A·C·C
ENVIRONMENTAL
CONSULTANTS

May 20, 1999

Mr. Wesley Adams
City Engineer
950 West Mall Square, Room 110
Alameda, California 94501

RE: Underground Storage Tank Location Oversight Report
Dale's Bar, Main Street and Singleton Avenue, Alameda, California
ACC Project No. 99-6209-014.00

Dear Mr. Adams:

Enclosed please find three copies of the Underground Storage Tank Location Oversight Report for the site previously occupied by Dale's Bar, Main Street and Singleton Avenue, Alameda, California (Figure 1). The goals of this investigation were to: 1) provide environmental oversight during the identification and location of two underground storage tanks (USTs), 2) obtain soil samples in order to characterize subsurface soil conditions in the vicinity of the two USTs, 3) provide guidelines for remediation of impacted soil, and 4) report the findings in a letter report to the City of Alameda (Client).

BACKGROUND

The subject site is located on Main Street at the western boundary of the Greenbelt Property and adjacent to the Alameda Naval Air Station. The site was formerly a gas station and was most recently occupied by Dale's Bar. The building which housed the bar has been demolished and only the concrete slab remains. On behalf of the Client, ACC conducted oversight for excavation activities related to the location and identification of suspect USTs and one to two hydraulic lifts. In addition, ACC collected soil samples from various locations about the site to characterize subsurface soil conditions and to delineate the spatial extent of soil impacted by petroleum hydrocarbons.

FIELD WORK

Field work performed by ACC consisted of excavation oversight and soil sampling, and was conducted May 5 through May 10, 1999.

Exploratory Excavation and UST Location

The Client contracted with DCM Construction (DCM) to perform exploratory excavation with a backhoe to locate eight suspect USTs and one to two hydraulic lifts. Exploration methods consisted of systematic trenching with the backhoe in areas around the site believed to be likely locations for USTs Based on the experience of ACC and DCM with similar sites, and using a rough schematic obtained from the Client, the first area to be trenched was east of Main Street, adjacent to the concrete pad (Figure 2). Additionally, several trenches were dug north and south of the pad. During

trenching operations, two USTs were located between the pad and Main Street. The two tanks are cylindrical with approximate dimensions of 18 feet long and 7.5 feet in diameter, with a capacity of 6,000 gallons each. The tanks are situated end to end, slightly offset, approximately 3 feet apart. The tanks were observed to be largely intact with the exception of a large, square portal cut into the top of one UST. The locations of the USTs are illustrated on Figure 2.

Further trenching identified a hydraulic lift buried near the southwest corner of the concrete pad, near the southernmost UST (Figure 2). Several trenches excavated along the south edge of the concrete pad exposed potentially discolored soil with a slight petroleum hydrocarbon odor. However, despite field indications of petroleum hydrocarbon impact, no USTs or used oil tanks were located. In addition, a subsurface vault located south of the concrete pad was investigated and identified as an abandoned sewer main or oil/water separator. The vault was observed to contain water and a thick, black, viscous substance resembling motor oil but with no petroleum odor.

Soil Sampling

Soil samples were obtained from several points during excavation and analyzed to characterize subsurface soil conditions near the USTs and throughout the site. Protocol consisted of sampling from the backhoe bucket to obtain soil from a depth of 4 to 5 feet below ground surface (bgs) in locations believed to be highly representative of subsurface soil conditions. Each sample was obtained by filling a brass sleeve with soil, capping both ends with Teflon tape and plastic caps, and assigning each a unique sample ID. Samples were stored in an pre-chilled, insulated container and shipped following standard chain of custody protocol to Chromalab, Inc. (Chromalab), a state-certified analytical laboratory. Selected soil samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8015/8020, and total extractable petroleum hydrocarbons (TEPH) by EPA Method 8015M. All soil samples were submitted as discrete samples except SS-1 and SS-2, which were composited into a single sample (SS1-2) for analysis of total lead, and samples SS-1, SS-2, SS-10, SS-12, and SS-13, which were composited into a single sample (DALE'S) for analysis of 17 California Assessment Metals (CAM 17). The unknown black substance observed in the sewer main was sampled and analyzed for TEPH. Soil sample locations are illustrated on Figure 3.

ANALYTICAL RESULTS

Analytical results reported detectable levels of TPHg, BTEX constituents, diesel, motor oil, and various CAM 17 metals. TPHg concentrations ranged from nondetect to 130 parts per million (ppm). BTEX concentrations were nondetect to minor, with the highest concentration reported at 2 ppm ethylbenzene in sample SS-5. Concentrations of diesel varied widely from 6.8 ppm to 610 ppm; similarly, motor oil results ranged from nondetect to 2,800 ppm. Numerous detectable concentrations of metals were reported at levels indicative of naturally occurring background levels, and all metal concentrations are well below the residential preliminary remediation goals

(PRGs) set by the California EPA, Region IX. Analytical results are summarized in Tables 1 and 2. Laboratory analytical results and chain of custody record are attached.

TABLE 1 - SOIL SAMPLE ANALYTICAL RESULTS

Sample ID	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Diesel	Motor Oil	Total Lead
SS-1,2	<1.0	<0.005	<0.005	<0.005	<0.005	13	78	15
SS-3	20	<0.62	<0.62	<0.62	<0.62	610	2,800	<1.0
SS-4	3.9	<0.005	0.0098	0.014	0.064	---	---	---
SS-5	130	<0.62	<0.62	2.0	1.9	570	1,800	---
SS-6	18	0.063	0.089	0.083	0.44	---	---	---
SS-7	<1.0	<0.005	<0.005	<0.005	<0.005	---	---	---
SS-8	<1.0	<0.005	<0.005	<0.005	<0.005	---	---	---
SS-9	<1.0	<0.005	<0.005	<0.005	<0.005	---	---	---
SS-10	<1.0	<0.005	<0.005	<0.005	<0.005	---	---	---
SS-11	---	---	---	---	---	6.8	<50	---
SS-12	---	---	---	---	---	95	<500	---
SS-13	---	---	---	---	---	14	<50	---
VAULT -1	---	---	---	---	---	180	210	---

Notes: All results reported in milligrams per kilogram (mg/kg), approximately equal to parts per million (ppm)
--- Not analyzed
< Sample tested below the laboratory detection limit indicated

TABLE 2 - SUMMARY OF CAM 17 METALS

Constituent	SS-1,2,10,12,13	Residential PRG	Northbay Average**	TTLC (mg/kg)	STLC (µg/L)
Antimony	<2.0	30	1.3-101	500	15
Arsenic	6.0	21	16-65	500	5.0
Barium	34	5,200	500	10,000	100
Beryllium	<0.5	150	<1	75	0.75
Cadmium	<0.5	9.0*	---	100	1.0
Chromium	26	210	100-700	2,500	560
Cobalt	4.6	3,300	15-70	8,000	80
Copper	17	2,800	50-300	2,500	25

Constituent	SS-1,2,10,12,13	Residential PRG	Northbay Average**	TTLC (mg/kg)	STLC (µg/L)
Lead	26	130*	30-300	1,000	5.0
Mercury	0.053	22	0.082-0.13	20	0.2
Molybdenum	<1.0	370	<3	3,500	350
Nickel	26	150*	30-200	2,000	20
Selenium	<2.0	370	0.5	100	1.0
Silver	<1.0	370	---	500	5
Thallium	<1.0	6.0	---	700	7.0
Vanadium	20	520	150-500	2,400	24
Zinc	200	22,000	120-510	5,000	250

Notes: *All results are in milligrams per kilogram (mg/kg) approximately equal to parts per million (ppm)*
< Not detected above laboratory reporting limit indicated
** California Modified Preliminary Remediation Goal*
*** According to United States Geologic Survey Professional Paper 1270*

DISCUSSION

ACC believes that exploratory trenching successfully located all existing USTs, and that soil sampling in representative locations was sufficient to characterize both general subsurface soil conditions and the approximate degree and extent of impact from former and existing USTs. Analytical results and field observations indicate that only two USTs remain on site, and that the site does not contain widespread impact from petroleum hydrocarbons. Metal concentrations were all well below the residential PRGs for each constituent, and significant impact from petroleum hydrocarbons is localized and restricted to soil immediately adjacent to the USTs.

SOIL REMOVAL

One goal of this investigation was to characterize subsurface soil conditions and provide recommendations on removal of soil impacted by petroleum hydrocarbons. In general, the majority of the soil at the subject site is native bay margin sand and clay deposits. However, field observations and analytical results from soil samples indicate two zones of mild to moderate impact which warrant soil removal. One such zone is in the region of the two identified USTs. This area (Zone 1 on Figure 4), approximately 43 feet by 10 feet, contains soil impacted by a release(s) from the former USTs and would typically be removed, stockpiled, and sampled during UST removal. During field activities, soil staining and petroleum hydrocarbon odor was observed in the vicinity of the USTs. Analytical results from soil sample SS-6, taken adjacent to the northernmost UST, indicated detectable concentrations of TPHg and BTEX. However, additional soil samples taken adjacent to and west of the USTs reported no detectable concentrations of constituents of concern Additionally, soil staining and odor was observed only in soil directly above and adjacent to the tanks, indicating that the extent of impact is restricted to the vicinity of the USTs.

Impacted soil was also observed east of the USTs along the south edge of the concrete pad. This zone (Zone 2 on Figure 4) is approximately 32 feet by 13 feet and was trenched repeatedly during exploratory excavation. A hydraulic lift was recovered from this region, and discolored soil and petroleum hydrocarbon odor was noted in several of the trenches. Analytical results indicated diesel concentrations up to 610 ppm, and concentrations of motor oil up to 2,800 ppm. In addition, Chromalab reported that the diesel constituents did not match their diesel standard. ACC believes this represents degradation of motor oil, which consists of a relatively long carbon chain (C_{18} – C_n), to a constituent resembling diesel fuel, which has a carbon chain of C_{10} to C_{22}. Based on field observations and soil sample analytical results, ACC believes that this zone is the probable location of the former used oil USTs. As with Zone 1, analytical results from soil samples taken around Zone 2 report much lower concentrations of diesel, and no detectable concentrations of motor oil, indicating that the impact is restricted to the area illustrated on Figure 4.

Impact from petroleum hydrocarbons is suspected to have originated from the present and former USTs. Since USTs are typically installed at least 4 to 6 feet below ground surface (bgs), ACC believes that the uppermost two feet of soil in the zones of impact can be segregated and remain on site and that soil from 2 to 8 feet bgs should be excavated, stockpiled and properly disposed off site. The volume of impacted soil in Zone 1, based on dimensions of 43 feet by 10 feet by 6 feet and subtracting the volume of the tanks themselves, is 37 cubic yards. Since no USTs exist in Zone 2, ACC believes excavation to 6 feet bgs to be appropriate. The volume of impacted soil in Zone 2, based on dimensions of 32 feet by 14 feet by 4 feet, is 66 cubic yards.

CONCLUSIONS

Based on analytical results and field activities, ACC concludes:

- Two USTs and one hydraulic lift have been identified at the subject site;
- The site does not contain soil impacted by elevated levels of CAM 17 metals; and
- The site contains two well-defined zones of significant impact from petroleum hydrocarbons believed to have originated from the former and present USTs.

RECOMMENDATIONS

Based on analytical results and the preceding conclusions, ACC recommends the following:

- Soil from the two zones of impact from 2 to 6 feet bgs and 2 to 8 feet bgs, representing approximately 103 cubic yards, should be excavated and disposed off site; and

- Upon removal, verification soil sampling should be conducted to evaluate remaining soil conditions and document the success of source removal activites.

If you have any questions regarding this letter or the findings of the work, please contact me at (510) 638-8400.

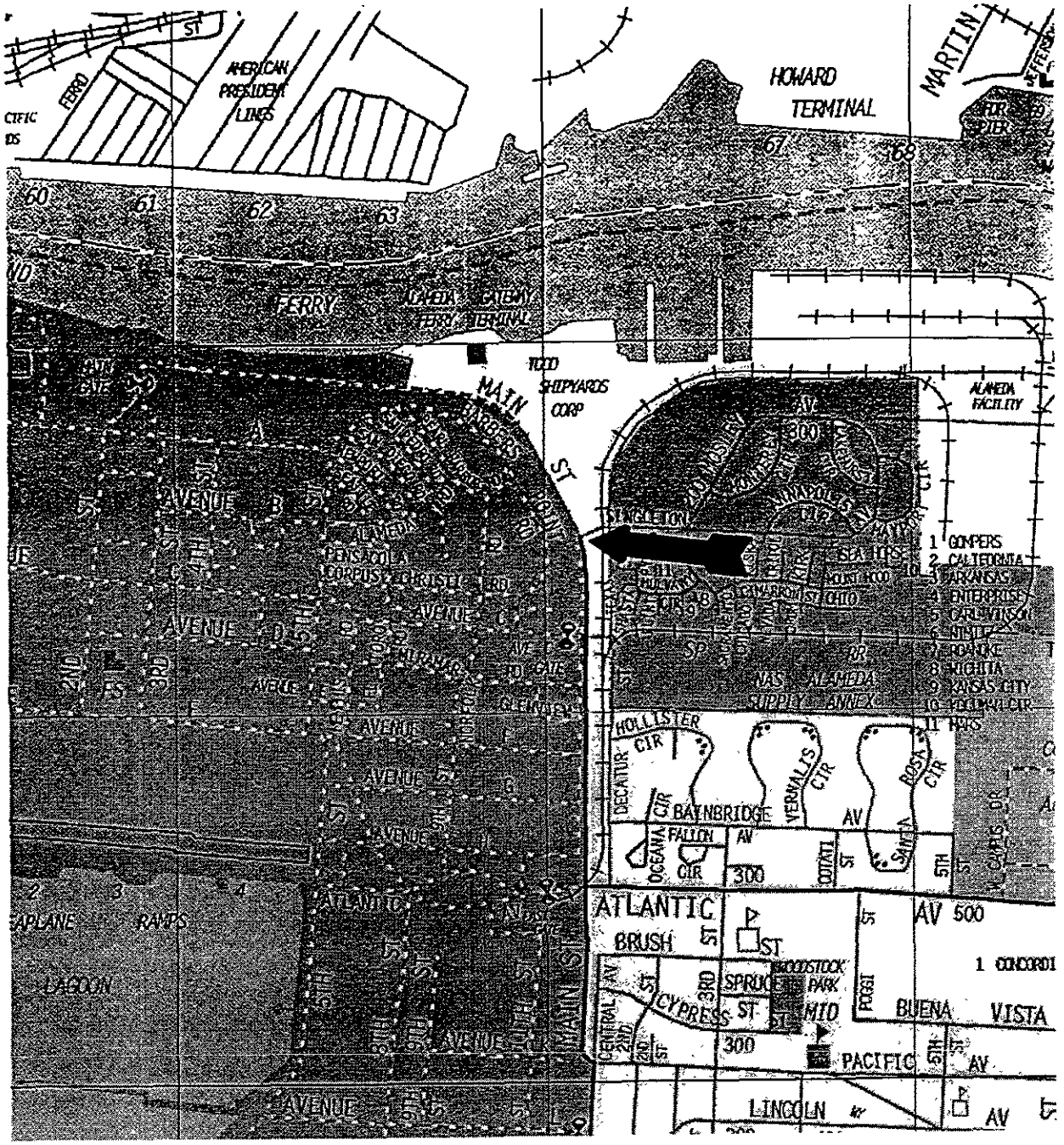
Sincerely,

Neil Doran
Staff Geologist

David DeMent, RG
Senior Geologist

/nhd:drd

Attachments



SOURCE: Thomas Guide CD ROM, 1997

Title: **Location Map** **Main St. and Singleton Ave.** Alameda, California	
Figure Number 1	Scale 1" = 1/4 mi
Drawn By NHD	Date 5/17/99
Project No 6209-014.00	

ACC Environmental Consultants
7977 Capwell Drive, Suite 100
Oakland, California 94621
(510) 638-8400 Fax (510) 638-8404

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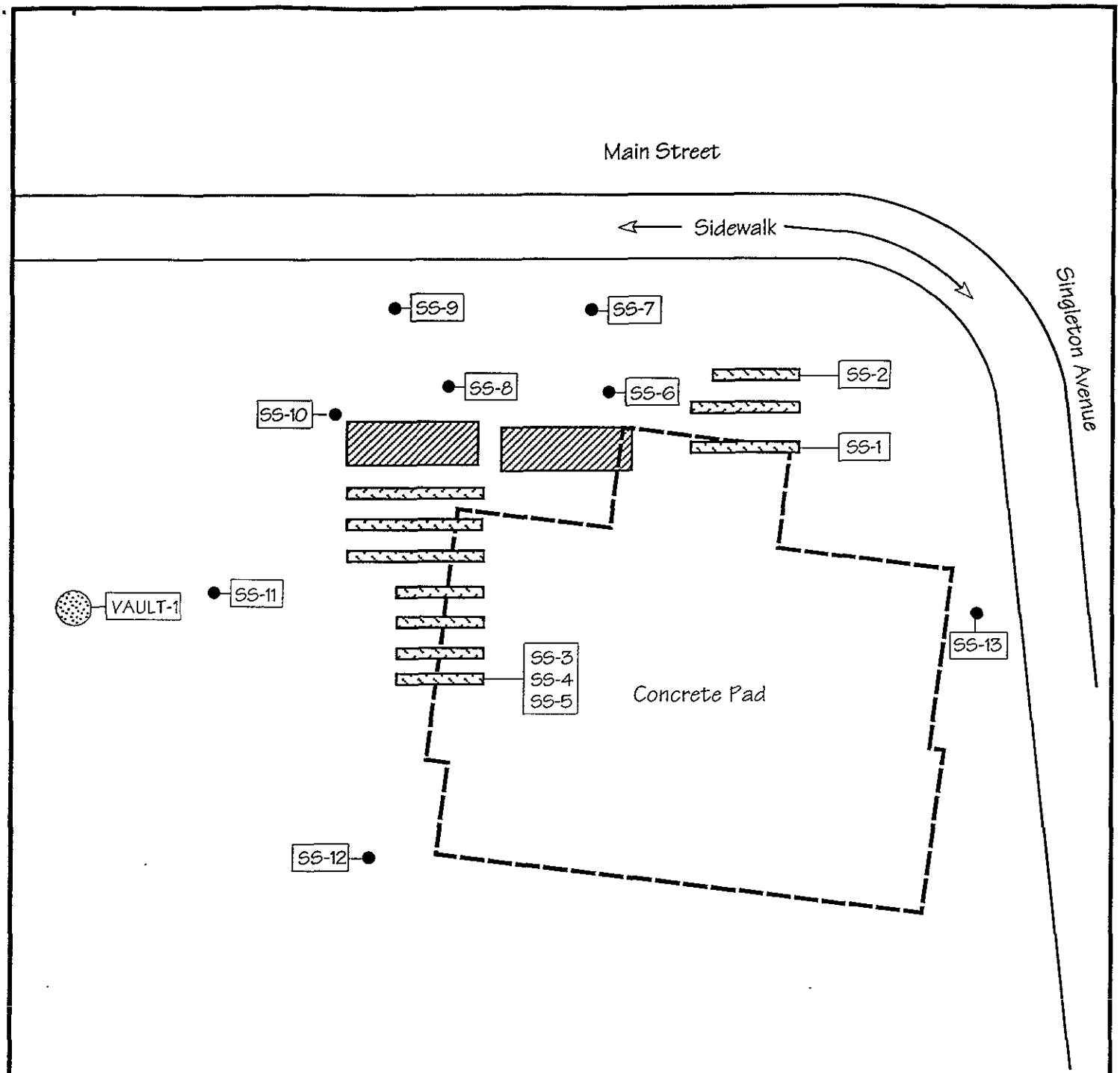

Legend

SS-1 - Soil Sample Location

- Trench Excavated During UST Location Activities (Soil Samples Obtained From Bottom of Trench)

- Location of 6,000-gallon USTs

Note: All Soil Samples Obtained From 4-5 Feet Below Ground Surface (bgs)

Title: **Soil Sample Locations**
Main St. and Singleton Ave.
Alameda, California

Figure No 3	Date: 5/17/99
Drawn By NHD	Scale 1" = 20'
Project No 6209-014.00	

ACC Environmental Consultants
7977 Capwell Drive, Suite 100
Oakland, California 94621
(510)638-8400 Fax (510)638-8404

W S N E

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1011

To: **ACC Environmental Consultants**

Attn.: Dave DeMent

Test Method: 8015M

Prep Method: 3550/8015M

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample ID:	SS-1,2		
Project:	99-6209-014.0 MAIN & SINGLETON	Lab Sample ID:	1999-05-1011-001
		Received:	05/07/1999 18:14
Sampled:	05/07/1999 08:30	Extracted:	05/13/1999 11:01
Matrix:	Soil	QC-Batch:	1999/05/13-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	13	1.0	mg/Kg	1.00	05/14/1999 14:03	ndp
Motor Oil	78	50	mg/Kg	1.00	05/14/1999 14:03	
Surrogate(s)						
o-Terphenyl	105.5	60-130	%	1.00	05/14/1999 14:03	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1011

To: **ACC Environmental Consultants**

Attn.: Dave DeMent

Test Method: 8015M

Prep Method: 3550/8015M

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample ID: **SS-3**

Project: 99-6209-014.0
MAIN & SINGLETON

Lab Sample ID: **1999-05-1011-003**

Received: 05/07/1999 18:14

Sampled: 05/07/1999 11:28

Extracted: 05/13/1999 11:01

Matrix: Soil

QC-Batch: 1999/05/13-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	610	10	mg/Kg	10.00	05/14/1999 09:55	ndp
Motor Oil	2800	500	mg/Kg	10.00	05/14/1999 09:55	
Surrogate(s)						
o-Terphenyl	246.5	60-130	%	1.00	05/14/1999 09:55	sh

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1011

To: **ACC Environmental Consultants**
Attn.: Dave DeMent

Test Method: 8015M
Prep Method: 3550/8015M

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample ID: **SS-5**
Project: 99-6209-014.0 MAIN & SINGLETON
Lab Sample ID: **1999-05-1011-005**
Received: 05/07/1999 18:14
Sampled: 05/07/1999 11:45
Extracted: 05/13/1999 11:01
Matrix: Soil
QC-Batch: 1999/05/13-03.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	570	20	mg/Kg	20.00	05/13/1999 23:03	ndp
Motor Oil	1800	1000	mg/Kg	20.00	05/13/1999 23:03	
Surrogate(s)						
o-Terphenyl	321.3	60-130	%	1.00	05/13/1999 23:03	sh

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1029

To: **ACC Environmental Consultants**

Attn.: Dave DeMent

Test Method: 6010A
7471A

Prep Method: 3050A
7471A

CAM 17 Metals

Sample ID:	**Dales(SS-10,12,13,SP-1,2)**	Lab Sample ID:	**1999-05-1029-010**
Project:	99-6209-014.00 MAIN & SINGLETON	Received:	05/10/1999 17:35
		Extracted:	05/12/1999 13:59
Sampled:	05/10/1999 10:16	QC-Batch:	1999/05/12-01.15
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Antimony	ND	2.0	mg/Kg	1.00	05/12/1999 14:05	
Arsenic	6.0	1.0	mg/Kg	1.00	05/12/1999 14:05	
Barium	34	1.0	mg/Kg	1.00	05/12/1999 14:05	
Beryllium	ND	0.50	mg/Kg	1.00	05/12/1999 14:05	
Cadmium	ND	0.50	mg/Kg	1.00	05/12/1999 14:05	
Chromium	26	1.0	mg/Kg	1.00	05/12/1999 14:05	
Cobalt	4.6	1.0	mg/Kg	1.00	05/12/1999 14:05	
Copper	17	1.0	mg/Kg	1.00	05/12/1999 14:05	
Lead	26	1.0	mg/Kg	1.00	05/12/1999 14:05	
Molybdenum	ND	1.0	mg/Kg	1.00	05/12/1999 14:05	
Nickel	26	1.0	mg/Kg	1.00	05/12/1999 14:05	
Selenium	ND	2.0	mg/Kg	1.00	05/12/1999 14:05	
Silver	ND	1.0	mg/Kg	1.00	05/12/1999 14:05	
Thallium	ND	1.0	mg/Kg	1.00	05/12/1999 14:05	
Vanadium	20	1.0	mg/Kg	1.00	05/12/1999 14:05	
Zinc	200	1.0	mg/Kg	1.00	05/12/1999 14:05	
Mercury	0.053	0.050	mg/Kg	1.00	05/13/1999 14:05	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1011

To: **ACC Environmental Consultants**
Attn.: Dave DeMent

Test Method: 6010A
Prep Method: 3050A

Lead by Flame AA

Sample ID:	SS-1,2	Lab Sample ID:	1999-05-1011-001
Project:	99-6209-014.0 MAIN & SINGLETON	Received:	05/07/1999 18:14
		Extracted:	05/12/1999 14:21
Sampled:	05/07/1999 08:30	QC-Batch:	1999/05/12-04.17
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	15	1.0	mg/Kg	1.00	05/12/1999 14:21	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1011

To: **ACC Environmental Consultants**
Attn.: Dave DeMent

Test Method: 6010A
Prep Method: 3050A

Lead by Flame AA

Sample ID:	SS-3	Lab Sample ID:	1999-05-1011-003
Project:	99-6209-014.0 MAIN & SINGLETON	Received:	05/07/1999 18:14
		Extracted:	05/12/1999 14:21
Sampled:	05/07/1999 11:28	QC-Batch:	1999/05/12-04.17
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Lead	ND	1.0	mg/Kg	1.00	05/12/1999 14:21	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1011

To: **ACC Environmental Consultants**

Attn.: Dave DeMent

Test Method: 8015M
8020

Prep Method: 5030

Gas/BTEX

Sample ID: SS-1,2

Project: 99-6209-014.0
MAIN & SINGLETON

Sampled: 05/07/1999 08:30

Matrix: Soil

Lab Sample ID: **1999-05-1011-001**

Received: 05/07/1999 18:14

Extracted: 05/12/1999 16:39

QC-Batch: 1999/05/12-01.02

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	05/12/1999 16:39	
Benzene	ND	0.0050	mg/Kg	1.00	05/12/1999 16:39	
Toluene	ND	0.0050	mg/Kg	1.00	05/12/1999 16:39	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	05/12/1999 16:39	
Xylene(s)	ND	0.0050	mg/Kg	1.00	05/12/1999 16:39	
Surrogate(s)						
4-Bromofluorobenzene	120.0	65-135	%	1.00	05/12/1999 16:39	
Trifluorotoluene	99.0	65-135	%	1.00	05/12/1999 16:39	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1011

To: **ACC Environmental Consultants**

Attn.: Dave DeMent

Test Method: 8015M
8020

Prep Method: 5030

No Title Defined !

Sample ID: **SS-3**
Project: 99-6209-014.0
MAIN & SINGLETON
Sampled: 05/07/1999 11:28
Matrix: Soil

Lab Sample ID: **1999-05-1011-003**
Received: 05/07/1999 18:14
Extracted: 05/13/1999 23:07
QC-Batch: 1999/05/13-05.01

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	20	10	mg/Kg	1.00	05/13/1999 23:07	g
Benzene	ND	0.62	mg/Kg	1.00	05/13/1999 23:07	
Toluene	ND	0.62	mg/Kg	1.00	05/13/1999 23:07	
Ethyl benzene	ND	0.62	mg/Kg	1.00	05/13/1999 23:07	
Xylene(s)	ND	0.62	mg/Kg	1.00	05/13/1999 23:07	
Surrogate(s)						
Trifluorotoluene	86.0	53-125	%	1.00	05/13/1999 23:07	
4-Bromofluorobenzene-FID	NA	58-124	ug/L	1.00	05/13/1999 23:07	
Trifluorotoluene-FID	NA	53-125	mg/Kg	1.00	05/13/1999 23:07	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1011

To: **ACC Environmental Consultants**

Attn.: Dave DeMent

Test Method: 8015M
8020

Prep Method: 5030

Gas/BTEX

Sample ID:	**SS-4**	Lab Sample ID:	**1999-05-1011-004**
Project:	99-6209-014.0 MAIN & SINGLETON	Received:	05/07/1999 18:14
		Extracted:	05/13/1999 19:05
Sampled:	05/07/1999 11:41	QC-Batch:	1999/05/13-01.02
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	3.9	1.0	mg/Kg	1.00	05/13/1999 19:05	g
Benzene	ND	0.0050	mg/Kg	1.00	05/13/1999 19:05	
Toluene	0.0098	0.0050	mg/Kg	1.00	05/13/1999 19:05	
Ethyl benzene	0.014	0.0050	mg/Kg	1.00	05/13/1999 19:05	
Xylene(s)	0.064	0.0050	mg/Kg	1.00	05/13/1999 19:05	
Surrogate(s)						
4-Bromofluorobenzene	156.4	65-135	%	1.00	05/13/1999 19:05	sh
Trifluorotoluene	64.0	65-135	%	1.00	05/13/1999 19:05	sl

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1011

To: **ACC Environmental Consultants**

Attn.: Dave DeMent

Test Method: 8015M
8020

Prep Method: 5030

No Title Defined !

Sample ID: **SS-5**
Project: 99-6209-014.0
MAIN & SINGLETON

Sampled: 05/07/1999 11:45
Matrix: Soil

Lab Sample ID: **1999-05-1011-005**
Received: 05/07/1999 18:14

Extracted: 05/13/1999 00:03
QC-Batch: 1999/05/13-05.01

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	130	10	mg/Kg	1.00	05/14/1999 00:03	g
Benzene	ND	0.62	mg/Kg	1.00	05/14/1999 00:03	
Toluene	ND	0.62	mg/Kg	1.00	05/14/1999 00:03	
Ethyl benzene	2.0	0.62	mg/Kg	1.00	05/14/1999 00:03	
Xylene(s)	1.9	0.62	mg/Kg	1.00	05/14/1999 00:03	
Surrogate(s)						
Trifluorotoluene	107.0	53-125	%	1.00	05/14/1999 00:03	
Trifluorotoluene-FID	154.0	53-125	%	1.00	05/14/1999 00:03	sh

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1029

To: **ACC Environmental Consultants**

Attn.: Dave DeMent

Test Method: 8015M
8020

Prep Method: 5030

Gas/BTEX

Sample ID:	**SS-6**	Lab Sample ID:	**1999-05-1029-001**
Project:	99-6209-014.00 MAIN & SINGLETON	Received:	05/10/1999 17:35
		Extracted:	05/13/1999 11:24
Sampled:	05/10/1999 08:40	QC-Batch:	1999/05/13-01.02
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	18	1.0	mg/Kg	1.00	05/13/1999 11:24	
Benzene	0.063	0.0050	mg/Kg	1.00	05/13/1999 11:24	
Toluene	0.089	0.0050	mg/Kg	1.00	05/13/1999 11:24	
Ethyl benzene	0.083	0.0050	mg/Kg	1.00	05/13/1999 11:24	
Xylene(s)	0.44	0.0050	mg/Kg	1.00	05/13/1999 11:24	
Surrogate(s)						
4-Bromofluorobenzene	4870.5	65-135	%	1.00	05/13/1999 11:24	sh
Trifluorotoluene	872.1	65-135	%	1.00	05/13/1999 11:24	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1029

To: **ACC Environmental Consultants**

Attn.: Dave DeMent

Test Method: 8015M
8020

Prep Method: 5030

Gas/BTEX

Sample ID:	SS-7	Lab Sample ID:	1999-05-1029-002
Project:	99-6209-014.00 MAIN & SINGLETON	Received:	05/10/1999 17:35
		Extracted:	05/13/1999 11:50
Sampled:	05/10/1999 08:55	QC-Batch:	1999/05/13-01.01
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	05/13/1999 11:50	
Benzene	ND	0.0050	mg/Kg	1.00	05/13/1999 11:50	
Toluene	ND	0.0050	mg/Kg	1.00	05/13/1999 11:50	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	05/13/1999 11:50	
Xylene(s)	ND	0.0050	mg/Kg	1.00	05/13/1999 11:50	
Surrogate(s)						
4-Bromofluorobenzene	67.0	65-135	%	1.00	05/13/1999 11:50	
Trifluorotoluene	63.6	65-135	%	1.00	05/13/1999 11:50	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1029

To: **ACC Environmental Consultants**

Attn.: Dave DeMent

Test Method: 8015M
8020

Prep Method: 5030

Gas/BTEX

Sample ID:	**SS-8**	Lab Sample ID:	**1999-05-1029-003**
Project:	99-6209-014.00 MAIN & SINGLETON	Received:	05/10/1999 17:35
		Extracted:	05/11/1999 20:49
Sampled:	05/10/1999 09:09	QC-Batch:	1999/05/11-01.01
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	05/11/1999 20:49	
Benzene	ND	0.0050	mg/Kg	1.00	05/11/1999 20:49	
Toluene	ND	0.0050	mg/Kg	1.00	05/11/1999 20:49	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	05/11/1999 20:49	
Xylene(s)	ND	0.0050	mg/Kg	1.00	05/11/1999 20:49	
Surrogate(s)						
4-Bromofluorobenzene	49.6	65-135	%	1.00	05/11/1999 20:49	sl
Trifluorotoluene	69.2	65-135	%	1.00	05/11/1999 20:49	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1029

To: **ACC Environmental Consultants**

Attn.: Dave DeMent

Test Method: 8015M
8020

Prep Method: 5030

Gas/BTEX

Sample ID:	**SS-8**	Lab Sample ID:	**1999-05-1029-004**
Project:	99-6209-014.00 MAIN & SINGLETON	Received:	05/10/1999 17:35
		Extracted:	05/12/1999 12:21
Sampled:	05/10/1999 09:19	QC-Batch:	1999/05/12-01.02
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	05/12/1999 12:21	
Benzene	ND	0.0050	mg/Kg	1.00	05/12/1999 12:21	
Toluene	ND	0.0050	mg/Kg	1.00	05/12/1999 12:21	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	05/12/1999 12:21	
Xylene(s)	ND	0.0050	mg/Kg	1.00	05/12/1999 12:21	
Surrogate(s)						
4-Bromofluorobenzene	99.8	65-135	%	1.00	05/12/1999 12:21	
Trifluorotoluene	100.0	65-135	%	1.00	05/12/1999 12:21	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1029

To: **ACC Environmental Consultants**

Attn.: Dave DeMent

Test Method: 8015M
8020

Prep Method: 5030

Gas/BTEX

Sample ID:	SS-10	Lab Sample ID:	1999-05-1029-005
Project:	99-6209-014.00 MAIN & SINGLETON	Received:	05/10/1999 17:35
		Extracted:	05/13/1999 12:16
Sampled:	05/10/1999 09:30	QC-Batch:	1999/05/13-01.01
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	1.0	mg/Kg	1.00	05/13/1999 12:16	
Benzene	ND	0.0050	mg/Kg	1.00	05/13/1999 12:16	
Toluene	ND	0.0050	mg/Kg	1.00	05/13/1999 12:16	
Ethyl benzene	ND	0.0050	mg/Kg	1.00	05/13/1999 12:16	
Xylene(s)	ND	0.0050	mg/Kg	1.00	05/13/1999 12:16	
Surrogate(s)						
4-Bromofluorobenzene	80.2	65-135	%	1.00	05/13/1999 12:16	
Trifluorotoluene	80.4	65-135	%	1.00	05/13/1999 12:16	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1029

To: **ACC Environmental Consultants**
Attn.: Dave DeMent

Test Method: 8015M
Prep Method: 3550/8015M

TEPH -Total Extractable Petroleum Hydrocarbons

Sample ID:	SS-11	Lab Sample ID:	1999-05-1029-006
Project:	99-6209-014.00 MAIN & SINGLETON	Received:	05/10/1999 17:35
		Extracted:	05/12/1999 10:45
Sampled:	05/10/1999 09:43	QC-Batch:	1999/05/12-01.10
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	6.8	1.0	mg/Kg	1.00	05/12/1999 20:19	y
Motor Oil	ND	50	mg/Kg	1.00	05/12/1999 20:19	
Surrogate(s)						
o-Terphenyl	80.8	60-130	%	1.00	05/12/1999 20:19	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1029

To: **ACC Environmental Consultants**
Attn.: Dave DeMent

Test Method: 8015M
Prep Method: 3550/8015M

TEPH -Total Extractable Petroleum Hydrocarbons

Sample ID:	SS-12	Lab Sample ID:	1999-05-1029-007
Project:	99-6209-014.00 MAIN & SINGLETON	Received:	05/10/1999 17:35
		Extracted:	05/12/1999 10:45
Sampled:	05/10/1999 09:55	QC-Batch:	1999/05/12-01.10
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	95	10	mg/Kg	10.00	05/13/1999 00:30	.x
Motor Oil	ND	500	mg/Kg	10.00	05/13/1999 00:30	
Surrogate(s)						
o-Terphenyl	178.8	60-130	%	1.00	05/13/1999 00:30	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1029

To: **ACC Environmental Consultants**
Attn.: Dave DeMent

Test Method: 8015M
Prep Method: 3550/8015M

TEPH -Total Extractable Petroleum Hydrocarbons

Sample ID:	SS-13	Lab Sample ID:	1999-05-1029-008
Project:	99-6209-014.00 MAIN & SINGLETON	Received:	05/10/1999 17:35
		Extracted:	05/12/1999 10:45
Sampled:	05/10/1999 10:16	QC-Batch:	1999/05/12-01.10
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	14	1.0	mg/Kg	1.00	05/12/1999 19:44	y
Motor Oil	ND	50	mg/Kg	1.00	05/12/1999 19:44	
Surrogate(s)						
o-Terphenyl	94.6	60-130	%	1.00	05/12/1999 19:44	

CHROMALAB, INC.

Environmental Services (SDB)

Submission #: 1999-05-1011

To: **ACC Environmental Consultants**
Attn.: Dave DeMent

Test Method: 8015M
Prep Method: 3550/8015M

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample ID:	**VAULT-1**	Lab Sample ID:	**1999-05-1011-006**
Project:	99-6209-014.0 MAIN & SINGLETON	Received:	05/07/1999 18:14
		Extracted:	05/18/1999 10:08
Sampled:	05/06/1999 10:05	QC-Batch:	1999/05/18-01.10
Matrix:	Soil		

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Diesel	180	1.0	mg/Kg	1.00	05/18/1999 16:54	ndp
Motor Oil	210	50	mg/Kg	1.00	05/18/1999 16:54	
Surrogate(s)						
o-Terphenyl	211.9	60-130	%	1.00	05/18/1999 16:54	sh

CHROMALAB, INC.

Environmental Services (SDB) (DOHS 1094)

1220 Quarry Lane • Pleasanton, California 94566-4756
510/484-1919 • Facsimile 510/484-1096

Reference #: _____

Chain of Custody

DATE 5/7/99 PAGE 1 OF 1

PROJ MGR Dave Bellen
COMPANY ACC
ADDRESS 7977 Capwell
Oakland, CA 94608

SAMPLERS (SIGNATURE) Mark Doran
(PHONE NO.) 510-638-8400
(FAX NO.) 510-638-8404

ANALYSIS REPORT

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH (EPA 8015, 8020) ☒ Gas w/ ☒ BTEX DMTBE	PURGEABLE AROMATICS BTEX (EPA 8020)	TPH-Diesel (EPA 8015M)	TPH (EPA/8015M) ☐ Gasoline, ☐ Diesel, ☐ M.O.	PURGEABLE HALOCARBONS, (EDCs) (EPA 8010)	VOLATILE ORGANICS (VOCs) (EPA 8260)	SEMIVOLATILES (EPA 8270)	TOTAL OIL AND GREASE (SM 5520 B+F, E+F)		☐ PESTICIDES (EPA 8080) ☐ PCB'S (EPA 8080)	PNA's by ☐ 8270 ☐ 8310	☐ Spec. Cond. ☐ TSS ☐ TDS	LUFT METALS: Cd, Cr, Pb, Ni, Zn	CAM 17 METALS (EPA 6010/7470/7471)	TOTAL LEAD	☐ W.E.T. (STLC) ☐ TCLP	☐ Beam/Jeat Corrosivity ☐ pH (24 hr hold time for H2O)				NUMBER OF CONTAINERS
SS-1	5/7/99	0830	soil	cold	X	X COMP.		X											X	} COMPOSITE						1
SS-2	5/7/99	0912	soil	cold	X			X		COMPOSITE									X							1
SS-3	5/7/99	1128	soil	cold	X			X											X							1
SS-4	5/7/99	1141	soil	cold	X			X																		1
SS-5	5/7/99	1145	soil	cold	X			X																		1
VAULT-1	5/6/99	1005	soil	cold				X																		

PROJECT INFORMATION

PROJECT NAME: Main & Singleton
PROJECT NUMBER: 99-6209-014 00
P.O. #:

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	
HEAD SPACE	
TEMPERATURE	
CONFORMS TO RECORD	

TAT	STANDARD 5-DAY			24	48	72	OTHER

Report: ☐ Routine ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ Electronic Report

SPECIAL INSTRUCTIONS/COMMENTS:
* Please composite SS-1 & SS-2 into 1 sample [SS-2]

RELINQUISHED BY 1.	RELINQUISHED BY 2	RELINQUISHED BY 3
Mark Doran 1331 (SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
Mark Doran 5/7/99 (PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
ACC (COMPANY)	(COMPANY)	(COMPANY)
RECEIVED BY 1.	**RECEIVED BY 2**	**RECEIVED BY (LABORATORY) 3**
(SIGNATURE) 1331 (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
(PRINTED NAME) 5-7-99 (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
Chromalab (COMPANY)	(COMPANY)	(LAB)

CHROMALAB, INC.

Environmental Services (SDB) (DOHS 1094)

1220 Quarry Lane • Pleasanton, California 94566-4756
510/484-1919 • Facsimile 510/484-1096

Reference #: _____

Chain of Custody

DATE 5/10/99 PAGE 1 of 2*

PROJ. MGR. Dave Dement
COMPANY ACC Environmental
ADDRESS 7977 Capwell
Oakland 94608
SAMPLERS (SIGNATURE) Neil Doran
(PHONE NO.) 510-638-8400
(FAX NO.) 510-638-8404

ANALYSIS REPORT

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH (EPA 8015,8020) ☐ Gas w/ BTEX ☐ MTBE	PURGEABLE AROMATICS BTEX (EPA 8020)	TPH-Diesel (EPA 8015M)	TEPH (EPA 8015M) ☐ Diesel ☐ M.O. ☐ Other	PURGEABLE HALOCARBONS (HVOCs) (EPA 8010)	VOLATILE ORGANICS (VOCs) (EPA 8260)	SEMIVOLATILES (EPA 8270)	TOTAL OIL AND GREASE (SM 5520 B+F, E+F)		☐ PESTICIDES (EPA 8080) ☐ PCB'S (EPA 8080)	PNA's by ☐ 8270 ☐ 8310	☐ Spec. Cond. ☐ TSS ☐ TDS	LUFT METALS: Cd, Cr, Pb, Ni, Zn	CAM 17 METALS (EPA 6010/7470/7471)	TOTAL LEAD	☐ W.E.T. (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24 hr hold time for H20)				NUMBER OF CONTAINERS
SS-6	5/10/99	0840	soil	cold	X													X								1
SS-7	5/10/99	0855	soil	cold	X																					1
SS-8	5/10/99	0909	soil	cold	X																					1
SS-9	5/10/99	0919	soil	cold	X																					1
SS-10	5/10/99	0930	soil	cold	X													X								1
SS-11	5/10/99	0943	soil	cold				X																		1
SS-12	5/10/99	0955	soil	cold				X										X								1
SS-13	5/10/99	1016	soil	cold				X										X								1

COMPOSITE (See notes)

PROJECT INFORMATION

PROJECT NAME: Mann & Singleton
PROJECT NUMBER: 99-6209-014.00
P.O. #:

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	
HEAD SPACE	
TEMPERATURE	
CONFORMS TO RECORD	

TAT	STANDARD 5 DAY			24	48	72	OTHER

SPECIAL INSTRUCTIONS/COMMENTS:

Report: [] Routine [] Level 2 [] Level 3 [] Level 4 [] Electronic Report

* Please composite SS-10, SS-12, SS-13 and SS-1, SS-2 (submitted 5/7/99) for CAM 17 analysis. Please label this sample [DALES].

RELINQUISHED BY 1	RELINQUISHED BY 2.	RELINQUISHED BY 3
(SIGNATURE) Neil Doran (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
(PRINTED NAME) Neil Doran (DATE) 5/10/99	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
(COMPANY) ACC	(COMPANY)	(COMPANY)
RECEIVED BY 1	**RECEIVED BY 2.**	**RECEIVED BY (LABORATORY)**
(SIGNATURE) 1635 (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
(PRINTED NAME) 5/10/99 (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
(COMPANY) Chromalab	(COMPANY)	(LAB)