MS	MSD	
TIPLY (and a)	0.000	2 022	2 022	2.03	100	100	0.0
TPH (gas)	0.000	2.022	2.023	!	104	108	3.8
Benzene	0.000	0.208	0.216	0.2			
Toluene	0.000	0.210	0.220	0.2	105	110	4.7
Ethylbenzene	0.000	0.204	0.214	0.2	102	107	4.8
Xylenes	0.000	0.600	0.622	0.6	100	104	3.6
TPH(diesel)	0	355	329	300	118	110	7.6
TRPH (oil and grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

QC REPORT FOR ICP and/or AA METALS

Date: 10/27/98-10/28/98 Matrix: SOIL

Extraction:

	Concent				% Reco	very	222
Analyte	[(m	g/kg,mg/	L)	Amount			RPD
	Sample	MS	MSD	Spiked	MS	MSD	
Total Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
 Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Organic Lead	0.00	4.67	4.77	5.0	93	95	2.1

% Rec. = (MS - Sample) / amount spiked x 100

12758 xC354 CHAIN OF CUSTODY RECORD McCAMBELL ANALYTICAL INC. \Box 110 2rd AVENUE SOUTH, #D7 TURN AROUND TIME PACHECO, CA 94553 24 HOUR 48 HOUR RUSH Fax: (919) 798-1622 Telephone: (949) 798-1620 Other Comments Analysis Request Bill To: Combria Bob Celu. 1+2 Report To: Company: Cambria Environmental Technology Grease (5520 E&F/B&F) 1144 65th Street, Suite C EPA 625 / 8270 / 8310 Oakland, CA 94608 Total Petroleum Hydrocarbons (418.1) かべ Fax: (510) 420-9170 Tele: (510) 420-0700 Project Name: Cof O. MSC Project #: 153-1247 - 4 BTEX ONLY (EPA 602 / 8020) Lend (7240/7421/239.2/6010) RCI EPA 608 / 8080 PCB's ONLY Edgewater Project Location: 7 (0) Sampler Signature: Schult BTEX & TPH as Gas (602/ EPA 624 / 8240 / 8260 Total Petroleum Oil & METHOD PRESERVED TPH as Diesel (8015) **MATRIX** SAMPLING PAH's / PNA's by Type Containers EPA 608 / 8080 Programs. CAM-17 Metals EPA 625 / 8270 EPA 601 / 8010 LUFT 5 Metals # Containers LOCATION SAMPLE ID Sludge Date Time Water Soil Air HCI HNO, Other <u>8</u> 10/20 9145 FDP-65-5.5' CHARLEY SEA 9:30 FNP-66-9.0' FNP-67-3.0' 9:5c FDP-68-3,0 10:05 FDP-69-5.5 10:15 10:25 TDP-70-35 10:55 D:35 U/LIVI 10:55 10/20 Composito 9:45 10120 compositi tule 7:45 10/20 Comp 5,6,10 75 THE STATE OF 14/20 10:15 tube FDP-69-5.5 11/15/13 STATE Remarks: Received By: Time: Relinquished By: Date; 9:45e IO/ZI 1 AMBRIA VOAS 108G | METALS | OTHER Received By: Time: Date: Relinquished By PRESERVATION 0/21 H(2p)**APPROPRIATE** GOOD CONDITION

CONTAINERS_

HEAD SPACE ABSENT

Received By:

Date:

Relinguished By:

Time:

110 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone: 925-798-1620 Fax: 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Environmental Technology	Client Project ID: #153-1247-4;	Date Sampled: 10/27/98
1144 65 th Street, Suite C	City of MSC	Date Received: 10/28/98
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 10/28/98
	Client P.O:	Date Analyzed: 10/28/98

11/04/98

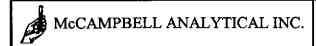
Dear :Bob

Enclosed are:

- 1). the results of 7 samples from your #153-1247-4; City of MSC project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,



Cambria Environmental Technology 1144 65 th Street, Suite C		Client Pro of MSC	nject ID: #153-1247-4; City	Date Sampled: 10/27/98 Date Received: 10/28/98		
Dakland, CA 94608		Client Co	ntact: Bob Schultz	Date Extracted: 10/28/98		
		Client P.C):	Date Analyzed: 10/29/98		
CA Title 22, Chapter 11,	Appendix XI		Organic Lead			
	Client ID	Matrix	Org	anic Lead *		
97838 FI	OP-73-76	S		ND		
97839 FI	OP-77-80	S		ND		
97840 FI	OP-81-84	S		ND		
97841 FI	OP-85-88	S		ND		
97842 FI	OP-89-92	S		ND		
		<u></u>				
		<u></u>				
		w		0.1 mg/L		
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		S	0.5 mg/kg			



Cambria :	Environmental	Technol	ogy		Project ID: #153-	1247-4; City	Date Sampled: 10/27/98						
1144 65 th	Street, Suite C	C		of MSC			Date Received:	10/28/98					
Oakland,	CA 94608		•	Client C	Contact: Bob Sch	ultz	Date Extracted: 10/28-11/04/98 Date Analyzed: 10/28/11/04/98						
			•	Client P	.O:								
			M	oisture	Bulk Density	Porosity	Air Filled Void Space	Fractional Organic Content					
	Analytical	methods	AST	M E3173	#	&	&	ASTM 2974c					
Lab ID	Client ID	Matrix	W	eight %	Grams / cc	Vol % Porosity	Vol % Porosity	Weight %					
97843	FDP-92-4.0	s		19	1.7	36		2.7					
97844	FDP-76-4.5	S		14	1.8	33		2.4					

						, , , , , , , , , , , , , , , , , , ,							
				•••									
Accuracy u stated; N detected abo	Limit or Method unless otherwise ND means not ove the reporting limit	S		± 2%	± 0.1g/cc	± 2%	± 2%	± 0.3%					
calculated calculated v	volume percentage	assuming ti	hat the	specific gr	avity of soil is 2.65 į	grams/cc.							

DHS Certification No. 1644

QC REPORT FOR ICP and/or AA METALS

Date: 10/29/98-10/30/98 Matrix: SOIL

Extraction:

	Concent:				% Reco		
Analyte	(mg	g/kg,mg/:	L)	Amount			RPD
	Sample	MS	MSD	Spiked 	MS	MSD	
Total Lead	N/A	N/A	n/a	N/A	N/A	N/A	N/A
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Organic Lead	0.00	5.12	5.33	5.0	102	107	3.9

% Rec. = (MS - Sample) / amount spiked x 100

12830 x C 357 McCAMBELL ANALYTICAL INC. 110 2nd AVENUE SOUTH, #D7 TURN AROUND TIME PACHECO, CA 94553 Telephone: (510) 798-1620 RUSH 24 HOUR 48 HOUR Fax: (510) 798-1622 5 DAY Bill To: Cambria Report To: Bob Selult Analysis Request Other Comments Company: Cambria Environmental Technology Total Petroleum Oil & Grease (5520 E&F/B&F) 1144 65th Street, Suite C Oakland, CA 94608 + 8015y MTBE EPA 625 / 8270 / 8310 Tele: (510) 420-0700 Total Petroleum Hydrocarbons (418.1) Fax: (510) 420-9170 Project Name: 60, MSC Project #: 153-1247-4 BTEX ONLY (EPA 602 / 8020) Project Location: 7101 Edgeweler EPA 608 / 8080 PCB's ONLY Lead (7240/7421/239.2/6010) Sampler Signature: Pob Solue BTEX & TPH as Gas (602) EPA 624 / 8240 / 8260 METHOD SAMPLING **MATRIX** Type Comtainers PRESERVED PAH's / PNA's by # Containers EPA 601 / 8010 EPA 625 / 8270 CAM-17 Metals EPA 608 / 8080 oganie **LUFT 5 Metals** SAMPLE ID LOCATION Air Sludge Other Ice HCl Date Time Water Other Soil RCI FDP-73-60 10/27 9:55 ja 1 FDP-74 - 6.0 10:05 FDP-75 -65 10:10 FBP-76- 4.5 9:00 FDP-77-55 10:46 FDP-78-6.0 11,00 Composition FIP-79-4.5 11:15 FDP-80-5.0 11:23 FDP-B1-5.0 (11:30) FDP-82-65 41.43 FDP-83-60 13:07 FDP-84-5.0 13:16 Relinquished By: Received By: Date: Time: Remarks: 10/28 10:30 CAMBRIA Date: Time: 10/28 12:40 Relinguished By: Time:

12830 CHAIN OF CUSTODY RECORD McCAMBELL ANALYTICAL INC. 110 2nd AVENUE SOUTH, #D7 OS \Box TURN AROUND TIME PACHECO, CA 94553 RUSH 24 HOUR 48 HOUR 5 DAY Fax: (510) 798-1622 Telephone: (510) 798-1620 Bill To: Cambria Other Comments Analysis Request Bob Schultz Report To: Company: Cambria Environmental Technology Grease (5520 E&F/B&F) 1144 65th Street, Suite C EPA 625 / 8270 / 8310 Oakland, CA 94608 Total Petroleum Hydrocarbons (418.1) Fax: (510) 420-9170 Tele: (510) 420-0700 propertie Project Name: Cofo, MSC Project #: 153-1247 -4 BTEX ONLY (EPA 602 / 8020) EPA 608 / 8080 PCB's ONLY Lead (7240/7421/239.2/6010) Project Location: 7101 Belgewater Sampler Signature: EPA 624 / 8240 / 8260 Total Petroleum Oil & METHOD PRESERVED TPH as Diesel (8015) **MATRIX SAMPLING** Type Commainers PAH's / PNA's by CAM-17 Metals EPA 601 / 8010 EPA 625 / 8270 EPA 608 / 8080 LUFT 5 Metals # Containers LOCATION SAMPLE ID Sludge Other Time Date Water HNO, E E 10/27 FNP-85-7.0 3:21 Ì۵٢ FDP-86-40 14:05 FDP-87-5.0 14:17 FD8-88-4,0 14:25 FOR89- 40 14:33 FDP-90-3.0 14,47 14:55 FDP-91-410 FDP-92- 4.D 15:00 FDP-92-4.0 10/27 15:00 lube Y FD8-76-45 9:00 11 Ħ tt Received By: Remarks: Time: Date: 10/28 10:30 CAMBRIA Date: Received By: Time: Received By: Relinquished By: Date: Time:

Cambria Environmental Technology	Client Project ID: #153-1247-4;	Date Sampled: 11/02/98					
1144 65 th Street, Suite C	City of MSC	Date Received: 11/03/98					
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 11/03/98					
	Client P.O:	Date Analyzed: 11/03/98					

11/10/98

Dear Bob:

Enclosed are:

- 1). the results of 3 samples from your #153-1247-4; City of MSC project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,



110 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone: 925-798-1620 Fax: 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Env	ironmental Technology	Client Pro of MSC	oject ID: #153-1247-4; City	Date Sampled: 11/02/98 Date Received: 11/03/98						
Oakland, CA	94608	Client Co	ntact: Bob Schultz	Date Extracted: 11/03/98						
		Client P.C	D:	Date Analyzed: 11/04/98						
CA Title 22, Cha	apter 11, Appendix XI		Organic Lead							
Lab ID	Client ID	Matrix	Orga	anic Lead *						
98094	FDP-93-96	S		ND						
98095	FDP-97-100	s		ND						
		-	_							
		- · · · · · · · · · · · · · · · · · · ·								
n	14 ml m m m	W).1 mg/L						
stated; ND me	mit unless otherwise ans not detected above eporting limit	S	· · · · · · · · · · · · · · · · · · ·	.5 mg/kg						
* water samples	are reported in mg/L, soil ar	d sludge sample	es in mg/kg and wipes in mg/wipe							



Cambria :	Environmental	tical methods	y Client Proje	ct ID: #153-1247-4; Cit	Date Sampl	Date Sampled: 11/02/98					
1144 65 th	Street, Suite C	}	of MSC		Date Receiv	red: 11/03/98					
Oakland,	CA 94608		Client Conta	act: Bob Schultz	Date Extrac	ted: 11/04/98					
			Client P.O:		Date Analys	zed: 11/04/98					
			Moisture	Bulk Density	Porosity	Fractional Organic Content					
	Analytical	methods	ASTM E3173	#	&	ASTM 2974c					
Lab ID	Client ID	Matrix	Weight %	Grams / cc	Vol % Porosity	Weight %					
02007	EDP 100 4 0 S 130/ 1.5		1.6	570/	2 80/						

2.8% Reporting Limit or Method Accuracy unless otherwise stated; ND means not S ± 2% $\pm 2\%$ $\pm 0.3\%$ ± 0.1 g/cc detected above the reporting limit

" calculated

[&] calculated volume percentage assuming that the specific gravity of soil is 2.65 grams/cc.

110 2nd Avenue South, #D7, Pacheco, CA 94553 Tele: 925-798-1620 Fax: 925-798-1622

QC REPORT FOR ICP and/or AA METALS

Date: 11/04/98-11/05/98 Matrix: SOIL

Extraction:

	Concent	ration			% Reco		
Analyte	(mg	g/kg,mg/1	L)	Amount			RPD
	Sample	MS	MSD	Spiked	MS	MSD	
Total Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
 Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Organic Lead	0.00	4.74	4.49	5.0	95	90	5.4

% Rec. = (MS - Sample) / amount spiked x 100

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Report To: Bo											_ _	Analysis Request Other Com								Comments													
Company: Cambria Environmental Technology											_		í	<u>.</u>																1			
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	I, CA 94608				10) 1	20.0	170						-1	MIBE	1	. B	=		ļ	ļ	ļ			831						Liba			
Tele: (510) 420-070			1'i	ax: (5	10) 4.	20-9	170							8015)		2 3	<u>\$</u>							/ 0/2				İ		7		- 1	
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Cambria Environmental Technology	Client Project ID: #153-1247-4;	Date Sampled: 11/03/98
1144 65 th Street, Suite C	City of Oakland	Date Received: 11/04/98
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 11/04/98
	Client P.O:	Date Analyzed: 11/04/98

11/11/98

Dear Bob:

Enclosed are:

- 1). the results of 4 samples from your #153-1247-4; City of Oakland project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

(c) //. . (



Date Sampled: 11/03/98 Cambria Environmental Technology Client Project ID: #153-1247-4; City of Oakland 1144 65th Street, Suite C Date Received: 11/04/98 Oakland, CA 94608 Client Contact: Bob Schultz Date Extracted: 11/05/98 Client P.O: Date Analyzed: 11/05/98 Organic Lead CA Title 22, Chapter 11, Appendix XI Lab ID Client ID Organic Lead * Matrix 98143 FDP-101-104 S ND 98144 FDP-105-108 S ND 98145 FDP-109-113 S ND 98146 FDP-114-115 S ND W 0.1 mg/L Reporting Limit unless otherwise stated; ND means not detected above the reporting limit S 0.5 mg/kg * water samples are reported in mg/L, soil and sludge samples in mg/kg and wipes in mg/wipe

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

QC REPORT FOR ICP and/or AA METALS

Date: 11/04/98-11/05/98 Matrix: SOIL

Extraction:

	Concent	ration		% Recovery							
Analyte	(mg	g/kg,mg/:	L)	Amount			RPD				
	Sample	MS	MSD	Spiked	MS	MSD					
Total Lead	 N/A	N/A	N/A	N/A	N/A	N/A	n/a				
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Organic Lead	0.00	4.74	4.49	5.0	95	90	5.4				

% Rec. = (MS - Sample) / amount spiked x 100

CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC.

1144 65th Street, Suite C, Oakland, CA 94608

CHAIN OF CUSTODY

Page of 2 (510) 420-0700 Fax: (510) 420-9170 12900 x @ 361 LAB: McCampbell **ANALYSES** Cambria Manager: Bob Schult 7
Cambria Sampler: Bub Schult 7 Client: City of Oakland Site Address: 7101 Edgewater Project Number: 153-1247-4 SAMPLE ID DATE MATRIX # OF TIME SAMPLES Soil 8:40 compresto W/FDP-101-4.00 Sampled on 11/2 FDP-102 -4,0 4/3 composite w/FDP-161-4.5 8:45 FDP-103-35 98143 8:55 FDP-104-35 FDP-105-30 9:05 FDP-106-4.0 9:20 98144 9:30 FDP-107 -4,0 FDP-10B-45 9:40 AP-109-4.0 10:30 FD-110-45 14:80 98145 FDP-112-48 1145 FDP-113-40 12;00 Relinquished by: Dow Relinquished by: Bobelin & Relinquished by: Relinquished by: Received by: El Soul Received by Received by: Received by: Time/Date: 11/4/98 11/4/98 2:19pm VOAS ORGINIETALS OTHER 9:20 AM Time/Date: Time/Date: Time/Date: PRESERVATION GOOD CONDITION **APPROPRIATE CONTAINERS** HEAD SPACE ABSENT

CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC.

CHAIN OF CUSTODY

1144 65th Street, Suite C, Oakland, CA 94608 (510) 420-0700 Fax: (510) 420-9170

Page <u>Z</u> of <u>Z</u>

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Cambria Environmental Technology		Date Sampled: 11/20/98
1144 65 th Street, Suite C	City of MSC	Date Received: 11/23/98
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 11/23/98
	Client P.O:	Date Analyzed: 11/23/98

12/02/98

Dear Bob:

Enclosed are:

- 1). the results of 3 samples from your #153-1247-4; City of MSC project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director



Cambria Env	ironmental Technology	Client Pro	oject ID: #153-1247-4; City	Date Sampled: 11/20/98
1144 65 th Str	eet, Suite C	of MSC		Date Received: 11/23/98
Oakland, CA	94608	Client Co	ntact: Bob Schultz	Date Extracted: 11/25/98
		Client P.O	D:	Date Analyzed: 11/25/98
CA Title 22, Ch	apter 11, Appendix XI	Į.	Organic Lead	,
Lab ID	Client ID	Matrix	Orga	anic Lead *
99058	FDP-116-119	S		ND
99059	FDP-120-6.5	S		ND
·				
•••				
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<u> </u>				
stated; ND me	mit unless otherwise ans not detected above	W		0.1 mg/L
the re	eporting limit	S	0	.5 mg/kg
-			es in mg/kg and wipes in mg/wipe mmle that contains greater than ~5 vol	l. % sediment.



110 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone: 925-798-1620 Fax: 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria l	Environmental	Technol		Project ID: #153-	1247-4; City	Date Sampled:	11/20/98					
1144 65 th	Street, Suite C		of MS	C		Date Received:	11/23/98					
Oakland,	CA 94608		Client	Contact: Bob Sch	ultz	Date Extracted:	11/23/98					
			Client	P.O:		Date Analyzed:	11/23-12/01/98					
Ar	nalytical method:	s	Moisture	Bulk Density	Porosity	Air Filled Void Space	Fractional Organic Content					
	,	_	ASTM E3173	Ħ	Ś.	&	ASTM 2974c					
Lab ID	Client ID	Matrix	Weight %	Grams / cc	Vol % Porosity	Vol % Porosity	Weight %					
99060	FDP-117-3.9	S	16	1.3	60		1.8					
·												
	:											
· · · · ·				<u> </u>								
			7									
Accuracy t stated; N detected abo	Limit or Method inless otherwise ID means not ove the reporting limit	S	± 2%	± 0.1g/cc	± 2%	± 2%	± 0.3%					
* calculated & calculated v	volume nercentage	assuming t	that the specific gravity of soil is 2.65 grams/cc.									
CAICHIAICU V	constitue percentage	moouning t	mer ene phoenine f	Stavity Of actilia 4.00	51 a1 113/ CC.							

DHS Certification No. 1644

______Edward Hamilton, Lab Director

110 2nd Avenue South, #D7, Pacheco, CA 94553 Tele: 925-798-1620 Fax: 925-798-1622

QC REPORT FOR ICP and/or AA METALS

Date: 11/25/98-11/26/98 Matrix: SOIL

Extraction:

	Concent	ration			% Reco	very	
Analyte	(mg	g/kg,mg/1	ር)	Amount			RPD
<u> </u>	Sample	MS	MSD	Spiked 	MS	MSD	
Total Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Organic Lead	0.00	4.66	4.62	5.0	93	92	0.8

% Rec. = (MS - Sample) / amount spiked x 100

 $RPD = (MS - MSD) / (MS + MSD) \times 2 \times 100$

13086 x C 369 page 1 of 1

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Report To: Bub			В	ill To		ei in	<u>`</u>											-	Ana	lysi	s Re	equi	est						Π	Ö	ther		C	ominei	its	1
Company: Cambri	a Environmei	ıtal Techi	nology	•	<u>`</u>	Jel.								-		<u></u>																				1
1144 6	5 th Street, Sui	te C														138	- 1	ļ	Ì			1	- 1						ŀ							
Oaklan	d, CA 94608													+ 8015) MTBE		\ 2	\Box		ı			1		36							4					
Tele: (510) 420-07				ax: (5									_	٦		20 E	8.1			- 1				EPA 625 / 8270 / 8310						1.5	1		1			1
Project #: 153-	1247-4			roject	Nan	ie:	Co	(O,	m	55			_	803		(55	\$ (4)		္သေ				-	827			_	ļ		1	7	ľ				
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				ers	Type Comtainers	П			T					<u>ss</u>	<u>g</u>	EE	E	EPA 601 / 8010	7	8	<u></u>	25	EPA 625 / 8270	PAH's / PNA's by	CAM-17 Metals	tals	742		١, ١	d i						l
SAMPLE ID	LOCATION	D-4-	Time	Containers	Ę			ي ا					- 1	Ē	ద	Et	E	3	z I	EPA 608 / 8080	<u></u>	\$ 2	25/8	ME	7 M	LUFT 5 Metals	24		(40 m.							
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Cambria Environmental Technology	Client Project ID: #153-1247-4;	Date Sampled: 12/01/98
1144 65 th Street, Suite C	City of MSC	Date Received: 12/02/98
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 12/02/98
	Client P.O:	Date Analyzed: 12/02/98

12/09/98

Dear Bob:

Enclosed are:

- 1). the results of 1 samples from your #153-1247-4; City of MSC project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director



Cambria Environmental Technology 1144 65 th Street, Suite C	Client Pro of MSC	oject ID: #153-1247-4; City	Date Sampled: 12/01/98 Date Received: 12/02/98
Oakland, CA 94608	Client Co	ntact: Bob Schultz	Date Extracted: 12/02/98
	Client P.C	D :	Date Analyzed: 12/03/98
CA Title 22, Chapter 11, Appendix XI		Organic Lead	
Lab ID Client ID	Matrix	Orga	anic Lead *
99506 FDP-121-124	S		ND
Reporting Limit unless otherwise	W	0	.1 mg/L
stated; ND means not detected above the reporting limit	S	0.	5 mg/kg
* water samples are reported in mg/L, soil and h) lighter than water immiscible sheen is pres			1 % sediment

110 2nd Avenue South, #D7, Pacheco, CA 94553 Tele: 925-798-1620 Fax: 925-798-1622

QC REPORT FOR ICP and/or AA METALS

Date:

12/03/98-12/04/98 Matrix: SOIL

Extraction:

	Concent:	ration			% Reco	very	
Analyte	(mg	g/kg,mg/	L)	Amount			RPD
	Sample	MS	MSD	Spiked 	MS	MSD	
Total Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	n/A	N/A	N/A	N/A	N/A
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Organic Lead	0.00	4.70	4.78	5.0	94	96	1.7

% Rec. = (MS - Sample) / amount spiked x 100

RPD = $(MS - MSD) / (MS + MSD) \times 2 \times 100$

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	ne: (925) 798-	-1620			F	ax: (!	925	798 (-162	2.2			_ _												RU	SH	2	24 1	IOU				UR 5 DA	
Report To: Bob	Sc <u>hultz</u>		B	ill To	: C	amb	2 C i	a					_ _						An	alys	is R	lequ	est			,		,	<u> </u>	0	ther	·	Commen	ts
Company: Cambria	Environmen	ital Techi	nology										_			<u>G</u>																1		
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	l, CA 94608					20.0						<u>-</u> .		MTBE		E&F	_						i	8310									j	
Tele: (510) 420-07					10) 4								_	8015)/		202	18.							70 /									1	ļ
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			[# Containers	Type Containers	П							\Box	₹as (TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)		3	إ				1
SAMPLE ID	LOCATION	٦.	-m·	ta ii	ont	1		. 63				-		BTEX & TPH as	Die	Į į	lotte	8/1	INC	8/8	8/8	4/8	2/8	M.	Σ	ž	240/		z	3 3 3	-		ļ	
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Cambria Environmental Technology	Client Project ID: #153-1247-4; C	Date Sampled: 12/08/98
1144 65 th Street, Suite C	Of O, MSC	Date Received: 12/08/98
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 12/08/98
	Client P.O:	Date Analyzed: 12/08/98

12/16/98

Dear Bob:

Enclosed are:

- 1). the results of 6 samples from your #153-1247-4; C Of O, MSC project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director

110 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone: 925-798-1620 Fax: 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

Cambria Environmental Technology	Client Project ID: #153-1247-4; C Of	Date Sampled: 12/08/98
1144 65 th Street, Suite C	O, MSC	Date Received: 12/08/98
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 12/08/98
	Client P.O:	Date Analyzed: 12/08-12/09/98
		The state of the s

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX* EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) ⁺	MTBE	Benzene	Toluene	Ethylben -zene ↔	Xylenes	% Recovery Surrogate
99 7 96-T	FDP-125/126	S	ND	ND	ND	ND	ND	ND	101
99797-T	FDP-127-4.5	S	ND	ND	ND	0.007	0.010	0.008	107
99798-T	FDP-128-4.0	s	130,b,j	ND<0.2	0.060	0.40	0.89	0.52	#
99799-Т	FDP-128-6.0	S	ND	ND	ND	ND	ND	ND	101
99800-T	FDP-129-5.0	s	ND	ND	ND	0.013	ND	0.022	102
	 .								
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Reportin	g Limit unless	W	50 ug/L	5.0	0.5	0.5	0.5	0.5	<u>, , , , , , , , , , , , , , , , , , , </u>

^{*} water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

0.005

0.05

0.005

S

1.0 mg/kg

0.005

0.005

otherwise stated; ND means not detected above the

reporting limit

[&]quot; cluttered chromatogram; sample peak coelutes with surrogate peak

^{*}The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

Cambria Environmental Technology	Client Project ID: #153-1247-4; C	Date Sampled: 12/08/98
1144 65th Street, Suite C	Of O, MSC	Date Received: 12/08/98
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 12/08/98
	Client P.O:	Date Analyzed: 12/09-12/10/98

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

Lab ID	Client ID	Matrix	TPH(d) ⁺ _Q C√, ⟨ ¹	% Recovery Surrogate
99796-J1	FDP-125/126	s	19,g	104
99797-J1	FDP-127-4.5	S	14,b,d	101
99798-J1	FDP-128-4.0	S	240,b,d	96
99799-J1	FDP-128-6.0	S	ND	103
99800-J1	FDP-129-5.0	S	ND	104
			:	
Reporting Li	mit unless otherwise ans not detected above	W	50 ug/L	
	porting limit	S	1.0 mg/kg	

^{*} water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

^{*} cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

^{*}The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.



Cambria Env	ronmental Technolo		Client Project ID: #153-1247-4; C Of	Date Sampled: 12/08/98
1144 65 th Str	eet, Suite C	0	O, MSC	Date Received: 12/08/98
Oakland, CA	94608	С	lient Contact: Bob Schultz	Date Extracted: 12/08/98
		C	lient P.O:	Date Analyzed: 12/10/98
CA Title 22, Ch	apter 11, Appendix XI		Organic Lead	
Lab ID	Client ID	Matrix	x Organic	Lead *
99796-J2	FDP-125/126	S	N	D
99801	FDP-127/128/129	S	N	ID
	imit unless otherwise ans not detected above	W	0.1	mg/L
	eporting limit	S	0.5 r	ng/kg
			lge samples in mg/kg and wipes in mg/wipe	% cadiment

110 2nd Avenue South, #D7, Pacheco, CA 94553 Tele: 925-798-1620 Fax: 925-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 12/07/98-12/08/98 Matrix: SOIL

<u></u>	Concent	ration	(mg/kg)		% Reco	very	
Analyte	Sample (#97134)	MS	MSD	Amount Spiked	MS	MSD	RPD
TPH (gas)	0.000	2.097	1.989	2.03	103	98	5.3
Benzene Toluene	0.000	0.180 0.186	0.188 0.194	0.2	90 93	94 97	4.3
Ethylbenzene Xylenes	0.000	0.180 0.544	0.182 0.538	0.2	90 91	91 90	1.1
TPH(diesel)	 0	312	314	300	104	105	0.7
TRPH	0.0	24.1	23.4	23.7	102	99	2.9

[%] Rec. = (MS - Sample) / amount spiked x 100

 $RPD = (MS - MSD) / (MS + MSD) \times 2 \times 100$

QC REPORT FOR HYDROCARBON ANALYSES

Date: 12/09/98

Matrix: SOIL

Concent	ration	(mg/kg)		% Reco	very	
Sample			Amount			RPD
(#97134)	MS	MSD	Spiked	MS	MSD	
0.000	2.171	2.099	2.03	107	103	3.4
0.000	0.186	0.182	0.2	93	91	2.2
0.000	0.200	0.190	0.2	100	95	5.1
0.000	0.192	0.182	0.2	96	91	5.3
0.000	0.594	0.530	0.6	99	88	11.4
			300	7.05	100	2 4
	316	32/	300	105	109	3.4
N/A	N/A	N/A	 N/A 	N/A	N/A	N/A
	0.000 0.000 0.000 0.000 0.000 0.000	Sample (#97134) MS 0.000 2.171 0.000 0.186 0.000 0.200 0.000 0.192 0.000 0.594	(#97134) MS MSD 0.000 2.171 2.099 0.000 0.186 0.182 0.000 0.200 0.190 0.000 0.192 0.182 0.000 0.594 0.530 0 316 327	Sample (#97134) MS MSD Amount Spiked 0.000 2.171 2.099 2.03 0.000 0.186 0.182 0.2 0.000 0.200 0.190 0.2 0.000 0.192 0.182 0.2 0.000 0.594 0.530 0.6	Sample (#97134) MS MSD Amount Spiked MS 0.000 2.171 2.099 2.03 107 0.000 0.186 0.182 0.2 93 0.000 0.200 0.190 0.2 100 0.000 0.192 0.182 0.2 96 0.000 0.594 0.530 0.6 99 0 316 327 300 105	Sample (#97134) MS MSD Amount Spiked MS MSD 0.000 2.171 2.099 2.03 107 103 0.000 0.186 0.182 0.2 93 91 0.000 0.200 0.190 0.2 100 95 0.000 0.192 0.182 0.2 96 91 0.000 0.594 0.530 0.6 99 88

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) \times 2 \times 100

QC REPORT FOR ICP and/or AA METALS

Date: 12/10/98

Matrix: SOIL

Extraction:

	Concent	ration			% Reco	very	
Analyte	(mg	g/kg,mg/	L)	Amount			RPD
	Sample	MS	MSD	Spiked 	MS	MSD	
Total Lead	N/A	N/A	N/A	 N/A	N/A	N/A	N/A
Total Cadmium	N/A	N/A	n/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Copper	 N/A	n/A	N/A	N/A	N/A	N/A	N/A
Organic Lead	0.00	4.68	4.63	5.0	94	93	1.1

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

13257xc 379

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Telephor	ne: (925) 798	-1620		, , , , , ,	F	ax: (92	5) 7	98-16	22								2.3					RU	SH	2	4 H	OUR	48]	HOI	B. 5	JAY.	
Report To: Bob	Schultz			Bill To): <i>C</i>	rmb	<u>ci (</u>	<u> </u>									Ana	ılysi	s Re	ques	t					O	i Miles			Y.	
Company: Čambria	a Environmer	ital Tech	nology											E)																	
	th Street, Suit	e C												B&															3	a, (2) .	3 1
	l, CA 94608											MTBE		&F		- {	- 1				3310										
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0.110.00			j	# Containers	Type Containers							H as	Sel	Jenn	lcm	EPA 601 / 8010	2	EPA 608 / 8080		EPA 625 / 8270	PAH's / PNA's by	CAM-17 Metals	LUFT 5 Metals	742		acgamis		٦ د			98
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Cambria Environmental Technology	Client Project ID: #153-1247-4;	Date Sampled: 12/10/98
1144 65 th Street, Suite C	City of MSC	Date Received: 12/11/98
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 12/11/98
	Client P.O:	Date Analyzed: 12/11/98

12/18/98

Dear Bob:

Enclosed are:

- 1). the results of 12 samples from your #153-1247-4; City of MSC project,
- 2). a QC report for the above samples
- 3), a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director

Cambria Environmental Technology	Client Project ID: #153-1247-4; City	Date Sampled: 12/10/98
1144 65 th Street, Suite C	of MSC	Date Received: 12/11/98
Oakland, CA 94608	Client Contact: Bob Schultz	Date Extracted: 12/11/98
	Client P.O:	Date Analyzed: 12/11-12/12/98

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) ⁺	мтве	Benzene	Toluene	Ethylben- zene	Xylenes	% Recovery Surrogate
99947- 948	FDP- 130/131	s	ND	ND	ND	ND	ND	ND	102
99949- 950	FDP- 132/133	S	8.9,g,j	ND	ND	0.030	0.015	0.032	115
99951- 952	FDP- 134/135	S	92,g,j	ND	0.10	0.15	0.69	0.37	#
99953- 954	FDP- 136/137	s	25,g,j	ND	0.059	0.060	0.044	0.096	#
99955- 956	FDP- 138/139	s	840,b,j	ND<2	2.3	2.3	7.0	28	113
99957- 958	FDP-140- 141	S	950,a	ND<2	2.1	5.2	13	58	116
otherwi	g Limit unless se stated; ND	W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
	t detected above porting limit	S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

^{*} water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

^{*} cluttered chromatogram; sample peak coelutes with surrogate peak

^{&#}x27;The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

Cambria Environmental Technology
1144 65th Street, Suite C

Oakland, CA 94608

Client Project ID: #153-1247-4;
City of MSC

Client Contact: Bob Schultz

Date Sampled: 12/10/98

Date Received: 12/11/98

Client P.O:

Date Analyzed: 12/11-12/13/98

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	T PH (d) ⁺	% Recovery Surrogate
99947-948	FDP-130/131	S	ND	103
99949-950	FDP-132/133	S	1.6,b	104
99951-952	FDP-134/135	S	47,b,d	104
99953-954	FDP-136/137	s	34,b	105
99955-956	FDP-138/139	S	300,d,b	104
99957-958	FDP-140-141	S	210,d,b	104
	ween 2			
Reporting Lin	mit unless otherwise ans not detected above	W	50 ug/L	
the re	porting limit	S	1.0 mg/kg	

^{*} water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

[#] cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

^{*}The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.



	vironmental Technology	Client Pro	oject ID: #153-1247-4; City	Date Sampled: 12/10/98
1144 65 th Str	reet, Suite C			Date Received: 12/11/98
Oakland, CA	94608	Client Co	ntact: Bob Schultz	Date Extracted: 12/14/98
		Client P.0) :	Date Analyzed: 12/15/98
CA Title 22, Ch	apter 11, Appendix XI		Organic Lead	
Lab ID	Client ID	Matrix	Org	anic Lead *
99947-950	FDP-130/131-133	S		ND
99951-952	FDP-134-135	S		ND
99953-955	FDP-136-138	S		ND
99956-958	FDP-139-141	S		ND
		·		
	imit unless otherwise ans not detected above	W	0	.1 mg/L
	eporting limit	S	0	.5 mg/kg
			es in mg/kg and wipes in mg/wipe mple that contains greater than ~5 vo	I. % sediment.



Date Sampled: 12/10/98 Client Project ID: #153-1247-4; City Cambria Environmental Technology of MSC Date Received: 12/11/98 1144 65th Street, Suite C Date Extracted: 12/11/98 Oakland, CA 94608 Client Contact: Bob Schultz Client P.O: Date Analyzed: 12/11-12/22/98 Air Filled Void Fractional Moisture **Bulk Density Porosity Organic Content** Space Analytical methods & ASTM 2974c **ASTM E3173** Vol % Porosity Vol % Porosity Weight % Lab ID Client ID Matrix Weight % Grams / cc 71 2.9 99951 FDP-134 S 14 0.88Reporting Limit or Method Accuracy unless otherwise S ± 2% $\pm 2\%$ $\pm 0.3\%$ $\pm\,2\%$ \pm 0.1 g/cc stated; ND means not detected above the reporting limit calculated calculated volume percentage assuming that the specific gravity of soil is 2.65 grams/cc.

QC REPORT FOR HYDROCARBON ANALYSES

Date: 12/11/98-12/12/98 Matrix: SOIL

	Concent	ration	(mg/kg)	1	% Reco	very	
Analyte	Sample			Amount			RPD
 <u> </u>	(#97 1 38) 	MS	MSD	Spiked 	MS 	MSD	
TPH (gas)	0.000	1.924	1.950	2.03	95	96	1.3
Benzene	0.000	0.174	0.176	0.2	87	88	1.1
Toluene	0.000	0.182	0.196	0.2	91	98	7.4
Ethylbenzene	0.000	0.172	0.172	0.2	86	86	0.0
Xylenes 	0.000	0.512	0.512	0.6	85	85	0.0
TPH(diesel)	0	316	311	300	105	104	1.3
TRPH (oil and grease)	 0.0 	21.0	24.7	20.8	101	119	16.2

RPD = $(MS - MSD) / (MS + MSD) \times 2 \times 100$

[%] Rec. = (MS - Sample) / amount spiked x 100

QC REPORT FOR ICP and/or AA METALS

Date:

12/15/98-12/16/98 Matrix: SOIL

Extraction:

	Concent				% Reco	very	
Analyte	(mg	g/kg,mg/1	L)	Amount			RPD
<u> </u>	Sample 	MS	MSD	Spiked	MS	MSD	
Total Lead	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Cadmium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Chromium	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Nickel	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Zinc	N/A	N/A	N/A	N/A	N/A	N/A	N/A
 Total Copper	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Organic Lead	0.00	4.68	4.63	5.0	94	93	1.3

% Rec. = (MS - Sample) / amount spiked x 100

RPD = $(MS - MSD) / (MS + MSD) \times 2 \times 100$

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	l, CA 94608												MTBE		S&F	_							3310							-	图			
Tele: (510) 420-07		_		ax: (5									\rightarrow		Grease (5520 E&F/B&F)	85							3/0/					أا			刈墓	N		: P.
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	Comp.	SAM	PLING]	E E	L	MA	TRI	х.	PR	ESE	RVED	Sas S	TPH as Diesel (8015)	Total Petroleum Oil &	Total Petroleum Hydrocarbons (418.1)		BTEX ONLY (EPA 602 / 8020)		EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260		PAH's / PNA's by EPA 625 / 8270 / 8310	[<u>,</u>		Lead (7240/7421/239.2/6010)			\Box	0	機			
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TABLE 1A

Case No.: QAO-98-15A Memo #01 Site:

Oakland Brownfield

Reviewer: Lorenz Herrera, ESAT/Lockheed

November 23, 1998

Lab.:

Date:

APPL, Inc.

UNVALIDATED DATA

Concentration in µg/Kg

Analysis Type: Soil Samples for Total

Petroleum Hydrocarbons

(as Diesel) by SW-846

Method 8015

																Method 8	1015				
Station Location	J	ar	·	1	аг		Meth	od B	lank												
Sample I.D.	FDP-1+2	Con	nposit	FDP-3+4	Con	nposit	98092	8S -	11785	PQL											
Date of Collection	9/2:	3/98			3/98																
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
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Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
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	016												D? etc -Fie								

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

*The analyst has noted that the chromatogram of this sample is mainly lower boiling hydrocarbons such as mineral spirits, kerosene, stoddard solvent or white gas.

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

TABLE 1A

Case No.: QAO-98-15A Memo #01

Site: Lab.:

Date:

Oakland Brownfield

APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for Total

Reviewer: Lorena Herrera, ESAT/Lockheed

Petroleum Hydrocarbons

November 23, 1998 Concentration in µg/Kg

(as Diesel) by SW-846 Method 8015-Clean Up

	r															Method 6	70 13		ан ор		
Station Location Sample I.D. Date of Collection	FDP-1+2	ar . Com 3/98	nposit	FDP-3+4	ar Con 3/98	nposit	Metho 98092			PQL											
Compound	Result		Com			Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
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Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

*The analyst has noted that the chromatogram of this sample is mainly lower boiling hydrocarbons such as mineral spirits, kerosene, stoddard solvent or white gas.

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

ANALYTICAL RESULTS

Page 1 of 4

Case No.: QAO-98-15A Memo #02

TABLE 1A

Oakland Brownfield

Lab.: APPL, Inc.

Site:

UNVALIDATED DATA Analysis Type: Soil Samples for Volatiles

by SW-846 Method 8020 and

Reviewer: Lorena Herrera, ESAT/Lockheed

Total Petroleum Hydrocarbon:

Date: December 3, 1998 Concentration in mg/Kg

(as Gasoline) by SW-846 Meth

									- "		<u> </u>		DA SM-0#	
											İ			
Sample I.D.	FDP-14	+2 COMPOS	FDP-3	+4 COMPOS	FDP-5+6~	4.0' COMPO	FDP-7+8	-4.0' COMPO	FDP-1-7.5'-	+2-5.0' COM	FDP-3-5.0'+	4-4.5' COMI	FDP-5-5.5'+6-	5.0' COME
Date of Colle		9/23/98		9/23/98	9/2	23 & 24/98		9/24/98		9/25/98		9/25/98		25/98
Compound	Result	ValCom	Result	Va Con	Result	ValCon	Result	ValCon	Result	ValCon	Result	Va Con	Result	Va Com
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1,2-Dichlorob	0.31	141001000000000000000000000000000000000	3.2 3.2		3.2 I 3.2 I	1970 1270 1270 1270 1270 1281 1281 1281 1281	3, 1 3.1	produced processing the pure same	3.0 3.0	to a contract the second	3.0 T	200000000000000000000000000000000000000	3.0 U	-845-0-6-14-15-5-2-1-6-5-1-
1,3-Dichlorob	0.31 0.31		3.2 3.2		3.2 l		3.1 3.1		district determinent determinen		3.0 I		3.0 U	
Ethylbenzene	2.7		29		23		5.1		45		27	General Medica	53	al states a gradual services
Gasoline	240		2000		1400		1200	ซ่	2300		1300		3000	
MTBE	0.62	U	6.3		6.3 l	tel close and distant fact carbon facts.	6.2		6.1		6.0 T		6.0 U	
Toluene	0.31	U i	3.2	U	3,21	Ų, i	3.1	U	3.0	U	3,0 1		3.0 U	
Total Xylenes	6.2		54		52		7.0		77		120		160	
	00.4	,	79.0	a	79.2	7	81.0	σ ₋	82.6	0%.	82.7	1	83.4 %	
Percent Solids	80.4	% 1	/9.U	70	19.4	<i>x</i>	01.0	70	02.0	70	02.7		05.4 %	
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Val-Validity. Refer to Data Qualifiers in Table 1B.

D1, D2, etc. -Field Duplicate Pairs

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank, BG-Backg

N/A-Not Applicable, NA-Not Analyzed

ANALYTICAL RESULTS
TABLE 1A

Page 2 of 4

Case No.:

Lab.:

QAO-98-15A Memo #02

-- ...-

Site: Oakland Brownfield

APPL, Inc.

UNVALIDATED DATA Analysis Type: Soil Samples for Volatiles

Reviewer: Lorenz Herrera, ESAT/Lockheed

Date: December 3, 1998 Concentration in mg/Kg

by SW-846 Method 8020 and Total Petroleum Hydrocarbon: (as Gasoline) by SW-846 Meth

																	,	722001	DJ 50-01	O MGC
											_						W.	thed Blank		thed Blank
	Sample LD.	FDP-7-4.5'+	8-5.0° C	СОМР	FDP-9-4.0'+1	10-4.5"	СОМ	FDP-11-4.5+	-12-4.5'	COM	FDP-13-6.0'+	14-5.5	COM	FDP-15-5.0'+1	6-5.0° C	OΜ		0929S		1002\$
	Date of Colle		9/25/98	$\overline{}$		/25/98			9/25/98			/25/9			25/98	╛				
	Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Con	Result	ValCo	XX	Result	ValCon	Result	Va Con
	Benzene	3.0	Ú		0.29 (3.0 1	u i		0.029 T	j	120000 100000 100000	0.029 L			0.025 U		0.025 U	
	Chlorobenzen	3.0	7 4		0.29 t	CONTRACTOR OF	SSLIGHT	3.0 1		terfole led	0.029 t		pocosco:	0.029 U		in per	0.025 U	ſ	0.025 U	, I
i	1,2-Dichlorob	4010-1016-11-10-10-10-10-10-10-10-10-10-10-10-10-			0.29 (0.00 (0.00) (0.00)		3,0 1	and the second		0.029 T	C31012121213		0.029 L	0.0000000000000000000000000000000000000		0.025 T	Beilief eterlieff i Market eterliefe et et e.	0.025 U	1041-0410-101
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	Ethylbenzene	13	9	P. DA	2.6			44			0.029 t 0.029 t	seuments.		0.029 U	de-octor		0.025 U	ancau avaka	0.025 U	
	Gasoline	640			140			2400			12 (21			10.0 U		10.0 TJ	
	MTBE	6.0			0.59	e Nestani	Jant-Marie I	5.2]		a day	0.058 โ		VAVAY	0.058 U	a anno an Lanco		0.050 U		0.050 U	
	Toluene	3.0 52	U III		0.29 2.0			3.0 1			0.029 1	STREET, SOR		0.029 L	Section of the section of		0.025 U	enteres executives	0.025 U	000000000000000000000000000000000000000
	Total Xylenes	32			2.0			78		1000	0.029 T			0.029 U			0.025 U		0.025 U	
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Val-Validity. Refer to Data Qualifiers in Table 1B.

D1, D2, etc. -Field Duplicate Pairs

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank, BG-Backg

N/A-Not Applicable, NA-Not Analyzed

ANALYTICAL RESULTS

Page 3 of 4

Case No.: QAO-98-15A Memo #02

TABLE 1A

Site: Oakland Brownfield

APPL, Inc.

UNVALIDATED DATA Analysis Type: Soil Samples for Volatiles

Lab.:

Reviewer: Lorena Herrera, ESAT/Lockheed

by SW-846 Method 8020 and

Date:

December 3, 1998

Concentration in mg/Kg

Total Petroleum Hydrocarbons

(as Gasoline) by SW-846 Meth

Sample I.D.	P(QL				ļ													Ì
Compound	Result	ValCo	ш	Result	Va	Com	Result	Va	Com	Result	Va	Com	Result	Va Con	Result	ValCon	Result	Va	Com
Benzene	0.025		, (CO) (CO)					100000000 1000000000000000000000000000			1000000 10000000	2000 M							
Chlorobenzen 1,2-Dichlorob	0.025 0.025		00000			1000000 10000000 100000000000000000000		(CONTROL OF CONTROL OF	000 000 000 000 000 000 000 000 000 000 000 000		3000000 30000000 300000000								
1,3-Dichlorob					9,000				170 MIN										
Ethylbenzene Gasoline	0.025 10.0		(M. 1971)		20000	V. V. V. V. V. V. V. V. V. V. V. V. V. V		00000000 00000000 000000000	3000000 3000000 30000000 30000000		1000000								
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Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

UNVALIDATED DATA Analysis Type: Water Samples (Field Blanks)

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank, BG-Backg

PQL-Practical Quantitation Limit

ANALYTICAL RESULTS TABLE 1A

Page 4 of 4

Case No.: QAO-98-15A Memo #02

Site:

Oakland Brownfield

Lab.: APPL, Inc.

Reviewer: Lorena Herrera, ESAT/Lockheed

December 3, 1998 Date:

Concentration in mg/L

Volatiles by SW-846 Method {

and Total Petroleum Hydroca:

(as Gasoline) by SW-846 Meth

			Method Blank	Method Blank				
Sample I.D.	Field Blank Fl	Field Blank Fl	981001W	981007W	PQL			
Date of Colle	9/24/98	9/25/98		<u></u>			<u> </u>	
Compound	Result ValCon	Result Va Com	Result ValCon	Result ValCom	Result ValCom	Result ValCon	Result	Va Com

Benzene	0.001 t		0.001	 -	0.001 U		0.001 T	I I	0.001			100 mm m m m m m m m m m m m m m m m m m	Western Contraction
Chlorobenzen 1,2-Dichlorob			0.001 0.001	U .	0.001 U 0.001 E		0.001 U 0.001 U	7	0.001 0.001			2000000 20000000 200000000000000000000	20000000 20000000
1,3-Dichlorob 1,4-Dichlorob Ethylbenzene	0.001 T	j ii	0.001 0.001 0.001	d in the	0.001 U 0.001 U 0.001 U		0.001 I 0.001 I 0.001 I	j 📗	0.001 0.001 0.001				O Marie Control
Gasoline MTBE	0.001 C		0.001 0.00	U	0.001 C 0.5 U		0.001 t 0.001 t	J.	0.001			100 Marie	40000000 40000000000000000000000000000
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Val-Validity. Refer to Data Qualifiers in Table 1B.

D1, D2, etc. -Field Duplicate Pairs

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank, BG-Backg

N/A-Not Applicable, NA-Not Analyzed

PQL-Practical Quantitation Limit

*This field blank was not listed on any of the Chain of Custody records in the data package.

Page 1 of 1

Case No.: QAO-98-15A Memo #03

Oakland Brownfield

Lab.: APPL, Inc. UNVALIDATED DATA

Analysis Type: Soil Samples for Total

Date:

Site:

Reviewer: Lorena Herrera, ESAT/Lockheed

Concentration in µg/Kg

Petroleum Hydrocarbons

(as Diesel) by EPA Method 8015M

February 10, 1999 (AMENDED February 19, 1999)

Station Location and	-						Metho	od B	lank												
Sample I.D.	FDP-5-6-4.0						98092	28S]	BLK	PQL											
Date of Collection		23,24			24/98		Th	. .		D	¥7-2	G	Domile	37-1	C	D14	ly/all	Com	Result	1701	Com
Сотроила	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	vai	Com	Result	vai	Com
Diesel	130000			120000		2000 V 1000 V 1000 2000 V 1000 V 1000 2000 V 1000 V 1000 V 1000 2000 V 1000 V 1000 V 1000 2000 V 100	10000 U			10000				2000///// 2000////// 2000/////// 2000////////							
·"																					
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
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	Ovalificania)? etc -Hie								

Val-Validity. Refer to Data Qualifiers in Table 1B.

 $Com\text{-}Comments. \ \ Refer to the \ \ Corresponding \ \ Section \ in the \ \ Narrative \ for each \ letter.$

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

TABLE 1A

Case No.: QAO-98-15A Memo #03

Site:

Date:

Cakland Brownfield

Lab :

APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for Total

Reviewer:

Lorena Herrera, ESAT/Lockheed

February 10, 1999 (AMENDED February 19, 1999)

Concentration in µg/Kg

Petroleum Hydrocarbons (as Diesel) by EPA Method

2015W

	,															8015M					
Station Location and Sample I.D. Date of Collection	FDP-5-6-4.0 COMPOSIT 9/23,24/98			FDP-7-8-4.0' COMPOSIT 9/24/98			Method Blank 980928S BLK			PQL											
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Diesel	130000	***************************************		120000			10000 U	10000000000000000000000000000000000000		10000				W. Market	2000						
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Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
) . I.G	T-1				100 0000 100 0000 100 0000 100 0000 200 0000 200 0000)							

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Concentration in µg/Kg

Page 1 of 1 ANALYTICAL RESULTS

Case No.: QAO-98-15A Memo #03

Oakland Brownfield

Reviewer: Lorena Herrera, ESAT/Lockheed

February 10, 1999

Lab.: APPL, Inc.

Site:

Date:

UNVALIDATED DATA

Analysis Type: Soil Samples for Total

Petroleum Hydrocarbons

(as Diesel) by EPA Method

											8015M										
Station Location and Sample I.D. Date of Collection	FDP-5-6-4.0' COMPOSIT 9/24/98		FDP-7-8-4.0'		Method Blank 980928S BLK			PQL													
Compound	Result		Com			Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Соп
Diesel	130000			120000	100 Maria	2000 00000 2000 00000 2000 00000 2000 00000	10000 U	200 V V V V		10000											
																	3000000 300000000000000000000000000000				
																				200 (A)	
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Сот
							:									:					
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Va	Com	Result	Val	Com	Result	Val	Coı
																	100 min (100			Walter	
																			A CONTRACTOR OF THE CONTRACTOR		
Val-Validity. Refer to Data	Ovalifiers in	Tak	la IP									DI I	D2, etcFie	M Di	unlicat	e Pairs					

Val-Validity. Refer to Data Qualifiers in Table 1B.

 $\mbox{\sc Com-Comments}.$ Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

TABLE 1A

Case No.: QAO-98-15A Memo #04

Site: Lab.: Oakland Brownfield

APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for Total

Reviewer:

Lorena Herrera, ESAT/Lockheed

Petroleum Hydrocarbons

February 10, 1999 Date:

Concentration in µg/Kg

(as Diesel) by EPA Method

													,			8015M					
Station Location and Sample I.D. Date of Collection	FDP-1 COM		ITE	СОМ		ITE	сом		ITE	FDP-7- COM	_	ITE	сом		ΓΈ		1-4.5'-1 POSIT '25/98		FDP-13 COM		ITE
Compound	Result		Com			Com	Result		Com	Result	_	Com	Result		Com		Val	Com	Result		Con
Diesel	650000			160000	100 miles		840000			190000			130000	***************************************		580000			72000		
								10000000000000000000000000000000000000			100 Marie 100 Ma										
Station Location and Sample I.D. Date of Collection	FDP-15 COM 9/		TE	Meth 9810			PQL														
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val (Com	Result	Val	Соп
Diesel	29000			10000 U	30000000 30000000000000000000000000000		10000														
					2000 Maria						WITCH STATE OF THE										
•							Į.														
Compound	Result	Val	Com	Result	Val	Com	Result	Va	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Cor
											0.000 L.000			100 M				X - X - X - X - X - X - X - X - X - X -			
		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)									William Willia										

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Page 1 of 1

TABLE 1A

Case No.: QAO-98-15A Memo #05 Site:

Oakland Brownfield

February 10, 1999

Lab.: Reviewer: Lorena Herrera, ESAT/Lockheed

Date

APPL, Inc.

UNVALIDATED DATA

Concentration in µg/Kg

Analysis Type: Soil Samples for Total

Petroleum Hydrocarbons

(as Diesel) by EPA Method

8015M

																8015M					
Station Location and Sample I.D. Date of Collection	FDP-44-3.	0,FDP 14/98		FDP-46-3.0	0,FDP-		FDP-48-3.0),FDP-		FDP- 10/	50-3 14/98		Meth 9810			PQL					
Compound	Result		Com	Result		Com			Com	Result		Com	Result	Val	Com	Result	Val	Com			
Diesel	10000 U			looe u			10000 U			280000	100 March		10000 U		100 Marie 100 Ma	16060				2007/100	
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
					200,000																
																		100000000 1000000000 1000000000 10000000			
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Va	Com	Result	Va	Сош	Result	Val	Com	Result	Val	Con
	0 115												D2 etc -Fie								

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Site:

Date:

Oakland Brownfield

Lab.: APPL,

APPL, Inc. UNVALIDATED DATA

February 10, 1999 (AMENDED February 22, 1999)

Analysis Type: Soil Samples for Total

Reviewer: Lorena Herrera, ESAT/Lockheed

Concentration in µg/Kg

Petroleum Hydrocarbons
(as Diesel) by EPA Method

8015M

																8015M					
Station Location and Sample I.D. Date of Collection	FDP- 10/20		.5'	Dupli FDP-66-90' 10/20	, FDP //98	67-3.0	Dupli FDP-66-90', 10/20	FDP		FDP-68-3.0	/98		FDP-70-3.:		?-71-5.5	FDP- 10/20	-72-6. 0/98	5	FDP 10/20		V
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Diesel	400000)	610000	20000000000000000000000000000000000000		540000			1900000			1100000	200000000 2000000000 20000000000000000		97000			39000	20000000000000000000000000000000000000	
								WILLIAM (1997)						1000000 10000000 100000000000000000000			No.				
Station Location and Sample I.D.	FDP-		7	FDP-51-7.5		-52-4.0		•	·-54-8.0°	FIDP-55-5.5		?-56-4.5°	FDP		11.0	FDP-58-5.5	•	59-4.5	FDP-60-7.5		-61-4.0
Date of Collection	10/20			10/19			10/19		,	10/19			10/19			10/19			10/19		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Vai	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Diesel	49000			74000	00000000000000000000000000000000000000		2400000			280000			77000		V. (100)	10000 U			640000	200 (100 (100 (100 (100 (100 (100 (100 (
			X (1000)																		
Sample I.D.	FDP-62-4.5 10/19		-63-8.5			lank 1 BLK	Meth 98110		iank 2 BLK	PQL											
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Diesei	56000	2000000		10000 U			10000 U			10000	100 MI			2000 W 10				200 Maria		\$1000000	2000 (100 (100 (100 (100 (100 (100 (100
					O CONTRACTOR OF THE PARTY OF TH									10000000000000000000000000000000000000							

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Page 2 of 2

Case No.: QAO-98-15A Memo #06

Oakland Brownfield

Lab.: APPL, Inc.

UNVALIDATED DATA
Concentration in µg/L

Analysis Type: Water Sample for Total

Reviewer: Date:

Site:

Reviewer: Lorena Herrera, ESAT/Lockheed

February 10, 1999 (AMENDED February 22, 1999)

Petroleum Hydrocarbons

(as Diesel) by EPA Method

8015M

Compound Result Val Com Result Val C																						
Compound Result Val Com Result Val Co															PQL						1	Sample I.D.
Diesel 13000 Sq0 U S00 U				Com	Val	Result	Com	Val	Result	Com	Val	Result	Com	Val	Result	Com	Val	Result	Com	Val	Result	
Compound Result Val Com Result Val C		2000 (100) 2000 (100) 2000 (100) 2000 (100) 2000 (100)													500		200000000000000000000000000000000000000	500 U			13000	
Compound Result Val Com Result Val C																						
					1011111																	
																:						
	Val Co	Va	Result	Com	Val	Result	Com	Val	Result	Com	Val	Result	Com	Val	Result	Com	Vai	Result	Com	Val	Result	Compound
								W. W. W. W. W. W. W. W. W. W. W. W. W. W														
				10000000000000000000000000000000000000									227									
Compound Result Val Com Result Val C	Val Co	Va	Result	Com	Val	Result	Com	Val	Result	Com	Val	Result	Com	Val	n Result	Com	Val	Result	Com	Val	Result	Compound
			,																			
Val-Validity. Refer to Data Qualifiers in Table 1B. D1, D2, etcField Duplicate Pairs						a Daire	nlicet	la Do	M eto Eiol	DI F									- 1D		0	

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

TABLE 1A

Case No.: QAO-98-15A Memo #06

Site:

Oakland Brownfield

Lab.: APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for Total

Reviewer: Lorena Herrera, ESAT/Lockheed

Petroleum Hydrocarbons

Date: February 10, 1999

Concentration in µg/Kg

(as Diesel) by EFA Method 8015M

Part Part		,									•						8015M					
2012 of Collection 10/20/98	Station Location and				Dupli	cate	1															
Compound Result Val Com Result Val Co	Sample I.D.	FDP-	6 <u>5-5</u>	ا\$.	FDP-66-90',	FDP-	67-3.0	FDP-68-3.0	, FDP	-69-5.5	FDP-70-3.5	, FDF	-71-5.5	FDP-	-72-6	i.5	FDP	-66-V	V	FDP-	72-W	,
Addition Addition	Date of Collection	10/20)/98		10/20	/98		10/20	/98		10/20	/98		10/20	0/98		10/20	0/98		10/20	/98	
tation Location and sample LD. FDF51-75, FDF52-40 FDF53-50, FDF-54-80 FDF55-55, FDF-564-5 FDF-57-11.0 FDF58-55, FDF594-5 FDF60-75, FDF-61-40 FDF62-45, FDF-63-85 FDF60-75, FDF-61-40 FDF62-45, FDF63-85 FDF60-75, FDF-61-40 FDF62-45, FDF63-85 FDF60-75, FDF-61-40 FDF62-45, FDF63-85 FDF60-75, FDF-61-40 FDF62-45, FDF63-85 FDF60-75, FDF63-85 FDF60-75, FDF63-85 FDF60-75, FDF63-85 FDF63-75, FDF63-85 FDF60-75, FDF63-85 FDF60-75, FDF63-85 FDF60-75, FDF63-85 FDF60-75, FDF63-85 FDF60-75, FDF63-85 FDF63-75, FDF63-85 FDF60-75, F	Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Station Location and	Diesel	400000			a beside b prode blood d	100 miles		1900000	100 min		1106000			97000	7 200		39000			49000		0.0000000
Station Location and					610	W. 1200			20 (10 (10 (10 (10 (10 (10 (10 (10 (10 (1									0000000	0.00000000 0.0000000000000000000000000			
Sample I.D. FDF-51-75, FDF-52-40 FDF-53-50, FDF-54-80 FDF-55-55, FDF-56-45 FDF-57-11.0 FDF-55-55, FDF-59-45 FDF-60-75, FDF-61-40 FDF-62-45, FDF-63-45 FDF-63					gar.				3000000 300000000000000000000000000000													
10/19/98 10/19/98	Station Location and	•																				
Compound Result Val Com Result Val Co	Sample I.D.	FDP-51-7.5	, FDP	-52-4.0	FDP-53-5.0	, FDP	-54-8.0	FDP-55-5.5	, FDF	-56-4.5	FDP-	-57-1	1.0	FDP-58-5.5	5', FDI	?-59-4.5	FDP-60-7.5	5, FDP	-61-4.0	FDP-62-4.5	, FDP-	63-8.5
Description Presc	Date of Collection	10/19	98/		10/19	/98		10/19	/98		10/19	/98		10/19	9/98		10/19	9/98		10/19	/98	
Method Blank 1 9810285 BLK 9811045 BLK PQL Compound Result Val Com Result Val Co	Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Method Blank 1 Method Blank 2 981028S BLK 981104S BLK PQL Compound Result Val Com Result Val Co	Diesel	74000			2400000	VIV. 100 (100 (100 (100 (100 (100 (100 (100		280000	1120000 122000 1120000 1120000		77000			10000 U	00000000000000000000000000000000000000	22000	640000			56000		
Method Blank 1 Method Blank 2 981028S BLK 981104S BLK PQL Compound Result Val Com Result Val Co				700 mm								100 mm m m m m m m m m m m m m m m m m m									(100 minus	
Sample I.D. 981028S BLK 981104S BLK PQL Compound Result Val Com R									Avenue													
Nesel 10000 U 10000 U 10000	Sample I.D.							PQL														
	Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Va	Com	Result	Val	Com	Result	Val	Com
	Diesel	10000 U			10000 U		200 (200 (200 (200 (200 (200 (200 (200	10000		200 W.					2000 M				200 MILES		200 M	200 M 100 M

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Page 2 of 2

TABLE 1A

Case No.: QAO-98-15A Memo #06 Site:

Oakland Brownfield

Lab.: Reviewer: Lorena Herrera, ESAT/Lockheed

APPL, Inc.

Dates

February 10, 1999

UNVALIDATED DATA

Concentration in µg/L

Analysis Type: Water Sample for Total

Petroleum Hydrocarbons

(as Diesel) by EPA Method

8015M

																8015M			,		
Station Location and Sample 1.D. Date of Collection	FDP 10/19		y	Metho 98102			PQL														
Compound	Result	Val	Сот	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	ļi		
Diesel	13000			500 U		2000	500	**************************************			277724000 277724000 277724000			2077 W 1000							
																	,				
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Con
					7																
							:														
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Va	Com	Result	Va	Com	Result	Val	Com	Result	Val	Con
						10000000000000000000000000000000000000														William Willia	
														2000 CONTROL OF THE PARTY OF TH							
	015	<u> </u>) D2, etcFiel	d D.	Inlice	A e Paire					
Val-Validity. Refer to Data	Qualifiers in	rran	ne id.									ν_1, \mathbf{L}	, CU1 1C	U 1	*hmcar	~ 1 all 3					

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

QAO-98-15A Memo #07

Site:

Date:

Case No.:

Oakland Brownfield

Lab.: APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for Total

Reviewer: Lorena Herrera, ESAT/Lockheed

February 10, 1999 (AMENDED February 22, 1999)

Concentration in µg/Kg

Petroleum Hydrocarbons (as Diesel) by EPA Method

8015M

															8015M					
	•	-74-6.0	FDP-75-6.5	, FDP		FDP-75-6.5	, FDP			•	·-78-6.0°		•	-80-5.0		•	6.5' I			-84-5.0'
Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val Ce	m R	esult	Val	Com
26000	100 CONTROL OF THE PARTY OF THE		13000		, , , , , , , , , , , , , , , , , , ,	120000			140000			84000			12000 U			800000		
				1000																
FDP-85-7.0	', FDP	-86-4.0'	FDP-87-5.0	r, FDP	-88-4.0'	FDP-89-4.0	', FDP	-90-3.0'	FDP-91-4.0	, FDP	·-92-4.0	FDP-	-86E-	-4.0'	FDP-	.86W-4.	5'			- 1
10/27	/98		10/27	/98		10/27	/98		10/27	7/98		10/27	7/98		10/27	7/98				
Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val Co	m R	esult	Val	Com
230000			69000	**************************************		150000	77.00		290000			860000	2000 V S		840000)	10000 TJ		
PQL																				
Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val Co	m R	.esult	Val	Com
10000																				
														l.						
The state of the s	10/27 Result 26000 FDP-85-7.0 10/27 Result PQL Result	10/27/98 Result Val 25000 FDP-85-7.0°, FDP 10/27/98 Result Val PQL Result Val	Result Val Com	FDP-73-6.0', FDP-74-6.0 10/27/98 10/27 Result Val Com Result 26000 13000 FDP-85-7.0', FDP-86-4.0' 10/27/98 10/27 Result Val Com Result 230000 FDP-85-6.5 FDP-87-5.0 FDP-73-6.5 FDP-73	FDP-73-6.5', FDP-74-6.0 10/27/98 Result Val Com Result Val 26000	10/27/98	FDP-73-6.0', FDP-74-6.0 FDP-75-6.5', FDP-76-4.5' FDP-75-6.5 10/27/98 10/27/98 10/27/98 10/27/98 10/27/98 120000 120000 120000 10/27/98 10/27/	FDP-73-6.0', FDP-74-6.0 10/27/98 Result Val Com Result Val Com Result Val 26000 13000 13000 120000 120000 13000 1200000 12000000 12000000 12000000 1200000 12000000 12000000 12000000 1200000000	FDP-73-6.0', FDP-74-6.0 10/27/98 Result Val Com Result Val Com Result Val Com 26000 13000 120000 120000 13000 1200000 120000 12000000 1200000 1200000 1200000 1200000 1200000 1200000 12000000 1200000 1200000 1200000 1200000 1200000 1200000 12000000 12000000 12000000 120000000 1200000000	FDP-73-6.0', FDP-74-6.0	FDP-73-6.0, FDP-74-6.0 FDP-75-6.5, FDP-76-4.5 FDP-75-6.5, FDP-76-4.5 FDP-77-5.5, FDP-77-5.5 FDP-77-5.5 FDP-77-5.5 FDP-77-5.5 FDP-77-5.5 FDP-77-5.5 FDP-77-5.5 FDP-77-5.5 FDP-77-5.5 FDP-77-5.5 FD	FDP-73-6.0, FDP-74-6.0	FDP-73-6.0, FDP-74-6.0 FDP-75-6.5, FDP-76-4.5 FDP-75-6.5, FDP-76-4.5 FDP-79	FDP-73-6.0°, FDP-74-6.0° FDP-75-6.5°, FDP-76-4.5° FDP-77-6.5.5°, FDP-76-6.5°, FDP-76-6.5°, FDP-76-6.5°, FDP-76-6.5°, FDP-76-6.0° FDP-79-4.5°, FDP-79-6.5°, FDP-76-6.0° FDP-79-4.5°, FDP-79-6.0° FDP-79-4.5°, FDP-79-6.0° FDP-79-4.5°, FDP-79-6.0° FDP-79-4.5°, FDP-79-6.0° FDP-79-4.5°, FDP-79-6.0° FDP-79-4.5°, FDP-79-6.0° FDP-79-4.5°, FDP-79-6.0° FDP-79-4.5°, FDP-79-6.0° FDP-79-4.5°, FDP-79-6.0° FDP-79-4.5°, FDP-79-6.0° FDP-79-4.5°, FDP-79-6.0° FDP-79-4.5°, FDP-79-6.0° FDP-79-4.0°, FDP-79-6.0° FDP-79-4.0°, FDP-79-6.0° FDP-79-4.0°, FDP-79-4.	Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate FDP-73-6.5, FDP-76-4.5 FDP-75-6.5, FDP-76-4.5 FDP-75-6.5, FDP-76-4.5 FDP-77-5.5, FDP-78-6.0 FDP-79-4.5, FDP-80-5.0 10/27/98 10/27/	Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate FDP-75-65, FDP-76-45 FDP-75-65, FDP-76-45 FDP-75-55, FDP-78-60 FDP-79-45, FDP-80-50 FDP-81-50 10/27/98 10/27/98 10/27/98 10/27/98 10/27/98 10/27/98 10/27/98 10/27/98 120000 140000 84000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 1200000 12000000 12000000 12000000 12000000 12000000 12000000 12000000 12000000 12000000 12000000 12000000 12000000 120000000 12000000 120000000 120000000 120000000 1200000000 120000000 120000000 120000000000	Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate	Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate Duplicate PDP-75-6.5, FDP-76-6.5 FDP-776-6.5	Duplicate Dupl	FDP-73-6.5', FDP-76-05

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Page 1 of 1

TABLE 1A

Case No.: QAO-98-15A Memo #07

Oakland Brownfield

Lab.:

Site:

APPL, Inc.

Reviewer: Lorena Herrera, ESAT/Lockheed

Date:

February 10, 1999

UNVALIDATED DATA

Concentration in µg/Kg

Analysis Type: Soil Samples for Total

Petroleum Hydrocarbons

(as Diesel) by EPA Method

8015M

Sample LD. FDP-73-6-0, FDP-74-6-0 FDP-74-6-0 FDP-74-6-0, FDP-74-6-0 FDP-74-6-0, FDP-74-6-0 FDP-74-6-0, FDP-74-6-0 FDP-74-6-0, FDP-74-6-0 FDP-74-6-0, FDP-74-6-0 FDP-74-6-0, FDP-74-6-0 FDP-74-6-0, FDP-74-6-0 FDP-74-6-0, FDP-74-6-0 FDP-74-6-0																	BUISH					
Compound Result Val Com Result Val Co	Station Location and Sample I.D.		-	-74-6.0			-76-4.5'	FDP-75-6.5	, FDF	1			-78-6.0'			-80-5. 0 °			!-6.5'		-	84-5.0
Station Location and Sample LD. FDF-85-76, FDF-86-40 FDF-87-50, FDF-88-40 FDF-88-40, FDF-87-50, FDF-88-40 FDF-87-50, FDF-88-40				Com			Com			Com			Com			Com			om			Com
Station Location and Sample LD. Date of Collection 10/27/98 1	Compound	Resun	Val	Com	Result	VAI	Сош	Kesun	V al	COIII	Result	VAL	Com	Acsuit	7 41	Com	resure	7	·	Ittsuit	'''	
Station Location and Sample LD. Date of Collection 10/27/98	Diesel	26000			13000	10000000		120000	200 (100)) 100 (100) 100 (140000			84000	\$10000000 \$1000000000000000000000000000		12000 U			800000		
Station Location and Sample I.D.																						
Sample I.D. FDP-8-4-0 FDP-8-4-0 FDP-8-4-0 FDP-8-4-0 FDP-8-4-0 FDP-8-4-0 FDP-8-4-0 FDP-8-4-0 FDP-8-6E-4-0 FDP-8-6E-4-0 FDP-8-6W-4-5 981104S BLK 10/27/98																						
Date of Collection 10/27/98	Station Location and													TTO D	0.4E	4.0	EDD	02311 4	51			
Compound Result Val Com	_			-86-4.0			-88-4.0			-90-3.01		-	1.92-4.0			4.0	1		٠, ا	7011	ם מא	LIK
Dissel 230000 69000 150000 290000 860000 10000 U Sample I.D. PQL Compound Result Val Com Result Val Com Result Val Com Result Val Com Result Val Com Result Val Com Diesel 10000									_	l.c			C			Cam			·am	Docult	Val	Com
Sample I.D. PQL Compound Result Val Com Result Val	Compound	Result	Val	Com	Resuit	Val	Com	Result	VAI	Com	Resuit	va	Com	Result	Val	Com	Result	VALC	,UIII	Result	Var	Com
Compound Result Val Com Result Val C	Diesel	230000			69000	100 miles		150000			290000			860000			840000			10000 U		
Compound Result Val Com Result Val C																						
Compound Result Val Com Result Val C																						
Diesel 10000	Sample LD.	PQL												ļ								
Diesel 10000	Compound	Result	Val	Com	Result	Val	Com	Result	Va	Сош	Result	Va	Com	Result	Va	Com	Result	Val (Com	Result	Vai	Com
	Diesel														WATER TO SERVICE AND ADDRESS OF THE PARTY OF				200 (100 to 100			

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Site: Lab.: Oakland Brownfield

APPL, Inc.

APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for Total

Reviewer: Lorena Herrera, ESAT/Lockheed

Petroleum Hydrocarbons

Date: February 10, 1999 Concentration in µg/Kg

(as Diesel) by EPA Method

8015M

																8015M			
Station Location and Sample I.D. Date of Collection	FDP-93-6.0		-94-4.5	FDP-95-5.5 11/2/9		96-4.0	Dupli FDP-97-9.8 11/2/9	, FDP		FDP-99-5.3 11/2/		-100-4.0	FDP- 11 <i>/2/</i>		4.5	FDP-103-3.	.5, FDP-104- 98	3 FDP-105-3 11/3/	
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val Con	Result	Val Co
Diesel	12000 U	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)		28000	**************************************		62000			49000	W. Carre		32000			9300 L		31000	
					100000000 1000000000000000000000000000						50000000 50000000000000000000000000000								
Station Location and Sample I.D.	FDP-107-4.	ů, FDI	P-108-4	Dupli FDP-109-4.		- 1	FDP-111-5.	0, FD!	P-112-4	FDP-113-4.	0. FDI	P-114-4	FDP-115-5	.5, FD	P-102-4	ł	od Blank 12S BLK	PQL	
Date of Collection	11/3/	•		11/3/9			11/3/			11/3/			11/3/			, , , , ,	100 02		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Сот	Result	Val Con	Result	Val Co
Diesel	12000 U	10000000000000000000000000000000000000		450000			89000			930000			410000			10000 U		10000	
		00000																	
															!				
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val Cor	Result	Val Co
Val-Validity. Refer to Data C	11.7))2. etcFie						

Val-Validity. Refer to Data Qualifiers in Table 1B.

Corn-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

NALYTICAL RESULTS Page 1 of 1

Case No.: QAO-98-15A Memo #08

APPL, Inc.

Site:

Lab.:

Date:

Oakland Brownfield

February 10, 1999 (AMENDED February 19, 1999)

UNVALIDATED DATA

Analysis Type: Soil Samples for Total

Reviewer: Lorena Herrera, ESAT/Lockheed

Concentration in µg/Kg

Petroleum Hydrocarbons (as Diesel) by EPA Method

B015M

																8015M				
Station Location and Sample I.D. Date of Collection	FDP-93-6.0	-	94-4.5	FDP-95-5.5		-96-4.0	Dupli FDP-97-9.8	, FDP-		Dupli FDP-97-9.8 11/2/	, FDP		FDP-99-5.2 11/2/		-100-4.0	FDP- 11/2/	·101-4.5 98	FDP-103-3	-	P-104-3
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val Com	Result	Val	Com
Diesel	12000 U	700 MARINE	200 Miles	28000	200 ST. 100 ST. 100 ST. 100 ST. 100 ST. 100 ST. 100 ST. 100 ST. 100 ST. 100 ST. 100 ST. 100 ST. 100 ST. 100 ST.		62000			6900 L	100 March 100 Ma		49000		200,000	32000		9300 L		
		2000 0000 2000 0000 2000 0000																		
Station Location and							Dupli	cate	2	Dupli	cate	2								
Sample I.D.	FDP-105-3.	0, FDI	-106-4	FDP-107-4	.0, FD	P-108-4	FDP-109-4.			FDP-109-4.			PDP-111-5	.0, FD	P-112-4	FDP-113-4	.0, FDP-114-4	FDP-115-5	5.5, FDI	P-102-4
Date of Collection	11/3/	98		11/3/	98		11/3/	98		11/3/			11/3/	98		11/3/	98	11/3.		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val Com	Result	Val	Com
Diese	31000	,		12000 U			450000	1000000		850000			89000			930000		410000		
		2000 2000 2000 2000 2000 2000 2000 200																		
Sample I.D.	Meth 9811			PQL					;											
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val Con	Result	Val	l Com
Diesel	1000 0 U	0.000		10000										10000000000000000000000000000000000000						

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Site: Lab.:

Date:

Oakland Brownfield

TABLE 1A
UNVALIDATED DATA

Analysis Type: Soil Samples for Total

Lab.: APPL, Inc.

Reviewer: Lorena Herrera, ESAT/Lockheed Concentration in µg/Kg

February 10, 1999 (AMENDED February 18, 1999)

Petroleum Hydrocarbons
(as Diesel) by EPA Method

001 EW

																8015M					
Station Location and Sample I.D. Date of Collection	FDP-116-4 11/20		·-117-3.	Duplic FDP-118-4 11/20	.5/FIDE		Field FDP-118-4 11/20	.5/FDE		Lab I FDP- 11/20	120-	6.5		hod B 201S		PQL					
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val C	om	Result	Val	Com
Diesel	160000 W			840000	0.0000000000000000000000000000000000000		790000			1,300,000	0.000.000.00		10000 T			10000		0.000			
					50 7000 50 7000 50 7000 50 7000 50 7000 50 7000																
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val C	om	Result	Val	Com
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Va	Com	Result	Val C	om	Result	Val	Com
Vol. Volidier Defense Detec													D) etc Fiz								

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Page 1 of 1 ANALYTICAL RESULTS

Case No.: QAO-98-15A Memo #09

Site:

Date:

Oakland Brownfield

February 10, 1999

Lab.: APPL, Inc. Reviewer: Lorena Herrera, ESAT/Lockheed UNVALIDATED DATA

Concentration in µg/Kg

Analysis Type: Soil Samples for Total

Petroleum Hydrocarbons

(as Diesel) by EPA Method

																8015M				
Station Location and Sample I.D. Date of Collection	FDP-116-4.		-117-3.	Duplic FDP-118-4. 11/20	5/FDP		Field FDP-118-4. 11/20	5/PDP		Meth- 98120			PQL							
Compound	Result		Com			Com			Com	Result	Val	Com	Result	Val	Com	Result	Val Cor	Result	Val	Com
Diesel	160000 U			840000	200 March		75/00/00			10000 U		2000	10000	20000000					100 M 100 M	
			_		T			122 3			l	<u></u>		15	<u>-</u>	B 1	I 10		1	la.
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val Cor	n Result	Vai	Com
		- CONTROL OF THE CONT																		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Va	Com	Result	Val Co	n Result	Val	Con
											1000000									
															20000000					
Vol Volidity Pefer to Date													D2 etc -Fie							

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

TABLE 1A

Case No.: QAO-98-15A Memo #10

Siter Lab.: Oakland Brownfield

February 10, 1999

APPL, Inc.

UNVALIDATED DATA

Concentration in µg/Kg

Analysis Type: Soil Samples for Total

Reviewer: Lorena Herrera, ESAT/Lockheed

Petroleum Hydrocarbons

Date:

(as Diesel) by EPA Method

	r			<u></u>												8015M		T		
Station Location and				Meth	od B	lank	Ė													
Sample I.D.	FDP-		.5'	9810	09S	BLK	PQL											1		
Date of Collection	09/2:				Υ	l	<u> </u>					1		,						,
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val Com	Result	Val	Соп
Diesel	74000			10000 U			10000													
Compound	Result	Val	Сош	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val Com	Result	Val	Con
			et consees		5040-55	astroson	e de brons do l'Associon non	0000000	-200-000-00	bed dideb i sono sud-no un secono.										
					(100 miles)	00000000000000000000000000000000000000														
Compound	Result	Val	Com	Result	Wal.	Com	Result	lv.	Co	Result	[x/_1	Com	Domile	T 7 . 1		D . 14	اماد	.	Te. 5	la.
Сошрошна	Result	v an	Сош	Resuit	Vai	Com	Kesuit	Val	Com	Kesuit	Val	Com	Result	Val	Com	Result	Val Com	Result	Val	Cor
																			W. 1997	
Val-Validity. Refer to Data ()2 etc "Fiel							

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Concentration in µg/Kg

Page 1 of 1

Case No.: QAO-98-15A Memo #11

Site:

Date:

Oakland Brownfield

February 10, 1999

Lab.: Reviewer: Lorena Herrera, ESAT/Lockheed

APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for Total

Petroleum Hydrocarbons

(as Diesel) by EPA Method

8015M

				_											8015M					
																				ŀ
FDP-19-3.5,	FDP-2	20-8.5	FDP-21-4.5,	FDP-	22-7.5	FDP-23-4.2,	FDP-	24-5.0	FDP-	25-5.	.0	FDP-26-5.	3, FDP	-27-5.5	FDP-28-5.0	, FDP-	30-5.0	FDP-29-5.0,	FDP-3	1-5.0
10/6/9	8											10/6								
Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val (Сош
30000			150000			82000			220000			180000			140000			110000		
		200 W. C. C. C. C. C. C. C. C. C. C. C. C. C.						310 6												
FDP-32-5.0,	FDP-	33-5.0	FDP-34-5.0,	FDP	35-6.0	FDP-36-4.0,	FDP-	37-5.0	FDP-	36H-	-4.5	FDF	-39H	-7.5	FDP-38-5.0), FDP	39-7.5	FDP-40-6.5	, FDP-4	1-5.5
				_			_													
Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
220000			12000 U			12000 U			45000			120000			150000		40000000000000000000000000000000000000	220000		
								200												
			Metho	od B	lank			•			,									
FDP-42-5.0	, FDP-	43-5.5	98101	48	BLK	PQL														
					r					1			τ		-	1	ı <u></u>		ll	$\overline{}$
Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
240000	0000000 000000000000000000000000000000		10000 U			10000														
	10/6/9 Result 30000 FDP-32-5.0, 10/6/9 Result FDP-42-5.0, 10/6/9 Result	10/6/98 Result Val FDP-32-5.0, FDP- 10/6/98 Result Val FDP-42-5.0, FDP- 10/6/98 Result Val	Result Val Com 30000 FDP-32-5.0, FDP-33-5.0 10/6/98 Result Val Com 20000 FDP-42-5.0, FDP-43-5.5 10/6/98 Result Val Com	10/6/98 10/6/9 Result Val Com Result 30000 150000 FDP-32-5.0, FDP-33-5.0 FDP-34-5.0, 10/6/98 Result Val Com Result 20000 12000 U Method FDP-42-5.0, FDP-43-5.5 98101 10/6/98 Result Val Com Result	10/6/98 10/6/98 10/6/98 150000 150000 150000 150000 150000 150000 150000 10/6/98 1	10/6/98 10/6/98	10/6/98 10/6/98 10/6/98 10/6/98 10/6/98 10/6/98 150000 82900 82900 82900 82900 150000 82900 10/6/98 10/6/98 10/6/98 10/6/98 10/6/98 10/6/98 12000 12000 U U 12000 U U 12000 U U 12000 U U U U U U U U U	10/6/98	10/6/98	10/6/98	10/6/98 10/6	10/6/98	10/6/98 10/6	10/6/98	10/6/98	FDP-19-3.5, FDP-20-8.5	FDP-19-3.5, FDP-20-8.5	FDP-19-3.5, FDP-20-8.5	10/6/98 10/6	FDP-19-35, FDP-20-8.5

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

APPL, Inc.

Site: Lab. :

Date:

Reviewer:

Oakland Brownfield

February 11, 1999

Lorena Herrera, ESAT/Lockheed

UNVALIDATED DATA

Concentration in mg/Kg

Analysis Type: Soil Sample for Total

Petroleum Hydrocarbons

(as Gasoline) by EPA Method

1 * 1			Metho 98100 Result	09S	BLK	PQL														
Date of Collection 9/2 Compound Result Gasoline 180	25/98 Val C					PQL														
Compound Result Gasoline 180	Val C	om	Result	Val	_															
Casoline 180	L			* ***	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
					0022	***************************************	7		1115417	1 112	OULL	ACOUNT			Ittourt		00111		7 44	
			10.0 U			10.0														

													## / F							
Compound Result	Val C	om	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
					100 mm															
										2000										
										100000										
Compound Result	Val (om	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
					1801 (1808)					589188	46448888	56.000000000000000000000000000000000000	14 8 6 6 6 6				900004601	684990 haddaddadda		
Val-Validity. Refer to Data Qualifiers																				

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

ANALYTICAL RESULTS

TABLE 1A

Case No.: QAO-98-15A Memo #13

Oakland Brownfield

Site: Lab.:

APPL, Inc.

Reviewer: Lorena Herrera, ESAT/Lockheed

Date:

February 11, 1999

UNVALIDATED DATA

Concentration in(mg/Kg

Analysis Type: Soil Samples for Total

Petroleum Hydrocarbons

(as Gasoline) by EPA Method

8015M

i												- 1									l
Station Location and																					l
Sample I.D.	FDP-19-3.5	FDP-	20-8.5	FDP-21-4.5	, FDP	22-7.5	FDP-23-4.2,		-24-5.0	FDP-		5.0	FDP-26-5.3		-27-5.5	FDP-28-5.0		30-5.0	FDP-29-5.0		31-5.0
Date of Collection	10/6/9			10/6/			10/6/9			10/6/	_		10/6/			10/6/		_	10/6/9	_	
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Gasolitie	10.0 U	20000000 20000000000000000000000000000		10000 U			10000 U	2014/100000 2014/100000 2014/100000 2014/1000000		10000 U			10000 U			10000 U			970		
Percent Solids	83.5 %		100 May 1	81.8 %			82.9 %	77.00000 77.00000 77.00000 77.00000		85.0 %			83.9 %			85,9 %			86.6 %		
														CONTRACT OF							
Station Location and				l						EDB	241		FDP-	2017	7.5		· rinn	20.7.5	FDD 40 4 5		11 6 5
Sample I.D.	FDP-32-5.0		-33-5.0	FDP-34-5.0		-35-6.0	FDP-36-4.0.		-37-5.0	FDP- 10/6/		1-4,5	10/6/		-1.5	FDP-38-5.0 10/6/		39-1.5	FDP-40-6.5 10/6/		41-3.5
Date of Collection	10/6/		Com	10/6/ Result		Com	10/6/9 Result		Com	Result	_	Com	Result		Com			Com			Com
Compound	Result	VAI	Com	кезші	Val	Сош	Kesuit	VAL	COM	Kesuit	VA	СОШ	Result	v as	СОШ	Result	1 4 4 1	СОЩ	Acsuit	7 41	COM
Gasoline	150			33			10.0 U			10.0 U			43			150			1900		
Percent Solids	85.0 %			83.9 %			85.3 %			86.2 %			83.8 %			81,9 %			84.9 %		
Station Location and				Metho	od Bi	lank 1	Metho	od B	lank 2	Metho	od B	lank 3	Metho	od B	lank 4	1					
Sample I.D.	FDP-42-5.0	, FDP	-43-5.5	981020S-	1234	0 BL	981020S-1	1234	1 BL	981021S-	1234	49 BLI	981016S-	1234	5 BL	9810225-	12350	BLI	PQL		
Date of Collection	10/6/				_				,		_				1		11				
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Va	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Gasoline	430			10.0 U			10.0 U			10.0 E			10,0 U			10.0 T	j		10.0		
Percent Solids	84.6 %			N/A			N/A			N/A			N/A	10 (10 (10 (10 (10 (10 (10 (10 (10 (10 (NA			N/A		
	Ovolifiers in)2 etc -Fie								

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Site: Oaklar

Oakland Brownfield

Lab.: APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for BTEX

Reviewer:

Lorena Herrera, ESAT/Lockheed

Concentration in µg/Kg

by EPA Method 8260A

Date:

February 11, 1999 (AMENDED February 19, 1999)

	<u> </u>				-		Ï						I								
Station Location and						,															
Sample I.D.	FDP-19-3.5	, FDP	-20-8.5	FDP-21-4.	5. FDP	-22-7.5	FDP-23-4.2	. FDF	-24-5.0	FDP-	25-5	.0	FDP-26-5.3	. FDF	-27-5.5	FDP-28-5.	0. FDP	-30-5.0	FDP-29-5.0). FDP	-31-50
Date of Collection	10/6/	98		10/6	/98		10/6/9	98	,	10/6/		-	10/6/			10/6/			10/6/		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Con
Brnzene	260			25000 U			25000 U			25000 U			25000 U			5000 L			25000 U		
Ethylbenzene	250 U	edesus		7800 L	e Baladalari	i dan sa sa sa sa sa sa sa sa sa sa sa sa sa	15000 L	ere (overer		25000 U	a el set le la	al Nakata-ta al State	16000 L		olokoj (doduže lože)	31000		Sektronesse et alasta	9800 L		8-4-1:1:2-8-1:1:
Toluene	250 U	-11212-2-1121		25000 t			25000 U			25000 U			25000 U			25000 U			25000 U		
Xylene (Total)	250 U			6600 L			62000		en en en en en en en en en en en en en e	25000 U	11400		37000			150000			38000		
											1000 1000 1000 1000 1000 1000 1000 100										
					40000000000000000000000000000000000000																
Station Location and		1			<u> </u>	J			<u> </u>			I									
Sample I.D.	FDP-32-5.0	ene.	-33.55	FDP-34-5.	n ene	.35.6 N	FDP-36-4.0	EDE	37.50	FDP-	36H	-4.5	FDP-	30H	75	FDP-38-5.	n emb	20.75	FDP-40-6.5	מתם	41 6 5
Date of Collection	10/6/		33 3.3	10/6		-55-0.0	10/6,		-57-5.0	10/7/		-L.J	10/7/		-75	10/7/	•	-29-1.5	10/7/	•	-41-4.5
Compound	Result	Val	Com	Result	Val	Com			Com	Result		Com			Com	Result		Com			Соп
Brnzene	16000 L			25000 U			250 U			250 U			2500 U			2500 U			2900		
Ethylbenzene	48000			25000 U	er er eden berein		250 U	dat idala		250 U		olikkiskésiák	780 L	k istoloido		4600		6666666666	19000		
Toluene	25000 U			25000 T	0.000.000		250 U			250 U			2500 LI			2500 L			2500 U		
Xylene (Total)	170000			25000 U			250 U			250 U			1200 L			12000			30000		
	regalised Establish END											ı									
									100000000000000000000000000000000000000		1121111111						6-10-10-10-10-10-10-10-10-10-10-10-10-10-	889899	to the state of th	1	
											id internation										

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Case No.:

QAO-98-15A Memo #14

TABLE 1A

Site: Lab.: Oakland Brownfield

APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for BTEX

Concentration in µg/Kg

Reviewer: Lorena Herrera, ESAT/Lockheed

g by EPA Method 8260A

Date:

February 11, 1999 (AMENDED February 19, 1999)

Station Location and Sample I.D. Date of Collection	FDP-42-5.0		43-5.5	Metho 981119S-1			PQL														
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Brnzene Ethylbenzene	1000 5000	3.5.772.1000 3.5.7		5.0 U 5.0 U			5.0 5.0	00000000000000000000000000000000000000													
Toluene	2500 U 2500 U			5.0 U 5.0 U			5.0 5.0														
Xylene (Total)	2300 0	77.00 (10.00)		3.0 U			٠.٠	2000000 2000000 20000000 200000000													
		27.57 (1.1.5) 27.57 (1.1.5) 27.57 (1.1.5) 27.57 (1.1.5) 27.57 (1.1.5) 27.57 (1.1.5)																			
								•												•	
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
								10020000 10020000 100200000			10000000000000000000000000000000000000									######################################	
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														Construction of the Constr						30000000000000000000000000000000000000	

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

TABLE 1A

Case No.: QAO-98-15A Memo #14 Site:

Oakland Brownfield

Lab.:

APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for Volatiles

Reviewer: Lorena Herrera, ESAT/Lockheed

by EPA Method 8260A

Date:

February 11, 1999

Concentration in µg/Kg

1													<u> </u>								
Station Location and																					
Sample I.D.	FDP-19-3.5		20-8.5	FDP-21-4.5		-22-7.5	FDP-23-4.2		-24-5.0	FDP-		5.0	FDP-26-5.3		-27-5.5	FDP-28-5.0	-,	-30-5.0	FDP-29-5.0		-31-5.0
Date of Collection	10/6/	-		10/6/			10/6/			10/6/9			10/6/			10/6/			10/6/		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Сош
Britzene	260 250 U			25000 U 7800 L			25000 U 15000 L			25000 U			25000 U			5000 L			25000 U		
Ethylbenzene Tolnene Xylene (Total)	250 U 250 U 250 U	and the second		7800 L 25000 U 6600 L	100000000000000000000000000000000000000		25000 L 25000 U 62000	277/2007/20 277/2007/20 277/2007/20 277/2007/20 277/2007/20		25000 U 25000 U 25000 U			16000 L 25000 U 37000			31000 25000 U 150000			9800 L 25000 U 38000		
	230 0			0000	2000 00000 2000 00000 2000 00000 2000 00000 2000 00000		02000			23000			3,000			150000			5000		
					20000000000000000000000000000000000000																
								(CONT.)													
Station Location and								•													
Description and	I																				
Sample I.D.	FDP-32-5.0		33-5.0	FDP-34-5.0		-35-6.0	FDP-36-4.0		-37-5.0	FDP-	36H	-4.5	FDP-	39H	-7.5	FDP-38-5.0	0, FDF	-39-7.5	FDP-40-6.5	, FDP	-41-5.5
Sample I.D. Date of Collection	10/6/	98		10/6/	98		10/6/	98		10/6/	98		10/6/	98		10/6/	/98		10/6/	98	
Sample I.D.		98	33-5.0 Com	10/6/	98	-35-6.0 Com	10/6/	98	-37-5.0 Com		98	-4.5 Com	10/6/	98	-7.5 Com	10/6/	/98	-39-7.5	10/6/	98	-41-5.5 Com
Sample I.D. Date of Collection Compound Britzene	10/6/ Result 16000 L	98 Val		10/6/ Result 25000 U	98 Val		10/6// Result 250 U	98 Val		10/6/ Result	98 Val		10/6/ Result 2500 U	98 Val		10/6/ Result 2500 U	/98 Val		10/6/ Result 2900	98	
Sample I.D. Date of Collection Compound	10/6/ Result	98 Val		10/6/ Result	98 Val		10/6/ Result	98 Val		10/6/ Result	98 Val		10/6/ Result	98 Val		10/6/ Result	/98 Val		10/6/ Result	98 Val	
Sample I.D. Date of Collection Compound Brinzene Ethylbenzene Toluene	10/6/ Result 16000 L 48000 25000 U	98 Val		10/6/ Result 25000 U 25000 U 25000 U	98 Val		10/6/ Result 250 U 250 U 250 U	98 Val		10/6// Result 250 U 250 U 250 U	98 Val		10/6/ Result 2500 U 780 L 2500 U	98 Val		10/6/ Result 2500 U 4600 2500 U	/98 Val		10/6/ Result 2900 19000 2500 U	98 Val	
Sample I.D. Date of Collection Compound Brinzene Ethylbenzene Toluene	10/6/ Result 16000 L 48000 25000 U	98 Val		10/6/ Result 25000 U 25000 U 25000 U	98 Val		10/6/ Result 250 U 250 U 250 U	98 Val		10/6// Result 250 U 250 U 250 U	98 Val	Com	10/6/ Result 2500 U 780 L 2500 U	98 Val	Com	10/6/ Result 2500 U 4600 2500 U	/98 Val		10/6/ Result 2900 19000 2500 U	98 Val	Com

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Case No.:

QAO-98-15A Memo #14

Oakland Brownfield

Lab.: Reviewer: Lorena Herrera, ESAT/Lockheed

Site:

APPL, Inc.

UNVALIDATED DATA

TABLE 1A

Analysis Type: Soil Samples for Volatiles

by EPA Method 8260A

Date:

February 11, 1999

Concentration in µg/Kg

Station Location and Sample I.D. Date of Collection	FDP-42-5.0 10/6/9		43-5.5	Metho 981119S-1			PQL														
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Con
Brnzene Ethylbenzene	1000 5000			5.0 U	-project of the		5 0 5.0							100 min	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					2000 E	
Totuene Xylene (Total)	2500 U 2500 U	G-2-1-3-1-1		5.0 U 5.0 U			5.0 5.0														
												2000									ACCOUNTS ACC
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Cor
								20000000000000000000000000000000000000													
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					AVERACION OF THE PROPERTY OF T															ļ	
																					1

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Case No.: QAO-98-15A Memo #15 TABLE 1A

Site:

Oakland Brownfield

Lab.: APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for BTEX and MTBE

Reviewer: Lorena Herrera, ESAT/Lockheed

by EPA Method 8020

Date:

February 12, 1999

Concentration in µg/Kg

Station Location and													Metho								
Sample I.D. Date of Collection	FDP-44-3.0 10/14		45-3.0	FDP-46-3.0 10/14		47-3.0	FDP-48-3.0 10/14		-49-3.0	FDP-		.2	981027S-1	337:	2 BLI	PQL					
Compound	Result		Com			Com			Com	10/14 Result		Com	Result	¥7ol	Com	Result	V/OI	Com	Result	17.01	Co
Joinpound	Result	V 41	Com	Kesuit	V All	COM	Acsuat	Vai	Com	Result	v aı	Сощ	Kesuit	val	Com	Result	Vai	Com	Result	Val	
Benzene	28 U			26 U			26 U			1500 U			25 U			25				MACHENIA N	
Ethylbenzene	28 U			26 U			26 U		skieriste	17000	3310046		25 U			25	cikisth				l
Foluene Kylenes (Total)	28 U 28 U			26 U 26 U			26 U 26 U			15000 69000			25 U 25 U			25 25					
VITBE)	NR*			NR*			52 U		ik i i i i i i i i i i i i i i i i i i	3100 U			50 U			50					
																				2000 CONTROL OF THE C	
												802366					ennann Esksis	:216352214			l
																					<u> </u>
	Result	lx/_1	Com	Result	1 7_1	Com	Result	¥7. \$	0	75 14	TT 1	1.~	D 14			.	1 1		- Ti		l.
7		ı v aıı	Com	Resuit	Val	Com	Kesult	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Co
Compound	Kesuit	H						1											1		
Compound	Result	W. (1)			00 (00000) 00 (00000) 00 (00000) 00 (00000) 00 (00000)												0.000	######################################			
Compound	Result																				
															7 (10)						
Compound	Kesun																				
															7 (10)						

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

*NR-Not reported on Results Reporting Form, but quantitation report lists ND for MTBE.

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Case No.:

Lab.:

Date:

QAQ-98-15A Memo #15 Oakland Brownfield

Site:

APPL, Inc.

Reviewer: Lorena Herrera, ESAT/Lockheed

February 12, 1999

UNVALIDATED DATA

Concentration in mg/Kg

TABLE 1A

Analysis Type: Soil Samples for Total

Petroleum Hydrocarbons

(as Gasoline and Diesel)

by EPA Method 8015M

Sample I.D. Date of Collection	FDP-44-3.0,	/98		FDP-46-3.0,	/98		FDP-48-3.0,	/98		FDP- 10/14	/98		Method 981027S-1	259	2 BLI	PQL	I1			·	
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPH, as gasoline TPH, as diesel	li Ü NA	1000 V V V V V V V V V V V V V V V V V V		10 U NA			IO U NA			800 NA	20000000		IO U NA			10 NR					
														111.W/250	20.00						
		70000000 70000000 70000000 70000000			1000 NAT						00000000000000000000000000000000000000										
		•																			
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
								1000 1000 1000 1000 1000 1000 1000 100													
		With the second																			
											ON ORDER			100 Maria							

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

PQL-Practical Quantitation Limit

NR-Not Reported

Cakland Brownfield

Lab.: APPL, Inc.

UNVALIDATED DATA

TABLE 1A

Analysis Type: Soil Samples for BTEX and MTBE

Reviewer: Lorena Herrera, ESAT/Lockheed

Concentration in µg/Kg

by EPA Method 8020

Date:

Site:

February 16, 1999 (AMENDED February 23, 1999)

Station Location and Sample I.D. Date of Collection	FDP- 10/20	0/98		Dupl FDP-66-9.0 10/20), FD# 0/98	°-67-3.0	Dupli FDP-66-9.0 10/20	', FDE 1/98	°-67-3.0	FDP-68-3.0	/98		FDP-70-3.5 10/20	/98		FDP- 10/20		.5	Meth 981031S-	1273	2 BI
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Con
Benzene Ethylbenzene Toluene Xylenes (Total) MTBE	1400 U 1400 U 1400 U 1400 U 2800 U			1500 U 13000 1500 U 5600 3000 U			1500 U 3400 1500 U 4800			3000 U 3000 U 3000 U 3000 U 6000 U			3000 U 3000 U 3000 U 3000 U			32 U 32 U 32 U 32 U 34 U			25 U 25 U 25 U 25 U		
M1,92	88.2 %			82.2 %	100000000000000000000000000000000000000		3060 U 82.6 %	Barrene et en e		83 8 %			6100 U 82.2 %	et (d deb title		64 U 77 8 %			50 U N/A		
Sample I.D.	Meth 981103S-	1273		PQL Result	Val	Com	Result	Vol	Com	Result	Vol	Сот	Result	Val	Com	Result	Vol	Com	Result	Vol	Con
	resure	1	-	- XCOUNT	1	Com	Result	7.00	COM	Resurt	Yul	Com	Result	¥ 14A	Com	Result	7 41	Com	KCSUIL	V A1	
Benzene Ethylbenzene Totuene Xylenes (Total)	25 U 25 U 25 U 25 U	ſ		25 25 25 25																	
MTBE .	50 t			50																	
	1	1	1	l	1			1	1		1	1		1			1			1	1

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

TABLE 1A

Site:

Oakland Brownfield

Reviewer: Lorena Herrera, ESAT/Lockheed

Lab.: A

APPL, Inc.

UNVALIDATED DATA

Analysis Type: Water Samples for BTEX and MTBI

Concentration in µg/Kg

by EPA Method 8020

Date:

February 16, 1999 (AMENDED February 23, 1999)

Station Location and Sample I.D. Date of Collection	FDP- 10/20		7	FDP- 10/20	V98		Metho 981031S-1			Methe 981104S-1			PQL								
Compound	Result	Vai	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Сот
Benzene Ethylbenzene	1 0. U 10. U			10 U	######################################	ACCESSORY OF THE PARTY OF THE P	1.0 U		2000	1.0 U 1.0 U	11818181818181		1. 0 1.0					2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			
Toluene	10 U			10 Ư			1.0 U			1.0 U			1.0								
Xylenes (Total) MTBE	10 U 10 U			10 U 10 U			1.0 U 1.0 U			1.0 U 1.0 U			1.0 1.0								
								70000000000000000000000000000000000000							2000						
																				•	
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Сот	Result	Val	Сош	Result	Val	Com	Result	Val	Com
					20000000000000000000000000000000000000			OCCUPY AND OCCUPY AND				2000000								20000 000 20000 000 20000 000 20000 000	
								20000000 200000000 2000000000000000000										200			
					(100 m)						2000 2										

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Site:

Oakland Brownfield

Lab.:

APPL, Inc.

UNVALIDATED DATA

Concentration in µg/Kg

Analysis Type: Soil Samples for Total

Petroleum Hydrocarbons

Reviewer: Lorena Herrera, ESAT/Lockheed Date:

February 16, 1999 (AMENDED February 23, 1999)

(as Gasoline and Diesel)

by EPA Method 8015

															DY EFA I	etho-	KOL 81	012		
		.5	FDP-66-9.0	r, FDF		FDP-66-9.0', I	DP-6				-69-5.5			-71-5.5		0/98		9810318-1		
Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
230 NA			970 NA			810 NA			1800 NA			1200 L NA			13 U NA			10 U NA		
88.2 %			82,2 %			82.6 %			83.8 %			82,2 %	2000 (2000) 2000 (2000) 2000 (2000) 2000 (2000)		77.3 %	7		NA		
										MILITARY OF THE PARTY OF THE PA										
										WINDSOM WILLIAM WINDSOM WINDSOM WINDSOM										
l			PQL																	
Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
			10 NA																	
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	SECTION STATE							ŀ		1			ĺ	1					1	l
+Mc)				00000000000000000000000000000000000000																
	10/24 Result 230 NA 88.2 % Metho 981103S- Result 10 to NA	10/20/98 Result Val 230 NA 88.2 % Method Bla 981103S-1273 Result Val 10 U NA	Result Val Com 230 NA 88.2 % Method Blank 981103S-12732 BLI Result Val Com	FDP-65-5.5 10/20/98 10/20 Result Val Com Result 230 970 NA NA 882.2 % Method Blank 981103S-12732 BLl PQL Result Val Com Result 10 to NA NA NA	FDP-65-5.5 FDP-66-9.0, FDI 10/20/98 10/20/98 10/20/98 Result Val Com Result Val PQL Result Val PQL Result Val PQL Result Val PQL Result Val PQL Result Val PQL	10/20/98 10/20/98 Result Val Com Popular Val Com Popular Val Com Popular Popul	FDP-65-5.5 FDP-66-9.0', FDP-67-3.0 10/20/98 10/20	FDP-65-5.5 10/20/98	FDP-65-5.5 10/20/98 Result Val Com Result Val Com Result Val Com 230 970 NA NA NA NA Method Blank 981103S-12732 BL1 PQL Result Val Com Result Val Com Result Val Com 10 U NA NA NA NA Result Val Com Result Val Com 10 U NA NA NA	FDP-65-5.5 FDP-66-9.0, FDP-67-3.0 FDP-67-3.0 D FDP-68-3.0 D 10/20/98 10/20/	FDP-65-5.5	## FDP-65-5.5	FDP-65-5.5	FDP-65-5.5 FDP-66-9.0, FDP-67-3.0 FDP-66-9.0, FDP-67-3.0 DI FDP-68-3.0, FDP-69-5.5 FDP-70-3.5, FDP 10/20/98 10/20/98 10/20/98 10/20/98 10/20/98 10/20/98 10/20/98 Result Val Com Result Val Com Result Val Com Result Val Com Result Val Com Result Val Com Result Val Com Result Val Com Result Val Com Result Val Com Result Val Com Result Val Com Result Val Com NA NA NA NA NA NA NA NA NA NA NA NA NA	FDP-65-5.5	Duplicate 1	Duplicate 1	Duplicate 1	Duplicate 1	FDP-65-5.5 FDP-66-90, FDP-67-30 FDP-69-10, FDP-67-30 FDP-69-10, FDP-69-30, FDP-69-30, FDP-69-35 FDP-70-35, FDP-71-55 FDP-72-6.5 981031S-1273:

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Case No.: QAO-98-15A Memo #16 TABLE 1A

February 16, 1999 (AMENDED February 23, 1999)

Site:

Date:

Oakland Brownfield

Lab.: APPL, Inc.

UNVALIDATED DATA

Analysis Type: Water Samples for Total

Reviewer: Lorena Herrera, ESAT/Lockheed

Concentration in µg/Kg

Petroleum Hydrocarbons

(as Gasoline and Diesel)

by EPA Method 8015

																by EPA N	чесис	ж в	птэ		
Station Location and	FDP-	66-W	7	FDP	-72- V	v	Metho 981031S-1			Meth			PQL								
Date of Collection	10/20	/98		10/20	0/98																
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Cor
IPH, as gasoline IPH, as diesel	5 U NA			5 t NA			0 .5 U NA			0.5 U NA			0.5 NA								
					•	I			I					<u> </u>						•	
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Соп	Result	Val	Com	Result	Val	Com	Result	Val	Co
					######################################															MILWOOD CO.	
																	\$1841F100000118				
															C makininini	- Doing					

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Site:

Oakland Brownfield

APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for BTEX and MTBE

Reviewer: Lorena Herrera, ESAT/Lockheed

by EPA Method 8020

Date:

February 16, 1999

Concentration in µg/Kg

Station Location and				Dupli	icate	1										Meth	od B	lank	Meth	od B	lank
Sample I.D.	FDP-		.5	FDP-66-9.0)', FDI	?-67-3.0	FDP-68-3.0	, FDF	-69-5.5	FDP-70-3.5	FDP	-71-5.5	FDP-	72-6	5.5	981031S-	1273	2 BLI	981103S-	1273	2 B
Date of Collection	10/20	_		10/20			10/20		,	10/20			10/20								
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Co
B enzene Ethylbenzene	1400 U 1400 U		00000000000000000000000000000000000000	1500 U 13000	2000		3000 U 3000 U	200 mm ()		3000 U 3000 U			32 U 32 U	214.4(44)		25 U 25 U			25 U 25 U		
Toluene Xylenes (Total) MTBE	1400 U 1400 U 2800 U			1500 U 5600 3000 U			3000 U 3000 U 6000 U			3000 U 3000 U 6100 U			32 U 32 U 64 U	1549151507421		25 U 25 U 50 U			25 U 25 U 50 U		
Percent Solids	88-2 %			82.2 %			83.8 %			82.2 %			77,8 %	250 (17 V T) ASSAM (17 T) (17 M) (17 M) (17 M) (17 M) (17 M) (17 M)		NA			NVA	OMETICAL STREET	
														Control of the Contro					ACCOUNTS OF THE PROPERTY OF TH		
Sample I.D.	PQL																				
Sample I.D. Compound	PQL Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Сопа	Result	Val	Cor
	,	Val	Com	Result	Vai	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Coi
Compound Benzene Ethylbenzene Tohiene Xylenes (Total)	25 25 25 25 25	Val	Com	Result	Val	Com	Result	Val			Val		Result	Val	Com		Val	Com	Result	7.000	Con
Compound Benzene Ethylbenzene Toluene	Result 25 25 25 25	Val	Com	Result	Val	Com	Result	Val		Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	7.000	

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Oakland Brownfield

Site: Lab.:

APPL, Inc.

UNVALIDATED DATA

Analysis Type: Water Samples for BTEX and MTBF

by EPA Method 8020

Date:

Reviewer: Lorena Herrera, ESAT/Lockheed February 16, 1999

Concentration in µg/L

TABLE 1A

Station Location and Sample I.D. Date of Collection	Dupli FDP- 10/20	66-W		FDP-1		٧	Metho 981031S-1			Metho 981104S-1			PQL								
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Benzene Ethylbenzene Tolnene Xylenes (Total)	10 U 10 U 10 U	200 (A) (A) (A) (A) (A) (A) (A) (A) (A) (A)		10 U 10 U 10 U	200000000 2000000000000000000000000000		1.0 U 1.0 U 1.0 U 1.0 U	100 A 100 A		1.0 U 1.0 U 1.0 U 1.0 U	900 (100) 900 (100) 900 (100)		1.0 1.0							20000000 20000000000000000000000000000	
MTBE	IO U			1 0 T			10 U			10 V			1.0								
								STATE OF THE PROPERTY OF THE P								and consideration and the					
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
			***************************************																	1	
Vol Volidity Pefer to Data	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							<u> </u>					D2_etcFiel			<u> </u>	1				<u> </u>

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Site:

Oakland Brownfield

Lab.:

APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for Total

Petroleum Hydrocarbons

(as Gasoline and Diesel)

Date:

Reviewer: Lorena Herrera, ESAT/Lockheed February 16, 1999

Concentration in mg/Kg

by EPA Method 8015

																by EPA N	10 CTI	oa e	013		
Station Location and Sample I.D. Date of Collection	FDP- 10/20		.5	Dupl FDP-66-9.0 10/20	, FDP		FDP-68-3.0 10/20		-69-5.5	FDP-70-3.5		<i>-</i> 71-5.5	FDP- 10/20		.5	Metho 981031S-			Metho 981103S-		,
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPH, as gasoline TPH, as diesel	230 NA			976 NA			1800 NA			1200 L NA			13 U NA			10000 U NA			100000 Ü NA		
Percent Solids	88.2 %			82.2 %	**************************************		83.8 %			82.2 %			77.8 %			N/A			N/A	30 (100 m) 30 (100 m) 30 (100 m)	
Sample I.D.	PQL																				
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPH, as gasoline TPH, as diesel	10000 NA																				
Trr, as diesei	NA																				

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Page 4 of 4

TABLE 1A

Case No.: QAO-98-15A Memo #16

Site:

Oakland Brownfield

Lab.:

APPL, Inc.

Reviewer: Lorena Herrera, ESAT/Lockheed

February 16, 1999 Date:

UNVALIDATED DATA

Concentration in mg/L

Analysis Type: Water Samples for Total

Petroleum Hydrocarbons

(as Gasoline and Diesel)

by EPA Method 8015

					_						•					_					
Station Location and	Dup	licat	e 1				Meth	od B	lank	Meth	od B	lank									
Sample I.D.	FDP-			FDP-	72-V	V	981031S-1	279	6 BLI	981104S-1	1279	6 BLI	PQL								
Date of Collection	10/20)/98		10/20	/98																
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPH, as gasoline	S Ü NA		2000 (2000) 2000 (S U NA		2000 (100 pt)	0.5 Ü NA	100 (100 (100 (100 (100 (100 (100 (100	20000000	05 U NA			6.3 NA								100 (100 (100 (100 (100 (100 (100 (100
					100 Marie									70000000000000000000000000000000000000							
															į						
					_																
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Con
									200 (100 (100 (100 (100 (100 (100 (100 (
					10000000000000000000000000000000000000	2000 (100 (100 (100 (100 (100 (100 (100															
																				(C.)	
						1000 (100) (1000 (1000 (100) (1000 (1000 (100) (1000 (1000 (100) (100) (100) (1000 (100) (100) (100) (100) (100) (100) (100) (100) (100) (100) (100) (100) (100) (100) (100) (100) (100) (100		100 (100 (100 (100 (100 (100 (100 (100	
Val-Validity. Refer to Data	A Onalifiere in		-		_							Di I	D2, etcFiel	d Di	ınlicat	e Paire		-	1		

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

TABLE 1A

Case No.: QAO-98-15A Memo #17

Site:

Cakland Brownfield

Lab.: APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for BTEX and MTRE

Reviewer: Lorena Herrera, ESAT/Lockheed

by EPA Method 8020

Date:

February 16, 1999

Concentration in µg/Kg

	1						T														
Station Location and																					
Sample I.D.	FDP-73-6.0	, FDF	-74-6.0	FDP-75-6.5	', FDF	P-76-4.5'	FDP-75-6.5	, FDF	°-76-4.5°	FDP-77-5.5	, FDP	-78-6.0	FDP-79-4.5	', FDF	>-80- <i>5</i> .0'	FDP-81-5.0), FDP	-82-6.5	FDP-83-6.0), FDF	-84-5.0
Date of Collection	10/27	7/98		10/27	7/98		10/27	7/98		10/27	7/98		10/27	7/98		10/27	7/98		10/2	7/98	
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
	di kiba dakaba daka wa dale	edukok karek	dansanana		shitch look		salah kerdatak dan dan kense		a designate de la constante de la constante de la constante de la constante de la constante de la constante de		era statuta	sukkiesissi.		10000000000			1 3.8 8 6 6 6	autorianas, r			8,5,4,5,1,8,8,1,6,1
Benzene	440			28 U			32 U			2900 U			1400 U			2900 U			2900 U		
Ethylbenzene Toluene	2400 280 U			380 28 U			320 U 320 U			10000 2900 U			24000 1400 U			29000 2900 U			25000 2900 1J		
Xylenes (Total)	5900			28 U			320 U			11000			10000			68000			57000		
MTBE)	57 U			57 U			65 U			5900 U			58000 U			58 U			5900 U		
Percent Solids	88.3 %	0.00000		87.8 %	2000 M		77,1 %			85.2 %	() () () () () () () () () ()		86.5 %			86.6 %			85.4 %		
		***************************************									X VIII VIII VIII VIII VIII VIII VIII VI										
													ı								
Station Location and Sample I.D.	FDP-85-7.0	•	?-86-4.0°	FDP-		-4.0'	FDP-		7-4.5	FDP-87-5.0	•	°-88-4.0°		, .	?-90-3.0°	FDP-91-4.0	•	°-92-4.0′	Metho 981103S-		
Sample I.D. Date of Collection	10/27	/98		10/27	7/98		10/27	//98	-	10/27	/98		10/27	//98		10/2	7/98		981103S-	1297	7 BL
Sample I.D.		/98	Com	10/27	7/98	-4.0' Com	10/27	//98	7-4.5'		/98	-88-4.0°	10/27	//98	90-3.0°	10/2	7/98	-92-4.0' Com	981103S-	1297	
Sample I.D. Date of Collection	10/27	/98 Val		10/27	7/98		10/27	7/98 V al	-	10/27	/98 Val		10/27	7/98 Va l		10/2	7/98		981103S-	1297 Val	7 BL
Sample I.D. Date of Collection Compound Benzene Ethylbenzene	10/27 Result 2800 U 24000 U	/98 Val		10/27 Result	7/98		10/27 Result 29 U	7/98 Val	-	10/27 Result 29 U	7/98 Val		10/27 Result 29 U 29 U	7/98 Val		10/2° Result	7/98		981103S- Result	1297 Val	7 BL
Sample I.D. Date of Collection Compound Benzene Ethylbenzene Toluene	10/27 Result 2800 U 24000 U 2800 U	/98 Val		10/27 Result 110000 470000 100000	7/98		10/27 Result 29 U 29 U 29 E	7/98 Val	-	10/27 Result 29 U 280 29 U	7/98 Val		10/27 Result 29 U 29 U 29 U	7/98 Val		10/2' Result 5200 2400 3200	7/98		981103S- Result 25 U 25 U 25 U	1297 Val	7 BL
Sample I.D. Date of Collection Compound Benzene Ethylbenzene	10/27 Result 2800 U 24000 U	//98 Val		10/27 Result 110000 470000	7/98 Val		10/27 Result 29 U	7/98 Val	-	10/27 Result 29 U	7/98 Val		10/27 Result 29 U 29 U 29 U 29 U	7/98 Val		10/2' Result 5200 2400	7/98 Val		981103S- Result 25 U	Val	7 BL
Sample I.D. Date of Collection Compound Benzene Ethylbenzene Toluene Xylenes (Total)	2800 U 24000 U 2800 U 24000 U 18000	//98 Val		10/27 Result 110000 470000 100000 220000	7/98 Val		10/27 Result 29 U 29 U 29 U 29 U	Val	-	10/27 Result 29 U 280 29 U 560	//98 Val	Com	10/27 Result 29 U 29 U 29 U 29 U	7/98 Val		10/2' Result 5200 2400 3200 9000	7/98 Val	Com	981103S- Result 25 U 25 U 25 U 25 U	Val	7 BL
Sample I.D. Date of Collection Compound Benzene Ethylbenzene Toluene Xylenes (Total) MTBE	10/27 Result 2800 U 24000 U 2800 U 18000 S600 U	//98 Val		10/27 Result 110000 470000 100000 220000 1200 U	7/98 Val		10/27 Result 29 U 29 U 29 U 29 U 38 U	Val	-	10/27 Result 29 U 280 29 U 560 58 U	//98 Val	Com	10/27 Result 29 U 29 U 29 U 29 U 38 U	7/98 Val		10/2' Result 5200 2400 3200 9000 57 U	7/98 Val	Com	981103S- Result 25 U 25 U 25 U 25 U 50 U	Val	7 BLI

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

QAO-98-15A Memo #17 Case No.:

TABLE 1A

Site:

Cakland Brownfield

Lab.:

APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for BTEX and MTBE

by EPA Method 8020

Reviewer: Lorena Herrera, ESAT/Lockheed Date:

February 16, 1999

Concentration in µg/Kg

Sample I.D.	Metho 981105S			PQL											:						
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Con
Benzene Ethylbenzene	25 U 25 U			25 25	3000000																
Tofnene Xylenes (Total)	25 U 25 U		300 Miles	25 25							20/2000000 40/00000000000000000000000000							700000			
МТВЕ	50 L			50																	
								000000000 0000000000000000000000000000										22,200,000,000 22,200,000,000 22,000,000,000 22,000,000,000 22,000,000,000 22,000,000,000 22,000,000,000 22,000,000,000 22,000,000,000 22,000,000,000 22,000 22	00000000000000000000000000000000000000		
																		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)			
						1			•		•	•		•			•			•	
Compound	Result	Val	Com	Result	Val	Com	Result	Va	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Con
					2 (5)(5)(1)	H 119191313151515	KOR 1 1979 (1948 1710 1911 - 1196 194 194 194 194	I			1	1		ı		1	ı	l	Į.	1	1

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Site:

Oakland Brownfield

Lab.:

APPL, Inc.

Reviewer: Lorena Herrera, ESAT/Lockheed

Date:

February 16, 1999

UNVALIDATED DATA

Concentration in mg/Kg

Analysis Type: Soil Samples for Total

Petroleum Hydrocarbons

(as Gasoline and Diesel)

by EPA Method 8015

												_									
Ct-di- I and - a-d																					
Station Location and																					
Sample I.D.	FDP-73-6.0		-74-6.0			·-76-4.5°	FDP-75-6.5		-76-4.5	FDP-77-5.5		-78-6.0	FDP-79-4.5		'-80-5.D'	FDP-81-5.0	•	-82-6.5	FDP-83-6.0	•	-84-5.0
Date of Collection	10/27			10/27			10/27		_	10/27			10/27			10/27		_	10/27		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPH, as gasoline	110 L NA			4 1 NA			130 U NA			410 NA		, , , , , , , , , , , , , , , , , , ,	760 L NA	70000		850 L NA			830 L NA		
TPH, as diesel	NA			INA			NA.			NA			NA			NA			NA NA		
Percent Solids	88.3 %			87.8 %			77.1 %			8 5,2 %	100 MINOR		86.5 %			86.6 %			85.4 %		
												2000 0000 2000 0000 2000 0000 2000 0000									
Station Location and																			Metho	d Bla	ank 1
Station Location and Sample I.D.	FDP-85-7.0	', FDP	-86-4.0'	FDP-	86E-	-4.0'	FDP-	-86W	'-4.5'	FDP-87-5.0	r, FIDP	-88-4.0	FDP-89-4.0	', FDP	•-90-3.0	FDP-91-4.0	ζ, FDP-	-92-4.0'			
	FDP-85-7.0		-86-4.0'	FDP- 10/27		-4.0'	FDP- 10/21		'-4.5'	FDP-87-5.0 10/27		·-88-4.0°	FDP-89-4.0		·-90-3.0'	FDP-91-4.0		-92-4.0'			
Sample I.D.		/98	-86-4.0' Com	10/27	7/98	4.0' Com	10/21	7/98	'-4.5'		//98	-88-4.0' Com	10/27	/98	-90-3.0' Com	10/27	7/98	-92-4.0'	981103S-	1297	
Sample I.D. Date of Collection Compound TPH, as gasoline	10/27 Result 850 L	/98 Val		10/27 Result	7/98		10/2′ Result	7/98 Val		Result	//98		10/27 Result	/98 Val		10/27 Result	7/98		981103S- Result	1297 Val	7 BLI
Sample I.D. Date of Collection Compound	10/27 Result	/98 Val		10/27 Result	7/98		10/2′ Result	7/98 Val		10/27 Result	//98		10/27 Result	/98 Val		10/27 Result	7/98		981103S-:	1297 Val	7 BLI
Sample I.D. Date of Collection Compound TPH, as gasoline	10/27 Result 850 L	/98 Val		10/27 Result	7/98 Val		10/2′ Result	7/98 Val		Result	//98 Val		10/27 Result	//98 Val		10/27 Result	7/98 Val		981103S- Result	1297 Val	7 BLI
Sample I.D. Date of Collection Compound TPH, as gasoline TPH, as diesel	Result 850 L NA	/98 Val		10/27 Result 1500 L NA	7/98 Val		Result 12 U NA	7/98 Val	Com	Result 28 NA	//98 Val		Result 12 U NA	//98 Val		Result	7/98 Val	Com	981103S- Result 10.0 U NA	1297 Val	7 BLI
Sample I.D. Date of Collection Compound TPH, as gasoline TPH, as diesel	Result 850 L NA	/98 Val		10/27 Result 1500 L NA	7/98 Val		Result 12 U NA	7/98 Val	Com	Result 28 NA	//98 Val		Result 12 U NA	//98 Val		Result	7/98 Val	Com	981103S- Result 10.0 U NA	1297 Val	7 BLI

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

PQL-Practical Quantitation Limit

ANALYTICAL RESULTS

TABLE 1A

Case No.: QAO-98-15A Memo #17

Site:

Oakland Brownfield

Page 4 of 4

Lab.:

APPL, Inc.

Reviewer: Lorena Herrera, ESAT/Lockheed

Date: February 16, 1999 UNVALIDATED DATA

Concentration in mg/Kg

Analysis Type: Soil Samples for Total

Petroleum Hydrocarbons

(as Gasoline and Diesel)

by EPA Method 8015

	Method	d Dia	nle 3													Dy ELK I					
Sample I.D.	981105S-			PQL					:												
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPH, as gasoline	10.0 U NA			10.0 NA	20000000															7700000	
TPH, as diesel	NA			IVA																100000000 1000000000000000000000000000	
														300 Maria							100 OF 10
											2000 NO.			100 M							
			•		•	•			•												
							<u> </u>														
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
					100 miles			No.													
Val-Validity. Refer to Data	() volifiere iz			. !	1	1	<u> </u>	_				D1 I)2, etcFiel	d Da	ınlicat	e Paire				-	

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Site:

Oakland Brownfield

Lab.: APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for BTEX and MTBE

Reviewer: Lorena Herrera, ESAT/Lockheed

by EPA Method 8020

Date:

February 17, 1999

Concentration in µg/Kg

Station Location and																					
Sample I.D.	FDP-51-7.5		-52-4.0	l		-54-8.0	FDP-55-5.5		-56-4.5	FDP-57)'	FDP-58-5.5	•	-59-4.5'	FDP-60-7.5	•	'-61-4.0'	FDP-62-4.5	,	-63-8.5
Date of Collection	10/19			10/19			10/19			10/19	_		10/19	_		10/19			10/19		
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Benzene	1200 650			300000 300000			1500 U 18000	70 Jan 1970		31 U 31 U			3 0 U 360	ATTENDED ATTENDED ATTENDED ATTENDED		2 900 L J 270000			1100 1400	10000000000000000000000000000000000000	
Ethylbenzene Toluene Xylenes (Total)	29 tJ 1100		AV TOTAL	180000 1300000	10000000 100000000 1000000000000000000		1500 U 15000			31 U 31 U			30 U 30 U			2900 U 1000000			29 U 1600	Transport	
MTBE	58 U	# 00 00 00 PB		60 U			2900 U		ANY MARKET	62 U	*******		60 U			57 U	******		340		
Percent Solids	85.8 %			83.0 %	0.000		85,5 %			81.2 %			83,1 %			87.7 %			85.8 %		
					TOTAL STATE OF THE																
Sample I.D.	Metho 981031S-			Metho 981031S-			Metho 981103S-:			PQL											
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Benzene Ethylbenzene	25 U 25 U			25 U 25 U	3 (34) (40)		25 U 25 U			25 25					**************************************						
Etnylbenzene Toluene Xylenes (Total)	25 U 25 U 25 U			25 U 25 U 25 U			25 U 25 U 25 U			25 25 25	1000000 1000000 10000000										
MTBE	50 U			50 U			50 U			5 0				1000 Page 1				100 (100 (100 (100 (100 (100 (100 (100			
		a katalana		enerusus enerus	1 04010	e length same to		10000	a sananana	SECTION SECTIONS	966339	0.000	#88888888888888888	8 8 8 8 8 8	88888888	acanomic historica	e e e e e e	8 48881890	entropia de la companione de la companione de la companione de la companione de la companione de la companione		1000000

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

TABLE 1A

Site:

Oakland Brownfield

Lab.: APPL, Inc.

UNVALIDATED DATA

Analysis Type: Water Sample for BTEX and MTBE

by EPA Method 8020

Date:

Reviewer: Lorena Herrera, ESAT/Lockheed

February 17, 1999

Concentration in µg/L

Station Location and	FDP-:	57337																			
Sample I.D. Date of Collection	10/19																				
Compound			Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Compound	Acsut	7 44.	00213	1123412	1	-	2445444													Т	
Benzene	8600																				
Ethylbenzene 	510																				
T oluene Xylenes (Total)	400 2000																				
MTBE .	500 U																				
		0.001.01.01.01.01	Rototeke Modelik	: \$5.5: [ceaser: ce : #o#: : : : ceastroine: #: 20: :	1 2 811111			,				1		ļ			1			1	ł
		[1666] 1 <u>3</u> 166 <u>[</u> 166]	6; 10; 10; 64; 14; 16; 16; 19; 19;		1 2 6100							<u> </u>	:					.		l	
			e in the end of the end of		12 20151	1 11 11 11 11 11						<u> </u>		<u> </u>			<u> </u>	<u> </u>		l	<u> </u>
Compound	Result	Val	Com		Val	Con	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Con
Compound	Result	Val			Va	Con	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Con
Compound		Val			Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Con
Compound		Val			Val		Result		2000000		Val	Com	Result	Val		Result	Val	Com	Result	Val	
			Com	Result			Result										Val		Result		

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Site:

Reviewer:

Oakland Brownfield

Lab.:

Date:

APPL, Inc.

Lorena Herrera, ESAT/Lockheed

February 17, 1999

UNVALIDATED DATA

Concentration in mg/Kg

Analysis Type: Soil Samples for Total

Petroleum Hydrocarbons (as Gasoline and Diesel)

	ı											-				by EPA I	leth	sd. 8	015		
Station Location and																					
Sample I.D.	FDP-51-7.5	r. FDP	-52-4 0	FDP-53-5.0	वतम् '	2-54-8 O'	FDP-55-5.5	ं स्टा	2.56.4.5	FDP-57	-116	יי	FDP-58-5.5	ene e	50.4 5	FDP-60-7.5	מחם י	61.40	FDP-62-4.5	PEND	42 0 C
Date of Collection	10/19		1	10/19		5-7 0.0	10/19		-30-4.5	10/19		,	10/19		-37-4.3	10/19		01-4.0	10/19		-03-6.3
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result		Com			Com		_	Com
TPH; as gasoline TPH, as diesel	27 NA	0.0000000		23000 NA	**************************************		780 NA			12 U NA	770007700 770007700 770007700 770007700 770007700		7800 NA	2000 (100 (100 (100 (100 (100 (100 (100	0.000	7300			110	2000 V V V V V V V V V V V V V V V V V V	
Trii, as diesei	MA			NA.			NA			NA			NA	AND THE RESERVE OF THE PERSON		NA			NA		
Percent Solids	85.8 %			83.0 %			85,5 %			81.2 %			83.1 %			87,7 %			85.8 %		
														VALUE OF THE PROPERTY OF THE P						100 000 000 000 000 000 000 000 000 000	
Sample I.D.	Metho 981031S-		-	Metho 981031S-1			Metho 981103S-			PQL				•							
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPH, as gasoline TPH, as diesel	10.0 U NA			10.0 U NA			10,0 U NA			10.0 NA											
					Wilderson																
					10000000000000000000000000000000000000	201000000 20100000000000000000000000000			AND CAMPAGE OF THE PARTY OF THE								300 (Sec.)				
											1000 VOICE 1000 VOICE										
					100000000 1000000000000000000000000000																

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

PQL-Practical Quantitation Limit

ANALYTICAL RESULTS

TABLE 1A

Case No.:

QAO-98-15A Memo #18

Site:

Oakland Brownfield

Page 4 of 4

Lab.:

Date:

Reviewer:

APPL, Inc.

Lorena Herrera, ESAT/Lockheed

February 17, 1999

UNVALIDATED DATA

Concentration in µg/L

Analysis Type: Water Sample for Total

Petroleum Hydrocarbons

(as Gasoline and Diesel)

by EPA Method 8015

	-																				
Station Location and																					
Sample I.D.	FDP- 10/19																				
Date of Collection	Result	_	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Compound	Resun	Val	Com	Resut	v ai	COM	Result	7 41	Com	KCSUIL	V III.	COM	Acous	7 442	COM	140,0414	7	ÇUM	100010	***	00
TPH, as gasoline	32																				
TPH, as diesel	NA	and selection	strictetet databalia		Визива			::::::::::::::::::::::::::::::::::::::	aa saacd da	in licensi of district in consistent in the licensis in the licensis of district in the licensis in the licens	BBHHA	Bi Birkel (Calaly		1888881			1000000	adakeeds			
		l	<u> </u>						<u> </u>		Ц,	<u> </u>					Ш			<u> </u>	<u> </u>
	i															•					
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Con
					10 Miles																
																				100 may 100 ma	
																		100 COM			
Val-Validity. Refer to Data	Qualifiers in	_	<u> </u>			<u> </u>	<u> </u>	<u> </u>	<u>l . </u>		<u>L</u>	D1. I	D2, etcFiel	d Di	 nlicate	l e Pairs			!	<u>L</u>	<u> </u>

Val-Validity. Refer to Data Qualifiers in

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

TABLE 1A

Case No.: QAO-98-15A Memo #19 Oakland Brownfield

Site: Lab.:

APPL, Inc. UNVALIDATED DATA

Analysis Type: Soil Samples for Total

Reviewer: Lorena Herrera, ESAT/Lockheed

Petroleum Hydrocarbons

Dates March 25, 1999 Concentration in µg/Kg

(as Diesel) by EPA Method 80

	I			ľ			<u> </u>			ı						T	—	
Station Location an	l ıd									Method Bla	enk							ł
Sample I.D.	FDP-121-4.5/		122-5.0			4-5.0 I	FDP-123-5.0/FDP-	124-5	ODUP	981215S B	LK		PQL					
Date of Collection	12/1/			12/1			12/1/											
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Diesel	240000	20000000 20000000 20000000 20000000		260000	00000000000000000000000000000000000000	0.000000 0.0000000 0.00000000000000000	180000			10000 U			10000		0.000000 0.0000000 0.00000000000000000		0.000000	
								000700000 000700000 0007700000 0007700000						5000000 50000000 50000000 50000000				
		1000			100			10000 10000 10000 10000 10000										
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
		90000000 90000000 90000000 90000000			10000000	10000000 10000000 100000000 1000000000		02.000.00 0.000.00 0.000.00 0.000.00			0.000000000000000000000000000000000000							
						1000000 10000000 100000000000000000000					100000				10000000000000000000000000000000000000			
								0.00000 0.00000 0.000000 0.0000000										
					1				1					ľ				
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
		75.000 75.000 75.000 75.000 75.000			1000 (100 (100 (100 (100 (100 (100 (100			00000000 90000000 000000000 900000000			4000 V000 4000 V000 4000 V000 5000 V000							
		0.00000 0.000000 0.0000000												00000000000000000000000000000000000000	0000000 000000000000000000000000000000		100000 100000 100000 100000	
Val-Validity. Refer	to Data Qualifiers	n T	able 11	3 .				**************************************				D1. I	02, etcField Dup	licat	e Pairs			

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Page 1 of 2

TABLE 1A

Case No.: QAO-98-15A Memo #20

Site: Lab.: Oakland Brownfield

Date:

APPL, Inc.

UNVALIDATED DATA

Analysis Type: Soil Samples for BTEX and MT

by EPA Method 8020

Reviewer: Lorena Herrera, ESAT/Lockheed

March 25, 1999

Concentration in µg/Kg

										•								
Station Location an	1]						. en em	FDP-111-:	o m	
Sample I.D.	FDP-103-3.5,		04-3.5	FDP-105-3.0,		6-4.0	FDP-107-4.0 11/3/		08-4.5	FDP-109-4.0,FI 11/3/9		0-4.5 1	FDP-109-4.0,FDP 11/3/		1.3DUP		.v, rui 3/98	- 112 -4 .0
Date of Collection	11/3/		Com	11/3/ Result	Val C	~		yo Val C	7000			Com	Result		Com	Result		Com
Compound	Result	vai	Com	Kesuit	Val	COIII	Result	Val	JOIN	Result	Yaı	Com	Result	T AI	Com	Kesuit	1.2	Com
Benzene	28 :U			150 U			130			30 U	00000000 000000000 0000000000000000000		150 U			30		
Ethylbenzene Toluene	520 28 U			150 U 15 0 U			220 30 U			23000 30 TJ			150 U 150 U			30 30	Ü	
Xylenes (Total) MTBE	490 57 U		300 CO	2700 29 00 L			350 60 U			26000 17000			17000 310 U			30 61	eria de la casada o	
		200 MI						000 000 000 000 000 000 000 000										
						100 (100 (100 (100 (100 (100 (100 (100												W. W. W. W. W. W. W. W. W. W. W. W. W. W
		_									_				•	· · · · · · · · · · · · · · · · · · ·		
Station Location and Sample I.D.	FDP-113-4.0,FDI		4.5DUP				Method 981111S-		-	Method 981111S-			PQ	L				
Sample I.D. Date of Collection		98	4.5DUP	FDP-11 11/3 Result		Сот	981111S-		BLI		135				Com	Result	Va	l Com
Sample I.D.	FDP-113-4.0,FDI 11/3/ Result	/98 Va		11/3 Result	/98 Val (Com	981111S- Result	13577 Val (BLI	981111S- Result	135	78 BL	Result		Com	Result	Va	l Com
Sample I.D. Date of Collection Compound Benzene Ethylbenzene Toluene	FDP-113-4.0,FDI 11/3) Result 150 U 1200	98 Va		610 t 6300 610 t	/98 Val (Com	981111S- Result 25 U 25 U 25 U	13577 Val (BLI	981111S- Result 25 U 25 U 25 U	135°	78 BL	Result 25 25 25		Com	Result	Va	l Com
Sample I.D. Date of Collection Compound Benzene Ethylbenzene Toluene Xylenes (Total)	FDP-113-4.0,FDI 11/3/ Result 150 U	98 Va		11/3 Result 610 L 6300	/98 Val (Com	981111S- Result 25 U 25 U	13577 Val (BLI	981111S- Result 25 U 25 U	Val	78 BL	Result 25		Com	Result	Va	l Com
Sample I.D. Date of Collection Compound Benzene Ethylbenzene	FDP-113-4.0,FDI 11/3/ Result 150 U 1200 150 U	98 Va		610 U 610 U 610 U	/98 Val (Com	981111S- Result 25 U 25 U 25 U 25 U 25 U	13577 Val (BLI	981111S- Result 25 U 25 U 25 U 25 U 25 U	Val	78 BL	25 25 25 25 25		Com	Result	Va	d Com

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

ANALYTICAL RESULTS

Case No.: QAO-98-15A Memo #20

TABLE 1A

Oakland Brownfield

UNVALIDATED DATA

Analysis Type:

Soil Samples for Total

Lab. .

APPL, Inc.

Petroleum Hydrocarbons (as Gasoline) by EPA Metho

Reviewer: Lorena Herrera, ESAT/Lockheed Date:

Site:

March 25, 1999

Concentration in µg/Kg

8015

Station Location an	1																
Sample I.D. Date of Collection	FDP-103-3.5, 11/3/		104-3.5	FDP-105-3.		106-4.0	FDP-107-4.0 11/3/		FDP-109-4.0,F 11/3/		10-4.5 I	FDP-109-4.0,FDP 11/3/		.3DUP	FDP-111-5.0 11/3/		112-4
Compound			Com			Com		Val Com		_	Com			Com	Result		Con
TPH, as gasoline	28	2000000 2000000 20000000	200,000 200,00	80	200 Marie 1		13		650	10000000000000000000000000000000000000		330	W. W. W. W. W. W. W. W. W. W. W. W. W. W	100 (100 (100 (100 (100 (100 (100 (100	17 L		100 miles
			20000000								100 (000) 100 (000) 100 (000) 100 (000)						
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			MATERIAL WATER		1000000	1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					0000000 0000000 0000000 0000000 0000000			00000000 00000000 00000000			
Station Location an	d	<u> </u>				<u> </u>	Method	Blank 1	Method	l Bla	nk 2					<u> </u>	<u> </u>
Sample I.D.	FDP-113-4.0,FDF		4.5DUP			<u> </u>	Method 981111S-					PQI	L L			<u> </u>	<u> </u>
Sample I.D. Date of Collection	FDP-113-4.0,FDF 11/3/	98		11/	3/98	10	981111S-	13577 BL	981111S-	·1351	78 BL			C	Y 14	 	10
Sample I.D.	FDP-113-4.0,FDF	98	4.5DUP	11/	3/98	l Com	981111S-		981111S-	·1351		PQI Result		Com	Result	Val	Con
Sample I.D. Date of Collection	FDP-113-4.0,FDF 11/3/	98		11/	3/98	Com	981111S-	13577 BL Val Соп	981111S-	135°	78 BL			Com	Result	Val	Con
Sample I.D. Date of Collection Compound	FDP-113-4-0,FDF 11/3/ Result	98 Val	Com	11/ Result	3/98	Com	981111S- Result	13577 BL Val Соп	981111S- Result	135°	78 BL	Result		Com	Result	Val	Co
Sample I.D. Date of Collection Compound	FDP-113-4-0,FDF 11/3/ Result	98 Val	Com	11/ Result	3/98	Com	981111S- Result	13577 BL Val Соп	981111S- Result	135°	78 BL	Result		Com	Result	Val	Со
Sample I.D. Date of Collection Compound	FDP-113-4-0,FDF 11/3/ Result	98 Val	Com	11/ Result	3/98	Com	981111S- Result	13577 BL Val Соп	981111S- Result	135°	78 BL	Result		Com	Result	Val	Cı

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Page 1 of 2

TABLE 1A

Case No.: QAO-98-15A Memo #21 Site:

Date:

Oakland Brownfield

Lab.:

APPL, Inc.

UNVALIDATED DATA

Analysis Type:

Soil Samples for BTEX and MT

by EPA Method 8020

Reviewer: Lorena Herrera, ESAT/Lockheed

March 25, 1999

Concentration in µg/Kg

~													Method Bl	ante	1	Method B	lank	2
Station Location an Sample I.D.	a FDP-116-4.8/	ETAD 1	1720	FDP-118-4.5//	7DD 110 a		FDP-118-4.5/FDP-119	.4 5 8	iald Du	FDP 120-6.	< 1 a1	s Davo	981125S -			981221S -		
Date of Collection	11/20		17-3.9	11/20		•	11/20/		TOTO Du	11/20/		лир	7011230			3512215		
Compound	Result		Com	Result	Val C	om			Com	Result	Val	Com	Result	Val	Com	Result	Val	Соп
Benzene Ethylbenzene Foluene Youene Xylenes (Total) MTBE	3800 6000 2400 9100 288 U			5500 15000 3400 4800 290 U			750 14000 2700 5900 290 C			35000 75000 150000 400000 290 U			25 U 25 U 25 U 25 U 50 U			25 U 25 U 26 U 25 U 50 U		
Sample I.D.	PQ.		Com	Result	Val C	om	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Va	Con
Benzene Ethylbenzene Totuene Xylenes (Total)	25 25 25 25 25 50					0.00 (American Joseph	
MTBE		diid																

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Page 2 of 2

TABLE 1A

Case No.: QAO-98-15A Memo #21

Site:

Lab.:

Oakland Brownfield

APPL, Inc.

UNVALIDATED DATA

Concentration in µg/Kg

Analysis Type:

Soil Samples for Total

Petroleum Hydrocarbons

Reviewer: Lorena Herrera, ESAT/Lockheed

(as Gasoline) by EPA Method

Date: March 25, 1999

8015

Station Location an Sample I.D.	fDP-116-4.8/1	FDP-1	17-3.9	FDP-118-4.5/I	DP-1	19-4.5 1	FDP-118-4.5/FDP-119	9-4.5 1	Field Du	FDP 120-6	.5 Lal	Dup	Method B 981125S -			Method B 981221S -		
Date of Collection	11/20			11/20			11/20			11/20								
Compound	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Cor
TPH, as gasoline	180000	00000000000000000000000000000000000000	1000000 1000000 1000000 1000000	410000	0000000 00000000 000000000000000000000		270000			2300000			1000 U	000000000 000000000 000000000000000000	0.000000 0.0000000 0.00000000	1000 W		
		#0000# #0000# #0000#			100 W/W									STATE TO THE STATE OF THE STATE	0.000000		10000	
					Contraction of the Contraction o			***************************************						000000000 000000000 000000000000000000	0.000000000000000000000000000000000000		100 mm	
		2000,000 4000,000 200	100 0000 100 0000 100 0000 100 0000			2000 WINDS		A (0.000) 	10000000 10000000000000000000000000000					200000000 2000000000 2000000000			50000000 50000000000000000000000000000	1000000 1000000 10000000
		1000000			0000009 40140000 101400000 10140000000				3000000 10000000 100000000					**************************************	2000000 20000000 200000000 200000000			
													· •···					
ĺ																		
Sample I.D.	PQL																	
Sample I.D. Compound	PQI Result		Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Сот
Compound			Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Cor
Compound	Result		Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Cor
Compound	Result		Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	**************************************	Cor
_	Result		Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	**************************************	2000 100 000 000 000 000 000 000 000 000

Val-Validity. Refer to Data Qualifiers in Table 1B.

Com-Comments. Refer to the Corresponding Section in the Narrative for each letter.

N/A-Not Applicable, NA-Not Analyzed

D1, D2, etc. -Field Duplicate Pairs

FB-Field Blank, EB-Equipment Blank, TB-Trip Blank

BG-Background Sample

Case Narrative

EPA 8015M METHOD

Total Petroleum Hydrocarbons - Gasoline APPL, Inc. State Certification 1312

ARF:

29135

Project: USEPA Region 9 - QAO-98-15A

Sample Receipt Information:

The sample group was received December 02, 1998. The samples were assigned Analytical Request Form (ARF) number 29135. The sample numbers and requested analyses were compared to the chain of custody. No other exceptions were encountered.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
FDP-121-4.5', FDP-122-5.0'	72086	Soil	12/01/98	12/02/98
FDP-123-5.0', FDP-124-5.0'	72087	Soil	12/01/98	12/02/98
FDP-123-5.0', FDP-124-5.0'	72088	Soil	12/01/98	12/02/98

Extraction Information:

The samples were extracted using EPA Method 5030A. No exceptions were encountered. Analysis Information:

Samples:

The samples were analyzed by EPA Method 8015M.

Calibrations:

The calibrations were performed according to the method with no other deviations for the initial calibration or the continuing calibrations.

> TO: DAVE ELIAS FROM: ROSE FONG

45 pas

ARF 29135 ARF 28911

Calculations:

BTEX results were calculated using an external standard and against an average calibration curve using the following equation:

Calibration factor. =
$$\frac{PkAr_s}{(CoStd)(injection volume)}$$

Where:

PkAr,

= Peak Area of compound in the Standard.

CoStd.

= Concentration of Standard.

Example:

The instrument Harpo, calibration 1023002.D\FID1B.CH for

Benzene at 1ppb.

$$26602 = \frac{133010 area counts}{(lug/L)(5mL)}$$

Sample Conc. =
$$\frac{(PkAr_n) X (D)(soilhandling dilution factor)}{(Cf)(Xsample volume)}$$

Where:

 $PkAr_{a}$

= Peak Area of analyte.

D

= Dilution factor.

Cf

= Average calibration factor.

Soil handling dilution factor = 50

Note: All medium level soils are handled in a similar manner. Ten grams of soil are mixed with ten mLs of methanol and this extract is diluted fifty-fold as the sample is admitted to the purge unit. (Either 100µL of sample extract/5mL of purge volume or 1mL of sample extract/50mL of purge volume depending on the purge unit mechanics.)

Example:

Sample FDP-121-4.5', FDP-122-5.0' (72086) at DF 100

Ethylbenzene from purge 113028.D\FID2A.CH: (Harpo)

$$21300.707 = \frac{(576050) X(100)(50)}{(27043.70329)(5)}$$

Calculations:

TPH Gasoline results were calculated using an external standard and against an average calibration curve using the following equation:

Calibration Factor =
$$\frac{(PkAr_s - PkS_s)}{CoStd}$$

Where:

PkAr,

= Peak Area of compound in the Standard.

PkS.

= Peak Area of Surrogate in Standard.

CoStd.

= Concentration of Standard.

Sample Conc. =
$$\frac{(PkAr_* - PkSu_n) X(D)(soilsampledilutionfactor)}{(Cf)(samplevolume)}$$

Soil handling dilution factor = 50

Note: All medium level soils are handled in a similar manner. Ten grams of soil are mixed with ten mLs of methanol and this extract is diluted fifty-fold as the sample is admitted to the purge unit. (Either 100µL of sample extract/5mL of purge volume or ImL of sample extract/50mL of purge volume depending on the purge unit mechanics.)

Example:

Sample FDP-121-4.5', FDP-122-5.0'Gasoline from purge

1216047.D\FID2BCH: (Moe)

$$547216.676 = \frac{(13930908) X(50)(50)}{(12728.877)(5)}$$

Blanks:

No target compounds were detected at or above the reporting level. Surrogates:

For the PID detector: The surrogate Bromofluorobenzene was recovered at 49.9% in MSD2 (FDP-123-5.0,FDP-124-5.0 DUP) on January 05,1999 and at 216% in MS2 (FDP-123-5.0,FDP-124-5.0 DUP), 228% in MSD2 (FDP-123-5.0,FDP-124-5.0 DUP), at 245% in MS (FDP-123-5.0,FDP-124-5.0 DUP), 244% in MSD2 (FDP-123-5.0,FDP-124-5.0 DUP) on January 14,1999.

1,1,1-Trifluorotoluene was recovered at 162% in MS2 (FDP-123-5.0,FDP-124-5.0 DUP), 183% in MSD2 (FDP-123-5.0,FDP-124-5.0 DUP), at 177% in MS (FDP-123-5.0,FDP-124-5.0 DUP), 173% in MSD2 (FDP-123-5.0,FDP-124-5.0 DUP) on January 14,1999. All other PID surrogate recoveries met acceptance criteria.

For the FID detector: The surrogate Bromofluorobenzene was recovered at 55.8% in MSD2 (FDP-123-5.0,FDP-124-5.0 DUP) on January 05,1999 and at 536% in MS2 (FDP-123-5.0,FDP-124-5.0 DUP), 576% in MSD2 (FDP-123-5.0,FDP-124-5.0 DUP), at 650% in MS (FDP-123-5.0,FDP-124-5.0 DUP), 626% in MSD2 (FDP-123-5.0,FDP-124-5.0 DUP) on January 14,1999.

1,1,1-Trifluorotoluene was recovered at 288% in MS2 (FDP-123-5.0,FDP-124-5.0 DUP), 348% in MSD2 (FDP-123-5.0,FDP-124-5.0 DUP), at 335% in MS (FDP-123-5.0,FDP-124-5.0 DUP), 322% in MSD2 (FDP-123-5.0,FDP-124-5.0 DUP) on January 14,1999. All other FID surrogate recoveries met acceptance criteria.

Heavy contamination of the samples is suggested as the matrix effect in each case. Spikes:

Sample FDP-123-5.0', FDP-124-5.0' (72088) was utilized as Matrix Spike/Matrix Spike Duplicate. For the BTEX MS/MSD and for the Gasoline MS/MSD, two sets of MS/MSDs were analyzed. No recoveries met acceptance criteria. The parent sample had greater than one hundred times the spike amount. A Laboratory Control Spike/Spike Duplicate (LCS/LCSD) was also analyzed. All analyte recoveries met laboratory acceptance criteria.

Summary:

Samples were analyzed within holding time with indeterminant quality control. The sample group was reanalyzed beyond holding time with similar results. No other analytical exceptions are noted.

CERTIFICATION

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the hard copy has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Mike Ray, Laboratory Manager/Date

Method Blank EPA 8020,MTBE,GAS-Soil

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Blank Name/QCG: 981210S -

Batch ID:

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Benzene	Not detected	,025	mg/kg	12/10/98	12/10/98
BLANK	Ethylbenzene	Not detected	.025	mg/kg	12/10/98	12/10/98
BLANK	Gasoline	Not detected	10	mg/kg	12/10/98	12/10/98
BLANK	MTBE	Not detected	.050	mg/kg	12/10/98	12/10/9B
BLANK	Toluene	Not detected	.025	mg/kg	12/10/98	12/10/98
BLANK	Total Xylenes	Not detected	.025	mg/kg	12/10/98	12/10/98
BLANK	Surrogate;a,a,a TFT-FID	117	60-125	%	12/10/98	12/10/98
BLANK	Surrogate:a,a,a TFT-PID	102	60-125	%	12/10/98	12/10/98
BLANK	Surrogate:BFB-FID	108	60-125	%	12/10/98	12/10/98
BLANK	Surrogate:BFB-PID	96,6	60-125	%	12/10/98	12/10/98

Run #: 33 Instrument: HARPO Sequence: 981209

initials: MT

Printed: 3/1/99 10:00:16 AM

Lab Blank EPA 8020,MTBE,GAS-Soil

Blank Name/QCG: 9812105 -

Batch ID:

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Sample	Туре	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK		Benzene	Not detected	.025	mg/kg	12/10/98	12/10/98
BLANK		Ethylbenzene	Not detected	.025	mg/kg	12/10/98	12/10/98
BLANK		Gasoline	Not detected	10	mg/kg	12/10/98	12/10/98
BLANK		MTBE	Not detected	.050	mg/kg	12/10/98	12/10/98
BLANK		Toluene	Not detected	.025	mg/kg	12/10/98	12/10/9B
BLANK		Total Xylenes	Not detected	.025	mg/kg	12/10/98	12/10/98
BLANK		Surrogate:a,a,a TFT-FID	122	60-125	%	12/10/98	12/10/98
BLANK		Surrogate:a,a,a TFT-PID	105	60-125	%	12/10/98	12/10/98
BLANK		Surrogate;BFB-FID	114	60-125	%	12/10/98	12/10/98
BLANK		Surrogate;BFB-PID	101	60-125	%	12/10/98	12/10/98

Run #: 34 Instrument: HARPO Sequence: 981209 Initials: MT

Printed: 3/1/99 10:00:16 AM

Method Blank EPA 8020,MTBE,GAS-Soil

Blank Name/QCG: 9901058 -

Batch ID:

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Benzene	Not detected	.025	mg/kg	1/5/99	1/5/99
BLANK	Ethylbenzene	Not detected	.025	mg/kg	1/5/99	1/5/99
BLANK	Gasoline	Not detected	10	mg/kg	1/5/99	1/5/99
BLANK	MTBE	Not detected	.050	mg/kg	1/5/99	1/5/99
BLANK	Toluene	Not detected	.025	mg/kg	1/5/99	1/5/99
BLANK	Total Xylenes	Not detected	.025	mg/kg	1/5/99	1/5/99
BLANK	Surrogate:a,a,a TFT-FID	112	60-125	%	1/5/99	1/5/99
BLANK	Surrogate;a,a,a TFT-PID	94.9	60-125	%	1/5/99	1/5/99
BLANK	Surrogate:BFB-FID	102	50-125	%	1/5/99	1/5/99
BLANK	Surrogate:BFB-PID	89.4	60-125	%	1/5/99	1/5/99

Run #: 11 Instrument: HARPO Sequence: 990104 Initials: MT

Printed: 3/1/99 10:00:17 AM

Lab Blank EPA 8020,MTBE,GAS-Soil

Blank Name/QCG: 981210S -

Batch ID:

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Sample	Гуре	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK		Benzene	Not detected	.025	mg/kg	12/10/98	1/5/99
BLANK		Ethylbenzene	Not detected	.025	mg/kg	12/10/98	1/5/99
BLANK		Gasoline	Not detected	10	mg/kg	12/10/98	1/5/99
BLANK		MTBE	Not detected	.050	mg/kg	12/10/98	1/5/99
BLANK		Toluene	Not detected	.025	mg/kg	12/10/98	1/5/99
BLANK		Total Xylenes	Not detected	.025	mg/kg	12/10/98	1/5/99
BLANK		Surrogate:a,a,a TFT-FID	108	60-125	%	12/10/98	1/5/99
BLANK		Surrogate:a,a,a TFT-PID	93.3	60-125	%	12/10/98	1/5/99
BLANK		Surrogate:BFB-FID	99,9	60-125	%	12/10/98	1/5/99
BLANK		Surrogate:BFB-PID	89.1	60-125	%	12/10/98	1/5/99

Run #: 12 Instrument: HARPO

Sequence: 990104 Initials: MT

Printed: 3/1/99 10:00:17 AM

Method Blank EPA 8020,MTBE,GAS-Soil

Blank Name/QCG: 981210S -

Batch ID:

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Benzene	Not detected	25	mg/kg	12/10/98	1/14/99
BLANK	Ethylbenzene	Not detected	25	mg/kg	12/10/98	1/14/99
BLANK	Gasoline	Not detected	1000	mg/kg	12/10/98	1/14/99
BLANK	MTBE	Not detected	50	mg/kg	12/10/98	1/14/99
BLANK	Toluene	Not detected	25	mg/kg	12/10/98	1/14/99
BLANK	Total Xylenes	Not detected	25	mg/kg	12/10/98	1/14/99
BLANK	Surrogate:a,a,a TFT-FID	100	60-125	%	12/10/98	1/14/99
ILANK	Surrogate:a,a,a TFT-PID	99.7	60-125	%	12/10/98	1/14/99
BLANK	Surrogate:BFB-FID	101	60-125	%	12/10/98	1/14/99
BLANK	Surrogate:BFB-PID	101	60-125	%	12/10/98	1/14/99

Run#: 20

Instrument: HARPO Sequence: 990113

Initials: MT

Printed: 3/1/99 10:00:17 AM

Method Blank EPA 8020,MTBE,GAS-Soil-dilution

Blank Name/QCG: 9812175 -

Batch ID:

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Benzene	Not detected	.025	mg/kg	12/17/98	12/17/98
BLANK	Ethylbenzene	Not detected	.025	mg/kg	12/17/98	12/17/98
BLANK	Gasoline	Not detected	10.0	mg/kg	12/17/98	12/17/98
BLANK	MTBE	Not detected	.050	mg/kg	12/17/98	12/17/98
BLANK	Toluens	Not detected	.025	mg/kg	12/17/98	12/17/98
BLANK	Total Xylenes	Not detected	.025	mg/kg	12/17/98	12/17/98
BLANK	Surrogate:a,a,a TFT-FID	95.0	60-125	%	12/17/98	12/17/98
BLANK	Surrogate:a,a,a TFT-PID	97.8	60-125	%	12/17/98	12/17/98
BLANK	Surrogate:BFB-FID	87.1	60-125	%	12/17/98	12/17/98
BLANK	Surrogate:BFB-PID	91.3	60-125	%	12/17/98	12/17/98

Run #: 33
Instrument: MOE
Sequence: 981216
Initials: MT

Printed: 3/1/99 10:00:16 AM

EPA 8020, MTBE, GAS-Soil

EPA Region 9

75 Hawthorne Street

San Francisco, CA 94105

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Marlon Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND HYDRANT REMOV

Sample ID: FDP-121-4.5/FDP-122-5.0

Sample Collection Date: 12/1/98

ARF: 29135

APPL ID: AP72086

QCG: \$820GR-981210A-14242

QCG, \$020GR-9812						
Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
(Concentration	s and Limits have been adjusted	to reflect 15.9 Percent Moistu	Ire)			
8015/8021B	Benzene	Not detected	30	mg/kg	12/10/98	12/10/98
8015/8021B	Ethylbenzene	25	3,0	mg/kg	12/10/98	12/10/98
8015/8021B	Gasoline	1800	1200	mg/kg	12/10/98	12/10/98
8015/80218	MTBE	Not detected	59	mg/kg	12/10/98	12/10/98
801 5/ 8021B	Toluene	Not detected	30	mg/kg	12/10/98	12/10/98
8015/8021B	Total Xylenes	65	30	mg/kg	12/10/98	12/10/98
8015/8021B	Surrogete:a,a,a TFT-FID	117	60-125	g/.(g	12/10/98	12/10/98
8015/8021B	Surrogate:a,a,a TFT-PID	101	60-125	%	12/10/98	12/10/98
8015/80218	Surrogate:BF8-FID	105				12/10/98
8015/8021B	Surrogate:BFB-PID	95.3	60-125	%	12/10/98	12/10/98
		105 95.3	60-125 60-125	% %	12/10/98 12/10/98	

DF 1000 DF100

Run#: 49,28 Instrument HARPO Sequence: 981209 Initials: MT

Printed: 3/11/99 8;38:50 AM

EPA 8020, MTBE, GAS-Soil-dilution

EPA Region 9

75 Haythorne Street

San Francisco, CA 94105

Attn: Marion Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND HYDRANT REMOV

Sample ID: FDP-121-4.5/FDP-122-5.0

Sample Collection Date: 12/1/98

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

ARF: 29135

APPL ID: AP72086

QCG: \$82GSC-981216B-13846

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
(Concentration	ns and Limits have been adjusted to	reflect 15.9 Percent Moistu	re)	<u> </u>		
8015/8021B	Benzene	Not detected	1,4	mg/kg	17/10/00	404760
8015/ 8 021B	Ethylbenzene	19	1.4	mg/kg	12/10/98 12/10/98	12/17/98 12/17/98
8015/\$021B	Gasoline	650	590	mg/kg	12/10/98	
8015/8021B	MTBE	Not detected	3.0	mg/kg	12/10/98	12/17/98
8015/8021B	Toluene	Not detected	1.4			12/17/98
8015/8 <mark>021B</mark>	Total Xylenes	81 E	1.4	mg/kg	12/10/98	12/17/98
8015/8 <mark>021B</mark>	Surrogate:a,a,a TFT-FID	103	60-125	mg/kg	12/10/98.	12/17/98
8015/8021B	Surrogate:a,a,a TFT-PID	110	60-125	%	12/10/98	12/17/98
8015/8 <mark>021B</mark>	Surrogate:BFB-FID	107		%	12/10/98	12/17/98
8015/8021B	Surrogate:BFB-PID	***	60-125	%	12/10/98	12/17/98
		95,1	60-125	%	12/10/98	12/17/98

E = The reported value is estimated due to interference.

Run #: 47
Instrument MOE
Sequence: 981216
Initials: MT

Printed: 1/14/99 6:13:05 PM

EPA 8020, MTBE, GAS-Soil

EPA Region 9

75 Hawthorno Street

San Francisco, CA 94105

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Marlon Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND HYDRANT REMOV

Sample ID: FDP-123-5.0/FDP-124-5.0

Sample Collection Date: 12/1/98

ARF: 29135

APPL ID: AP72087

QCG: \$820GR-981210A-14242

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
(Concentration	s and Limits have been adjusted to	reflect 17.8 Percent Moistu	re)		· · · · · · · · · · · · · · · · · · ·	
6015/8021B	Benzene	Not detected	30	mg/kg	12/10/98	12/10/98
8015/8021B	Ethylbenzene	28	3.0	mg/kg	12/10/98	12/10/98
8015/8021B	Gasoline	1600	1200	mg/kg	12/10/98	12/10/98
8015/8021B	MTBE	Not detected	61	mg/kg	12/10/98	12/10/98
8015/8021B	Toluene	16	3.0	mg/kg	12/10/98	12/10/98
8015/80218	Total Xylenes	100	30	mg/kg	12/10/98	12/10/98
8015/8021B	Surrogate;a,a,a TFT-FID	118	60-125	ss	12/10/98	12/10/98
8015/8021B	Surrogate:a,a,a TFT-PID	102	60-125	%	12/10/98	12/10/98
8015/80218	Surrogate:BFB-FID	113	60-125	%	12/10/98	12/10/98
9015/8021B	Surrogate:BFB-PID	98.2	60-125	%	12/10/98	12/10/98

DF1000 DF100

Run #: 51,29

Instrument HARPO Sequence: 981209

Initials: MT

Printed: 3/11/99 8:38:50 AM

EPA 8020, MTBE, GAS-Soil-dilution

EPA Region 9

75 Hawthorne Street

San Francisco, CA 94105

Attn: Marion Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND HYDRANT REMOV

Sample ID: FDP-123-5.0/FDP-124-5.0

Sample Collection Date: 12/1/98

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

ARF: 29135

APPL ID: AP72087

QCG: \$82GSC-981216B-13846

					QCG: \$82GSC-981216B-13846			
Meth	od	Analyte	Result	PQL	Units	Extraction Date	Analysis Date	
(Cond	entration	s and Limits have been adjuste	d to reflect 17.8 Percent Moistu	(9)				
8015/		Benzene	Not detected	1,5	mg/kg	12/10/98	12/17/98	
8015/		Ethylbenzene	32	1.5	mg/kg	12/10/98	12/17/98	
8015/	3021B	Gasoline	1200	610	mg/kg	12/10/98	12/17/98	
8015/	3021B	MT8E	Not detected	3.0	mg/kg	12/10/98	12/17/98	
8015/	30218	Toluene	29	1.5	mg/kg	12/10/98	12/17/98	
8015/	3021B	Total Xylenes	130E	1.5	mg/kg	12/10/98		
8015/	3021B	Surrogate:a,a,a TFT-FID	110	60-125	····g//\©	. —,	12/17/98	
8015/	3021B	Surrogate:a,a,a TFT-PID	112	60-125	%	12/10/98	12/17/98	
8015/8	021B	Surrogate;BFB-FID	98.0	60-125	· -	12/10/98	12/17/98	
8015/8	021B	Surrogate;BFB-PID	103		%	12/10/98	12/17/98	
i			103	60-125	%	12/10/98	12/17/98	

E = The eported value is estimated due to interference.

DF 50

Run #: 48
Instrument: MOE
Sequence: 981216
Initials: MT

Printed: 1/14/99 6:13:06 PM

EPA 8020, MTBE, GAS-Soil

EPA Region 9

75 Hawthome Street

San Francisco, CA 94105

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Marlon Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND HYDRANT REMOV

Sample ID: FDP-123-5.0/FDP-124-5.0 DUP

Sample Collection Date: 12/1/98

ARF: 29135

APPL ID: AP72088

QCG: \$820GR-981210A-14242

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
(Concentration	s and Limits have been adjusted			VIII.5	CANACHON Date	Analysis Date
8015/8021B	Benzene	Not detected	30	mg/ka	42/40/00	40/40/00
8015/8021B	Ethylbenzene	10.0	3.0	mg/kg	12/10/98	12/10/98
8015/80218	Gasoline	Not detected	12000	- •	12/10/98	12/10/98
8015/8021B	MTBE	Not detected	60	mg/kg	12/10/98	12/10/98
8015/8021B	Toluene	5.5	- -	mg/kg	12/10/98	12/10/98
8015/8021B	Total Xvienes		3,0	mg/kg	12/10/98	12/10/98
8015/8021B	Surrogate:a,e,a TFT-FID	34	30	mg/kg	12/10/98	12/10/98
8015/8021B		116	60-125	%	12/10/98	12/10/98
	Surrogate;a,a,a TFT-PID	100	60-125	%	12/10/98	12/10/98
8015/8021B	Surrogate:BFB-FID	· 109	60-125	%	12/10/98	12/10/98
8015/8021B	Surrogate;BFB-PID	95.6	60-125	%	12/10/98	12/10/98

DF 1000; DF50

Run #: 39,21

Instrument HARPO Sequence: 981209, 99404

Initials: MT

Printed: 1/26/99 4:51:56 PM

EPA 8020, MTBE, GAS-Soil-dilution

EPA Region 9

75 Hawthorne Street

San Francisco, CA 94105

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Marion Mezquita, PMD-3

Project QAO-98-15A CITY OF OAKLAND HYDRANT REMOV

Sample ID: FDP-123-5.0/FDP-124-5.0 DUP

ARF: 29135

APPL ID: AP72088

Sample Collection Date: 12/1/98					QCG: \$82GSC-981216B-13846				
Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date			
(Concentration	ns and Limits have been adjusted to	reflect 16.8 Percent Moistu	ire)			· · · · · · · · · · · · · · · · · · ·			
8015/8021B	Benzene	Not detected	1.4	mg/kg	12/10/98	12/17/98			
8015/8 0 21B	Ethylbenzene	13	1.4	mg/kg	12/10/98	12/17/98			
8015/8021B	Gasoline	Not detected	600	mg/kg	12/10/98	12/17/98			
8015/8 0 21B	MTBE	Not detected	3.0	mg/kg	12/10/98	12/17/98			
8015/8021B	Toluene	12	1.4	mg/kg	12/10/98	12/17/98			
8015/8021B	Total Xylenes	47	1.4	mg/kg	12/10/98	12/17/98			
8015/8 0 21B	Surrogate:a,a,a TFT-FID	106	60-125	%	12/10/98	12/17/98			
8015/BØ21B	Surrogate:a,a,a TFT-PID	116	60-125	%	12/10/98	12/17/98			
8015/8 0 21B	Surrogate:BFB-FID	105	60-125	%	12/10/98	12/17/98			
8015/8021B	Surrogate:BFB-PID	98,3	60-125	%	12/10/98	12/17/98			

DF 50

Run #: 49 Instrument MOE Sequence: 981216 Initials: MT

Printed: 1/14/99 6:13:06 PM

Wet Lab Analysis

EPA Region 9

75 Hawthome Street

San Francisco, CA 94105

APPL Inc.

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4203 West Swift Avenue

Fresno, CA 93722

Attn: Marton Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND HYDRANT REMOV

Sample ID: FDP-121-4.5/FDP-122-5.0

Sample Collection Date: 12/1/98

APPL ID: AP72086

ARF: 29135

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
CLP MOIST	Moisture	15.9	2	%	12/8/98	12/8/98

Wet Lab Analysis

EPA Region 9

75 Hawthorne Street

San Francisco, CA 94105

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Marlon Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND HYDRANT REMOV

Sample ID: FDP-123-5.0/FDP-124-5.0

Sample Collection Date: 12/1/98

APPL ID: AP72087

ARF: 29135

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
CLP M	DIST Moisture	17.8	2	%	12/8/98	12/8/98

Wet Lab Analysis

EPA Region 9 75 Hawthorne Street San Francisco, CA 94105 APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Marlon Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND HYDRANT REMOV

Sample ID: FDP-123-5.0/FDP-124-5.0 DUP

Sample Collection Date: 12/1/98

APPL ID: AP72088

ARF: 29135

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
CLP MOIST	Moisture	16.8	2	%	12/8/98	12/8/98

Case Narrative

EPA 8015M METHOD

Total Petroleum Hydrocarbons - Gasoline APPL, Inc. State Certification 1312

ARF:

28911

Project:

USEPA Region 9 - QAO-98-15A

Sample Receipt Information:

The sample group was received November 03, 1998 at 5°C. The samples were assigned Analytical Request Form (ARF) number 28911. The sample numbers and requested analyses were compared to the chain of custody. No other exceptions were encountered.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
FDP-93-6.0', FDP-94-4.5'	71000	Soil	11/02/98	11/03/98
FDP-95-5.5', FDP-96-4.0'	71001	Soil	11/02/98	11/03/98
FDP-97-9.8', FDP-98-5.0'	71002	Soil	11/02/98	11/03/98
FDP-97-9.8', FDP-98-5.0' DUP	71003	Soil	11/02/98	11/03/98
FDP-99-5.3', FDP-100-4.0'	71004	Soil	11/02/98	11/03/98
FDP-101-4.5',FDP-102-4.0'	71005	Soil	11/02/98	11/03/98

Sample FDP-101-4.5 was received "on hold" and was later composited with sample FDP-102-4.0.

Extraction Information:

The samples were extracted using EPA Method 5030A. No exceptions were encountered.

Analysis Information:

Samples:

The samples were analyzed by EPA Method 8015M.

Calibrations:

For the purge sequence of November 10, 1998, the initial Methyl-t-butyl ether response was from a standard which had degraded in the vial. A new standard was purged at the end of the sequence. The previous MTBE CCV was injected on November, 06, 1998 and is included in the data to demonstrate that the instrument was still in calibration. Samples were reinjected past hold times for MTBE confirmation. Results are reported from the purge sequence that was within holding time. The calibrations were performed according to the method with no other deviations for the initial calibration or the continuing calibrations.

Calculations:

BTEX results were calculated using an external standard and against an average calibration curve using the following equation:

Calibration factor. =
$$\frac{PkAr_s}{(CoStd)(injection volume)}$$

Where:

PkAr,

= Peak Area of compound in the Standard.

CoStd.

= Concentration of Standard.

Example:

The instrument Harpo, calibration 1023002.D\FID1B.CH for

Benzene at 1ppb.

 $26602 = \frac{133010 area counts}{(lug/L)(5mL)}$

Sample Conc. =
$$\frac{(PkAr_n) X(D)(soilhandling dilution factor)}{(Cf)(Xsample volume)}$$

Where:

 $PkAr_n$

= Peak Area of analyte.

D

= Dilution factor.

Cf

= Average calibration factor.

Soil handling dilution factor = 50

Note: All medium level soils are handled in a similar manner. Ten grams of soil are mixed with ten mLs of methanol and this extract is diluted fifty-fold as the sample is admitted to the purge unit. (Either 100µL of sample extract/5mL of purge volume or 1mL of sample extract/50mL of purge volume depending on the purge unit mechanics.)

Example:

Sample FDP-97-9.8', FDP-98-5.0'DUP (71003) at DF 50 Ethylbenzene from purge 1207030.D\FID2B.CH: (Moe)

$$18032.533 = \frac{(853934) X(50)(50)}{(23677.594)(5)}$$

Calculations:

TPH Gasoline results were calculated using an external standard and against an average calibration curve using the following equation:

Calibration Factor =
$$\frac{(PkAr_s - PkS_s)}{CoStd}$$

Where:

PkAr.

= Peak Area of compound in the Standard.

PkS_s

= Peak Area of Surrogate in Standard.

CoStd.

= Concentration of Standard.

Sample Conc. =
$$\frac{(PkAr_s - PkSu_n) X(D)(soilsample dilution factor)}{(Cf)(sample volume)}$$

Soil handling dilution factor = 50

Note: All medium level soils are handled in a similar manner. Ten grams of soil are mixed with ten mLs of methanol and this extract is diluted fifty-fold as the sample is admitted to the purge unit. (Either 100µL of sample extract/5mL of purge volume or lmL of sample extract/50mL of purge volume depending on the purge unit mechanics.)

Example:

Sample FDP-95-5.5', FDP-96-4.0'Gasoline from purge

1110013.D\FID2ACH: (Harpo)

$$178836.269 = \frac{(19941797) X(10)(50)}{(11150.868)(5)}$$

Blanks:

No target compounds were detected at or above the reporting level.

Surrogates:

For the PID detector, all surrogate recoveries met acceptance criteria. For the FID detector: 1,1,1-Trifluorotoluene was recovered at 143.3%, 134.2%, 145.3% and 187.1% in samples FDP-93-5.5',FDP-94-4.0 (71001), FDP-97-9.8',FDP-98.5.0DUP (71003) at a twenty-fivefold dilution, FDP-99-5.3',FDP-100-4.0' (71004) at a tenfold dilution and FDP-101-4.5' respectively. In the sample samples Bromofluorobenzene was recovered at 130.3%, 121.3%, 121.6%, 128.7% and 164.9%. Heavy contamination of the samples is suggested as the matrix effect in each case.

Spikes:

Sample FDP-95-5.5', FDP-96-4.0' (71001) was utilized as Matrix Spike/Matrix Spike Duplicate. For the BTEX MS/MSD, Toluene recoveries were 457% and 18% and Chlorobenzene recoveries were 540% and -143%. For the Gasoline MS/MSD, recoveries were -3271% and -3510%. The parent sample had greater than forty times the spike amount. A Laboratory Control Spike/Spike Duplicate (LCS/LCSD) was also analyzed. All analyte recoveries met acceptance criteria.

Summary:

Through an analyst's oversight, sample FDP-101-4.5 was not analyzed for confirmation. No other analytical exceptions are noted.



CERTIFICATION

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the hard copy has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Mike Ray, Laboratory Manager/Date

Method Blank EPA 8020,MTBE,GAS-Soil

Blank Name/QCG: 981110S - 13036

Batch ID: \$820GS-981110A

APPL Inc. 4203 West Swift Avenue Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Benzene	Not detected	25	ug/kg	11/10/98	11/10/96
BLANK	Ethylbenzene	Not detected	25	ug/kg	11/10/98	11/10/98
BLANK	Gasoline	Not detected	1000	ug/kg	11/10/98	11/10/98
BLANK	MTBE	Not detected	50	ug/kg	11/10/98	11/10/98
BLANK	Toluene	Not detected	25	ug/kg	11/10/98	11/10/98
BLANK	Total Xylenes	Not detected	25	ug/kg	11/10/98	11/10/98
BLANK	Surrogate:a,a,a TFT-FID	120	60-125	%	11/10/98	11/10/98
BLANK	Surrogate:a,a,a TFT-PID	106	60-125	%	11/10/98	11/10/98
BLANK	Surrogate:BFB-FID	108	60-125	%	11/10/98	11/10/98
BLANK	Surrogate:BFB-PID	99.0	60-125	%	11/10/98	11/10/98

Run #; 7 Instrument: HARPO Sequence; 981110

equence: 9817 Initials: MT

Printed: 3/8/99 5:14:02 PM

Lab Blank EPA 8020,MTBE,GAS-Soil

Blank Name/QCG: 981110S - 13036

Batch ID: \$820GS-981110A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Benzene	Not detected	25	ug/kg	11/10/98	11/10/98
BLANK	Ethylbenzene	Not detected	25	ug/kg	11/10/98	11/10/98
BLANK	Gasoline	Not detected	1000	ug/kg	11/10/98	11/10/98
BLANK	MTBE	Not detected	50	ug/kg	11/10/98	11/10/98
BLANK	Toluene	Not detected	25	ug/kg	11/10/9B	11/10/98
BLANK	Total Xylenes	Not detected	25	ug/kg	11/10/98	11/10/98
LANK	Surrogate:a,a,a TFT-FID	119	60-125	%	11/10/98	11/10/98
BLANK	Surrogate:a,a,a TFT-PID	106	60-125	%	11/10/98	11/10/98
BLANK	Surrogate:BFB-FID	112	60-125	%	11/10/98	11/10/98
ILANK	Surrogate: 8FB-PID	98.4	60-125	%	11/10/98	11/10/98

Run #: 8
Instrument: HARPO

Sequence: 981110

Initials: MT

Method Blank EPA 8020,MTBE,GAS-Soil

Blank Name/QCG: 9903085 -

Batch ID:

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

					•	
Sample T	ype Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Benzene	Not detected	25	ug/kg	3/8/99	3/8/99
BLANK	Ethylbenzene	Not detected	25	ug/kg	3/8/99	3/8/99
BLANK	Gasoline	Not detected	1000	ug/kg	3/8/99	3/8/99
BLANK	MTBE	Not detected	50	ug/kg	3/8/99	3/8/99
BLANK	Toluene	Not detected	25	ug/kg	3/8/99	3/8/99
BLANK	Total Xylenes	Not detected	25	ug/kg	3/8/99	3/8/99
BLANK	Surrogate:a,a,a TFT-FID	109	60-125	%	3/8/99	3/8/99
BLANK	Surrogate:a,a,a TFT-PID	97.6	60-125	%	3/8/99	3/8/99
BLANK	Surrogate:BFB-F}D	103	60-125	%	3/8/99	3/8/99
BLANK	Surrogate:BFB-PID	89.2	60-125	%	3/8/99	3/8/99

Run #: 21 Instrument: MOE Sequence: 981207

Initials; LF

Printed: 3/8/99 6:22:02 PM

Method Blank EPA 8020,MTBE,GAS-Soil

Blank Name/QCG: 9903085 - 13036

Batch ID: \$820GS-981110A

APPL Inc. 4203 West Swift Avenue Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Benzene	Not detected	25	ug/kg	3/8/99	3/8/99
BLANK	Ethylbenzene	Not detected	25	ug/kg	3/8/99	3/8/99
BLANK	Gasoline	Not detected	1000	ug/kg	3/8/99	3/8/99
BLANK	MTBE	Not detected	50	ug/kg	3/8/99	3/8/99
BLANK	Toluene	Not detected	25	ug/kg	3/8/99	3/8/99
BLANK	Total Xylenes	Not detected	25	ug/kg	3/8/99	3/8/99
BLANK	Surrogate:a,a,a TFT-FID	123	60-125	%	3/8/99	3/8/99
BLANK	Surrogate:a,a,a TFT-PID	105	60-125	%	3/8/99	3/8/99
BLANK	Surrogate:BFB-FID	107	60-125	%	3/8/99	3/8/99
BLANK	Surrogate:BFB-PID	97.3	60-125	%	3/8/99	3/8/99

Run #: 44
Instrument: HARPO

Sequence: 981201 Initials: LF

EPA 8020, MTBE, GAS-Soil

EPA Region 9
75 Hawthorne Street

San Francisco, CA 94105

Attn: Mailon Mezquita, PMD-3

Project: \$40-98-15A CITY OF OAKLAND

Sample D: FDP-93-6.0,FDP-94-4.5

Sample Collection Date: 11/2/98

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

ARF: 28911

APPL ID: AP71000

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
(Concentratio	ns and Limits have been adjusted to	reflect 14.2 Percent Moistu	re)			
9015/8021B	Benzene	Not detected	29	ug/kg	11/10/98	11/11/98
3015/80 2 1B	Ethylbenzene	Not detected	29	ug/kg	11/10/98	11/11/98
3015/80 2 1B	MTBE	Not detected	58	ug/kg	11/10/98	11/11/98
3015/80 ≱ 1B	Toluene	Not detected	29	ug/kg	11/10/98	11/11/98
3015/80 2 1B	Total Xylenes	Not detected	29	ug/kg	11/10/98	11/11/98
3015/80 ‡ 18	Surrogate:a,a,a TFT-FID	116	60-125	-gg %	11/10/98	11/11/98
3015/80 2 1B	Surrogate:a,a,a TFT-PID	113	60-125	%	11/10/98	11/11/98
3015/8021B	Surrogate:BFB-FID	108	60-125	%		
3015/8021B	Surrogete:BFB-PID	96.2	60-125	%	11/10/98 11/10/98	11/11/98 11/11/98

Run #. 19
Instrument HARPO
Sequence: 981110
Initials: DA
Initials: DA

Printed: 12/28/98 5:53:19 PM

EPA 8020, GAS-Soil

EPA Region 9

75 Hawthorne Street

San Francisco, CA 94105

Attn: Marion Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND

Sample ID: FDP-93-6.0,FDP-94-4.5

Sample Collection Date: 11/2/98

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

ARF: 28911

APPL ID: AP71000

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
(Concentration	is and Limits have been adjusted to	reflect 14.2 Percent Moistu	re)			
8015/8021B	Gasoline	Not detected	12	mg/kg	11/10/98	11/11/98
8015/80218	Surrogate:a,a,a TFT-FID	116	60-125	%	11/10/98	11/11/98
8015/8021B	Surrogate:BFB-FID	108	60-125	%	11/10/98	11/11/98

Run #: 19*
Instrument: HARPO
Sequence: 981110

Dilubio Feder: I

EPA 8020, MTBE, GAS-Soil

EPA Region 9

75 Hawthorne Street

San Francisco, CA 94105

Attn: Marion Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND

Sample ID: FDP-97-9.8,FDP-98-5.0

Sample Collection Date: 11/2/98

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

ARF: 28911

APPL ID: AP71002

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
(Concentrat	tions and Limits have been adjust	ed to reflect 12.8 Percent Moist	1te)			
8015/80218		Not detected	290	ug/kg	11/10/98	11/11/98
8015/8 0 218	B Ethylbenzene	710	290	ug/kg	11/10/98	11/11/98
8015/8 0 21B	MTBE	Not detected	570	ug/kg	11/10/98	11/11/98
8015/8 0 21B	Toluene	Not detected	290	ug/kg	11/10/98	11/11/98
8015/8 0 21B	Total Xylenes	730	290	ug/kg	11/10/98	11/11/98
8015/8 0 21B	Surrogate:a,a,a TFT-FID	124	60-125	-y.(ş	11/10/98	11/11/98
8015/8 0 21B	Surrogate:a,a,a TFT-PID	107	60-125	%	11/10/98	11/11/98
8015/8 0 21B	Surrogate:BFB-FID	120	60-125	%	11/10/98	
8015/80218	Surrogate:BFB-PID	100	60-125	%	11/10/98	11/11/98 11/11/98

Run#: 20

Instrument HARPO Sequence: 981110 Initials: DA Discharia S

Printed: 12/28/98 6:09:33 PM

EPA 8020, GAS-Soil

EPA Region 9

75 Hawthorne Street

San Francisco, CA 94105

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Marlon Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND

Sample ID: FDP-97-9.8,FDP-98-5.0

Sample Collection Date: 11/2/98

ARF: 28911

APPL ID: AP71002

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
(Concentration	s and Limits have been adjusted to refi	ect 12.8 Percent Moistu	re)			
8015/8021B	Gasoline	80J	110	mg/kg	11/10/98	11/11/98
8015/80218	Surrogate:a,a,a TFT-FID	124	60-125	%	11/10/98	11/11/98
8015/8021B	Surrogate:BFB-FID	120	60-125	%	11/10/98	11/11/98

J = Estimated value, below quantitation limit.

Run #: 20

Instrument: HARPO Sequence: 981110

Initials: DA

EPA 8020, MTBE, GAS-Soil

EPA Région 9

75 Hawthorne Street

San Francisco, CA 94105

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Marlon Mezquita, PMD-3

Project QAO-98-15A CITY OF OAKLAND

Sample ID: FDP-97-9.8,FDP-98-5.0 DUP

Sample Collection Date: 11/2/98

ARF: 28911

APPL ID: AP71003

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
(Concentration	ns and Limits have been adjusted to	reflect 11.7 Percent Moistur	re)			
8015/60218	Benzene	Not detected	710	ug/kg	11/10/98	11/11/98
8015/8p21B	Ethylbenzene	9300	710	ug/kg	11/10/98	11/11/98
8015/80218	MTBE	Not detected	1400	ug/kg	11/10/98	11/11/98
8015/80218	Toluene	Not detected	710	ug/kg	11/10/98	11/11/98
3015/8 0 21B	Total Xylenes	6800	710	ug/kg	11/10/98	11/11/98
8015/80218	Surrogate:a,a,a TFT-FID	134#	60-125	- <u>J</u> <u>y</u>	11/10/98	11/11/98
8015/80218	Surrogate:a,a,a TFT-PID	108	60-125	%	11/10/98	11/11/98
9015/80218	Surrogate:BFB-FID	122	60-125	%	11/10/98	11/11/98
8015/8 0 21B	Surrogate:BFB-PID	109	60-125	%	11/10/98	11/11/98

= Recovery is outside QC limits.

Run# 21

Instrument: HARPO Sequence: 981110 Initials: DA Olumba Farte: 25

EPA 8020, GAS-Soil

EPA Region 9

75 Hawthome Street

San Francisco, CA 94105

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Marion Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND

Sample ID: FDP-97-9.8,FDP-98-5.0 DUP

ARF: 28911

APPL ID: AP71003

Sample Collection Date: 11/2/98

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
(Concentration	is and Limits have been adjusted to ref	lect 11,7 Percent Moistur	re)			
8015/8021B	Gasoline	850 J	1400	mg/kg	11/10/98	11/11/98
8015/8021B	Surrogate:a,a,a TFT-FID	134#	60-125	%	11/10/98	11/11/98
8015/8021B	Surrogate:BFB-FID	122	60-125	%	11/10/98	11/11/98

Run #: 21

Instrument: HARPO Sequence: 981110

Initials: DA

J = Estimated value, below quantitation limit.

^{# =} Recovery is outside QC limits.

EPA 8020, MTBE, GAS-Soil

EPA Region 9

75 Hawthome Street

San Francisco, CA 94105

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Marlon Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND

Sample ID: FDP-99-5.3,FDP-100-4.0

Sample Collection Date: 11/2/98

ARF: 28911

APPL ID: AP71004

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
(Concentration	s and Limits have been adjusted to	reflect 13.6 Percent Moistur	re)			
8015/8021B	Benzene	Not detected	290	ug/kg	11/10/98	11/11/98
8015/8 0 218	Ethylbenzene	2200	290	ug/kg	11/10/98	11/11/98
8015/8 0 216	MTBE	Not detected	580	ug/kg	11/10/98	11/11/98
8015/8d21B	Toluene	Not detected	290	⊔g/kg	11/10/98	11/11/98
8015/8 d 21B	Total Xylenes	2700	290	ug/kg	11/10/98	11/11/98
8015/8021B	Surrogate:a,a,a TFT-FID	145#	60-125	-3 · 3	11/10/98	11/11/98
8015/80 <mark>218</mark>	Surrogate:a,a,a TFT-PID	111	60-125	%	11/10/98	11/11/98
9015/80218	Surrogate:BFB-FID	129#	60-125	%	11/10/98	11/11/98
8015/80218	Surrogate:BFB-PID	116	60-125	%	11/10/98	11/11/98

= Recovery is outside QC limits.

Run#: 22

Instrument, HARPO Sequence; 981110 Initials: DA

Printed: 3/11/99 11;12:27 AM

EPA 8020, GAS-Soil

EPA Region 9

75 Hawthorne Street

San Francisco, CA 94105

Attn: Marlon Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND

Sample ID: FDP-99-5.3,FDP-100-4.0

Sample Collection Date: 11/2/98

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

ARF: 28911

APPL ID: AP71004

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
(Concentration	is and Limits have been adjusted to refl	ect 13.6 Percent Moistur	(e)			
8015/80218	Gasoline	330	120	mg/kg	11/10/98	11/11/98
8015/80218	Surrogate:a,a,a TFT-FID	145#	60-125	%	11/10/98	11/11/96
8015/8021B	Surrogate:BFB-FID	129#	60-125	%	11/10/98	11/11/98

= Recovery is outside QC limits.

Run#: 22

Instrument: HARPO Sequence: 981110

Initials: DA

BTEX, GAS, MTBE-Soil

EPA Region 9

75 Hawthorne Street

San Francisco, CA 94105

Attn: Marlon Mezquita, PMD-3

Project QAO-98-15A CITY OF OAKLAND

Sample ID: FDP-101-4.5

Sample Collection Date: 11/2/98

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

ARF: 28911

APPL ID: AP71005

Method	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
(Concentration	ns and Limits have been adjusted to	reflect 13.1 Percent Moistu	re)			
8015/8021B	Benzene	38	29	ug/kg	11/11/98	11/11/98
8015/8 <mark>021B</mark>	Ethylbenzene	2200	290	ug/kg	11/11/98	11/11/98
8015/8 <mark>021B</mark>	Gasoline	110000	12000	ug/kg	11/11/98	11/11/98
8015/8 <mark>021</mark> B	MTBE	Not detected	58	ug/kg	11/11/98	11/11/98
8015/8 <mark>021B</mark>	Toluene	Not detected	290	ug/kg	11/11/98	11/11/98
8015/8þ21B	Xylenes	2600	290	ug/kg	11/11/98	11/11/98
6015/8þ218	Surrogate:a,a,a TFT-FID	131#	60-125	%	11/11/98	11/11/98
8015/8þ218	Surrogate:a,a,a TFT-PID	109	60-125	%	11/11/98	11/11/98
8015/8þ21B	Surrogate:BFB-FID	116	60-125	%	11/11/98	11/11/98
8015/8þ21B	Surrogate:BFB-PID	107	60-125	%	11/11/98	11/11/98

= Recovery is outside QC limits.

Run #: 23, 55 Instrument: HARPO

Sequence: 981110, 1201

Initials: DA

Method Blank EPA 8020,MTBE,GAS-Soil

Blank Name/QCG: 981110S - 13036

Batch ID: \$820GS-981110A

APPL Inc. 4203 West Swift Avenue Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Senzene	Not detected	25	ug/kg	11/10/98	11/10/98
BLANK	Ethylbenzene	Not detected	25	ug/kg	11/10/98	11/10/98
BLANK	Gasoline	Not detected	1000	ug/kg	11/10/98	11/10/98
BLANK	MTBE	Not detected	50	ug/kg	11/10/98	11/10/98
BLANK	Toluene	Not detected	25	ug/kg	11/10/98	11/10/98
BLANK	Total Xylenes	Not detected	25	ug/kg	11/10/98	11/10/98
BLANK	Surrogate;a,a,a TFT-FID	120	60-125	%	11/10/98	11/10/98
BLANK	Surrogate:a,a,a TFT-PID	106	60-125	%	11/10/98	11/10/98
BLANK	Surrogate:BFB-FID	108	60-125	%	11/10/98	11/10/98
BLANK	Surrogate;BFB-PID	99.0	60-125	%	11/10/98	11/10/98

Run#: 7

Instrument: HARPO Sequence: 981110

Initials: MT

Printed: 3/8/99 5:14:03 PM

Lab Blank EPA 8020,MTBE,GAS-Soil

Blank Name/QCG: 9811105 - 13036

Batch |D: \$820GS-981110A

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Benzena	Not detected	25	ug/kg	11/10/98	11/10/98
BLANK	Ethylbenzene	Not detected	25	ug/kg	11/10/98	11/10/98
BLANK	Gasoline	Not detected	1000	ug/kg	11/10/98	11/10/98
BLANK	MTBE	Not detected	50	ug/kg	11/10/98	11/10/98
BLANK	Toluene	Not detected	25	ug/kg	11/10/98	11/10/98
BLANK	Total Xylenes	Not detected	25	ug/kg	11/10/98	11/10/98
BLANK	Surrogate:a,a,a TFT-FID	119	60-125	%	11/10/98	11/10/98
BLANK	Surrogate;a,a,a TFT-PID	106	60-125	%	11/10/98	11/10/98
BLANK	Surrogate:BFB-FID	112	60-125	%	11/10/98	11/10/98
BLANK	Surrogate:BF8-PID	98.4	60-125	%	11/10/98	11/10/98

Run #: 8 Instrument: HARPO

Sequencs: 981110

Initials: MT

Printed: 3/8/99 5:14:03 PM

Method Blank EPA 8020,MTBE,GAS-Soil

Blank Name/QCG: 990308S - 13036

Batch ID: \$820GS-981110A

APPL Inc. 4203 West Swift Avenue Fresno, CA 93722

Sample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Benzene	Not detected	25	ug/kg	3/8/99	3/8/99
BLANK	Ethylpenzene	Not detected	25	ug/kg	3/8/99	3/8/99
BLANK	Gasoline	Not detected	1000	ug/kg	3/8/99	3/8/99
BLANK	MTBE	Not detected	50	ug/kg	3/8/99	3/8/99
BLANK	Toluene	Not detected	25	ug/kg	3/8/99	3/8/99
BLANK	Total Xylenes	Not detected	25	ug/kg	3/8/99	3/8/99
BLANK	Surrogate:a,a,a TFT-FID	123	60-125	%	3/8/99	3/8/99
BLANK	Surrogate:a,a,a TFT-PID	105	60-125	%	3/8/99	3/8/99
BLANK	Surrogate:BFB-FID	107	60-125	%	3/8/99	3/8/99
BLANK	Surrogate:BFB-PID	97.3	60-125	%	3/8/99	3/8/99

Run #: 44 Instrument: HARPO Sequence: 981201

Initials: LF

Printed: 3/8/99 5:22:02 PM

Method Blank EPA 8020,MTBE,GAS-Soil

Blank Name/QCG: 9903085 -

Batch ID:

APPL Inc. 4203 West Swift Avenue

Fresno, CA 93722

ample Type	Analyte	Result	PQL	Units	Extraction Date	Analysis Date
BLANK	Benzene	Not detected	25	ug/kg	3/8/99	3/8/99
BLANK	Ethylbenzene	Not detected	25	ug/kg	3/8/99	3/8/99
BLANK	Gasoline	Not detected	1000	ug/kg	3/8/99	3/8/99
3LANK	MTBE	Not detected	50	ug/kg	3/8/99	3/8/99
BLANK	Toluene	Not detected	25	ug/kg	3/8/99	3/8/99
3LANK	Total Xylenes	Not detected	25	ug/kg	3/8/99	3/8/99
BLANK	Surrogate:a,a,a TFT-FID	109	60-125	%	3/8/99	3/8/99
BLANK	Surrogate:a,a,a TFT-PID	97.6	60-125	%	3/8/99	3/8/99
BLANK	Surrogate:BFB-FID	103	60-125	%	3/8/99	3/8/99
BLANK	Surrogate:BFB-PID	89.2	60-125	%	3/8/99	3/8/99

Run #: 21 Instrument: MOE Sequence; 981207 Initials: LF

Printed: 3/8/99 6:22:02 PM

Wet Lab Analysis

EPA Region 9

75 Hawthome Street

San Francisco, CA 94105

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Marlon Mezquita, PMD-3

Project: QAQ-98-15A CITY OF OAKLAND

Sample ID: FDP-93-6.0,FDP-94-4.5

Sample Collection Date: 11/2/98

APPL ID: AP71000

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
CLP MOIST	Moisture	14.2	2	%	11/7/98	11/7/98

Wet Lab Analysis

EPA Region 9

75 Hawthorne Street

San Francisco, CA 94105

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Marion Mezquita, PMD-3

Project QAO-98-15A CITY OF OAKLAND

Sample ID: FDP-95-5.5,FDP-96-4.0

Sample Collection Date: 11/2/98

APPL ID: AP71001

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
CLP MOI	IST Moistur	9 13.3	2	%	11/7/98	11/7/98

EPA REG 9

Wet Lab Analysis

EPA Region 9

75 Hawthorne Street San Francisco, CA 94105 APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Marlon Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND

Sample ID: FDP-97-9.8,FDP-98-5.0

Sample Collection Date: 11/2/98

APPL ID: AP71002

Method	Analyte		Result	PQL	Units	Prep Date	Analysis Date
CLP MOIST	Moisture	· · · · · · · · · · · · · · · · · · ·	12.8	2	%	11/7/98	11/7/98

Wet Lab Analysis

EPA Region 9 75 Hawthome Street San Francisco, CA 94105

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn: Marlon Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND Sample ID: FDP-97-9.8,FDP-98-5.0 DUP

Sample Collection Date: 11/2/98

APPL ID: AP71003

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
CLP MOIST	Moisture	 11.7	2	%	11/7/98	11/7/98

Wet Lab Analysis

EPA Region 9 75 Hawthorne Street San Francisco, CA 94105

APPL Inc.

4203 West Swift Avenue

Fresno, CA 93722

Attn; Marlon Mezquita, PMD-3

Project: QAO-98-15A CITY OF OAKLAND Sample ID: FDP-99-5.3,FDP-100-4.0

Sample Collection Date: 11/2/98

APPL ID: AP71004

Method	Analyte			Ai	RF: 28911	
CLP MOIST	Moisture	 Result 13.6	PQL 2	Units		Analysis Date
			-	%	11/7/98	11/7/98



ATTACHMENT D

USEPA Review of USEPA Contract Laboratory Analytical Results

POTENTIALLY-REJECTED DATA IN OAKLAND BROWNFIELD DATA PACKAGES AS IDENTIFIED BY CURSORY REVIEW APPL Case No.: QAO-98-15A

SDG No.:

ARF-28806

Analysis:

BTEX/MTBE (Benzene, toluene, ethylbenzene, xylenes/methyl tert-butyl ether)

and Total Petroleum Hydrocarbons (Gasoline)

Sample:

6 Soil and 2 Water Samples

It is not clear how the laboratory is choosing the reported results. The laboratory appears to report BTEX/MTBE results from the appropriate Method 8020A photoionization detector (PID) in some instances, but from the flame ionization detector (FID) in other instances. Similarly the laboratory appears to report TPH-g results from the appropriate Method 8015B FID in some instances, but from the PID in others. In addition, the laboratory appears to report results inconsistently from either the primary column or the confirmation column. A more detailed review is required to determine the appropriate qualification of sample results.

The QC limits specified in the client request form (CRF) for BTEX/MTBE by EPA Method 8020A were used for BTEX/MTBE qualification purposes. The QC limits specified in EPA Method 8015B were used for TPH-g qualification purposes. Advisory validation surrogate recovery QC limits of 65-135% for soils and 75-125% for waters were used for TPH-g.

Based on the forms review, the results for benzene, toluene, and MTBE in soil sample FDP-65-5.5, soil composite samples FDP-66-9.0, FDP-67-3.0; FDP-66-9.0, FDP-67-3.0 DUP; and FDP-70-3.5, FDP-71-5.5; and ethylbenzene and total xylenes in soil sample FDP-65-5.5 and soil composite sample FDP-70-3.5, FDP-71-5.5 may be rejected due to analytical holding time exceedance. The results for TPH-g in soil sample FDP-65-5.5, soil composite samples FDP-66-9.0, FDP-67-3.0; FDP-66-9.0, FDP-67-3.0 DUP; and FDP-70-3.5, FDP-71-5.5; and ethylbenzene and total xylenes in soil composite samples FDP-66-9.0, FDP-67-3.0 and FDP-66-9.0, FDP-67-3.0 DUP may be estimated due to analytical holding time exceedance. The results for all of the analytes for both water samples may be estimated due to analytical holding time exceedance.

The results for TPH-g in soil sample FDP-65-5.5; soil composite samples FDP-66-9.0, FDP-67-3.0; FDP-66-9.0, FDP-67-3.0 DUP; FDP-68-3.0, FDP-69-5.5; and FDP-70-3.5, FDP-71-5.5; and ethylbenzene and total xylenes in soil composite samples FDP-66-9.0, FDP-67-3.0 and FDP-66-9.0, FDP-67-3.0 DUP may be estimated due to high surrogate recoveries.

The results for MTBE in soil sample FDP-65-5.5; soil composite samples FDP-66-9.0, FDP-67-3.0; FDP-66-9.0, FDP-67-3.0 DUP; FDP-70-3.5, FDP-71-5.5; and both water samples may be estimated due to calibration problems.

The chain of custody form does not indicate that any analyses are to be performed on soil sample FDP-72-6.5. However, the laboratory analyzed soil sample FDP-72-6.5 for BTEX/MTBE and TPH-g.

The chain of custody form specifies that soil samples FDP-64-6.0 and FDP-65-5.5 are to be composited and analyzed for BTEX/MTBE, TPH-g, and TPH-d. The laboratory did not composite these soil samples and analyzed soil sample FDP-65-5.5 for BTEX/MTBE and TPH-g.

The analysis of TPH-d (total petroleum hydrocarbons-diesel) was also requested for soil composite samples FDP-66-9.0, FDP-67-3.0; FDP-66-9.0, FDP-67-3.0 DUP; FDP-68-3.0, FDP-69-5.5; FDP-70-3.5, FDP-71-5.5; and water samples FDP-66-W and FDP-72-W on the chain of custody form. However, no analytical data were provided for this additional analysis.

SDG No.:

ARF-28865

Analysis:

BTEX/MTBE (Benzene, toluene, ethylbenzene, xylenes/methyl tert-butyl ether)

and Total Petroleum Hydrocarbons (Gasoline)

Sample:

13 Soil

It is not clear how the laboratory is choosing the reported results. The laboratory appears to report BTEX/MTBE results from the appropriate Method 8020A photoionization detector (PID) in some instances, but from the flame ionization detector (FID) in other instances. Similarly the laboratory appears to report TPH-g results from the appropriate Method 8015B FID in some instances, but from the PID in others. In addition, the laboratory appears to report results inconsistently from either the primary column or the confirmation column. A more detailed review is required to determine the appropriate qualification of sample results.

The QC limits specified in the client request form (CRF) for BTEX/MTBE by EPA Method 8020A were used for BTEX/MTBE qualification purposes. The QC limits specified in EPA Method 8015B were used for TPH-g qualification purposes. Advisory validation surrogate recovery QC limits of 65-135% for soil was used for TPH-g.

Based on the forms review, the results for the following analytes may be rejected due to analytical holding time exceedance.

- total xylenes in soil composite samples FDP-73-6.0', FDP-74-6.0'; FDP-77-5.5', FDP-78-6.0'; FDP-79-4.5', FDP-80-5.0'; FDP-81-5.0', FDP-82-6.5'; FDP-83-6.0', FDP-84-5.0'; FDP-85-7.0', FDP-86-4.0'; FDP-87-5.0', FDP-88-4.0'; FDP-91-4.0', FDP-92-4.0'; and soil sample FDP-86E-4.0';
- ethylbenzene in soil composite samples FDP-73-6.0', FDP-74-6.0'; FDP-75-6.5', FDP-76-4.5'; FDP-77-5.5', FDP-78-6.0'; FDP-79-4.5', FDP-80-5.0'; FDP-81-5.0', FDP-82-6.5'; FDP-83-6.0', FDP-84-5.0'; FDP-87-5.0', FDP-88-4.0'; FDP-91-4.0', FDP-92-4.0'; and soil sample FDP-86E-4.0';
- benzene in soil composite samples FDP-73-6.0', FDP-74-6.0'; FDP-91-4.0',
 FDP-92-4.0'; and soil sample FDP-86E-4.0';

• toluene in soil composite sample FDP-91-4.0', FDP-92-4.0'; and soil sample FDP-86E-4.0'

The results for the following analytes may be estimated due to high surrogate recoveries.

- TPH-g in soil composite samples FDP-75-6.5', FDP-76-4.5'; FDP-77-5.5', FDP-78-6.0'; FDP-87-5.0', FDP-88-4.0'; FDP-91-4.0', FDP-92-4.0';
- total xylenes in soil composite samples FDP-73-6.0', FDP-74-6.0'; FDP-77-5.5', FDP-78-6.0'; FDP-79-4.5', FDP-80-5.0'; FDP-81-5.0', FDP-82-6.5'; FDP-83-6.0', FDP-84-5.0'; FDP-85-7.0', FDP-86-4.0'; FDP-91-4.0', FDP-92-4.0'; and soil sample FDP-86E-4.0';
- ethylbenzene in soil composite samples FDP-73-6.0', FDP-74-6.0'; FDP-77-5.5',
 FDP-78-6.0'; FDP-79-4.5', FDP-80-5.0'; FDP-81-5.0', FDP-82-6.5'; FDP-83-6.0',
 FDP-84-5.0'; FDP-91-4.0', FDP-92-4.0'; and soil sample FDP-86E-4.0';
- benzene in soil composite samples FDP-73-6.0', FDP-74-6.0'; FDP-91-4.0', FDP-92-4.0'; and soil sample FDP-86E-4.0';
- toluene in soil composite sample FDP-91-4.0', FDP-92-4.0'; and soil sample FDP-86E-4.0'

The results for MTBE and total xylenes in all of the samples may be estimated due to calibration problems.

The analysis of TPH-d (total petroleum hydrocarbons-diesel) was also requested on the chain of custody form. However, no analytical data were provided for this additional analysis.

SDG No.: ARF-28809

Analysis: BTEX/MTBE (Benzene, toluene, ethylbenzene, xylenes/methyl tert-butyl ether)

and Total Petroleum Hydrocarbons (Gasoline)

Sample: 7 Soil and 1 Water Samples

It is not clear how the laboratory is choosing the reported results. The laboratory appears to report BTEX/MTBE results from the appropriate Method 8020A photoionization detector (PID) in some instances, but from the flame ionization detector (FID) in other instances. Similarly the laboratory appears to report TPH-g results from the appropriate Method 8015B FID in some instances, but from the PID in others. In addition, the laboratory appears to report results inconsistently from either the primary column or the confirmation column. A more detailed review is required to determine the appropriate qualification of sample results.

The QC limits specified in the client request form (CRF) for BTEX/MTBE by EPA Method 8020A were used for BTEX/MTBE qualification purposes. The QC limits specified in EPA

Method 8015B were used for TPH-g qualification purposes. Advisory validation surrogate recovery QC limits of 65-135% for soils and 75-125% for waters were used for TPH-g.

Based on the forms review, the results for the following analytes may be rejected due to analytical holding time exceedance:

- benzene in soil composite samples FDP-51-7.5, FDP-52-4.0; FDP-53-5.0, FDP-54-8.0; FDP-62-4.5, FDP-63-8.5 and water sample FDP-57-W
- toluene in soil composite sample FDP-53-5.0, FDP-54-8.0; and water sample FDP-57-W
- ethylbenzene in soil composite samples FDP-51-7.5, FDP-52-4.0; FDP-53-5.0, FDP-54-8.0; FDP-55-5.5, FDP-56-4.5; FDP-58-5.5, FDP-69-4.5; FDP-60-7.5, FDP-61-4.0; FDP-62-4.5, FDP-63-8.5; and water sample FDP-57W
- total xylenes in soil composite sample FDP-51-7.5, FDP-52-4.0; FDP-53-5.0,
 FDP-54-8.0; FDP-55-5.5, FDP-56-4.5; FDP-60-7.5, FDP-61-4.0; FDP-62-4.5,
 FDP-63-8.5; and water sample FDP-57W
- MTBE in soil composite sample FDP-62-4.5, FDP-63-8.5

The results for soil sample FDP-57-11.0 and the results for TPH-g in all of the samples may be estimated due to analytical holding time exceedance.

The results for MTBE and gasoline in all of the samples may be estimated due to calibration problems.

The analysis of TPH-d (total petroleum hydrocarbons-diesel) was also requested on the chain of custody form. However, no analytical data were provided for this additional analysis.

Overview of Completeness of Data Packages in Memos #01 through #18

The analyses requested on the chain of custody forms or revised in telephone record logs were compared to the analytical data provided in Memos #01 through #18. The discrepancies observed are noted below.

[Memos #02 and #03] Benzene, toluene, ethylbenzene, total xylenes (BTEX), methyl tert-butyl ether (MTBE), total petroleum hydrocarbons-gasoline (TPH-g), and total petroleum hydrocarbons-diesel (TPH-d) were requested for soil sample FDP-6-4.0. However, results for BTEX, MTBE, TPH-g, and TPH-d were provided for soil composite sample FDP-5, FDP-6-4.0.

[Memos #05 and #15] Results were not reported for MTBE for soil composite samples FDP-44-3.0, FDP-45-3.0 and FDP-46-3.0, FDP-47-3.0 although requested.

[Memos #06 and #16] BTEX, MTBE, and TPH-g were requested for soil composite sample FDP-65-5.5, FDP-64-6.0. However, results for BTEX, MTBE, and TPH-g were provided for soil sample FDP-65-5.5 only.

Results for BTEX, MTBE, TPH-g, and TPH-d were provided for soil sample FDP-72-6.5. However, no analyses were requested for this sample on the chain of custody form.

Results for BTEX, MTBE, and TPH-g for samples FDP-66-W and FDP-72-W are reported in water units while the results for TPH-d were reported in soil units. The chain of custody form did not indicate the matrix of these samples.

[Memo #08] Results were not reported for BTEX, MTBE, and TPH-g for soil sample FDP-115-5.5; soil composite samples FDP-93-6.0, FDP-94-4.5; FDP-95-5.5, FDP-96-4.0; FDP-97-9.8, FDP-98-5.0; FDP-97-9.8, FDP-98-5.0 FIELD DUP; FDP-99-5.3, FDP-100-4.0; FDP-101-4.5, FDP-102-4.0; FDP-103-3.5, FDP-104-3.5; FDP-105-3.0, FDP-106-4.0; FDP-107-4.0, FDP-108-4.5; FDP-109-4.0, FDP-110-4.5; FDP-110-4.5 FIELD DUP; FDP-111-5.0, FDP-112-4.8; and FDP-113-4.0, FDP-114-4.5 although requested.

TPH-d was requested for soil composite sample FDP-101-4.5, FDP-102-4.0. However, a result for TPH-d was provided for soil sample FDP-101-4.5 only.

[Memo #09] Results were not reported for BTEX, MTBE, and TPH-g for soil sample FDP-120-6.5; soil composite samples FDP-116-4.8, FDP-117-3.9; FDP-118-4.5, FDP-119-4.5; and FDP-118-4.5, FDP-119-4.5 FIELD DUP although requested.

[Memos #11, #13, and #14] Results were not reported for MTBE for soil samples FDP-25-5.0, FDP-36H-4.5, FDP-39H-7.5; soil composite samples FDP-19-3.5, FDP-20-8.5; FDP-21-4.5, FDP-22-7.5; FDP-23-4.2, FDP-24-5.0; FDP-26-5.3, FDP-27-5.5; FDP-28-5.0, FDP-30-5.0; FDP-39-5.0, FDP-31-5.0; FDP-32-5.0, FDP-33-5.5; FDP-34-5.0, FDP-35-6.0; FDP-36-4.0, FDP-37-5.0; FDP-38-5.0, FDP-39-7.5; FDP-40-6.5, FDP-41-5.5; and FDP-42-5.0, FDP-43-5.5 although requested.