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ENVIRONMENTAL PROTECTION
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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

March 1, 1999

4457

Mr. Barney Chan
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Results of Semi-Annual Groundwater Monitoring on December 11,1998:
2662 Fruitvale Avenue, Oakland, California

Dear Barney:

The City of Oakland Environmental Services Division is pleased to present this report describing semi-annual groundwater monitoring results for December 1998 at the above-referenced site.

Should you have any questions or require additional information, please do not hesitate to contact me at (510) 238-6259.

Sincerely,

Joseph A. Cotton
Environmental Program Specialist

2662fvgwm hmp wpd
03-01-99

INNOVATIVE TECHNICAL SOLUTIONS, Inc.

ITSI

February 19, 1999

Mr. Joseph Cotton
City of Oakland
Environmental Services
1333 Broadway, Suite 330
Oakland, CA 94612

Results of Semi-Annual Groundwater Monitoring on December 11, 1998
2662 Fruitvale Avenue
Oakland, California

Dear Mr. Cotton:

Innovative Technical Solutions, Inc. (ITSI) is pleased to provide the results of semi-annual groundwater monitoring performed on December 11, 1998 at the property located at 2662 Fruitvale Avenue in Oakland. The semi-annual groundwater monitoring included the monitoring and sampling of seven monitoring wells, MW-F1, MW-F2, MW-F3, MW-F4, MW-F5, MW-F6, and MW-13. Figure 1 shows the site layout and approximate location of the monitoring wells sampled as part of this semi-annual groundwater monitoring event.

The purpose of this groundwater monitoring program is to identify changes in shallow groundwater quality at the site over time, including an evaluation of groundwater conditions that may serve as indicators of intrinsic bioremediation of petroleum hydrocarbons occurring beneath the site. On October 31, 1998, oxygen-releasing compounds (ORC) were placed in the saturated zone along the downgradient property line to enhance natural biodegradation of the petroleum hydrocarbons, and a oil-absorbent sock was placed in MW-13 to recover available free product during this monitoring event. These events were documented in the *Completion Report, Treatment of Groundwater Impacted with Petroleum Hydrocarbons Using Enhanced Natural Bioremediation,* (Innovative Technical Solutions, Inc., December 28, 1998).

SCOPE OF WORK

Prior to sampling, the presence of floating product was evaluated in each of the monitoring wells using an oil/water interface probe. Water levels were then measured in each of the wells to 0.01 foot using a water level meter. Depth to water measurements and thickness of floating product, if

1330 Broadway, Suite 1625, Oakland, CA 94612 (510) 286-8888 (510) 286-8889 fax

present, were recorded on Monitoring Well Purge and Sample Forms. Copies of the Monitoring Well Purge and Sample Forms are included in Appendix A.

After depth to water measurements were recorded, the monitoring wells were purged using a peristaltic pump. Approximately three casing volumes of water were removed, until pH, conductivity, and temperature readings stabilized. Field parameters were recorded on the Monitoring Well Purge and Sample Forms.

Groundwater samples from each monitoring well were collected using the peristaltic pump and transferred into laboratory provided sample containers with appropriate preservatives. Samples were labeled, placed on ice in an insulated cooler, and transported under chain-of-custody procedures to Chromalab, Inc., a California-certified laboratory.

Groundwater samples were analyzed for the following:

- TPH as gasoline (TPHg) by modified EPA Method 8015.
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020A.
- Nitrate, sulfate, and total and soluble iron.

RESULTS

Groundwater elevations and the presence and thickness of floating product are summarized in Table 1 and shown in Figure 1. Results of groundwater sample analyses are summarized in Table 2 and shown in Figures 2 and 3. Copies of the analytical results and chain-of-custody form are included in Appendix B.

Depth to groundwater ranged from approximately 9 to 10 feet below ground surface (bgs). Groundwater flow direction was generally towards the west-southwest, at a gradient ranging from approximately 0.01 to 0.025 feet per foot. The groundwater flow direction is generally consistent with groundwater flow directions from previous monitoring events, with minor variation to the overall flow direction in the area where the ORC was recently placed, possibly showing the effect of the ORC slurry.

As shown in Table 1, floating product was observed in one monitoring well, MW-13, at a thickness of 0.02 feet. Floating product was not observed in the other six wells monitored and

sampled. As noted above, an oil-absorbent sock was placed in MW-13 to remove available free product from the surface of the groundwater.

Petroleum Hydrocarbons

TPHg was reportedly detected in samples from two monitoring wells, MW-F4 and MW-13, both with concentrations of 12 mg/L. TPHg was reportedly not detected (at a detection limit of 0.05 mg/L) in the other four monitoring wells sampled.

Aromatic hydrocarbons (benzene, toluene, ethylbenzene, and xylenes) were reportedly not detected in samples collected from the seven monitoring wells at concentrations above the detection limit (0.0005 mg/L), except as noted below:

- Benzene was reportedly detected in samples collected from two monitoring wells, MW-F4 and MW-13, at concentrations of 0.34 and 0.47 mg/L, respectively. Benzene concentrations detected in MW-F4 and MW-13 exceed the Maximum Contaminant Level (MCL) for benzene of 0.001 mg/L. MCLs are drinking water standards established by California Code of Regulations (CCR) Title 26.
- Toluene was reportedly detected in samples collected from two monitoring wells, MW-F4 and MW-13, at concentrations of 0.051 and 0.048 mg/L, respectively.
- Ethylbenzene was reportedly detected in samples collected from two monitoring wells, MW-F4 and MW-13, at concentrations of 2.0 and 1.1 mg/L, respectively. Ethylbenzene concentrations detected in MW-F4 and MW-13 exceed the MCL for ethylbenzene of 0.7 mg/L.
- Xylenes were reportedly detected in samples collected from two monitoring wells, MW-F4 and MW-13, at concentrations of 0.62 and 0.48 mg/L, respectively. Xylenes were reportedly not detected (at a detection limit of 0.0005 mg/L) in the other five monitoring wells sampled.

MTBE was reportedly not detected (at a detection limit of 0.005 mg/L) in samples collected from the seven monitoring wells sampled. MTBE was analyzed using EPA Method 8020. Secondary confirmation of MTBE by GC/MS was not performed, as MTBE was not detected in the samples.

Intrinsic Bioremediation Indicator Compounds

Soluble iron, representing ferrous iron (Fe^{2+}), was reportedly detected in four of the seven wells sampled, MW-F3, MW-F4, MW-F5, MW-F6 and MW-13, at concentrations up to 7.0 mg/L. The highest concentrations of soluble iron (Fe^{2+}) were reported in samples from monitoring wells MW-F4 and MW-13 which also contained the highest reported concentrations of TPHg and BTEX compounds.

Sulfate was reportedly detected in each of the monitoring wells sampled, at concentrations ranging from 1.5 to 41 mg/L. The lowest concentrations of sulfate were reported in samples from monitoring wells MW-F2 and MW-F4.

Dissolved oxygen, as monitored in the field during purging of the monitoring wells, was relatively high in MW-F1 (3.0 mg/L), and ranged from 0.5 to 1.0 mg/L in the remaining wells monitored.

DISCUSSION

Floating product was observed in monitoring well MW-13 downgradient of the site. Floating product has been reported in MW-13 during previous monitoring events. Placement of an oil absorbent sock in MW-13, as discussed above, will remove floating product from this monitoring well.

High concentrations of TPHg, benzene and ethylbenzene were reported in MW-F4 and MW-13, located in the southwest corner of the site and offsite to the southwest, respectively. These results are also consistent with data collected during previous monitoring events.

The extent of the plume appears relatively limited. TPHg and BTEX were not reported in MW-F5 and MW-F6, which are located downgradient of MW-13. Previous sporadic detection of TPHg (June 1995), benzene (June 1997), and xylenes (December 1996) indicate that MW-F5 is located near the downgradient margin of the plume. Continued water quality monitoring of MW-F5 and MW-F6 should be performed to evaluate potential changes in water quality in these downgradient wells.

Intrinsic bioremediation indicator parameters are generally supportive of active biodegradation occurring in groundwater beneath the site. Specifically, the electron receptor sulfate is lowest in the wells with the highest concentrations of TPHg (MW-F4 and MW-13), and soluble (ferrous) iron, an indicator of reduction of ferric iron, is highest in these same wells. No significant changes were observed since the recent introduction of ORC. The period of time between placement of the ORC and the semi-annual monitoring and sampling event may have been insufficient for increased dissolved oxygen from the ORC to disperse to the nearby monitoring wells.

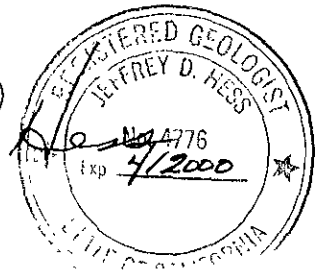
RECOMMENDATIONS

Based on the results of this semi-annual monitoring and sampling event, the following activities are recommended:

- Continued semi-annual water quality monitoring of MW-F1 through MW-F6 and MW-13 to monitor the extent of the groundwater plume and the effects of intrinsic bioremediation on the plume.
- Discontinue further monitoring for MTBE, as MTBE was not detected in any of the seven monitoring wells sampled.
- Interim monitoring of dissolved oxygen levels in the monitoring wells between semi-annual monitoring events.

Please call me if you have any questions or need additional information.

Sincerely,



Jeffrey D. Hess, R.G.
Project Director

cc: Kevin O'Dea
Baseline Environmental Consulting

TABLE 1

GROUNDWATER ELEVATIONS
2662 FRUITVALE AVENUE
OAKLAND, CALIFORNIA

Monitoring Well ID	Casing Elevation[1] (feet)	Date Measured	Product Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Note
MW-F1	104 41	08/16/93	-	11.13	93 28	1
		06/29/94	-	10.38	93 53	1
		09/09/94	-	11.56	92.85	1
		12/21/94	-	8.96	95.45	1
		06/30/95	-	10.49	93.92	1
		12/29/95	-	9.38	95.03	1
		06/27/96	-	10.69	93.72	1
		12/13/96	-	8.55	95.86	1
		6/26/97	-	11.23	93.18	
		3/11/98	-	8 73	95 68	
		12/11/98	-	9.38	95.03	
MW-F2	102.22	08/16/93	-	12.15	90.07	1
		06/29/94	-	11.74	90.48	1
		09/09/94	-	12.21	90.01	1
		12/21/94	-	10.34	91.88	1
		06/30/95	-	11.32	90.90	1
		12/29/95	-	9.94	92.28	1
		06/27/96	-	11.51	90.71	1
		12/13/96	-	8.62	93.60	1
		6/26/97	-	11.96	90.26	
		3/11/98	-	7.70	94.52	
		12/11/98	-	10.40	91.82	
MW-F3	102.42	08/16/93	-	11.99	90.43	1
		06/29/94	-	11.40	91.02	1
		09/09/94	-	12.39	90.03	1
		12/21/94	-	9.32	93.10	1
		06/30/95	-	11.14	91.28	1
		12/29/95	-	10.08	92.34	1
		06/27/96	-	11.31	91.11	1
		12/13/96	-	8.76	93.66	1
		6/26/97	-	11.85	90.57	
		3/11/98	-	8.82	93.6	
		12/11/98	-	9.61	92.81	

TABLE 1 (Continued)

GROUNDWATER ELEVATIONS
2662 FRUITVALE AVENUE
OAKLAND, CALIFORNIA

Monitoring Well ID	Casing Elevation[1] (feet)	Date Measured	Product Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Note
MW-F4	101.56	09/09/94	-	11.21	90.35	1
		12/21/94	-	8.00	93.56	1
		06/30/95	-	10.08	91.48	1
		12/29/95	-	8.52	93.04	1
		06/27/96	-	9.75	91.81	1
		12/13/96	-	6.61	94.95	1
		6/26/97	-	10.94	90.62	
		3/11/98	-	8.40[2]	-	
		12/11/98	-	9.40	92.16	
MW-F5	100.32	06/30/95	-	11.09	89.23	1
		12/29/95	-	9.37	90.95	1
		06/27/96	-	11.33	88.99	1
		12/13/96	-	8.72	91.60	1
		6/26/97	-	11.61	88.71	
		3/11/98	-	8.79	91.53	
		12/11/98	-	9.62	90.70	
MW-F6	100.11	06/30/95	-	10.96	89.15	1
		12/29/95	-	9.84	90.27	1
		06/27/96	-	10.98	89.13	1
		12/13/96	-	8.44	91.67	1
		6/26/97	-	11.35	88.76	
		3/11/98	-	8.60	91.51	
		12/11/98	-	10.12	89.99	
MW-13	101.20	09/09/94	-	12.27	88.93	1
		12/21/94	-	9.32	91.88	1
		06/30/95	-	11.32	89.88	1
		12/29/95	-	9.00	92.20	1
		06/27/96	-	11.49	89.71	1
		12/13/96	-	8.28	92.92	1
		6/26/97	0.02	11.76	89.45[3]	
		3/11/98	0.02	8.11	93.11[3]	
		12/11/98	-	9.30	91.90	

[1] From Table 3, Groundwater Elevation and Gradient Determination Data, February 7, 1997, BASELINE.
[2] Depth to groundwater not stabilized.
[3] Groundwater elevation calculated assuming a specific gravity of 0.75 for product.

TABLE 2

SUMMARY OF LABORATORY RESULTS FOR GROUNDWATER SAMPLES
2662 FRUITVALE AVENUE
OAKLAND, CALIFORNIA

Monitoring Well ID	Date Sampled	TPHg (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	Xylenes (mg/L)	Total Iron (mg/L)	Soluble Iron (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Note
MW-F1	08/16/93	<0.05	<0.002	<0.002	<0.002	<0.002	-	-	-	-	1
	06/29/94	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	1
	09/09/94	<0.9	<0.0009	<0.0009	<0.0009	<0.0009	-	-	-	-	1
	12/21/94	<0.05	<0.0005	<0 0005	<0.0005	<0.0005	-	-	-	-	1
	06/30/95	<0 05	<0 0005	<0.0005	<0.0005	<0.0005	-	-	-	-	1
	12/29/95	<0.05	<0.0005	<0 0005	<0.0005	<0.0005	-	-	-	-	1
	12/13/96	-	-	-	-	-	-	<0.10	**8.5**	**38**	1
	6/26/97	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	**0.1**	<0.1	**7.7**	**38**	
	3/11/98	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	**0.90**	<0.10	**11**	**38**	
	12/11/98	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	<0.10	**7.1**	**38**	
MW-F2	08/16/93	<0.05	<0.002	<0 002	<0.002	<0.002	-	-	-	-	1
	06/29/94	<0 05	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	1
	09/09/94	<0.9	<0 0009	<0.0009	<0.0009	<0.0009	-	-	-	-	1
	12/21/94	**0.096**	<0.0005	<0 0005	<0.0005	<0.0005	-	-	-	-	1
	06/30/95	**0.34**	<0.0005	<0.0005	<0 0005	**0.0005**	-	-	-	-	1
	12/29/95	<0.05	<0 0005	<0.0005	<0.0005	<0.0005	-	-	-	-	1
	06/27/96	**0.064**	**0.0012**	<0 0005	<0.0005	<0.0005	-	-	-	-	1
	12/13/96	**0.06**	<0.0005	<0.0005	<0.0005	<0.0005	-	**0.24**	**0.20**	**8**	1
	6/26/97	<0.05	<0 0005	<0.0005	<0.0005	<0.0005	**0.1**	<0.1	<0.05	7.4	
	3/11/98	**0.20**	**0.00088**	<0.0005	<0.0005	<0.0005	**4.8**	**0.18**	<0.05	**7.1**	
	12/11/98	<0.05	<0.0005	<0 0005	<0.0005	<0.0005	**0.25**	<0.1	<0.05	**7.8**	
MW-F3	08/16/93	<0.1	<0 002	<0.002	<0.002	<0.002	-	-	-	-	1
	06/29/94	<0.05	<0.0005	<0 0005	<0.0005	<0.0005	-	-	-	-	1
	09/09/94	<0.9	<0.0009	<0.0009	<0.0009	<0.0009	-		-	-	1
	12/21/94	**0.13**	<0 0005	**0.0013**	<0.0005	<0.0005	-	-	-	-	1
	06/30/95	**0.11**	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	1
	12/29/95	**0.35**	**0.0008**	<0 0005	**0.0012**	**0.0007**	-	-	-	-	1
	06/27/96	**0.088**	**0.002**	<0.0005	<0.0005	<0.0005	-	-	-	-	1
	12/13/96	**0.18**	<0.0005	<0.0005	<0.0005	<0.0005	–	**0.11**	**0.69**	**23**	1
	6/26/97	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	**0.46**	**0.16**	**0.70**	**23**	
	3/11/98	<0.05	<0.0005	<0 0005	<0.0005	<0.0005	**0.11**	**0.20**	**2.5**	**28**	
	12/11/98	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	**0.31**	**0.12**	**0.97**	**30**	

MTBE

ND

ND

ND

TABLE 2 (Continued)

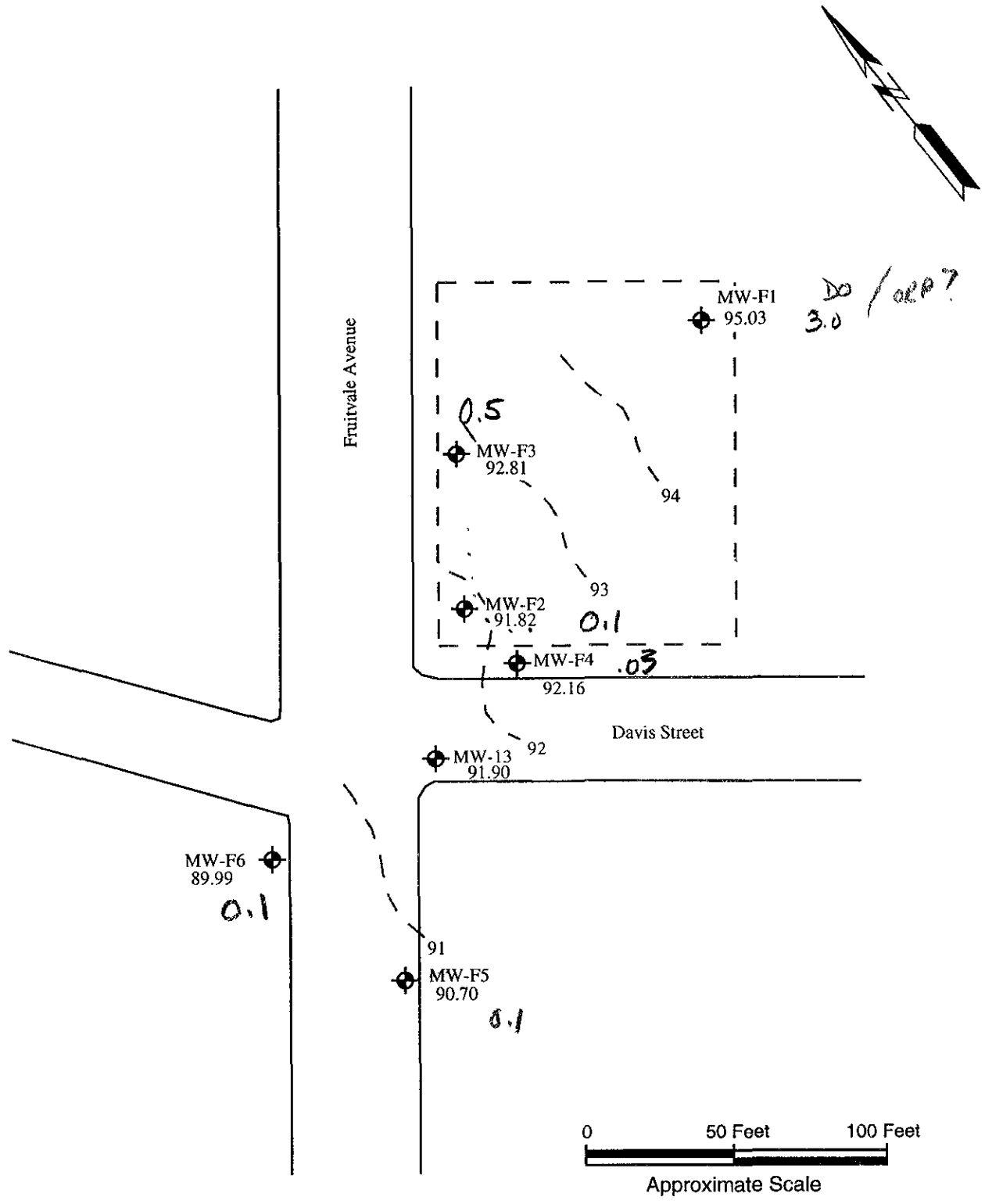
SUMMARY OF LABORATORY RESULTS FOR GROUNDWATER SAMPLES
2662 FRUITVALE AVENUE
OAKLAND, CALIFORNIA

Monitoring Well ID	Date Sampled	TPHg (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	Xylenes (mg/L)	Total Iron (mg/L)	Soluble Iron (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Note
MW-F4	9/9/94*	3.5	0.029	0.0030	0.038	0.099	-	-	-	-	1
	12/21/94	37	0.66	28	2.3	5.9	-	-		-	1
	06/30/95	9.2	0.18	<0.1	0.76	1.0[1]	-	-	-	-	1
	12/29/95	38	0.61	0.019	4.3	5.8	-	-	-	-	1
	06/27/96	6.2	0.081	0.14	0.52	0.29	-	-	-	-	1
	12/13/96	27	0.39	0.05	3.2	3.7	–	6.6	<0.05	<2	1
	6/26/97	6.2	0.16	0.018	0.71	0.32	2.4	3.1	<0.05	0.2	
	3/11/98	9.5	0.062	0.030	1.0	0.80	1.2	3.0	<0.05	<0.1	
	12/11/98	12	0.340	0.051	2.0	0.620	5.7	5.9	<0.05	1.5	
MW-F5	06/30/95	0.10	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-		1
	12/29/95	<0.05	<0.0005	<0.0005	<0.0005	0.0007	-	-	-	-	1
	06/27/96	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	1
	12/13/96	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	<0.10	6.6	45	1
	6/26/97	<0.05	0.0032	0.0064	0.00073	0.0042	0.21	<0.1	6.1	45	
	3/11/98	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	<0.10	6.1	45	
	12/11/98	<0.05	<0 0005	<0.0005	<0.0005	<0.0005	0.58	0.19	6.0	41	
MW-F6	06/30/95	<0 05	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	1
	12/29/95	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	1
	6/27/96	<0 05	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-	-	1
	12/13/96	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	–	<0.10	0.44	39	1
	6/26/97	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	0.22	0.18	<0.05	47	
	3/11/98	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.10	<0.10	0.14	49	
	12/11/98	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	0.24	0.11	0.06	43	
MW-13	12/21/94	3.3	0.33	<0.013	0.024	0.24	-	-	-	-	1
	06/30/95	22	0.85	<0.0005	1.2	1.6	-	-	-	-	1
	12/29/95	22	0.97	0.078	1.8	2.4	-	-	-	-	1
	06/27/96	18	0.63	0.026	1.1	1.0	-	-	-	-	1
	12/13/96	16	0.67	0.04	1.2	1.0	–	6.8	<0.05	<2	1
	6/26/97*	11	0.42	0.037	0.64	0.26	7.7	6.9	<0.05	0.3	
	3/11/98*	13	0.30	<0.025	0.89	0.51	4.3	6.7	<0.05	2.3	
	12/11/98	12	0.47	0.048	1.1	0.48	6.6	7.0	<0.05	16	
MCL		–	0.001	0.150	0.700	1.75	–	–	–	–	

Note: Bold indicates detected concentrations. Shaded indicates concentrations exceeding MCLs.
* Higher concentration reported for either the sample or field duplicate sample (QC/1)

1 Historical laboratory data provided by Baseline Environmental Consulting.

97-037/F.1-Wells



Legend

- Approximate Location of Monitoring Wells
- 90.70 Groundwater Elevations
- Lines of Equal Groundwater Elevations
- (0.02) Product Thickness on December 11, 1998

Source. Modified from Figure 3, Groundwater Elevation Contour Map, 13 December 1996, BASELINE

FIGURE 1

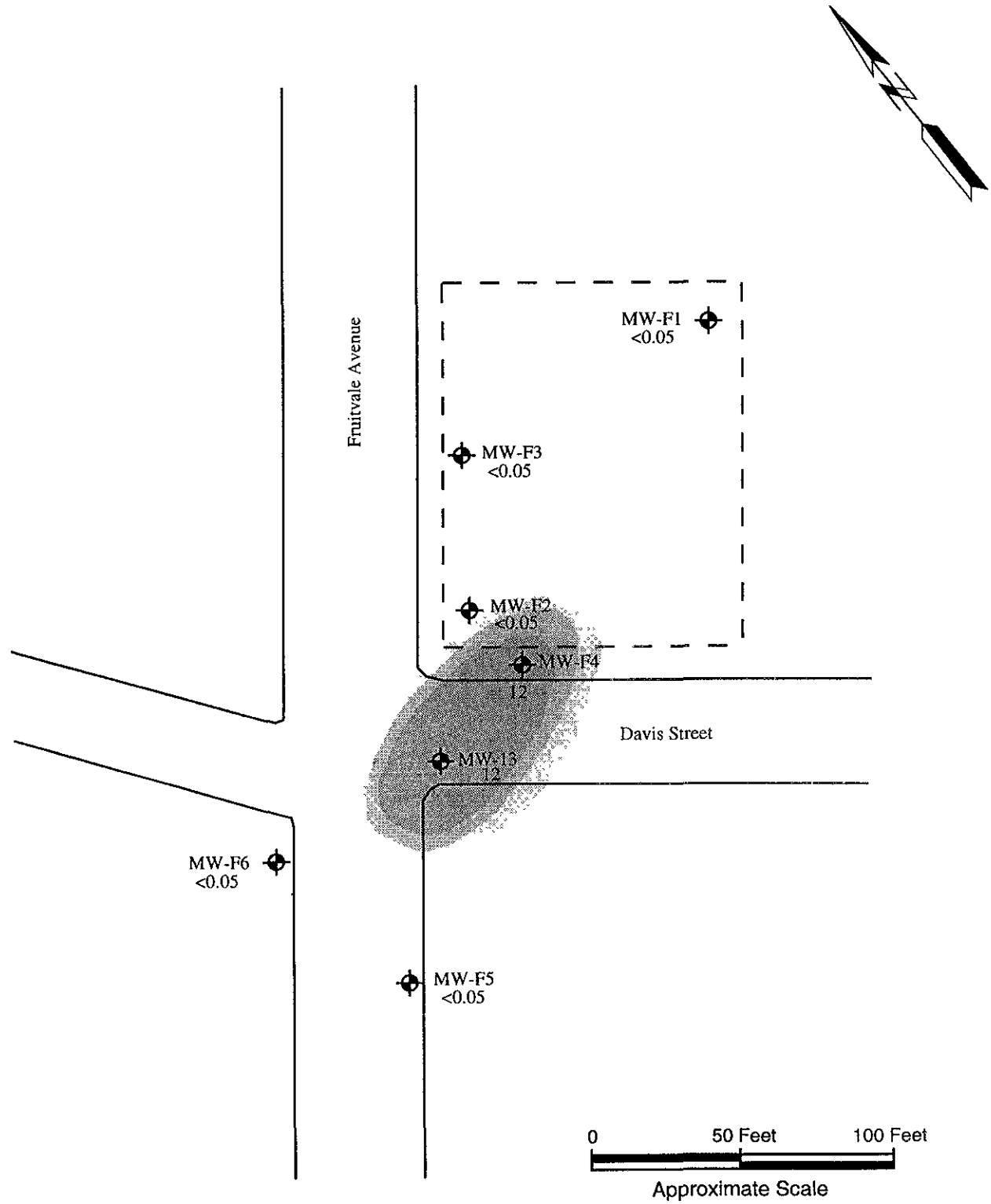
GROUNDWATER ELEVATIONS MEASURED ON DECEMBER 11, 1998

2662 Fruitvale Avenue
Oakland, California

CITY OF OAKLAND

ITSI
INNOVATIVE TECHNICAL SOLUTIONS, INC.

97-037/F 2-TPHg



Legend

- Approximate Location of Monitoring Wells
- 13 Concentration of TPHg in mg/L
- TPHg ≥ 0.1 mg/L
- TPHg ≥ 1 mg/L
- TPHg ≥ 10 mg/L

Source: Modified from Figure 3, Groundwater Elevation Contour Map, 13 December 1996, BASELINE

FIGURE 2

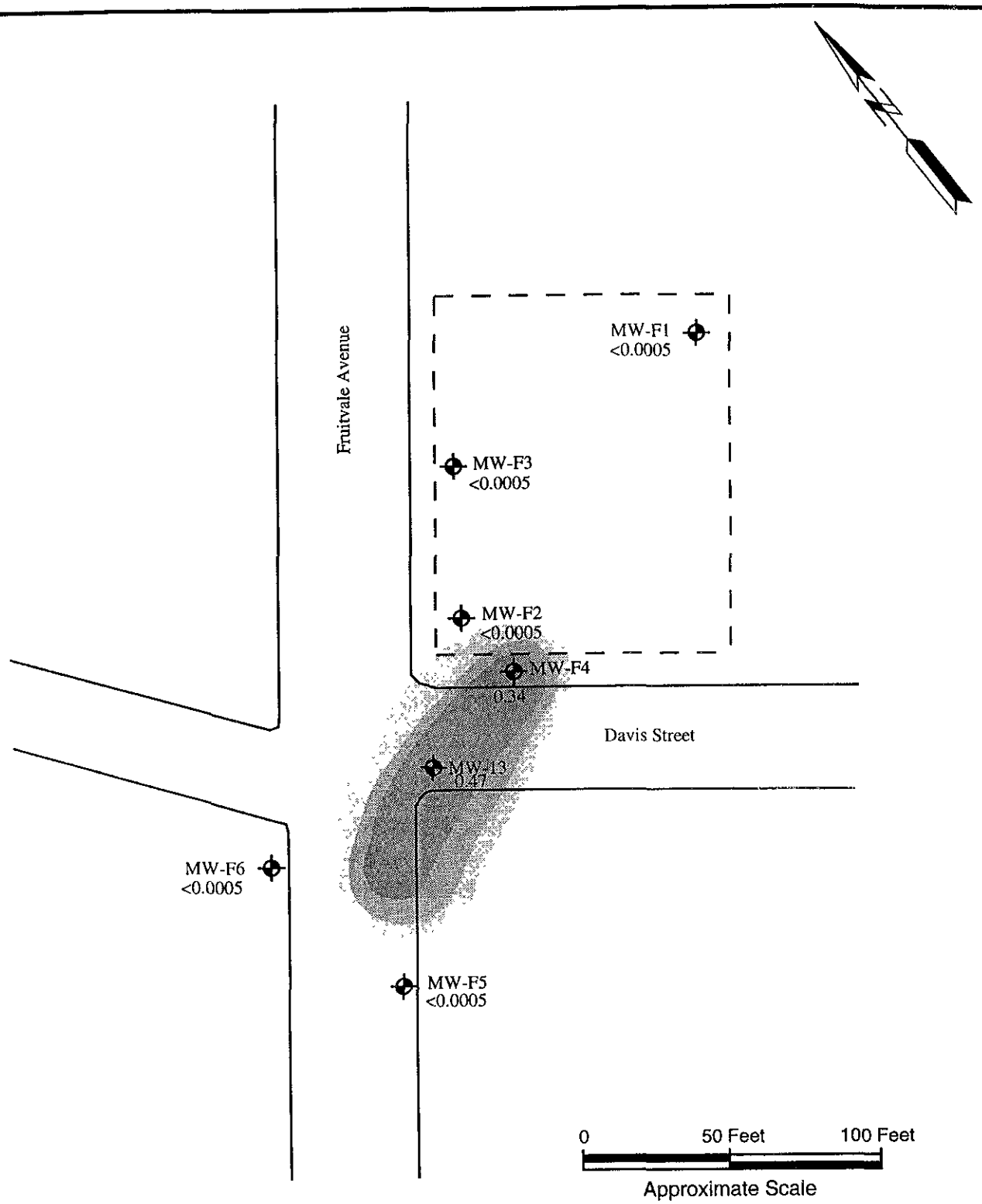
LABORATORY RESULTS FOR TPHg FOR SAMPLES COLLECTED ON DECEMBER 11, 1998

2662 Fruitvale Avenue
Oakland, California

CITY OF OAKLAND

ITSI
INNOVATIVE TECHNICAL SOLUTIONS, INC.

97-037/F-3-Benzene



Legend

- Approximate Location of Monitoring Wells
- 0.34 Concentration of benzene in mg/L
- Benzene ≥ 0.001 mg/L
- Benzene ≥ 0.01 mg/L
- Benzene ≥ 0.1 mg/L

Source: Modified from Figure 3, Groundwater Elevation Contour Map, 13 December 1996, BASELINE.

FIGURE 3

LABORATORY RESULTS FOR BENZENE FOR SAMPLES COLLECTED ON DECEMBER 11, 1998

2662 Fruitvale Avenue
Oakland, California

CITY OF OAKLAND

ITSI
INNOVATIVE TECHNICAL SOLUTIONS, INC.

APPENDIX A

COPIES OF MONITORING WELL PURGE AND SAMPLE FORMS

MONITORING WELL
PURGE AND SAMPLE FORM

PROJECT NAME: City of Oakland, 2662 Fruitvale Ave PROJECT NO.: 97-037.01

WELL NO.: MW-F1 TESTED BY: WKS DATE: 12-11-98

Measuring Point Description: Notch or red mark on Toc Product Level: none Static Water Level (ft.): 9.38

Total Well Depth (ft.): 24.84 Sample Method: Peristaltic Pump + Disposable Tubing

Water Level Measurement Method: DUAL INTERFACE (Solinist) Time Sampled: 8:47

Purge Method: Peristaltic Pump + New Disposable Tubing Sample Depth (ft.): >9.38

Time Start Purge: 8:07 Field Filtering: Yes on Soluable lead

Time End Purge: 8:38 Field Preservation: Ice

Comments: no well box cover, unlocked well cap

Well Volume Calculation (fill in before purging)	Total Depth (ft)	-	Depth to Water (ft)	=	Water Column (ft)	x	Multiplier for Casing Diameter (in)			=	Casing Volume (gal)
	24.84		9.38		15.5		2	4	6		2.5
							0.16	0.64	1.44		3 well Vol 7.5

Time	8:19	8:29	8:39				
Volume Purged (gals)	2.5	2.5	2.5				
Cumulative Volume Purged (gals)	2.5	5.0	7.5				
Cumulative Number of Casing Volumes	1	2	3				
Purge Rate (gpm)	0.21	0.25	0.25				
Temperature (F°) or (C°)	18.6	18.5	18.6				
pH	6.85	6.85	6.85				
Specific Conductivity (µmhos/cm)	500	500	500				
Dissolved Oxygen (mg/L)	3.0	3.0	3.0				
Turbidity/Color (NTU)	—	—					
Odor	none	none	none				
Dewatered?	no						

William K Scott

CHECKED BY: _____ DATE: _____

ITSI

MONITORING WELL
PURGE AND SAMPLE FORM

PROJECT NAME: City of Oakland, 2662 Fruitvale Ave PROJECT NO.: 97-037.01

WELL NO.: MW-F2 TESTED BY: WKS DATE: 12-11-98

Measuring Point Description: Notch or red mark on Toc Product Level: none Static Water Level (ft.): 10.40

Total Well Depth (ft.): 19.91 Sample Method: Peristaltic Pump + Disposable Tubing

Water Level Measurement Method: DUAL INTERFACE (Solinist) Time Sampled: 10:40

Purge Method: Peristaltic Pump + New Disposable Tubing Sample Depth (ft.): < 10 40

Time Start Purge: 10:19 Field Filtering: Yes on Soluable lead

Time End Purge: 10:39 Field Preservation: Ice

Comments: unlocked well cap

Well Volume Calculation (fill in before purging)	Total Depth (ft)	-	Depth to Water (ft)	=	Water Column (ft)	x	Multiplier for Casing Diameter (in) 2	4	6	=	Casing Volume (gal)
	19.91		10.40		9.51		0.16	0.64	1.44		1.5 3 well vol = 4.5

Time	10:27	10.34	1039				
Volume Purged (gals)	1.5	1.5	1.5				
Cumulative Volume Purged (gals)	1.5	3.0	4.5				
Cumulative Number of Casing Volumes	1	2	3				
Purge Rate (gpm)	0.19	0.21	0.30				
Temperature (F°) or (C°)	20.5	20.7	20.7				
pH	6.74	6.73	6.95				
Specific Conductivity (µmhos/cm)	450	490	500				
Dissolved Oxygen (mg/L)	2.0	0.2	0.1				
Turbidity/Color (NTU)	—	—	—				
Odor	none	NONE	NONE				
Dewatered?	no	no	No				

William K Scott

CHECKED BY: _____ DATE: _____

ITSI

MONITORING WELL
PURGE AND SAMPLE FORM

PROJECT NAME: City of Oakland, 2662 Fruitvale Ave PROJECT NO.: 97-037.01

WELL NO.: MW-E3 TESTED BY: WES DATE: 12-11-98

Measuring Point Description: Notch or red mark on Toc Product Level: none Static Water Level (ft.): 9.61

Total Well Depth (ft.): 23.98 Sample Method: Peristaltic Pump + Disposable Tubing

Water Level Measurement Method: DUAL INTERFACE (Solinist) Time Sampled: 10:05

Purge Method: Peristaltic Pump + New Disposable Tubing Sample Depth (ft.): > 9.61

Time Start Purge: 9:41 Field Filtering: Yes on Soluable lead

Time End Purge: 10.03 Field Preservation: Ice

Comments: unlocked well cap

Well Volume Calculation (fill in before purging)	Total Depth (ft)	-	Depth to Water (ft)	=	Water Column (ft)	x	Multiplier for Casing Diameter (in) 2	4	6	=	Casing Volume (gal)	
	23.98	-	9.61	=	14.37	x	0.16	0.64	1.44	=	2.3 3 well vol	6.9

Time	9:46	9:55	10.03				
Volume Purged (gals)	2.3	2.3	2.3				
Cumulative Volume Purged (gals)	2.3	4.6	6.9				
Cumulative Number of Casing Volumes	1	2	3				
Purge Rate (gpm)	0.32	0.32	0.29				
Temperature (F°) or (C°)	19.6	19.6	19.7				
pH	6.95	6.92	6.90				
Specific Conductivity (µmhos/cm)	600	600	600				
Dissolved Oxygen (mg/L)	1.0	0.75	0.50				
Turbidity/Color (NTU)	—	—	—				
Odor	none	none	none				
Dewatered?	no	no	no				

William K Scott

CHECKED BY: _____ DATE: _____

ITSI

MONITORING WELL
PURGE AND SAMPLE FORM

PROJECT NAME: City of Oakland, 2662 Fruitvale Ave PROJECT NO.: 97-037.01

WELL NO.: MW-F4 TESTED BY: WKS DATE: 12-11-98

Measuring Point Description: Notch or red mark on Toc Product Level: none Static Water Level (ft.): 9.40

Total Well Depth (ft.): 16.87 Sample Method: Peristaltic Pump + Disposable Tubing

Water Level Measurement Method: (Solinist) DUAL INTERFACE Time Sampled: 9:20

Purge Method: Peristaltic Pump + new Disposable Tubing Sample Depth (ft.): > 9.40

Time Start Purge: 8:58 Field Filtering: Yes on Soluable lead

Time End Purge: 9117 Field Preservation: Ice

Comments: unlocked well cap

Well Volume Calculation (fill in before purging)	Total Depth (ft)	-	Depth to Water (ft)	=	Water Column (ft)	x	Multiplier for Casing Diameter (in) 2	4	6	=	Casing Volume (gal)
	16.87	-	9.40	=	7.47	x	0.16	0.64	1.44	=	1.2 3 well vol = 3.6

Time	9:03	9:10	9:17				
Volume Purged (gals)	1.2	1.2	1.2				
Cumulative Volume Purged (gals)	1	2	3				
Cumulative Number of Casing Volumes	1.2	2.4	3.6				
Purge Rate (gpm)	0.24	0.17	0.17				
Temperature (F°) or (C°)	20.6	20.6	20.7				
pH	6.79	6.81	6.86				
Specific Conductivity (µmhos/cm)	700	700	700				
Dissolved Oxygen (mg/L)	.02	.03	.03				
Turbidity/Color (NTU)	—	—	—				
Odor	Gasoline	Gasoline	Gasoline				
Dewatered?	NO	→	→				

William K Sears

CHECKED BY: _____ DATE: _____

ITSI

MONITORING WELL
PURGE AND SAMPLE FORM

PROJECT NAME: City of Oakland, 2662 Fruitvale Ave PROJECT NO.: 97-037-01

WELL NO.: MW-FS TESTED BY: WKS DATE: 12-11-98

Measuring Point Description: Notch or red mark on Toc Product Level: none Static Water Level (ft.): 9.62

Total Well Depth (ft.): 24.04 Sample Method: Peristaltic Pump + Disposable Tubing

Water Level Measurement Method: DUAL INTERFACE (Solinist) Time Sampled: 11:20

Purge Method: Peristaltic Pump + New Disposable Tubing Sample Depth (ft.): ~ 9.62

Time Start Purge: 10:59 Field Filtering: Yes on Soluable lead

Time End Purge: 11:17 Field Preservation: Ice

Comments: unlocked well cap

Well Volume Calculation (fill in before purging)	Total Depth (ft)	-	Depth to Water (ft)	=	Water Column (ft)	x	Multiplier for Casing Diameter (in) 2	4	6	=	Casing Volume (gal)
	24.04	-	9.62	=	14.42	x	0.16	0.64	1.44	=	2.3 3 well vol = 6.9

Time	1106	11:13	11:18				
Volume Purged (gals)	2.3	2.3	2.3				
Cumulative Volume Purged (gals)	2.3	4.6	6.9				
Cumulative Number of Casing Volumes	1	2	3				
Purge Rate (gpm)	033	0.33	0.46				
Temperature (F°) or (C°)	19.4	19.3	19.4				
pH	6.86	6.85	6.85				
Specific Conductivity (µmhos/cm)	550	500	400				
Dissolved Oxygen (mg/L)	0.1	00	0.1				
Turbidity/Color (NTU)		—	—				
Odor	NONE	NONE	NONE				
Dewatered?	NO	NO	NO				

William K Scott

CHECKED BY: _____ DATE: _____

ITSI

MONITORING WELL
PURGE AND SAMPLE FORM

PROJECT NAME: City of Oakland, 2662 Fruitvale Ave PROJECT NO.: 97-037.01

WELL NO.: MW-F6 TESTED BY: WES DATE: 12-11-98

Measuring Point Description: Notch or red mark on Toc PRODUCT LEVEL: None Static Water Level (ft.): 10.12

Total Well Depth (ft.): 21.03 Sample Method: Peristaltic Pump + Disposable Tubing

Water Level Measurement Method: DUAL INTERFACE (Solinist) Time Sampled: 13:05

Purge Method: Peristaltic Pump + New Disposable Tubing Sample Depth (ft.): < 10.12

Time Start Purge: 12:35 Field Filtering: Yes on Soluable Lead

Time End Purge: 13:02 Field Preservation: Ice

Comments: unlocked well cap

Well Volume Calculation (fill in before purging)	Total Depth (ft)	-	Depth to Water (ft)	=	Water Column (ft)	x	Multiplier for Casing Diameter (in) 2	4	6	=	Casing Volume (gal)
	21.03		10.12		10.91		0.16	0.64	1.44		1.7 3 well vol = 5.1

Time	12.42	1250	1302				
Volume Purged (gals)	1.7	1.7	1.7				
Cumulative Volume Purged (gals)	1.7	3.4	5.1				
Cumulative Number of Casing Volumes	1	2	3				
Purge Rate (gpm)	0.24	0.21	0.14				
Temperature (F°) or (C°)	19.6	19.6	19.8				
pH	7.13	7.04	7.09				
Specific Conductivity (umhos/cm)	500	450	500				
Dissolved Oxygen (mg/L)	0.7	0.7	0.1				
Turbidity/Color (NTU)	—	—	—				
Odor	NONE	NONE	NONE				
Dewatered?	—	—	—				

William K Scott

CHECKED BY: _____ DATE: _____

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MONITORING WELL
PURGE AND SAMPLE FORM

PROJECT NAME: City of Oakland, 2662 Fruitvale Ave PROJECT NO.: 97-037.01

WELL NO.: MW-13 TESTED BY: WKS DATE: 12-11-98

Measuring Point Description: Notch or red mark on Toc Product Level: 9.28 Static Water Level (ft.): 9.30

Total Well Depth (ft.): 23.97 Sample Method: Peristaltic Pump + Disposable Tubing

Water Level Measurement Method: (Solinist) DUAL INTERFACE Time Sampled: 12:08

Purge Method: Peristaltic Pump + New Disposable Tubing Sample Depth (ft.): 7 9.30

Time Start Purge: 11:40 Field Filtering: Yes on Soluable lead

Time End Purge: 12:06 Field Preservation: Ice

Comments: Box cover missing, well head covered with Asphalt + gravel, removed Asphalt + Gravel to access well cap. (Field Duplicate) QC-1 @ 12:18

Well Volume Calculation (fill in before purging)	Total Depth (ft)	-	Depth to Water (ft)	=	Water Column (ft)	x	Multiplier for Casing Diameter (in) 2	4	6	=	Casing Volume (gal)
	23.97	-	9.30	=	14.67	x	0.16	0.64	1.44	=	2.3 3 well vol = 6.9

Time	11:50	11:58	12:06				
Volume Purged (gals)	2.3	2.3	2.3				
Cumulative Volume Purged (gals)	2.3	4.6	6.9				
Cumulative Number of Casing Volumes	1	2	3				
Purge Rate (gpm)	0.23	0.29	0.29				
Temperature (F°) or (C°)	20.3	20.3	20.3				
pH	6.80	6.80	6.79				
Specific Conductivity (µmhos/cm)	750	550	750				
Dissolved Oxygen (mg/L)	0.1	0.0	0.0				
Turbidity/Color (NTU)	—	—	—				
Odor	Gasoline	GASOLINE	GASOLINE				
Dewatered?	—	—	—				

William K Scott

CHECKED BY: _____ DATE: _____

ITSI

APPENDIX B

COPIES OF LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORM FOR GROUNDWATER SAMPLES

CHROMALAB, INC.

Environmental Services (SDB)

December 17, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-13**
Spl#: 220897 *Matrix:* WATER
Sampled: December 11, 1998 *Run#:*16525 *Analyzed:* December 16, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	12000	2500	N.D.	96	50
MTBE	N.D.	250	N.D.	89	50
BENZENE	470	25	N.D.	97	50
TOLUENE	48	25	N.D.	96	50
ETHYL BENZENE	1100	25	N.D.	92	50
XYLENES	480	25	N.D.	91	50

Vincent Vancil
Analyst

Michael Verona
Operations Manager

925-256-8998

1220 Quarry Lane • Pleasanton, California 94566-4756
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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 17, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

(MW13 dup)

Client Sample ID: QC-1
Spl#: 220907 Matrix: WATER
Sampled: December 11, 1998 *Run#:*16525 *Analyzed:* December 16, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	11000	2500	N.D.	96	50
MTBE	N.D.	250	N.D.	89	50
BENZENE	460	25	N.D.	97	50
TOLUENE	94	25	N.D.	96	50
ETHYL BENZENE	1100	25	N.D.	92	50
XYLENES	510	25	N.D.	91	50

Vincent Vancil
Analyst

Michael Verona
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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 17, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-F1**
Spl#: 220889 *Matrix:* WATER
Sampled: December 11, 1998 *Run#:*16525 *Analyzed:* December 16, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	96	1
MTBE	N.D.	5.0	N.D.	89	1
BENZENE	N.D.	0.50	N.D.	97	1
TOLUENE	N.D.	0.50	N.D.	96	1
ETHYL BENZENE	N.D.	0.50	N.D.	92	1
XYLENES	N.D.	0.50	N.D.	91	1

Vincent Vancil
Analyst

Michael Verona
Operations Manager

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Federal ID #68-0140157

GC V132 O:BTEXQC0220
VINCE 15:45

CHROMALAB, INC.

Environmental Services (SDB)

December 17, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-F2**
Spl#: 220890 *Matrix:* WATER
Sampled: December 11, 1998 *Run#:*16525 *Analyzed:* December 16, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	96	1
MTBE	N.D.	5.0	N.D.	89	1
BENZENE	N.D.	0.50	N.D.	97	1
TOLUENE	N.D.	0.50	N.D.	96	1
ETHYL BENZENE	N.D.	0.50	N.D.	92	1
XYLENES	N.D.	0.50	N.D.	91	1

Vincent Vancil
Analyst

Michael Verona
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GC V132 O:BTEXQC0220
VINCE 15:45

CHROMALAB, INC.

Environmental Services (SDB)

December 17, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-F3**
Spl#: 220891 *Matrix:* WATER
Sampled: December 11, 1998 *Run#:*16525 *Analyzed:* December 16, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	96	1
MTBE	N.D.	5.0	N.D.	89	1
BENZENE	N.D.	0.50	N.D.	97	1
TOLUENE	N.D.	0.50	N.D.	96	1
ETHYL BENZENE	N.D.	0.50	N.D.	92	1
XYLENES	N.D.	0.50	N.D.	91	1

Vincent Vancil
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Michael Verona
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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 17, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

10x dilution

Client Sample ID: **MW-F4**
Spl#: 220893 *Matrix:* WATER
Sampled: December 11, 1998 *Run#:*16525 *Analyzed:* December 16, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	12000	2500	N.D.	96	50
MTBE	N.D.	250	N.D.	89	50
BENZENE	340	25	N.D.	97	50
TOLUENE	51	25	N.D.	96	50
ETHYL BENZENE	2000	25	N.D.	92	50
XYLENES	620	25	N.D.	91	50

Vincent Vancil
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Michael Verona
Operations Manager

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Federal ID #68-0140157

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VINCE 15:45

CHROMALAB, INC.

Environmental Services (SDB)

December 17, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-F5**
Spl#: 220894 *Matrix:* WATER
Sampled: December 11, 1998 *Run#:*16525 *Analyzed:* December 16, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	96	1
MTBE	N.D.	5.0	N.D.	89	1
BENZENE	N.D.	0.50	N.D.	97	1
TOLUENE	N.D.	0.50	N.D.	96	1
ETHYL BENZENE	N.D.	0.50	N.D.	92	1
XYLENES	N.D.	0.50	N.D.	91	1

Vincent Vancil
Analyst

Michael Verona
Operations Manager

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Federal ID #68-0140157

GC V132 O:BTEXQC0220
VINCE 15:45

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Miscellaneous Metals analysis.
Method: *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID: **MW-F4**
Spl#: 220893 *Matrix:* WATER *Extracted:* December 17, 1998
Sampled: December 11, 1998 *Run#:* 16540 *Analyzed:* December 17, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
IRON	5.7	0.10	N.D.	97.4	1

Christopher Arndt
Analyst

Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Miscellaneous Metals analysis.
Method: *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID: **MW-F3**
Spl#: 220891 *Matrix:* WATER *Extracted:* December 17, 1998
Sampled: December 11, 1998 *Run#:* 16540 *Analyzed:* December 17, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
IRON	0.31	0.10	N.D.	97.4	1

Christopher Arndt
Analyst

Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Miscellaneous Metals analysis.
Method: *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID: **MW-F2**
Spl#: 220890 *Matrix:* WATER *Extracted:* December 17, 1998
Sampled: December 11, 1998 *Run#:* 16540 *Analyzed:* December 17, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
IRON	0.25	0.10	N.D.	97.4	1

Christopher Arndt
Analyst

Michael Verona
Operations Manager

925-256-8998 GC 12/18

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Miscellaneous Metals analysis.
Method: *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID: **MW-F1**
Spl#: 220889 *Matrix:* WATER *Extracted:* December 17, 1998
Sampled: December 11, 1998 *Run#:* 16540 *Analyzed:* December 17, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
IRON	N.D.	0.10	N.D.	97.4	1

Christopher Arndt
Analyst

Michael Verona
Operations Manager

925-256-8998 GC 12/18

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

MG10 0:0C0405 JOHN 10:38

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Soluble Miscellaneous Metals with Mercury analysis.
Method: *EPA 3005A/6010A/7470A Nov 1990*

Client Sample ID: **MW-F3**
Spl#: 220902 *Matrix:* WATER *Extracted:* December 14, 1998
Sampled: December 11, 1998 *Run#:* 16482 *Analyzed:* December 15, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
IRON	0.12	0.10	N.D.	97.6	1

Shafi Barekzai
Analyst

Michael Verona
Operations Manager

925-256-8998 GC 12/18

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Soluble Miscellaneous Metals with Mercury analysis.
Method: *EPA 3005A/6010A/7470A Nov 1990*

Client Sample ID: **MW-F5**
Spl#: 220904 *Matrix:* WATER *Extracted:* December 14, 1998
Sampled: December 11, 1998 *Run#:* 16482 *Analyzed:* December 15, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
IRON	0.19	0.10	N.D.	97.6	1

Shafi Barekzai
Analyst

Michael Verona
Operations Manager

925-256-8998 GC 12/18

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Miscellaneous Metals analysis.
Method: *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID: **MW-13**
Spl#: 220897 *Matrix:* WATER *Extracted:* December 17, 1998
Sampled: December 11, 1998 *Run#:* 16540 *Analyzed:* December 17, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
IRON	6.6	0.10	N.D.	97.4	1

Christopher Arndt
Analyst

Michael Verona
Operations Manager

925-256-8998 GC 12/18

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Soluble Miscellaneous Metals with Mercury analysis.
Method: *EPA 3005A/6010A/7470A Nov 1990*

Client Sample ID: **MW-13**
Spl#: 220906 *Matrix:* WATER *Extracted:* December 14, 1998
Sampled: December 11, 1998 *Run#:* 16482 *Analyzed:* December 15, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
IRON	7.0	0.10	N.D.	97.6	1

Shafi Barekzai
Analyst

Michael Verona
Operations Manager

925-256-8998 GC 12/18

1220 Quarry Lane • Pleasanton; California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Miscellaneous Metals analysis.
Method: *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID: **MW-F6**
Spl#: 220895 *Matrix:* WATER *Extracted:* December 17, 1998
Sampled: December 11, 1998 *Run#:* 16540 *Analyzed:* December 17, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
IRON	0.24	0.10	N.D.	97.4	1

Christopher Arndt
Analyst

Michael Verona
Operations Manager

925-256-8998 GC 12/18

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Soluble Miscellaneous Metals with Mercury analysis.
Method: *EPA 3005A/6010A/7470A Nov 1990*

Client Sample ID: **MW-F6**
Spl#: 220905 *Matrix:* WATER *Extracted:* December 14, 1998
Sampled: December 11, 1998 *Run#:* 16482 *Analyzed:* December 15, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
IRON	0.11	0.10	N.D.	97.6	1

Shafi Barekzai
Analyst

Michael Verona
Operations Manager

925-256-8998 cc 12/18

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Miscellaneous Metals analysis.
Method: *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID: **MW-F5**
Spl#: 220894 *Matrix:* WATER *Extracted:* December 17, 1998
Sampled: December 11, 1998 *Run#:* 16540 *Analyzed:* December 17, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
IRON	0.58	0.10	N.D.	97.4	1

Christopher Arndt
Analyst

Michael Verona
Operations Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Soluble Miscellaneous Metals with Mercury analysis.
Method: *EPA 3005A/6010A/7470A Nov 1990*

Client Sample ID: **MW-F1**
Spl#: 220900 *Matrix:* WATER *Extracted:* December 14, 1998
Sampled: December 11, 1998 *Run#:* 16482 *Analyzed:* December 15, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
IRON	N.D.	0.10	N.D.	97.6	1

Shafi Barekzai
Analyst

Michael Verona
Operations Manager

925-256-8998 GC 12/18

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Soluble Miscellaneous Metals with Mercury analysis.
Method: *EPA 3005A/6010A/7470A Nov 1990*

Client Sample ID: **MW-F2**
Spl#: 220901 *Matrix:* WATER *Extracted:* December 14, 1998
Sampled: December 11, 1998 *Run#:* 16482 *Analyzed:* December 15, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
IRON	N.D.	0.10	N.D.	97.6	1

Shafi Barekzai
Analyst

Michael Verona
Operations Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Soluble Miscellaneous Metals with Mercury analysis.
Method: *EPA 3005A/6010A/7470A Nov 1990*

Client Sample ID: **MW-F4**
Spl#: 220903 *Matrix:* WATER *Extracted:* December 14, 1998
Sampled: December 11, 1998 *Run#:* 16482 *Analyzed:* December 15, 1998

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
IRON	5.9	0.10	N.D.	97.6	1

Shafi Barekzai
Analyst

Michael Verona
Operations Manager

925-256-8998 GC 12/18

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

San Francisco Regional Office

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(925) 426-2600
Fax (925) 426-0106

Clayton
LABORATORY
SERVICES

December 22, 1998

Mr. Ken Wright
CHROMALAB, INC.
1220 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 9812231,9812222
Clayton Project No.: 98122.01

Dear Mr. Wright:

Attached is our analytical laboratory report for the samples received on December 15, 1998. Also enclosed is a copy of the Chain-of-Custody record acknowledging receipt of these samples.

Please note that any unused portion of the samples will be discarded after January 21, 1999, unless you have requested otherwise.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact Client Services at (925) 426-2657.

Sincerely,

Patricia Flynn
Client Services Representative
San Francisco Regional Office

PVF/pvf

Attachments

California DHS ELAP Certification Number 1196

Clayton
LABORATORY
SERVICES

Analytical Results
for
CHROMALAB, INC.
Client Reference: 9812231,9812222
Clayton Project No. 98122.01

Sample Identification: See Below
Lab Number: 9812201
Sample Matrix/Media: WATER
Method Reference: EPA 353.2

Date Received: 12/15/98
Date Analyzed: 12/18/98

Lab Number	Sample Identification	Date Sampled	Nitrate-N (mg/L)	Method Detection Limit (mg/L
-02	MW-F1	12/11/98	7.1	0.05
-03	MW-F2	12/11/98	<0.05	0.05
-04	MW-F3	12/11/98	0.97	0.05
-05	MW-F4	12/11/98	<0.05	0.05
-06	MW-F5	12/11/98	6.0	0.05
-07	MW-F6	12/11/98	0.06	0.05
-08	MW-13	12/11/98	<0.05	0.05
-09	METHOD BLANK	--	<0.05	0.05

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Clayton
LABORATORY
SERVICES

Analytical Results
for
CHROMALAB, INC.
Client Reference: 9812231,9812222
Clayton Project No. 98122.01

Sample Identification: See Below
Lab Number: 9812201
Sample Matrix/Media: WATER
Method Reference: EPA 300.0

Date Received: 12/15/98
Date Analyzed: 12/17/98

Lab Number	Sample Identification	Date Sampled	Sulfate (mg/L)	Method Detection Limit (mg/L)
-02	MW-F1	12/11/98	38	0.1
-03	MW-F2	12/11/98	7.8	0.1
-04	MW-F3	12/11/98	30	0.1
-05	MW-F4	12/11/98	1.5	0.1
-06	MW-F5	12/11/98	41	0.1
-07	MW-F6	12/11/98	43	0.1
-08	MW-13	12/11/98	16	0.1
-09	METHOD BLANK	--	<0.1	0.1

ND: Not detected at or above limit of detection
--: Information not available or not applicable

CHROMALAB, INC.

Environmental Service (SDB)

Sample Receipt Checklist

Client Name: **INNOVATIVE TECHNICAL SOLUTIONS** Date/Time Received: 12/11/98 | 14:30

Reference/Submis: 43600 | 9812222 Received by: A.P.

Checklist completed by: C Cassidy 12.15.98 Reviewed by: _____

Signature | Date | Initials | Date

Matrix: Water Carrier name: (Client) C/L _____

Shipping container/cooler in good condition?	Yes ✓	No ___	Not Present ___
Custody seals intact on shipping container/cooler?	Yes ___	No ___	Not Present ___
Custody seals intact on sample bottles?	Yes ___	No ___	Not Present ___
Chain of custody present?	Yes ✓	No ___	
Chain of custody signed when relinquished and received?	Yes ✓	No ___	
Chain of custody agrees with sample labels?	Yes ___	No X	
Samples in proper container/bottle?	Yes ✓	No ___	
Sample containers intact?	Yes ✓	No ___	
Sufficient sample volume for indicated test?	Yes ✓	No ___	
All samples received within holding time?	Yes ✓	No ___	
Container/Temp Blank temperature in compliance?	Temp: 5.9 °C Yes ✓	No ___	
Water - VOA vials have zero headspace?	No VOA vials submitted ___ Yes ✓	No ___	
Water - pH acceptable upon receipt? yes	Adjusted? ___	Checked by ___ (chemist for VOAs)	

Any No and/or NA (not applicable) response must be detailed in the comments section below.

==========

Client contacted: _____ **Date contacted:** _____ **Person contacted:** _____

Contacted by: _____ **Regarding:** _____

Comments: MW-F6 on C.O.C. on labels MW-6
MW-F6 missing a filtered smple for soluable metals, however a filtered sample labeled 9-037-01 has a sampling time corresponding to MW-F6.
QC1 (labeled as MW-13) but time corresponds to QC1

Corrective Action: _____

CHROMALAB, INC.

Environmental Services (SDB) (DOHS 1094)

ADD ON/CHANGE ORDER

New Submission No:

Order No: 37332

Original Submission Info

Client Name: ITSI

Project Mgr: Bob Boggs

Project Name: Alameda UST removed

Project No: 98-123

PO#: —

Date Received: 12-11-98

Submission No: 9812220

Name of Caller: Bob Boggs

Call Date: 12-14-98 Time:

Add on Due Date: 12-16-98 Date Sampled

Comments:

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel, TEPH (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520, B+F, E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)	LUFT METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)	
																X pH 5C					
459-1234	Composite					X													X	X	Chromi
459,6,7,8																					

Continued

Relinquished by: [signature] 12-16-98

Received by: [signature]

CHROMALAB, INC.

Environmental Services (SDB) (DOHS 1094)

ADD ON/CHANGE ORDER

New Submission No: _____

Order No: 43632

Name of Caller: Bob Boggs

Call Date: 12-14-98 Time: _____

Add on Due Date: 12-16 98 Date Sampled _____

Comments: _____

Original Submission Info

Client Name: ITSI

Project Mgr: Bob Boggs

Project Name: @ Alameda UST removed

Project No: 98-123

PO#: —

Date Received: 12-11-98

Submission No: 9812220

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel, TEPH (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520, B+F, E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)	ANALYSIS REPORT: Pb, SC	LUFT METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)	Alameda			NUMBER OF CONTAINERS
459-1,2,3,4	Composite					X										X				X		X			
459,6,7,8																									

INNOVATIVE TECHNICAL SOLUTIONS, Inc.

ITSI

~~1990 Broadway, Suite 1625~~ 2855 Mitchell Drive, Suite 118
~~Oakland, California 94612~~ Walnut Creek CA 94598
~~(510) 286-8888 (Tel), (510) 286-8889 (Fax)~~ 256-8858

4360

9812222/220505-907

PROJECT NAME: City of Oakland - 2662 Fruitvale Ave
PROJECT NUMBER: 97-037.01
SITE LOCATION: 2662 Fruitvale Ave, Oakland CA

CHAIN OF CUSTODY

DATE: 12-11-98
PAGE: 1 of 2

SUBM #: 9812222 REP: GC
CLIENT: ITSI
DUE: 12/18/98
REF #:43688

SAMPLE I.D.	SAMPLE DEPTH	DATE	TIME	NUMBER OF CC	TYPE OF CONT.	SAMPLE MATRIX	ANALYSIS: TPH as Gas/BTEX - 8015/8020	TPH as Diesel - 8015	TPH as Diesel - 8015 (w/ Silica Gel Cleanup)	~~TEPH - 8015~~ MTBE (8260)	TEPH-8015 (w/ Silica Gel Cleanup)	TRPH - 418.1	Oil and Grease - 5520	Purgeable Halocarbons - 601/8010	VOCs - 624/ 8240	SVOCs - 625/8270	LUFT Metals (Cd, Cr, Ni, Pb, Zn)	CAM 17 Metals	Soluable Iron	Total Iron	Sulfate + Nitrate	SPECIAL INSTRUCTIONS/COMMENTS
MW-F1	NA	12-11-98	8:47	4	40 ml VOA	Water	X			X												
				3	250 ml Poly 1 w/ Acid														X		X	
			↓	1	↑															X		
MW-F2			10:40	4	SAME AS MW-F1		X			X												
				3															X		X	
			↓	1																X		
MW-F3			10:05	4			X			X												
				3															X		X	
			↓	1																X		
MW-F4			9:20	4			X			X												
				3															X		X	
	↓	↓	↓	1	↓	↓														X		
TOTAL NUMBER OF CONTAINERS				40	TOTAL TESTS		4			4									4	4	8	

Chroma lab
Pleasanton, CA

SAMPLED BY: William K Scott
SIGNATURE: William K Scott

SPECIAL INSTRUCTIONS/COMMENTS: Noimal TAT
Please Send results to Jeff Hess

RELINQUISHED BY: William K Scott William K Scott
Printed Name Signature
ITSI 12-11-98/ 14:30
Company Date and Time

RECEIVED BY: A. Pareds A Pareds
Printed Name Signature
Chromalab 12/11/98 1430
Company Date and Time

RELINQUISHED BY: _____
Printed Name Signature
_____
Company Date and Time

RECEIVED BY: _____
Printed Name Signature
_____
Company Date and Time

RELINQUISHED BY: _____
Printed Name Signature
_____
Company Date and Time

RECEIVED BY: _____
Printed Name Signature
_____
Company Date and Time

SEND RESULTS TO: _____

CHROMALAB, INC.

Environmental Services (SDB)

Date: 1-5-98

ITSI
Jeff Hess
2855 Mitchell Dr #118
Walnut Creek, CA 94598

Dear Client,

Enclosed are the hard copy subcontract reports for ChromaLab submission number 9812222. Your Project ID is: 2662 Fruitvale Oa.

You were mailed the faxed copies along with your original data package because the subcontract hard copies were not yet available.

These are for your records only. We apologize for any inconvenience.

If you have any questions or need more information, please do not hesitate to call me at (925) 484-1919 x 110.

Sincerely,

Tina Totorica

Enclosures

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

San Francisco Regional Office

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(925) 426-2600
Fax (925) 426-0106

Clayton
LABORATORY
SERVICES

December 22, 1998

Mr. Ken Wright
CHROMALAB, INC.
1220 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 9812231,9812222
Clayton Project No.: 98122.01

Dear Mr. Wright:

Attached is our analytical laboratory report for the samples received on December 15, 1998. Also enclosed is a copy of the Chain-of-Custody record acknowledging receipt of these samples.

Please note that any unused portion of the samples will be discarded after January 21, 1999, unless you have requested otherwise.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact Client Services at (925) 426-2657.

Sincerely,

Patricia Flynn
Client Services Representative
San Francisco Regional Office

PVF/pvf

Attachments

California DHS ELAP Certification Number 1196

Analytical Results
for
CHROMALAB, INC.
Client Reference: 9812231,9812222
Clayton Project No. 98122.01

Sample Identification: See Below
Lab Number: 9812201
Sample Matrix/Media: WATER
Method Reference: EPA 353.2

Date Received: 12/15/98
Date Analyzed: 12/18/98

Lab Number	Sample Identification	Date Sampled	Nitrate-N (mg/L)	Method Detection Limit (mg/L)
-02	MW-F1	12/11/98	7.1	0.05
-03	MW-F2	12/11/98	<0.05	0.05
-04	MW-F3	12/11/98	0.97	0.05
-05	MW-F4	12/11/98	<0.05	0.05
-06	MW-F5	12/11/98	6.0	0.05
-07	MW-F6	12/11/98	0.06	0.05
-08	MW-13	12/11/98	<0.05	0.05
-09	METHOD BLANK	--	<0.05	0.05

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Clayton
LABORATORY
SERVICES

Analytical Results
for
CHROMALAB, INC.
Client Reference: 9812231,9812222
Clayton Project No. 98122.01

Sample Identification: See Below
Lab Number: 9812201
Sample Matrix/Media: WATER
Method Reference: EPA 300.0

Date Received: 12/15/98
Date Analyzed: 12/17/98

Lab Number	Sample Identification	Date Sampled	Sulfate (mg/L)	Method Detection Limit (mg/L)
-02	MW-F1	12/11/98	38	0.1
-03	MW-F2	12/11/98	7.8	0.1
-04	MW-F3	12/11/98	30	0.1
-05	MW-F4	12/11/98	1.5	0.1
-06	MW-F5	12/11/98	41	0.1
-07	MW-F6	12/11/98	43	0.1
-08	MW-13	12/11/98	16	0.1
-09	METHOD BLANK	--	<0.1	0.1

ND: Not detected at or above limit of detection
--: Information not available or not applicable

CLAYTON

9812201

CHROMALAB, INC.

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

Environmental Services (SDB) (DOHS 1094)

Chain of Custody

DATE 12-16-98 PAGE 1 OF 1

PROJ. MGR.

COMPANY

ADDRESS

SAMPLER: (SIGNATURE) (PHONE NO.) (FAX NO.)

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	NO_3	NUMBER OF CONTAINERS
MW-F1	12-11-98		W	HCl	X	-02
MW-F2					X	-03
MW-F3					X	-04
MW-F4					X	-05
MW-F5					X	-06
MW-56					X	-07
MW-13					X	-08

ANALYSIS REPORT

PROJECT INFORMATION

PROJECT NAME

PROJECT NUMBER 98'12222

P.O. #

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS

HEAD SPACE

RECD GOOD CONDITION/COLD

CONFORMS TO RECORD

TAT	STANDARD 5-DAY			24	48	72	OTHER

SPECIAL INSTRUCTIONS/COMMENTS

replacing wells out of hold
time submitted & you on 12-15-98

RELINQUISHED BY 1	RELINQUISHED BY 2	RELINQUISHED BY 3
(SIGNATURE) 12/16/98 (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) 12/16/98 (TIME)
A-Parales 18:15 (PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	Glock 18:30 (PRINTED NAME) (DATE)
Chromalab (COMPANY)	(COMPANY)	CL (COMPANY)

RECEIVED BY 1	RECEIVED BY 2	RECEIVED BY (LABORATORY) 3
(SIGNATURE) 12/16/98 (TIME)	(SIGNATURE) (TIME)	Denise Harrington (SIGNATURE) (TIME)
Glock 18:15 (PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	D. Harrington (PRINTED NAME) (DATE)
CL (COMPANY)	(COMPANY)	Clayton 12/16/98 18:30 (DATE)

9812201

CHROMALAB, INC.

Environmental Services (SDB) (DOHS 1094)

CLAYTON

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

9812201

Chain of Custody

DATE 12-15-98 PAGE 2 OF 2

Work # 9812222

PROJ MGR

COMPANY

ADDRESS

SAMPLER (SIGNATURE) (PHONE NO.)

(FAX NO.)

ANALYSIS REPORT

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	NO_3^-	SO_4^{2-}	NUMBER OF CONTAINERS
MW-F1	12.11.98	9:47	W	none	X	X	2
MW-F2		10:40					3
MW-F3		12:05					4
MW-F4		9:20					5
MW-F5		11:20					6
MW-F6		13:05					7
MW-13		12:08					8

PROJECT INFORMATION

PROJECT NAME

PROJECT NUMBER 9812231, 9812222

P.O. #

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS

HEAD SPACE

RECD GOOD CONDITION/COLD

CONFORMS TO RECORD

TAT: STANDARD | 5 DAY | 24 | 48 | 72 | OTHER

SPECIAL INSTRUCTIONS/COMMENTS

RELINQUISHED BY 1	RELINQUISHED BY 2	RELINQUISHED BY 3
C Cassidy (SIGNATURE) 18:50 (TIME)	(SIGNATURE) (TIME)	O Cook (SIGNATURE) 18:50 (TIME)
C Cassidy (PRINTED NAME) 12-15-98 (DATE)	(PRINTED NAME) (DATE)	O Cook (PRINTED NAME) 12/15/98 (DATE)
CL (COMPANY)	(COMPANY)	CL (COMPANY)
RECEIVED BY 1	**RECEIVED BY 2**	**RECEIVED BY (LABORATORY) 3**
O Cook 18:50 (SIGNATURE) (TIME)	(SIGNATURE) (TIME)	Denise Harrington (SIGNATURE) (TIME)
O Cook 12/15/98 (PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	D. Harrington (PRINTED NAME) (DATE)
CL (COMPANY)	(COMPANY)	12/15/98 1850 (LAB)

CHROMALAB, INC.

Environmental Services (SDB)

December 17, 1998 *Submission #:* 9812222

INNOVATIVE TECHNICAL SOLUTIONS

Atten: Jeff Hess

Project: 2662 FRUITVALE OAK. *Project#:* 97-037.01
Received: December 11, 1998

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-F6**
Spl#: 220895 *Matrix:* WATER
Sampled: December 11, 1998 *Run#:*16525 *Analyzed:* December 16, 1998

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	96	1
MTBE	N.D.	5.0	N.D.	89	1
BENZENE	N.D.	0.50	N.D.	97	1
TOLUENE	N.D.	0.50	N.D.	96	1
ETHYL BENZENE	N.D.	0.50	N.D.	92	1
XYLENES	N.D.	0.50	N.D.	91	1

Vincent Vancil
Analyst

Michael Verona
Operations Manager

925-256-8998

1220 Quarry Lane • Pleasanton, California 94566-4756
(925) 484-1919 • Facsimile (925) 484-1096
Federal ID #68-0140157

GC V132 O:BTEXQC0220
VINCE 16:45