BASELINE

ENVIRONMENTAL CONSULTING

25 January 1996
92404-D0

Mr. Andrew Clark-Clough
City of Oakland
Environmental Services
1333 Broadway Suite 330
Oakland, CA 94612

Subject: December 1995 Semi-Annual Groundwater Monitoring Report, 2662 Fruitvale Avenue, Oakland, California

Dear Andrew:

This report documents the December 1995 groundwater sampling event performed by BASELINE Environmental Consulting at the City of Oakland's property located at 2662 Fruitvale Avenue in Oakland, California (Figure 1). BASELINE has been performing groundwater monitoring of the site since August 1993. The purpose of the groundwater monitoring is to identify any changes in shallow groundwater quality at the site.

Background

A Phase I site assessment conducted at the site indicated that a service station, which included an auto repair facility, was present on the site from the 1940s to the 1980s. In 1983, the City of Oakland purchased the site from Texaco. The site was subsequently rented for use as a produce stand and Christmas tree sales lot.

In January and August 1993, BASELINE performed soil and groundwater investigations at the site. The results of these investigations identified the presence of petroleum hydrocarbons at varying concentrations in the soil throughout the site. The groundwater investigation, which included installation of three monitoring wells (MW-F1, MW-F2, and MW-F3), indicated that groundwater quality beneath the site was not significantly impacted. Following the completion of these investigations, the City of Oakland demolished the structures on-site.

In September 1994, BASELINE installed a fourth monitoring well, MW-F4, and five soil borings on-site, and two well points, HP-F1 and HP-F3, off-site. Petroleum hydrocarbons were detected in the groundwater samples from MW-F4, HP-F1, and HP-F3. Oil and grease were detected in soil samples collected in the vicinity of a former sump location. An off-site well, MW-13, installed by others to investigate a release of petroleum hydrocarbons at 2681

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TRANSMITTAL

TO: Barney Chan
Alameda County Dept. of Env. Health
1131 Harbor Bay Parkway
Alameda, CA 94502

Date: 28 June 1996

Project No: 92404-D0

SUBJECT: December 1995 Semi-Annual Groundwater Monitoring Report, 2662 Fruitvale Avenue, Oakland, California

ENCLOSED:

No. of copies	Description
1	Bound report-dated 25 January 1996

COMMENTS:

Disposition:

X	As requested
	For signature
	For review and comment
	Returned after loan to us

Via:

X	Mail
	Overnight
	UPS ground
	Courier

TRANSMITTED BY:

Rhodora Del Rosario
Civil Engineer

Fruitvale Avenue, was monitored. Approximately 0.5 foot of floating product was identified by BASELINE in this well following purging of the well.

To assess the extent of gasoline contaminants in groundwater downgradient of the site and downgradient of MW-13, two additional monitoring wells were installed in April and June 1995. Well MW-F5 was installed in April 1995 and well MW-F6 was installed in June 1995 along Fruitvale Avenue south of Davis Street. The results of groundwater sampling performed in June 1995 indicated 0.10 mg/L of TPH as gasoline in a sample collected from MW-F5; all other TPH and BTEX results were below detection limits for both wells. Floating product was detected again in MW-13. These results indicated that the limits of groundwater contamination at the site had been identified. Following the June 1995 sampling episode, groundwater sampling was changed to semi-annual from quarterly.

Groundwater Sampling Activities, December 1995

Groundwater samples were collected from monitoring wells MW-F1, MW-F2, MW-F3, MW-F4, and the off-site wells, MW-F5, MW-F6, and MW-13, on 29 December 1995 (Figure 2). Prior to sampling activities, the presence of floating product was checked and water levels were measured in each of the wells using a dual-interface probe. The probe was decontaminated by washing in a trisodium phosphate solution and rinsing in deionized water after use in each well. Approximately 0.25 inch of product was detected in MW-13. Floating product was not detected in any other wells.

Approximately three to five well volumes were slowly purged from each well using a double-diaphragm pump and new disposable polyethylene tubing. The temperature, pH, and electrical conductivity of the groundwater were monitored during purging until they appeared to have stabilized. Water levels were measured again following purging. All decontamination rinsate and purged groundwater were stored on-site in sealed drums pending laboratory analysis.

A new disposable PVC bailer was used to collect a groundwater sample from each well. The samples were decanted from the bailer using a volatile organic compound (VOC) attachment into 40-ml glass VOA sample bottles provided by the laboratory to minimize volatilization. The sample bottles were labeled, placed in a cooler containing ice, and transported using chain-of-custody procedures to Chromalab, Inc., a California certified laboratory. The groundwater samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline and benzene, toluene, xylenes, and ethylbenzene (BTXE). Groundwater sampling forms that document the December 1995 sampling activities are included as Attachment A.

Analytical Results

TPH as gasoline and BTXE were not identified in the groundwater samples collected from monitoring wells MW-F1, MW-F2, and MW-F6. Low concentrations of TPH as gasoline were detected in the sample from MW-F3 (0.35 mg/L). TPH as gasoline was also detected in samples from MW-F4 (38 mg/L) and MW-13(22 mg/L). The sample from MW-F5 contained low but detectable level of xylenes (0.0007 mg/L). However, the field blank quality control sample also contained a similar level of xylenes. The samples from MW-F3, MW-F4, and MW-13 contained detectable volatile organic compounds. The analytical results are summarized in Table 1; the laboratory report for the December 1995 sampling event is included in Attachment B.

Groundwater Flow Direction and Gradient

The depth to groundwater measured in December 1995 in the four on-site monitoring wells ranged from 8.52 to 10.08 feet below ground surface. The direction of groundwater at the site was calculated to be toward the northwest (N79W), with a gradient magnitude of 0.027. Groundwater elevation data and calculated flow direction are summarized in Table 2 and shown on Figure 3.

Conclusions

- The groundwater quality at the southwestern corner of the site has been impacted by a release of gasoline. The concentration of petroleum hydrocarbons detected in samples from MW-F4 increased since the last sampling period to levels comparable to December 1994. The increase in petroleum hydrocarbons may be related to increased groundwater elevation. The raised groundwater level may place groundwater in contact with soils containing elevated concentrations of petroleum hydrocarbons.

- Floating product continued to be present in the off-site well MW-13, downgradient of the project site. The detection of floating products confirms the presence of a thin layer of non-aqueous phase liquid on the groundwater at the location of this well.

- The groundwater flow direction indicated by groundwater level measurements made at the site during this monitoring event is directed more northwardly than during previous monitoring events. This result could be a function of the fact that some of the previous events were coordinated with groundwater level measurement made in wells associated with the investigation of the adjacent site at 2681 Fruitvale Avenue. This additional groundwater elevation data provided better data coverage for the area surrounding the site.

Recommendations

- Petroleum hydrocarbons have not been detected in groundwater samples from MW-F1 for the past six monitoring periods. We recommend discontinuing collecting samples from this well. However, the well should continue to be used as a monitoring point for water level data.

- Semi-annual groundwater sampling should be continued at MW-F2 through MW-F6 and MW-13 to monitor changes in groundwater quality and the thickness of floating product in MW-13.

Copies of this report should be submitted to Mr. Barney Chan of the Alameda County Department of Environmental Health and Mr. Richard Hiett of the San Francisco Bay Regional Water Quality Control Board. Please contact us at your convenience if you have any questions regarding this report.

not necessary

Sincerely,

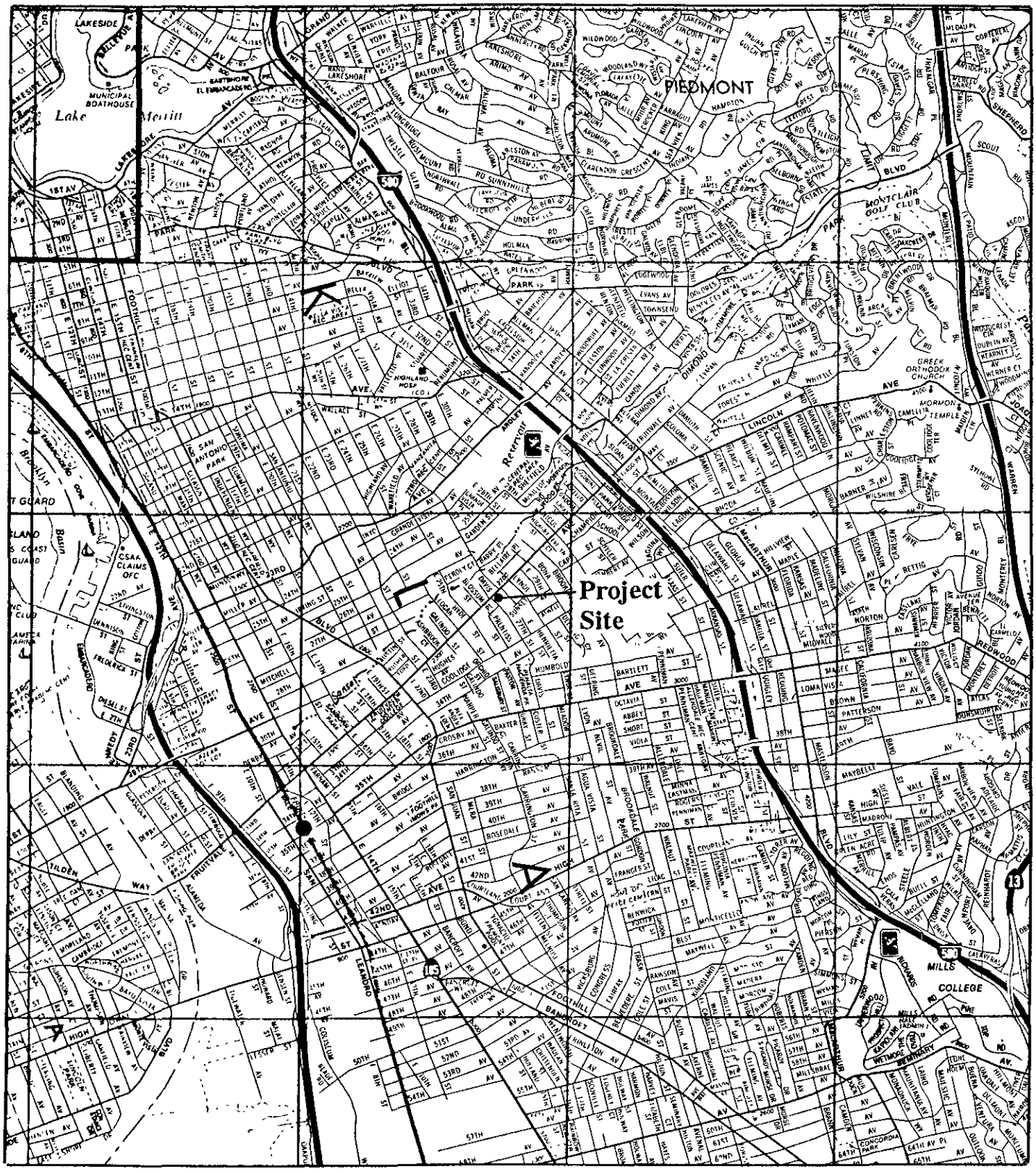
Kevin O'Dea
Senior Engineering Geologist
Cert. Eng. Geologist No. 1702

Mark Filippini
Senior Engineering Geologist
Cert. Eng. Geologist No. 1312

KOD:MF:cr
Attachment

REGIONAL LOCATION

Figure 1



2662 Fruitvale Avenue
Oakland, California

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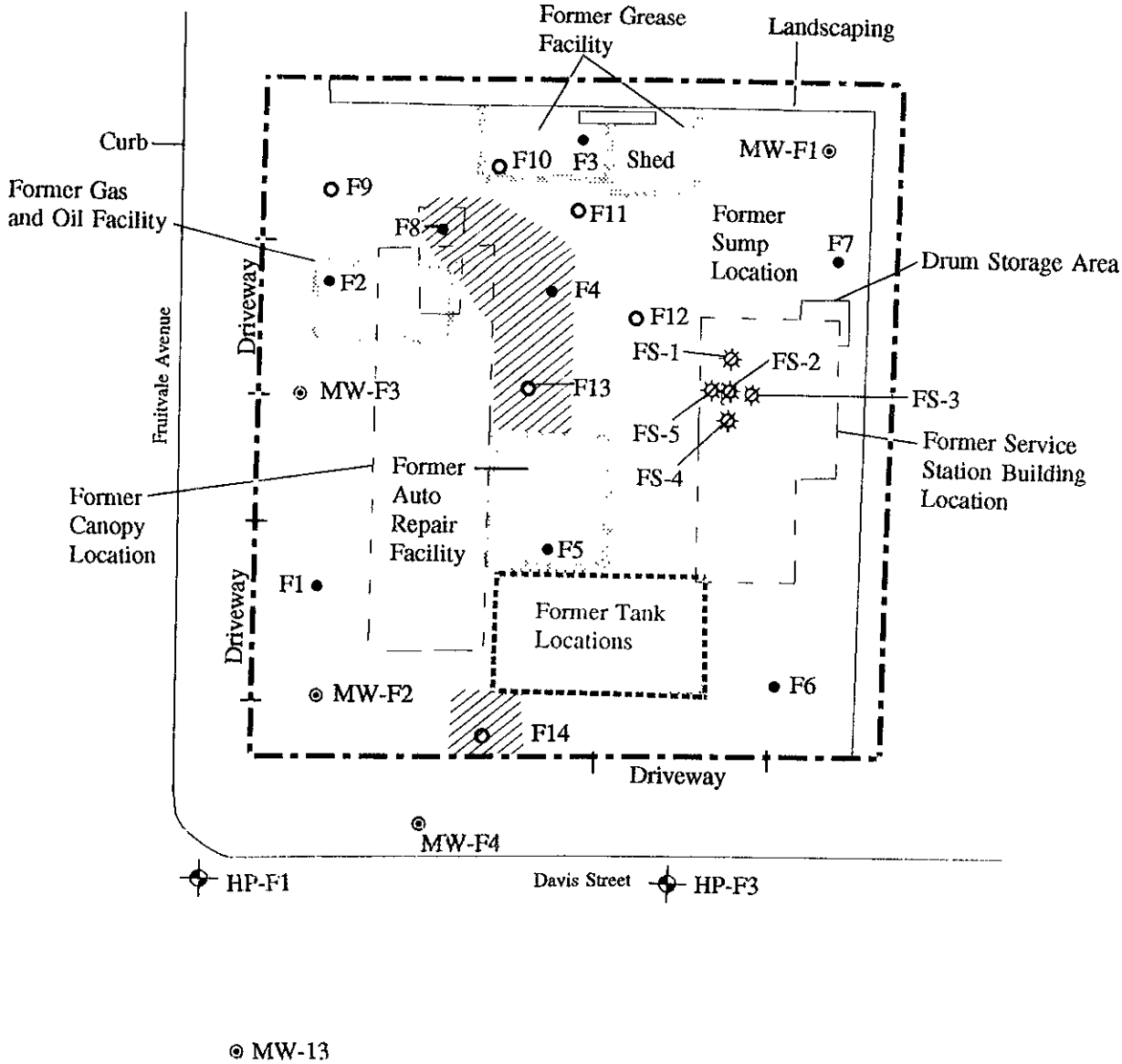
92404-DO 8/2/95

SITE PLAN

Figure 2



Legend

		Areas with Elevated TPH Concentrations
F1 to F8	•	Soil Boring Location - Phase II
F9 to F14	○	Soil Boring Location - Phase III
FS-1	✲	Sump Area Boring Location
MW-F2	◉	Monitoring Well Location
HP-F1	⊕	Temporary Well Location
		Project Site Boundary

0 30 Feet

2662 Fruitvale Avenue
Oakland, California

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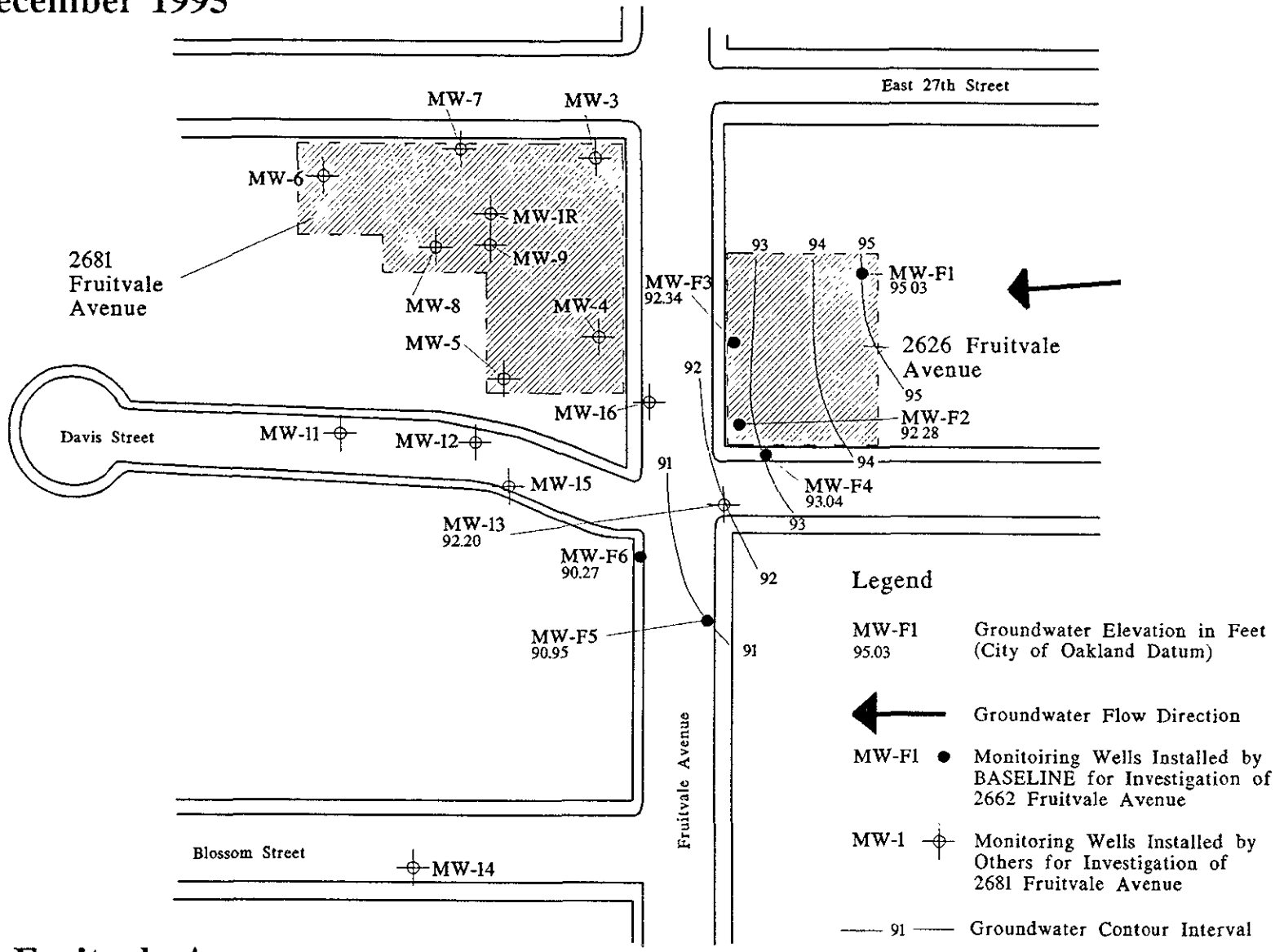
GROUNDWATER ELEVATION MAP
29 December 1995

Figure 3



2662 Fruitvale Avenue
Oakland, California

Source: Base Map - Modified from Groundwater Technology, Inc., 1993, Site Plan Map.

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92404-DO 1/18/96, Cadd File N, 92404DO

TABLE 1

SUMMARY OF ANALYTICAL RESULTS, GROUNDWATER
2662 Fruitvale Avenue, Oakland, California

(mg/L)

Sample Location	Sample Date	TPH as Gasoline[1]	TPH as Motor Oil[2]	Benzene[3]	Toluene[3]	Ethyl-benzene[3]	Xylenes[3]
Monitoring Wells							
MW-F1	08-16-93	<0.05	<0.5	<0.002	<0.002	<0.002	<0.002
	06-29-94	<0.05	--	<0.0005	<0.0005	<0.0005	<0.0005
	09-09-94	<0.9	--	<0.0009	<0.0009	<0.0009	<0.0009
	12-21-94	<0.05	--	<0.0005	<0.0005	<0.0005	<0.0005
	06-30-95	<0.05	--	<0.0005	<0.0005	<0.0005	<0.0005
	12-29-95	<0.05	--	<0.0005	<0.0005	<0.0005	<0.0005
MW-F2	08-16-93	<0.05	<0.5	<0.002	<0.002	<0.002	<0.002
	06-29-94	<0.05	--	<0.0005	<0.0005	<0.0005	<0.0005
	09-09-94	<0.9	--	<0.0009	<0.0009	<0.0009	<0.0009
	12-21-94	**0.096**	--	<0.0005	<0.0005	<0.0005	<0.0005
	06-30-95	**0.34**	--	<0.0005	<0.0005	<0.0005	**0.0005**
	12-29-95	<0.05	--	<0.0005	<0.0005	<0.0005	<0.0005
MW-F3	08-16-93	<0.1	<0.5	<0.002	<0.002	<0.002	<0.002
	06-29-94	<0.05	--	<0.0005	<0.0005	<0.0005	<0.0005
	09-09-94	<0.9	--	<0.0009	<0.0009	<0.0009	<0.0009
	12-21-94	**0.13**	--	<0.0005	**0.0013**	<0.0005	<0.0005
	06-30-95	**0.11**	--	<0.0005	<0.0005	<0.0005	<0.0005
	12-29-95	**0.35**	--	**0.0008**	<0.0005	**0.0012**	**0.0007**
MW-F4	09-09-94	**3.4-3.5**	--	**0.029/0.028**	**0.0030/0.0028**	**0.038/0.033**	**0.094/0.099**
	12-21-94	**37**	--	**0.66**	<0.1	**2.3**	**5.9**
	06-30-95	**9.2**	--	**0.18**	**0.019**	**0.76**	**1.0**
	12-29-95	**38**	--	**0.61**	**0.14**	**4.3**	**5.8**

(Continued)

Table 1 - Summary of Analytical Results, Groundwater - *continued*

Sample Location	Sample Date	TPH as Gasoline[1]	TPH as Motor Oil[2]	Benzene[3]	Toluene[3]	Ethyl-benzene[3]	Xylenes[3]
MW-F5	06-30-95	**0.10**	--	<0.0005	<0.0005	<0.0005	<0.0005
	12-29-95	<0.05	--	<0.0005	<0.0005	<0.0005	**0.0007**
MW-F6	06-30-95	<0.05	--	<0.0005	<0.0005	<0.0005	<0.0005
	12-29-95	<0.05	--	<0.0005	<0.0005	<0.0005	<0.0005
MW-13	12-21-94	**3.3**	--	**0.33**	<0.013	**0.024**	**0.24**
	06-30-95	**22**	--	**0.85**	<0.0005	**1.2**	**1.6**
	12-29-95	**22**	--	**0.97**	**0.078**	**1.8**	**2.4**
Soil Borings[4]							
F1[5]	1-20-93	**13**	<0.5	**0.61**	<0.018	**0.83**	**0.046**
F2[5,6]	1-20-93	**6.8**	<0.5	**0.011**	<0.002	**0.016**	<0.002
F5	1-20-93	<0.05	--	--	--	--	--
F7	1-20-93	<0.05	<0.5	--	--	--	--
Hydropunch							
HP-F1	9-09-94	**26**	--	**0.46**	**0.16**	**1.5**	**4.4**
HP-F3	9-09-94	**0.21**	--	**0.0009**	**0.0007**	**0.0049**	**0.02**

Notes: <x.x = Compound not identified above reporting limits.
x.x = Bold values indicate compound identified above reporting limits.
x.x/x.x = Analytical testing results for duplicate samples.
-- = Compound not analyzed.
TPH = Total petroleum hydrocarbons.
Sample locations are shown on Figures 2 and 3.
Laboratory reports for December 1995 groundwater analyses are included in Attachment B.

[1] Test Method = EPA 5030/8015.
[2] Test Method = EPA 3510/8015.
[3] Test Method = EPA 602 or 624.
[4] Water collected from open boreholes in January 1993.
[5] Sample also analyzed for Title 26 metals; all metal concentrations less than STLC.
[6] Sample contained trans-1,3-dichloropropene.

TABLE 2

GROUNDWATER ELEVATION AND GRADIENT DETERMINATION DATA
2662 Fruitvale Avenue, Oakland, CA

Monitoring Well	Date	TOC Elevation (feet)[1]	Depth to Groundwater (feet)	Groundwater Elevation (feet)[1]	Groundwater Gradient	
					Direction	Magnitude
MW-F1	08/16/93	104.41	11.13	93.28	S88W	0.025
	06/29/94		10.38	93.53	N87W	0.026
	09/09/94		11.56	92.85	S82W	0.03
	12/21/94		8.96	95.45	S47W	0.028
	06/30/95		10.49	93.92	S86W	0.025
	12/29/95		9.38	95.03	N79W	0.027
MW-F2	08/16/93	102.22	12.15	90.07		
	06/29/94		11.74	90.48		
	09/09/94		12.21	90.01		
	12/21/94		10.34[4]	91.88		
	06/30/95		11.32	90.90		
	12/29/95		9.94	92.28		
MW-F3	08/16/93	102.42	11.99	90.43		
	06/29/94		11.40	91.02		
	09/09/94		12.39	90.03		
	12/21/94		9.32	93.10		
	06/30/95		11.14	91.28		
	12/29/95		10.08	92.34		
MW-F4	09/09/94	101.56	11.21	90.35		
	12/21/94		8.00	93.56		
	06/30/95		10.08	91.48		
	12/29/95		8.52	93.04		
MW-F5	06/30/95	100.32	11.09	89.23		
	12/29/95		9.37	90.95		
MW-F6	06/30/95	100.11	10.96	89.15		
	12/29/95		9.84	90.27		
MW-13[2]	09/09/94[3]	101.20	12.27	88.93		
	12/21/94[4,5]		9.32	91.88		
	06/30/95[6]		11.32	89.88		
	12/29/95[7]		9.00	92.20		

[1] Elevations are presented as feet above City of Oakland datum (which is three feet below mean sea level datum).
[2] Monitoring well installed by Resna for investigation of 2681 Fruitvale Avenue.
[3] Approximately 0.04 feet of hydrocarbon product detected by dual interface probe.
[4] Groundwater level had not completely stabilized prior to measurement.
[5] Approximately 0.25 inch free product measured in bailer prior to purging.
[6] Hydrocarbon sheen observed on dual interface probe when removed from the well; hydrocarbon not detected by probe.
[7] Groundwater level approximate – hydrocarbon/water level not detected by probe – measurement not used in groundwater flow calculations.

ATTACHMENT A

GROUNDWATER SAMPLING FORMS

GROUNDWATER SAMPLING

Project no.:	92404-D0	Well no.: MW-F1	Date: 12/29/95
Project name:	Fruitvale Avenue	Depth of well from TOC (feet):	25.11
Location:	2662 Fruitvale Avenue	Well diameter (inch):	2
	Oakland, CA	Screened interval from TOC (feet):	8.5-25.11
Recorded by:	WKS	TOC elevation (feet):	104.41 (City of Oakland datum)
Weather:	Sunny	Water level from TOC (feet):	9.38 Time: 8:00
Precip in past		Product level from TOC (feet):	None Time: 8:00
5 days (inch):	None	Water level measurement device:	Dual interface probe

VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:

[(25.11 ft) - (9.38 ft)] × (0.083 ft)² × 3.14 × 7.48 =

Well depth Water level Well radius

2.5 gallons in one well volume

12.8 gallons in 5 well volumes

8.0 total gallons removed

CALIBRATION:

	Time	Temp (° C)	pH	EC (µmho/cm)
Calibration Standard:	7:45	21.0	7.00-10.01	1,000
Before Purging:	7:46	21.0	7.00-10.01	950
After Purging:	12:10	15.7	6.97-9.88	950

FIELD MEASUREMENTS:

Time	Temp (° C)	pH	EC (µmho/cm)	Cumulative Gallons Removed	Appearance
10:57	17.8	6.99	410	1.5	Clear
11:00	18.0	6.95	410	2.5	Clear
11:05	17.8	6.94	410	5.0	Clear
11:08	18.0	6.92	410	6.5	Clear
11:11	17.9	6.91	410	8.0	Clear

Water level after purging prior to sampling (feet):	9.38		Time: 13:10
Appearance of sample:	Clear		Time: 13:20
Duplicate/blank number:	None		Time:
Purge method:	Double diaphragm pump		
Sampling equipment:	Disposable PVC bailer	VOC attachment:	Used for VOC sample
Sample containers:	3 40-ml VOAs		
Sample analyses:	TPH as gasoline, BTXE	Laboratory:	Chromalab
Decontamination method:	TSP and water, DI water rinse	Rinsate disposal:	Drum FW3

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GROUNDWATER SAMPLING

Project no.:	92404-D0	Well no.:	MW-F2	Date:	12/29/95
Project name:	Fruitvale Avenue	Depth of well from TOC (feet):	19.88		
Location:	2662 Fruitvale Avenue	Well diameter (inch):	2		
	Oakland, CA	Screened interval from TOC (feet):	8.5-19.88		
Recorded by:	WKS	TOC elevation (feet):			
Weather:	Sunny	Water level from TOC (feet):	9.94	Time:	7:54
Precip in past		Product level from TOC (feet):	None	Time:	7:54
5 days (inch):	None	Water level measurement device:	Dual interface probe		

VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:

[(19.88 ft) - (9.94 ft)] × (0.083 ft)² × 3.14 × 7.48 =

Well depth Water level Well radius

1.6 gallons in one well volume
8.1 gallons in 5 well volumes
5.1 total gallons removed

CALIBRATION:

	Time	Temp (° C)	pH	EC (µmho/cm)
Calibration Standard:	7:45	21.0	7.00-10.01	1,000
Before Purging:	7:46	21.0	7.00-10.01	950
After Purging:	12:10	15.7	6.97-9.88	950

FIELD MEASUREMENTS:

Time	Temp (° C)	pH	EC (µmho/cm)	Cumulative Gallons Removed	Appearance
8:00	19.0	7.2	240	1.0	Clear
8:03	19.1	7.19	240	2.0	Clear
8:10	19.2	7.11	240	3.5	Clear
8:15	19.2	7.12	240	5.0	Clear

Water level after purging prior to sampling (feet):	10.31			Time:	13:36
Appearance of sample:	Clear			Time:	13:40
Duplicate/blank number:	None			Time:	
Purge method:	Double diaphragm pump				
Sampling equipment:	Disposable PVC bailer	VOC attachment:	Used for VOC sample		
Sample containers:	3 40-ml VOAs				
Sample analyses:	TPH as gasoline, BTXE	Laboratory:	Chromalab		
Decontamination method:	TSP and water, DI water rinse	Rinsate disposal:	Drum FW3		

92404D95.XLS (1/18/96)

GROUNDWATER SAMPLING

Project no.:	92404-D0	Well no.:	MW-F3	Date:	12/29/95
Project name:	Fruitvale Avenue	Depth of well from TOC (feet):	24.45		
Location:	2662 Fruitvale Avenue	Well diameter (inch):	2		
	Oakland, CA	Screened interval from TOC (feet):	8.5-24.45		
Recorded by:	WKS	TOC elevation (feet):	102.42 (City of Oakland datum)		
Weather:	Sunny	Water level from TOC (feet):	10.08	Time:	8:10
Precip in past		Product level from TOC (feet):	None	Time:	8:10
5 days (inch):	None	Water level measurement device:	Dual interface probe		

VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:

[(24.45 ft) - (10.08 ft)] × (0.083 ft)² × 3.14 × 7.48 =

(Well depth — Water level — Well radius)

2.3 gallons in one well volume
11.7 gallons in 5 well volumes
6.5 total gallons removed

CALIBRATION:

	Time	Temp (° C)	pH	EC (µmho/cm)
Calibration Standard:	7:45	21.0	7.00-10.01	1,000
Before Purging:	7:46	21.0	7.00-10.01	950
After Purging:	12:10	15.7	6.97-9.88	950

FIELD MEASUREMENTS:

Time	Temp (° C)	pH	EC (µmho/cm)	Cumulative Gallons Removed	Appearance
10:30	18.7	6.86	680	1.0	Clear
10:36	18.2	6.88	650	2.5	Clear
10:41	18.0	6.91	650	4.0	Clear
10:46	18.0	6.92	600	5.5	Clear
10:51	18.0	6.89	600	6.0	Clear
10:56	18.5	6.87	600	6.5	Clear

Water level after purging prior to sampling (feet):	10.94			Time:	13:28
Appearance of sample:	Clear			Time:	13:30
Duplicate/blank number:	None			Time:	
Purge method:	Double diaphragm pump				
Sampling equipment:	Disposable PVC bailer	VOC attachment:	Used for VOC sample		
Sample containers:	3 40-ml VOAs				
Sample analyses:	TPH as gasoline, BTXE	Laboratory:	Chromalab		
Decontamination method:	TSP and water, DI water rinse	Rinsate disposal:	Drum FW3		

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GROUNDWATER SAMPLING

Project no..	92404-D0	Well no.: MW-F4	Date: 12/29/95
Project name:	Fruitvale Avenue	Depth of well from TOC (feet):	16.84
Location:	2662 Fruitvale Avenue	Well diameter (inch):	2
	Oakland, CA	Screened interval from TOC (feet):	8.5-16.84
Recorded by:	WKS	TOC elevation (feet):	101.56 (City of Oakland datum)
Weather:	Sunny	Water level from TOC (feet):	8.52 Time: 8:30
Precip in past		Product level from TOC (feet):	None Time: 8:30
5 days (inch).	None	Water level measurement device:	Dual interface probe

VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:

[(16.84 ft) - (8.52 ft)] × (0.083 ft)² × 3.14 × 7.48 =

Well depth Water level Well radius

1.3 gallons in one well volume

6.1 gallons in 5 well volumes

5.0 total gallons removed

CALIBRATION:

	Time	Temp (° C)	pH	EC (µmho/cm)
Calibration Standard:	7:45	21.0	7.00-10.01	1,000
Before Purging:	7:46	21.0	7.00-10.01	950
After Purging:	12:10	15.7	6.97-9.88	950

FIELD MEASUREMENTS:

Time	Temp (° C)	pH	EC (µmho/cm)	Cumulative Gallons Removed	Appearance
8:39	19.1	6.82	480	1.0	Clear, petroleum odor
8:48	18.8	6.87	480	2.5	Clear, petroleum odor
8:55	18.6	6.87	500	4.0	Clear, petroleum odor
9:00	19.0	6.87	500	5.0	Clear, petroleum odor

Water level after purging prior to sampling (feet):	10.21		Time: 14:08
Appearance of sample:	Clear		Time: 14:10
Duplicate/blank number:	None		Time:
Purge method:	Double diaphragm pump		
Sampling equipment:	Disposable PVC bailer	VOC attachment:	Used for VOC sample
Sample containers:	3 40-ml VOAs		
Sample analyses:	TPH as gasoline, BTXE	Laboratory:	Chromalab
Decontamination method:	TSP and water, DI water rinse	Rinsate disposal:	Drum FW3

92404D95.XLS (1/18/96)

GROUNDWATER SAMPLING

Project no.:	92404-D0	Well no.:	MW-F5	Date:	12/29/95
Project name:	Fruitvale Avenue	Depth of well from TOC (feet):	24.01		
Location:	2662 Fruitvale Avenue	Well diameter (inch):	2		
	Oakland, CA	Screened interval from TOC (feet):	8.5-24.01		
Recorded by:	WKS	TOC elevation (feet):			
Weather:	Sunny	Water level from TOC (feet):	9.37	Time:	8:34
Precip in past		Product level from TOC (feet):	None	Time:	8:34
5 days (inch):	None	Water level measurement device:	Dual interface probe		

VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:

[(24.01 ft) - (9.37 ft)] × (0.083 ft)² × 3.14 × 7.48 =

(Well depth — Water level — Well radius)

2.3 gallons in one well volume

11.9 gallons in 5 well volumes

6.5 total gallons removed

CALIBRATION:

	Time	Temp (° C)	pH	EC (µmho/cm)
Calibration Standard:	7:45	21.0	7.00-10.01	1,000
Before Purging:	7:46	21.0	7.00-10.01	950
After Purging:	12:10	15.7	6.97-9.88	950

FIELD MEASUREMENTS:

Time	Temp (° C)	pH	EC (µmho/cm)	Cumulative Gallons Removed	Appearance
9:17	17.8	7.10	450	1.0	Clear to very slightly turbid
9:26	17.0	6.85	460	3.0	Clear
9:35	17.2	6.87	460	5.0	Clear
9:42	17.4	6.86	460	6.5	Clear

Water level after purging prior to sampling (feet):	9.51			Time:	13:48
Appearance of sample:	Clear			Time:	13:52
Duplicate/blank number:	None			Time:	
Purge method:	Double diaphragm pump				
Sampling equipment:	Disposable PVC bailer	VOC attachment:	Used for VOC sample		
Sample containers:	3 40-ml VOAs				
Sample analyses:	TPH as gasoline, BTXE	Laboratory:	Chromalab		
Decontamination method:	TSP and water, DI water rinse	Rinsate disposal:	Drum FW3		

92404D95.XLS (1/18/96)

GROUNDWATER SAMPLING

Project no.:	92404-D0	Well no.:	MW-F6	Date:	12/29/95
Project name:	Fruitvale Avenue	Depth of well from TOC (feet):	21		
Location:	2662 Fruitvale Avenue	Well diameter (inch):	2		
	Oakland, CA	Screened interval from TOC (feet):			
Recorded by:	WKS	TOC elevation (feet):			
Weather:	Sunny	Water level from TOC (feet):	9.84	Time:	8:37
Precip in past		Product level from TOC (feet):	None	Time:	8:00
5 days (inch):	None	Water level measurement device:	Dual interface probe		

VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:

[(21.00 ft) - (9.84 ft)] × (0.083 ft)² × 3.14 × 7.48 =

(Well depth — Water level — Well radius)

1.8 gallons in one well volume
9.0 gallons in 5 well volumes
6.5 total gallons removed

CALIBRATION:

	Time	Temp (° C)	pH	EC (µmho/cm)
Calibration Standard:	7:45	21.0	7.00-10.01	1,000
Before Purging:	7:46	21.0	7.00-10.01	950
After Purging:	12:10	15.7	6.97-9.88	950

FIELD MEASUREMENTS:

Time	Temp (° C)	pH	EC (µmho/cm)	Cumulative Gallons Removed	Appearance
9:58	17.4	7.26	480	1.0	Clear
10:02	17.9	7.24	550	2.0	Clear
10:06	18.3	7.25	550	3.0	Clear
10:10	18.3	7.2	550	4.5	Clear
10:17	17.6	7.25	550	6.5	Clear

Water level after purging prior to sampling (feet):	9.89			Time:	13:56
Appearance of sample:	Clear			Time:	14:00
Duplicate/blank number:	None			Time:	
Purge method:	Double diaphragm pump				
Sampling equipment:	Disposable PVC bailer	VOC attachment:	Used for VOC sample		
Sample containers:	3 40-ml VOAs				
Sample analyses:	TPH as gasoline, BTXE	Laboratory:	Chromalab		
Decontamination method:	TSP and water, DI water rinse	Rinsate disposal:	Drum FW3		

92404D95.XLS (1/18/96)

GROUNDWATER SAMPLING

Project no.:	92404-D0	Well no.:	MW-13 (Chevron) Date: 12/29/95
Project name:	Fruitvale Avenue	Depth of well from TOC (feet):	24.13 (Soft bottom detected)
Location:	2662 Fruitvale Avenue	Well diameter (inch):	2
	Oakland, CA	Screened interval from TOC (feet):	8.5-24.5
Recorded by:	WKS	TOC elevation (feet):	101.24 (City of Oakland datum)
Weather:	Sunny	Water level from TOC (feet):	~9 Time: 10:00
Precip in past		Product level from TOC:	~0.25 inch Time: 10:00
5 days (inch):	None	Water level measurement device:	Disposable PVC bailer

VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING:

[(24.13 ft) - (11.32 ft)] × (0.083 ft)² × 3.14 × 7.48 =
Well depth Water level Well radius

2.4 gallons in one well volume
12.0 gallons in 5 well volumes
7.0 total gallons removed

CALIBRATION:

	Time	Temp (° C)	pH	EC (µmho/cm)
Calibration Standard:	7:45	21.0	7.00-10.01	1,000
Before Purging:	7:46	21.0	7.00-10.01	950
After Purging:	12:10	15.7	6.97-9.88	950

FIELD MEASUREMENTS:

Time	Temp (° C)	pH	EC (µmho/cm)	Cumulative Gallons Removed	Appearance
11:30	17.2	6.77	690	1.0	Clear, strong petroleum odor
11:36	17.3	6.76	700	2.0	Clear, strong petroleum odor
11:40	17.2	6.72	700	3.0	Clear, strong petroleum odor
11:50	17.9	6.73	700	5.0	Clear, strong petroleum odor
12:07	18.0	6.72	700	7.0	Clear, strong petroleum odor

Water level after purging prior to sampling (feet):	NA		Time: 14:18
Appearance of sample:	Clear		Time: 14:20
Duplicate/blank number:	None		Time:
Purge method:	Double diaphragm pump		
Sampling equipment:	Disposable PVC bailer	VOC attachment:	Used for VOC sample
Sample containers:	3 40-ml VOAs		
Sample analyses:	TPH as gasoline, BTXE	Laboratory:	Chromalab
Decontamination method:	TSP and water, DI water rinse	Rinsate disposal:	Drum FW3

92404D95.XLS (1/18/96)

ATTACHMENT B

LABORATORY REPORTS

CHROMALAB, INC.

Environmental Services (SDB)

January 11, 1996

Submission #: 9512382

BASELINE ENVIRONMENTAL/EMRYVL

Atten: Bill Scott

Project: OAKLAND,2662 FRUITVALE AV *Project#:* 92404-DO
Received: December 29, 1995

re: 8 samples for Gasoline and BTEX analysis.
Method: EPA 5030/8015M/602/8020

Sampled: December 29, 1995 *Matrix:* WATER
Run: 9967-1 *Analyzed:* January 2, 1996

Spl #	Sample ID	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
115302	MW-FB	N.D.	N.D.	N.D.	N.D.	0.6
115303	MW-F1	N.D.	N.D.	N.D.	N.D.	N.D.
115304	MW-F2	N.D.	N.D.	N.D.	N.D.	N.D.
	For above sample:	*Uncategorized compound is not included in gasoline range.*				
115305	MW-F3	0.35	0.8	N.D.	1.2	0.7
115306	MW-F4	38	610	140	4300	5800
115307	MW-F5	N.D.	N.D.	N.D.	N.D.	0.7
115308	MW-F6	N.D.	N.D.	N.D.	N.D.	N.D.
115309	MW-13	22	970	78	1800	2400
	Reporting Limits	0.05	0.5	0.5	0.5	0.5
	Blank Result	N.D.	N.D.	N.D.	N.D.	N.D.
	Blank Spike Result (%)	89	105	107	117	119

June Zhao
Chemist

Marianne Alexander
Gas/BTEX Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

2?2/…30 115…9 25…5

BASELINE
5900 Hollis Street, Suite D
Emeryville, CA 94608
(510) 420-8686

CHAIN OF CUSTODY RECORD

Turn-around Time: Normal
Lab: Chromalab
BASELINE Contact Person: ~~Karen~~ Bill Scott

SUBM #: 9512382 REP: PM
CLIENT: BASELINE
DUE: 01/08/96
REF #:25765

Project No.: 92404-DO

Project Name and Location: City of Oakland, 2662 Fruitvale Ave

Samplers: (Signature) William K Scott

Sample ID No. Station	Date	Time	Media	Depth	No. of Containers	TEH	(TPH with BTX&E)	Oil & Grease	Motor Oil	PNAs	Title 22 Metals	Total Lead						Remarks/ Composite	Detection Limits
MW-FB	12-29-95	12:50	Water		3		X												Tr. Valley
MW-F1		13:20			3		X												
MW-F3		13:30			3		X												
MW-F2		13:40			3		X												
MW-F5		13:50			3		X												
MW-F6		14:00			3		X												
MW-F4		14:10			3		X											may be high contamination	
MW-13	↓	14:20	↓		3		X											High levels contamination	

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Conditions of Samples Upon Arrival at Laboratory:
William K Scott	15:30/12-29-95	Mimi Park	12/29/95 15:30	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks:
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	