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Donna
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December 20, 2000

Ms. Gwen Tellegan
17810 South Central Avenue
Compton, California 90220

Mr. Donald Hill
2591 Nicholson Street
San Leandro, California 94577

**Subject: Groundwater Monitoring Report, October 2000
2585 Nicholson Street, San Leandro, California
Versar Project No. 4422-002**

Dear Ms. Tellegan and Mr. Hill:

Per the request of Ms. Donna Proffitt with Bank of America, NT&SA, and in accordance with site access agreements for the 1951 Fairway Drive and 2591 Nicholson Street properties, attached is the above referenced report, dated December 20, 2000, for 2585 Nicholson Street in San Leandro, California. Please refer any questions or responses to Ms. Proffitt at (714) 734-2069.

Sincerely,
Versar, Inc.

Scott Allin, REA
Senior Program Manager

Attachment

cc: Donna Proffitt (Bank of America, NT&SA)

fmsall wpd/4422-001



December 20, 2000

Ms. Donna Proffitt
Bank of America, N.A.
Environmental Services Department
4820 Irvine Boulevard
Irvine, California 92620-1910

Reference: Groundwater Monitoring Report (October 2000)
2585 Nicholson Street in San Leandro, California
ES# 305582
Versar Project No. 4422-003

Dear Ms. Proffitt:

Versar, Inc. (Versar) has prepared this groundwater monitoring report on behalf of Bank of America, N.A. (Bank of America) summarizing work performed at the property located at 2585 Nicholson Street in San Leandro, California (Site). Figures 1 and 2, Attachment I, present the Site location and Site layout, respectively. The following sections describe the scope of work, Site location, and Site background.

This letter report presents the results of the quarterly groundwater monitoring and sampling event conducted at the Site on October 26, 2000. The results of this monitoring event are presented graphically on Figure 3 in Attachment I, and are summarized in tables in Attachment II. This report has been prepared in response to the request by the Alameda County Health Care Services (ACHCS) letters dated July 14, 1999, and October 29, 1999, regarding groundwater monitoring at 2585 Nicholson Street, San Leandro, California.

The Site is located at 2585 Nicholson Street in San Leandro, California. The nearest cross street is Republic Avenue. The Site is currently occupied by Crane Works and consists of a single-story commercial office building at the north end of the property, and covered parking/work areas over the western and southern edges of the property.

2334-01/4422-002

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BACKGROUND

According to prior assessment documents, two underground storage tanks (USTs) were removed from the Site in 1991. Soil and groundwater samples collected during the UST removal activities identified total petroleum hydrocarbons as diesel (TPHd) and gasoline (TPHg) in both media, and soils were over excavated. One groundwater monitoring well (MW-1) was installed in 1992, and an oil absorbent sock was used to collect free-floating product (maximum of 1.25-inches).

In April 1999, Versar installed four additional monitoring wells on or around the Site perimeter. Quarterly monitoring of groundwater from the monitoring wells has been performed since well installation. Groundwater monitoring has identified TPHg and benzene, toluene, ethylbenzene, and xylenes (BTEX) on-site in well MW-1. Low to non-detect levels of the constituents have been identified in the surrounding monitoring wells. This report presents the October 2000 monitoring episode.

In their April 27, 2000 letter, and as further discussed in Versar's May 1, 2000 letter, ACHCS requested semi-annual monitoring for TPH as diesel (TPHd) and TPH as stoddard solvent (TPHss) in well MW-1. The additional analyses were requested to address fluctuating concentrations of the constituents identified from historical data. TPHd analysis was performed on the groundwater sample from well MW-1 during the July 2000 monitoring event, and the results were below the laboratory reporting limit. TPHss analysis was performed on the groundwater sample from well MW-1 during this monitoring event, as described herein.

QUARTERLY GROUNDWATER MONITORING ACTIVITIES

Versar performed groundwater monitoring of the Site on October 26, 2000, sampling the five wells for TPH as gasoline (TPHg) and BTEX. Three of the wells were sampled for parameters indicative of intrinsic bio-remediation. In addition, TPHss was performed on the groundwater sample from monitoring well MW-1. Versar's quarterly groundwater monitoring program for the Site included the following tasks:

- Measure groundwater levels in monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5, and calculate the hydraulic gradient and flow direction;
- Purge and collect groundwater samples from the five monitoring wells (MW-1, MW-2, MW-3, MW-4, and MW-5);

- Obtain measurements of groundwater temperature, electrical conductivity, pH, oxidation/reduction potential (redox), and dissolved oxygen (DO) in monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5;
- Submit the groundwater samples to a California-certified analytical laboratory for analysis of one or more of the following TPHg, BTEX, TPHss, methane, nitrate, sulfate, and alkalinity; and
- Prepare a letter report summarizing the results.

Groundwater Sampling Protocol

The methodology and protocol followed for the collection of groundwater samples during this groundwater sampling event are presented in Attachment III, Decontamination and Groundwater Monitoring Well Sampling Procedures.

Quarterly Groundwater Level Measurements

On October 26, 2000, the depth to groundwater in wells MW-1, MW-2, MW-3, MW-4 and MW-5 was measured to characterize groundwater flow direction and gradient. The depths to groundwater at each well, along with historical measurements, are presented in Table 1. Groundwater surface elevations are 0.21 to 0.55 foot higher than in July 2000. Versar attempted to calculate the groundwater gradient using the October 2000 data. However, the data was determined to be either anomalous or erroneous, and groundwater flow patterns could not be established. The data may have been affected by unusually strong precipitation which occurred on and around the date of sampling.

Groundwater Sampling Activities

On October 26, 2000, groundwater samples were collected from monitoring wells MW-1, MW-2, MW-3, MW-4 and MW-5. Prior to sampling, each well was purged of approximately three casing volumes of groundwater, and the water level allowed to recover to at least 80 percent of the pre-purge level. Measurements of temperature, pH, electrical conductivity, redox, and DO were recorded a minimum of three times during each purged well volume. The groundwater monitoring well purge tables are presented in Attachment IV.

Groundwater samples collected from Site wells MW-1, MW-2, MW-3, and MW-5 were analyzed for TPHg and BTEX. Groundwater samples collected from site wells MW-1, MW-2, and MW-3 were analyzed for methane, sulfate, nitrate and alkalinity. The groundwater sample from well MW-1 was also analyzed for stoddard solvents. All analyses were performed by Excelchem Environmental Labs (Excelchem), California State Laboratory Certification No.

2119. The samples were collected, placed in containers, preserved, transported, and analyzed within the time constraints consistent with applicable United States EPA, California EPA, and Regional Water Quality Control Board (RWQCB) procedures, and in conformance with Versar's Decontamination and Groundwater Monitoring Well Sampling Procedures, presented in Attachment III. Purge water from the October 26, 2000 sampling event was stored on-site in two DOT-approved, 55-gallon steel drums, pending recycling by Seaport Environmental.

ANALYTICAL RESULTS

The analytical results of the TPH and BTEX analyses are summarized in Table 2 in Attachment II. Figure 3 in Attachment I spatially depicts the analytical results for the October 26, 2000 groundwater monitoring event. The analytical results of the methane, nitrate, sulfate, and alkalinity analyses; and DO and redox measurements; are summarized in Table 3 in Attachment II. The laboratory analytical reports are included in Attachment V. The following is a summary of the analytical results:

- TPHg was detected in well MW-1, MW-4 and MW-5 at concentrations of 12.9 milligrams per liter (mg/L), 0.139 mg/L, and 0.156 mg/L, respectively;
- Benzene was detected in wells MW-1, MW-4, and MW-5 at concentrations of 1,000 micrograms per liter ($\mu\text{g/L}$), 0.6 $\mu\text{g/L}$, and 1.0 $\mu\text{g/L}$, respectively;
- Toluene was detected in well MW-1 at a concentration of 197 $\mu\text{g/L}$;
- Ethylbenzene was detected in well MW-1 at a concentration of 353 $\mu\text{g/L}$;
- Total xylene isomers was detected in well MW-1 at a concentration of 1,400 $\mu\text{g/L}$; and
- TPHss was below the laboratory reporting limit in the sample from MW-1.

Samples collected from wells MW-1, MW-2, and MW-3 to assess the potential for intrinsic bio-remediation indicate that anaerobic intrinsic biodegradation continues to occur at the Site. Methane concentrations are elevated in MW-1, suggesting anaerobic respiration. The nitrate concentration is significantly lower in MW-1, suggesting use of these electron receptors in biological degradation. In addition, redox is strongly negative in MW-1, suggesting biological activity.

CONCLUSIONS

Based on the results of this most recent quarterly groundwater monitoring event Versar has made the following conclusions.

- During the October 2000 monitoring event, groundwater surface elevations were 0.21 to 0.55 foot higher than in July 2000.
- TPHg and BTEX were detected in the sample collected from well MW-1. Lower levels of TPHg and benzene were detected in samples collected from MW-4 and MW-5. TPHg, Benzene, Toluene, ethylbenzene, and total xylenes were not detected in the samples collected from wells MW-2 and MW-3. Concentrations of TPHg and BTEX in well MW-1 remained relatively consistent during the October 2000 monitoring event. The data indicates that the area of residual impact at the Site is located near the center of the property, in the vicinity of MW-1.
- Samples collected from wells MW-1, MW-2, and MW-3 to assess the potential for intrinsic bio-remediation indicate that anaerobic intrinsic biodegradation continues to occur at the Site.
- TPHss was not detected above the laboratory reporting limit in the sample collected from well MW-1, which confirms that prior detections of TPHd and TPHss were likely the result of misinterpretation by the analytical laboratory, and TPHd and TPHss are not constituents of concern at the Site.

C-7 - C-12
D C-12 - C-24

FUTURE ACTIVITIES

Continued quarterly groundwater monitoring is planned for the Site to characterize groundwater fluctuations, flow direction, and contaminant concentrations. Continued analysis of intrinsic bio-remediation indicator parameters will also be performed during the next monitoring event. This information is required in considering closure for the Site by the ACHCS. Versar proposes discontinuing semi-annual analysis for TPHd, and TPHss from well MW-1.

REFERENCES

Alameda County Health Care Services Agency. Letter to Mr. John Schovanec, Bank of America Environmental Services. Re: Groundwater monitoring at 2584 Nicholson Street, San Leandro, CA. Dated July 14, 1999.

United States Department of the Interior Geological Survey. Map. *San Leandro Quadrangle, 7.5 Minute Series(Topographic)*. 1959, Photorevised 1980.

Versar, Inc.. *Monitoring Well Installation and Groundwater Monitoring Report*. Prepared for Bank of America, N.T. & S.A.. Project No. 4422-001. June 30, 1999.

Versar, Inc.. *Groundwater Monitoring and Utility Survey Report*. Prepared for Bank of America, N.T. & S.A.. Project No. 4422-001. January 6, 2000.

Versar, Inc.. *Groundwater Monitoring Report, January 2000*. Prepared for Bank of America, N.T. & S.A.. Project No. 4422-001. March 21, 2000.

STATEMENT OF LIMITATIONS

The conclusions presented above are based on the agreed-upon scope of work outlined in the beginning of this report. Versar makes no warranties or guarantees as to the accuracy or completeness of information provided or compiled by others and used by Versar. It is possible that information exists beyond the scope of this investigation. Also, changes in Site use may have occurred sometime in the past due to variations in rainfall, temperature, water usage, economic, agricultural, or other factors. Additional information that was not found or available to Versar at the time of the writing of this report may result in a modification of the conclusions presented. This report is not a legal opinion.



Ms. Donna Proffitt

December 20, 2000

Page 7 of 7

The services performed by Versar have been conducted in a manner consistent with the level of care ordinarily exercised by members of our profession currently practicing under similar conditions. No other warranty expressed or implied is made.

This Quarterly Monitoring Report was prepared by Versar on behalf of Bank of America. Mr. Kevin Reeve, Senior Environmental Assessor, performed the groundwater sample collection. Ms. Jeni VanDusen, Staff Geologist, prepared the report, and supervised the field activities. Mr. Scott Allin, Registered Environmental Assessor, reviewed the report.

Prepared by:

Jeni VanDusen
Staff Geologist
Versar - Pacific Region

Reviewed by:

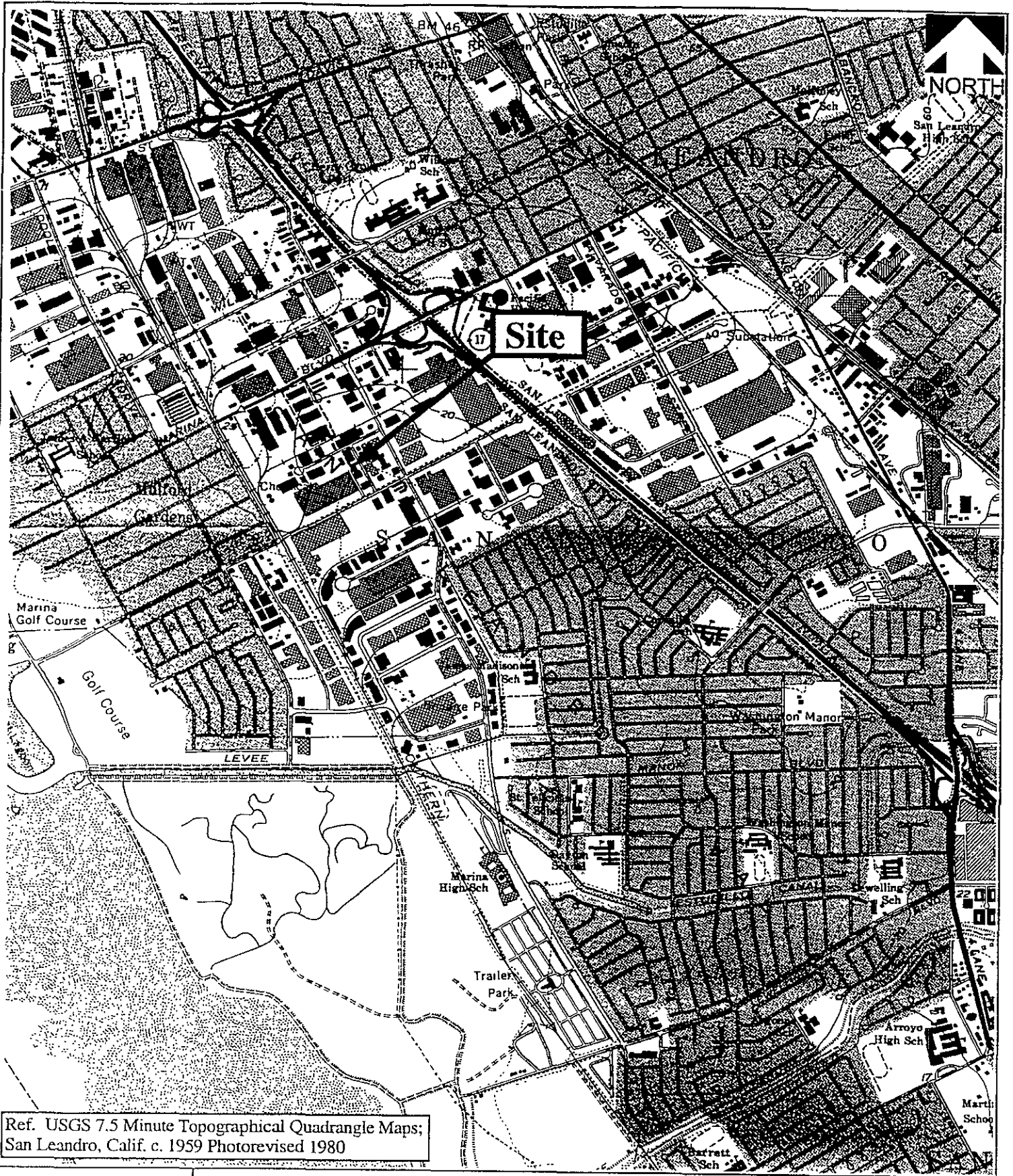
Scott Allin, R.E.A. 076223
Senior Program Manager
Versar - Pacific Region

- Attachment I - Figures
- Attachment II - Tables
- Attachment III - Decontamination and Groundwater Monitoring Well Sampling Procedures
- Attachment IV - Monitoring Well Purge Tables
- Attachment V - Laboratory Analytical Reports and Chain-of-Custody Documentation

cc: Amir Gholami (Alameda County)
Mike Bakaldin (City of San Leandro)

ATTACHMENT I

Figures



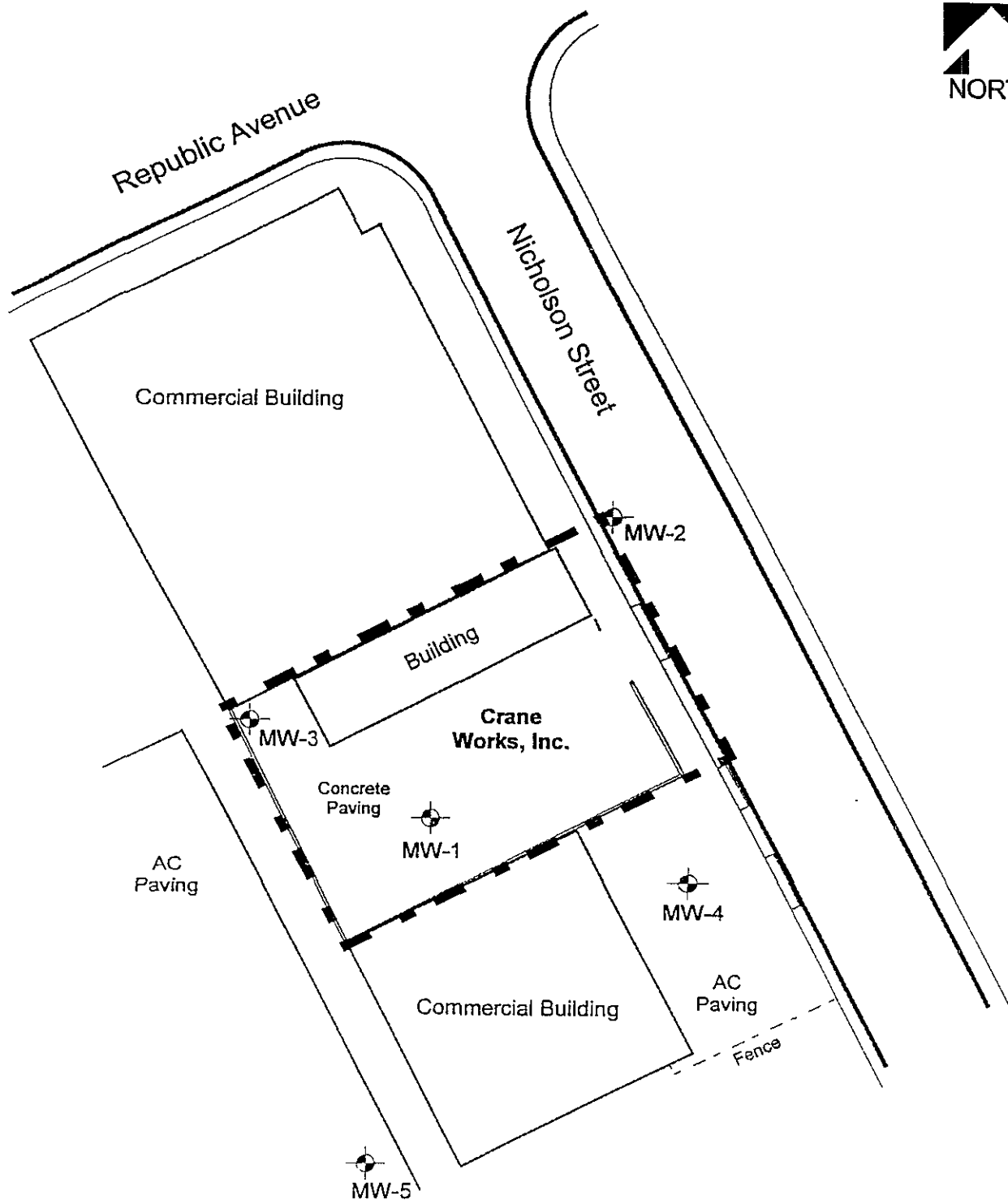
Ref. USGS 7.5 Minute Topographical Quadrangle Maps;
 San Leandro, Calif. c. 1959 Photorevised 1980

Dr. By: Dale Anderson
 Date: 5/10/99
 Scale: 1 inch=2,000 feet
 Versar Project No. 4422-001
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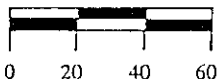
Versar
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SITE LOCATION
 2585 Nicholson Street
 San Leandro, California

Figure
 1



(Scale - Feet)



Dr. By: Dale Anderson

Date: 5/10/99

Scale: 1 inch= 60 feet

Versar Project No. 4422-001

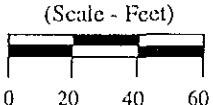
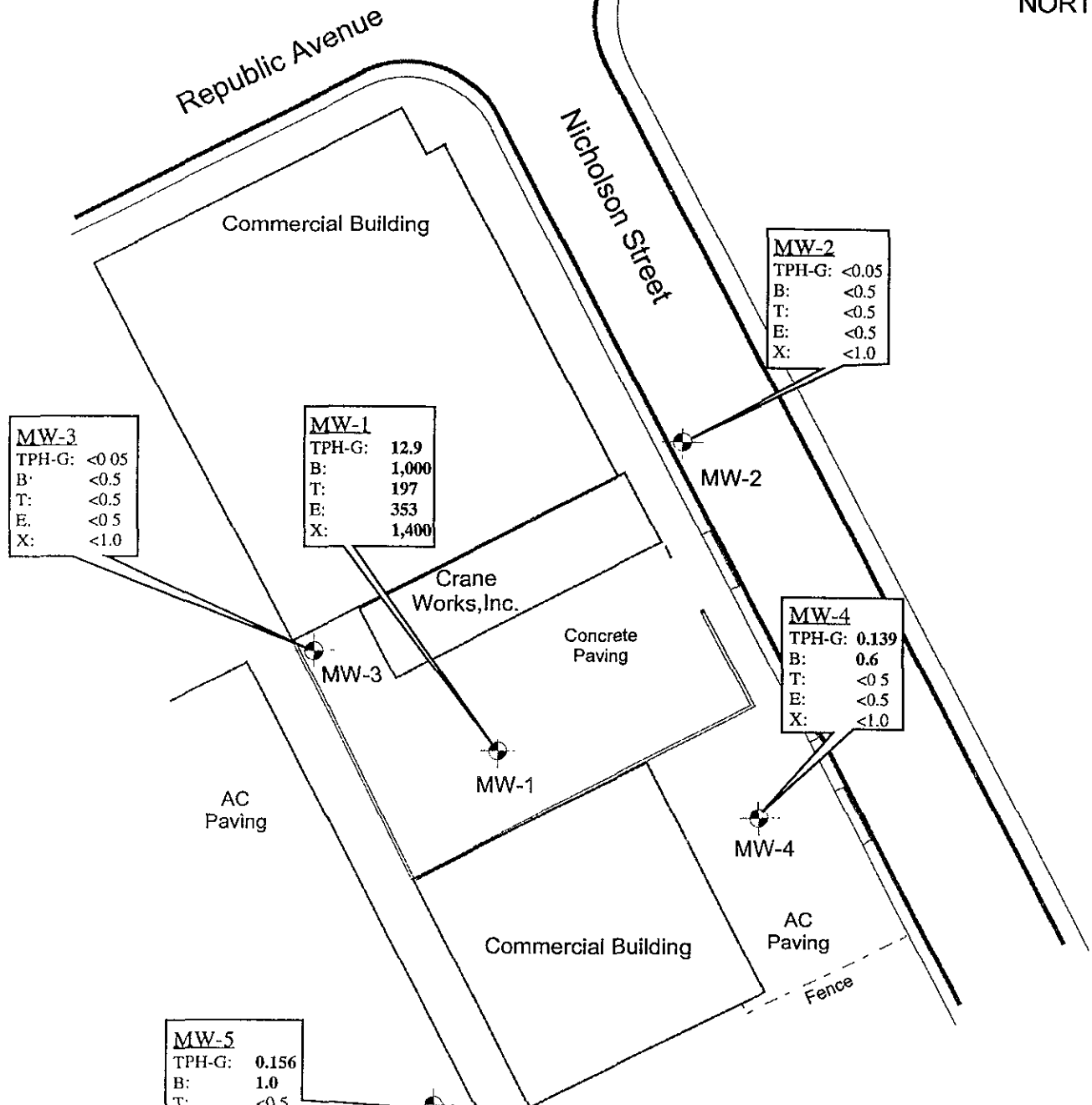
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**SITE LAYOUT AND MONITORING
WELL LOCATION MAP**
2585 Nicholson Street
San Leandro, California

Figure
2



Legend	
	Extraction and Observation Well Location
NOTE: BTEX Results in Ug/L, and TPH-G Results in mg/L	
TPH-G:	Total Petroleum Hydrocarbons as Gasoline
B:	Benzene
T:	Toluene
E:	Ethybenzene
X:	Total Xylenes
NA:	Not analyzed.

Dr. By: Jeni VanDusen
Date: 12/14/00
Scale: 1 inch= 60 feet
Versar Project No. 4422-002

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**Laboratory Analytical Results
 For Groundwater Samples
 October 26, 2000
 2585 Nicholson Street
 San Leandro, California**

**Figure
 3**

ATTACHMENT II

Tables

Table 1
Groundwater Elevation Data
2585 Nicholson Street
San Leandro, California

		Groundwater Monitoring Well					Hydraulic gradient magnitude (ft/ft)	General gradient direction
		MW-1	MW-2	MW-3	MW-4	MW-5		
Well casing elevation (feet amsl)		15.27	13.69	15.88	15.25	16.46	---	---
April 29, 1999	Depth to groundwater (feet toc)	5.33	3.76	5.88	5.40	6.64	0.001	Southeast
	Groundwater elevation (feet amsl)	9.94	9.93	10.00	9.85	9.82		
July 28, 1999	Depth to groundwater (feet toc)	5.85	4.19	6.37	5.84	7.11	0.001	Southeast
	Groundwater elevation (feet amsl)	9.42	9.50	9.51	9.41	9.35		
	Change from previous elevation	-0.52	-0.43	-0.49	-0.44	-0.47		
October 28, 1999	Depth to groundwater (feet toc)	5.45	4.06	5.79	5.60	6.68	0.002	Easterly
	Groundwater elevation (feet amsl)	9.82	9.63	10.09	9.65	9.78		
	Change from previous elevation	0.40	0.13	0.58	0.24	0.43		
January 20, 2000	Depth to groundwater (feet toc)	5.13	3.70	5.63	5.25	6.43	0.001	Easterly
	Groundwater elevation (feet amsl)	10.14	9.99	10.25	10.00	10.03		
	Change from previous elevation	0.32	0.36	0.16	0.35	0.25		
April 13, 2000	Depth to groundwater (feet toc)	4.95	3.61	5.41	5.06	6.15	0.002	Easterly
	Groundwater elevation (feet amsl)	10.32	10.08	10.47	10.19	10.31		
	Change from previous elevation	0.18	0.09	0.22	0.19	0.28		
July 20, 2000	Depth to groundwater (feet toc)	5.74	4.06	6.27	5.77	7.11	0.001	South/Southeast
	Groundwater elevation (feet amsl)	9.53	9.63	9.61	9.48	9.35		
	Change from previous elevation	-0.79	-0.45	-0.86	-0.71	-0.96		
October 26, 2000	Depth to groundwater (feet toc)	5.35	3.85	5.75	5.28	6.56	N/A	N/A
	Groundwater elevation (feet amsl)	9.92	9.84	10.13	9.97	9.90		
	Change from previous elevation	0.39	0.21	0.52	0.49	0.55		

Notes and Abbreviations:
ft/ft = feet per foot
amsl = above mean sea level
toc = top of casing
N/A = not available

Table 2
Analytical Results for Groundwater Samples
2585 Nicholson Street
San Leandro, California

Monitoring Well No.	Date	Chemicals of Concern								
		TPH-G (mg/L)	TPH-D (mg/L)	TPH-MO (mg/L)	TPH-K (mg/L)	TPH-SS (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW-1	Jun-92	10	ND	--	--	--	110	81	62	280
	Nov-92	9.8	ND	--	--	--	23	14	22	96
	Apr-93	18	0.56	ND	ND	0.37	42	47	50	190
	Jul-93	27	ND	ND	ND	ND	40	45	63	190
	Dec-93	7.8	3.8	ND	ND	ND	13	16	20	77
	Mar-94	280	0.62	ND	ND	3.3	970	880	620	1,700
	Jun-94	8.5	ND	ND	ND	ND	23	13	8.5	19
	Sep-94	2.4	0.052	ND	ND	ND	5.3	2.6	2.5	6
	Dec-94	4.8	1.3	ND	ND	1.0	32	32	16	50
	Apr-95	74	3.7	ND	ND	0.57	320	350	350	940
	Sep-95	33	46	ND	ND	4.9	140	270	260	1,100
	May-99	8.1	ND	ND	--	--	1,400	31	82	360
	Jul-99	3.5	1.7	--	--	--	252	23	43	179
	Oct-99	4.9	--	--	--	--	270	34	<5	370
	Jan-00	22.4	<0.5	--	--	--	1,300	402	483	2,490
	Apr-00	13	--	--	--	--	1,130	226	335	1,410
Jul-00	28.4	<0.05	<0.5	--	--	1,470	190	299	967	
Oct-00	12.9	--	--	--	--	<1.0	1,000	197	353	
MW-2	Apr-99	ND	ND	ND	--	--	ND	ND	ND	ND
	Jul-99	<0.1	<0.1	--	--	--	<1.0	<1.0	<1.0	<1.0
	Oct-99	<0.1	--	--	--	--	<1.0	<1.0	<1.0	<1.0
	Jan-00	0.118	--	--	--	--	0.7	<0.5	<0.5	<0.5
	Apr-00	<0.05	--	--	--	--	0.5	<0.5	<0.5	<0.5
	Jul-00	<0.4	--	--	--	--	0.8	<0.5	<0.5	<0.5
	Oct-00	<0.05	--	--	--	--	<0.5	<0.5	<0.5	<1.0
MW-3	Apr-99	ND	0.54	ND	--	--	ND	ND	ND	ND
	Jul-99	0.3	<0.1	--	--	--	<1.0	<1.0	<1.0	<1.0
	Oct-99	0.23	--	--	--	--	<1.0	<1.0	<1.0	<1.0
	Jan-00	0.163	<0.05	--	--	--	0.8	<0.5	<0.5	<0.5
	Apr-00	0.09	--	--	--	--	0.7	<0.5	<0.5	<0.5
	Jul-00	<0.4	--	--	--	--	2.0	<0.5	<0.5	<0.5
	Oct-00	<0.05	--	--	--	--	<0.5	<0.5	<0.5	<1.0
MW-4	Apr-99	0.11	ND	ND	--	--	ND	ND	ND	ND
	Jul-99	0.12	<0.1	--	--	--	<1.0	<1.0	<1.0	<1.0
	Oct-99	<0.1	--	--	--	--	<1.0	<1.0	<1.0	<1.0
	Jan-00	0.106	--	--	--	--	0.9	<0.5	<0.5	<0.5
	Apr-00	0.099	--	--	--	--	1.0	<0.5	<0.5	<0.5
	Jul-00	--	--	--	--	--	--	--	--	--
	Oct-00	0.139	--	--	--	--	0.6	<0.5	<0.5	<1.0
MW-5	Apr-99	0.27	ND	ND	--	--	ND	ND	ND	ND
	Jul-99	0.57	<0.1	--	--	--	<1.0	<1.0	<1.0	<1.0
	Oct-99	0.54	--	--	--	--	<1.0	<1.0	<1.0	<1.0
	Jan-00	0.231	--	--	--	--	1.9	<0.5	<0.5	<0.5
	Apr-00	0.353	--	--	--	--	3.5	<0.5	<0.5	<0.5
	Jul-00	<0.4	--	--	--	--	<0.5	<0.5	<0.5	<0.5
	Oct-00	0.156	--	--	--	--	1.0	<0.5	<0.5	<1.0

Notes and Abbreviations

TPH-G = total petroleum hydrocarbons as gasoline
 TPH-D = total petroleum hydrocarbons as diesel.
 TPH-K = total petroleum hydrocarbons as kerosene
 TPH-SS = total petroleum hydrocarbons as stoddard solvent.
 µg/L = micrograms per liter, equivalent to parts per billion (ppb).
 mg/L = milligrams per liter, equivalent to parts per million (ppm).
 ND = not detected at or above the methods reporting limit
 -- = not analysed

Table 3
 Intrinsic Bioremediation Indicator Analytical Results for Groundwater Samples
 2585 Nicholson Street
 San Leandro, California

Monitoring Well No.	Date	Bioremediation Indicators					
		Methane (µg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Alkalinity (mg/L)	Redox (mV)	D/O (mg/L)
MW-1	Jan-00	2590	0.27	46	576	-106	2.51
	Apr-00	3.1	<0.20	14	614	137	0.94
	Jul-00	2170	<0.5	13	524	-167	1.01
	Oct-00	2660	<0.5	32	578	-107	0.69
MW-2	Jan-00	1.5	3.04	82	530	-048	1.63
	Apr-00	<0.01	24	75	498	195	0.93
	Jul-00	3.1	6.3	59	706	-015	1.05
	Oct-00	2.5	24	24	546	164	2.63
MW-3	Jan-00	13.0	1.37	45	346	-055	2.61
	Apr-00	0.02	3.2	20	304	061	0.98
	Jul-00	31	1.9	44	312	069	0.95
	Oct-00	42	8.9	47	366	-009	2.28
MW-4	Jan-00	--	--	--	--	-060	1.49
	Apr-00	--	--	--	--	181	0.94
	Jul-00	--	--	--	--	033	0.76
	Oct-00	--	--	--	--	132	3.05
MW-5	Jan-00	--	--	--	--	-072	1.91
	Apr-00	--	--	--	--	116	1.48
	Jul-00	--	--	--	--	-045	1.02
	Oct-00	--	--	--	--	125	0.96

Notes and Abbreviations:

Methane by Gas Chromatography / Mass Spectroscopy

Nitrate by EPA method 353.2

Sulfate by EPA method 375.4

Alkalinity by EPA method 2320B

Redox - Reduction/Oxidation potential in millivolts, field measured with direct reading instrument, average of last three readings.

D/O - Dissolved Oxygen, field measured with direct reading instrument, average of last three readings.

µg/L = micrograms per liter, equivalent to parts per billion (ppb).

mg/L = milligrams per liter, equivalent to parts per million (ppm).

ND = not detected at or above the methods reporting limit.

-- = not analysed

ATTACHMENT III

Decontamination and Groundwater Monitoring Well Sampling Procedures

1.0 DECONTAMINATION PROCEDURES

The decontamination procedures for non-dedicated field equipment and well development/purging equipment are given below. These procedures are followed during all field activities.

1. Non-dedicated well development, purging, and sampling equipment is carefully pre-cleaned prior to each use, as follows:
 - a. Carefully brush off any loose foreign debris with a soft bristle brush.
 - b. Rinse the equipment thoroughly in clean water.
 - c. Wash the equipment in a non-phosphate detergent bath.
 - d. Rinse thoroughly in clean water.
 - e. Rinse thoroughly with deionized water.
 - f. Air dry in a dust-free environment.
 - g. Store in unused plastic bags or other suitable cover until use.
2. Clean disposable gloves are worn by all field personnel when handling decontaminated equipment.

2.0 COLLECTION OF SAMPLES

2.1 Groundwater Sampling

Groundwater samples are collected for laboratory analysis using the procedures given below.

1. Open the well and measure the organic vapor concentration with a flame-ionization detector (FID) or photoionization detector (PID).
2. Measure the water levels (if any) in the well using a decontaminated measuring device. All measurements must be made to the nearest 0.01 foot, and measured relative to the top of the casing. Record the depth of the water in the field notebook.

3. Inspect the disposable bailer to ensure that the bottom valve assembly is working correctly.
4. Begin purging the well by inserting a bailer into the PVC monitoring well casing and carefully lower it into the well. Take care to avoid agitating and aerating the fluid column in the well.
5. Slowly withdraw the bailer and transfer the water samples to a sampling containers.
6. Measure the temperature, pH, conductivity, and turbidity. Record these and all subsequent measurements in the field notebook.
7. Continue purging the well (a minimum of three well volumes) until the temperature, pH, conductivity, and turbidity have stabilized, or the well is dry.
8. When the water has recovered to 80 percent of the original level, carefully lower a new disposable bailer into the well and recover groundwater samples.
9. Fill the appropriate sample containers by releasing water from the bailer via the bottom emptying device with a minimum of agitation. The most volatile parameters are collected first, proceeding to the least volatile parameters.
10. Place the purge water in a DOT-approved 55-gallon drums.

3.0 ANALYSIS OF SAMPLES

Samples are submitted to a California state-certified laboratory for analysis.

4.0 SAMPLE HANDLING

4.1 Sample Containers, Preservation, and Holding Times

All samples are collected, placed in containers, preserved, and analyzed within the time constraints with applicable local, provincial, and federal procedures. All sample containers are precleaned in accordance with prescribed EPA methods. A custody seal is placed around all sample container lids to prevent leaks and unauthorized tampering with individual samples following collection and prior to the time of analysis.

4.2 Sample Tracking and Management

All samples are tracked using a standard chain-of-custody form. The chain of custody record includes the following information:

1. Sample number
2. Signature of collector
3. Date and time of collection
4. Sample collection location
5. Sample type
6. Signature of persons involved in the chain-of-possession
7. Inclusive dates of possession
8. Analytical parameters
9. Pertinent field observations

The custody record is completed using waterproof ink. Corrections are made by drawing a line through, initialing the error, and then entering the correct information.

Custody of the samples begins at the time of sample collection and are maintained by the sampling team supervisor until samples are relinquished for shipment to the laboratory, or until samples are hand-delivered to the designated laboratory sample custodian. Partial sample sets being accumulated for hand-delivery to the laboratory are stored in coolers with chain-of-custody records sealed in plastic bags and placed in the cooler with the sample sets.

ATTACHMENT IV

Monitoring Well Purge Tables

MONITORING WELL PURGE TABLE

Project Number: 4422-003	Site Name: BOFA-SAN LEONARD
Well Number: MW-1	Date(s) Purged: 10/26/00
OVM - Ambient: NR	Purge Method: CENTRIFUGAL PUMP
OVM - Vault: NR	Purge Rate: #
OVM - Casing: NR	Date & Time Sampled: 10/26/00 1247
Water Level - Initial: 5.35 1203	Purged & Sampled: KEVIN REEVE
Water Level - Final: 5.30 1239	Sampling Method: DEDICATED DISPOSABLE BAILER
Well Depth: 18.0 FT	Free Product:
Well Diameter: 6 INCH	Sheen:
Well Casing Volume: 19	Odor: MODERATE HYDROCARBON

Time	Purge Water Removed (gal)	Temperature (degrees Fahrenheit)	pH	Electrical Conductivity (ms/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Oxidation - Reduction Potential (mV)
1218	10	19.4 67	7.1	527	MODERATE	0.85	-143
1226	30	19.6 67	7.1	1373	11	0.72	-137
1233	45	19.8 68	7.1	1498	11	0.65	-085
1237	55	19.9 68	7.1	1320	11	0.52	-064
1247	SAMPLED						

Field Notes:

MONITORING WELL PURGE TABLE

Project Number: 4422-003	Site Name: BOFA - SAN LEANDRO
Well Number: MW-2	Date(s) Purged: 10/26/00
OVM - Ambient: NR	Purge Method: DEDICATED DISP. BAILER
OVM - Vault: NR	Purge Rate:
OVM - Casing: NR	Date & Time Sampled: 10/26/00 1520
Water Level - Initial: 3.85 1449	Purged & Sampled: KEVIN REEVE
Water Level - Final: 3.80 1512	Sampling Method: DEDICATED DISP. BAILER
Well Depth: 14.20	Free Product: <input checked="" type="checkbox"/>
Well Diameter: 2 inch	Sheen: <input checked="" type="checkbox"/>
Well Casing Volume: 1.7	Odor: <input checked="" type="checkbox"/>

Time	Purge Water Removed (gal)	Temperature (degrees Fahrenheit)	pH	Electrical Conductivity (ms/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Oxidation - Reduction Potential (mV)
1450	2	18 66	8.2	1645	Low	2.60	164
1455	3	18 66	8.2	1640	mod	2.60	164
1510	5	18 66	8.2	1635	"	2.68	164
1520	SAMPLED						

Field Notes:

MONITORING WELL PURGE TABLE

Project Number: <u>9422-003</u>	Site Name: <u>BOFA - SAN LEANDRO</u>
Well Number: <u>mw-3</u>	Date(s) Purged: <u>10/26/00</u>
OVM - Ambient: <u>NA</u>	Purge Method: <u>DEDICATED DISP. BAILEY</u>
OVM - Vault: <u>NA</u>	Purge Rate:
OVM - Casing: <u>NA</u>	Date & Time Sampled: <u>10/26/00 1335</u>
Water Level - Initial: <u>5.75</u> <u>1316</u>	Purged & Sampled: <u>KEVIN REEVE</u>
Water Level - Final: <u>5.80</u> <u>1330</u>	Sampling Method: <u>DEDICATED DISP. BAILEY</u>
Well Depth: <u>14.90</u>	Free Product: <u>∅</u>
Well Diameter: <u>2 INCH</u>	Sheen: <u>∅</u>
Well Casing Volume: <u>1.5</u>	Odor: <u>∅</u>

Time	Purge Water Removed (gal)	Temperature (degrees Fahrenheit)	pH	Electrical Conductivity (ms/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Oxidation - Reduction Potential (mV)
1324	2.0	18.2 65	7.3	898	MOD.	2.33	-013
1326	3.0	18.2 65	7.3	750	"	2.30	-010
1328	4.0	18.2 65	7.2	665	"	2.25	-009
1330	5.0	18.2 65	7.3	629	"	2.22	-005
SAMPLED 1335							

Field Notes:

MONITORING WELL PURGE TABLE

Project Number: 4625-075 4422-003	Site Name: FISCO Alameda Annex BOFA-SAN LEANDRO
Well Number: mw-4	Date(s) Purged: 10/26/00
OVM - Ambient: NR	Purge Method: DEDICATED DISPOSABLE BAILER
OVM - Vault: NR	Purge Rate:
OVM - Casing: NR	Date & Time Sampled: 10/26/00 1555
Water Level - Initial: 5.28 1531	Purged & Sampled: KEVIN REEVE
Water Level - Final: 5.20 1545	Sampling Method: DEDICATED DISPOSABLE BAILER
Well Depth: 14.20 FT	Free Product: <input type="checkbox"/>
Well Diameter: 2 INCH	Sheen: <input type="checkbox"/>
Well Casing Volume: 1.4	Odor: <input type="checkbox"/>

Time	Purge Water Removed (gal)	Temperature (degrees Fahrenheit)	pH	Electrical Conductivity (ms/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Oxidation - Reduction Potential (mV)
1535	2	70	7.7	1500	CLEAN	3.05	178
1539	3	71	7.7	1803	LOW	3.00	96
1541	5	70	8.0	1802	MOD.	3.09	122
1555	SAMPLED						

Field Notes:

MONITORING WELL PURGE TABLE

Project Number: 4422-003	Site Name: BOFA SAN LEANDRO
Well Number: MW-5	Date(s) Purged: 10/26/00
OVM - Ambient: NA	Purge Method: DEDICATED DISP-BAILER
OVM - Vault: NA	Purge Rate:
OVM - Casing: NA	Date & Time Sampled: 10/26/00 1445
Water Level - Initial: 6.56 1413	Purged & Sampled: KEVIN RESUE
Water Level - Final: 6.54 1435	Sampling Method: DEDICATED DISP-BAILER
Well Depth: 15.55	Free Product: Ø
Well Diameter: 2 1/2	Sheen: Ø
Well Casing Volume: 1.5	Odor: Ø

Time	Purge Water Removed (gal)	Temperature (degrees Fahrenheit)	pH	Electrical Conductivity (ms/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)
1420	2.0	19.9 68	7.3	1870	LOW	.97	98
1428	3.0	20.2 68	7.4	1878	11	.95	134
1430	5.0	19.9 68	7.4	1890	11	.96	142
1445	SAMPLED						

Field Notes:

ATTACHMENT V

Laboratory Analytical Reports and Chain-of-Custody Documentation

EXCELCHEM ENVIRONMENTAL LABS



500 Giuseppe Court, Suite 9
Roseville, CA 95678

Phone#: (916) 773-3664 Fax#: (916) 773-4784

ANALYSIS REPORT

Attention: Kevin Reeve
Versar Incorporated
7844 Madison Avenue, Suite 167
Fair Oaks, CA 95628
Project: B of A - San Leandro / 4422-003
Method: EPA 8020/8015m

Date Sampled: 10/26/00
Date Received: 10/27/00
BTEX/TPHg Analyzed: 11/02/00

Client Sample I.D.	MW-1		MW-2		MW-3		MW-4		MW-5	
LAB. NO.	W1000688		W1000689		W1000690		W1000691		W1000692	
ANALYTE	R/L	Results	R/L	Results	R/L	Results	R/L	Results	R/L	Results
Benzene	20.0	1000	0.5	ND	0.5	ND	0.5	0.6	0.5	1.0
Toluene	20.0	197	0.5	ND	0.5	ND	0.5	ND	0.5	ND
Ethylbenzene	20.0	353	0.5	ND	0.5	ND	0.5	ND	0.5	ND
Total Xylenes	40.0	1400	1.0	ND	1.0	ND	1.0	ND	1.0	ND
TPH as Gasoline	2000	12900	50.0	ND	50.0	ND	50.0	139	50.0	156

QA/QC %RECOVERY		
	LCS	LCSD
Benzene	98	101
Toluene	97	99
Ethylbenzene	98	100
Total Xylenes	98	99


QA/QC Analyzed: 11/01/00

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

R/L = Reporting Limit

Water samples reported in µg/L

Soil samples reported in mg/kg


Laboratory Representative

11/30/00
Date Reported

**EXCELCHEM
ENVIRONMENTAL LABS**



500 Giuseppe Court, Suite 9
Roseville, CA 95678
Phone#: (916) 773-3664 Fax#: (916) 773-4784

ANALYSIS REPORT

Attention: Kevin Reeve
Versar Incorporated
7844 Madison Avenue, Suite 167
Fair Oaks, CA 95628
Project: B of A - San Leandro / 4422-003
Method: EPA RSKSOP-175

Date Sampled: 10/26/00
Date Received: 10/27/00
Date Analyzed: 11/01/00

Client Sample I.D.	MW-1		MW-2		MW-3	
LAB. NO.	W1000688		W1000689		W1000690	
ANALYTE	R/L	Results	R/L	Results	R/L	Results
Methane	5.0	2660	1.0	2.5	1.0	42.0

QA/QC %RECOVERY		
	LCS	LCSD
Methane	79	80

QA/QC Analyzed: 11/01/00

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

R/L = Reporting Limit

Water samples reported in µg/L

Soil samples reported in mg/kg

Joseph Balla
Laboratory Representative

11/30/00
Date Reported

**EXCEL CHEM
ENVIRONMENTAL LABS**



500 Giuseppe Court, Suite 9
Roseville, CA 95678
Phone#: (916) 773-3664 Fax#: (916) 773-4784

ANALYSIS REPORT

Attention: Kevin Reeve
Versar Incorporated
7844 Madison Avenue, Suite 167
Fair Oaks, CA 95628
Project:: B of A - San Leandro / 4422-003
Method: EPA 310.1 Alkalinity (as CaCO₃)

Date Sampled: 10/26/00
Date Received: 10/27/00
Date Analyzed: 10/30/00

Client Sample I.D.	MW-1		MW-2		MW-3	
LAB. NO.	W1000688		W1000689		W1000690	
ANALYTE	R/L	Results	R/L	Results	R/L	Results
Hydroxide	5.0	ND	5.0	ND	5.0	ND
Carbonate	5.0	ND	5.0	ND	5.0	ND
Bicarbonate	5.0	578	5.0	546	5.0	366

QA/QC % RECOVERY		
	LCS	LCSD
Alkalinity, Total	110	109

QA/QC Analyzed: 10/30/00

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

R/L = Reporting Limit

Water samples reported in mg/L

Soil samples reported in mg/kg

Joseph Balla
Laboratory Representative

11/30/00
Date Reported

**EXCELCHEM
ENVIRONMENTAL LABS**



500 Giuseppe Court, Suite 9
Roseville, CA 95678
Phone#: (916) 773-3664 Fax#: (916) 773-4784

ANALYSIS REPORT

Attention: Kevin Reeve
Versar Incorporated
7844 Madison Avenue, Suite 167
Fair Oaks, CA 95628
Project: B of A - San Leandro / 4422-003
Method: EPA 300.0

Date Sampled: 10/26/00
Date Received: 10/27/00
Date Analyzed: 10/27/00

Client Sample I.D.	MW-1		MW-2		MW-3	
LAB. NO.	W1000688		W1000689		W1000690	
ANALYTE	R/L	Results	R/L	Results	R/L	Results
Nitrate	0.5	ND	5.0	24.0	2.5	8.9

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

R/L = Reporting Limit

Water samples reported in mg/L

Soil samples reported in mg/kg

Joseph Ballan
Laboratory Representative

11/30/00
Date Reported

**EXCELCHEM
ENVIRONMENTAL LABS**



500 Giuseppe Court, Suite 9
Roseville, CA 95678
Phone#: (916) 773-3664 Fax#: (916) 773-4784

ANALYSIS REPORT

Attention: Kevin Reeve
Versar Incorporated
7844 Madison Avenue, Suite 167
Fair Oaks, CA 95628
Project: B of A - San Leandro / 4422-003
Method: EPA 375.4

Date Sampled: 10/26/00
Date Received: 10/27/00
TPHd Analyzed: 11/03/00

Client Sample I.D.	MW-1		MW-2		MW-3	
LAB. NO.	W1000688		W1000689		W1000690	
ANALYTE	R/L	Results	R/L	Results	R/L	Results
Sulfate	4.0	32.0	4.0	24.0	4.0	47.0

QA/QC %RECOVERY		
	LCS	LCSD
Sulfate	105	120

QA/QC Analyzed: 11/03/00

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

R/L = Reporting Limit

Water samples reported in mg/L

Soil samples reported in mg/kg

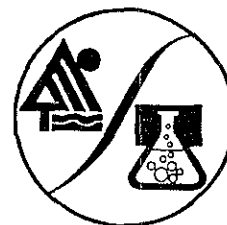

Laboratory Representative

11/30/00
Date Reported

EXCELCHEM ENVIRONMENTAL LABS

500 Giuseppe Court, Suite 9
Roseville, CA 95678

Phone#: (916) 773-3664 Fax#: (916) 773-4784



ANALYSIS REPORT

Attention: Kevin Reeve
Versar Incorporated
7844 Madison Avenue, Suite 167
Fair Oaks, CA 95628
Project: B of A - San Leandro / 4422-003
Method: EPA 8015m

Date Sampled: 10/26/00
Date Received: 10/27/00
Date Analyzed: 11/10/00

Client Sample I.D.	MW-1	
LAB. NO.	W1000688	
ANALYTE	R/L	Results
TPH as Standard Solvents	1000	ND

QA/QC %RECOVERY		
	LCS	LCSD
TPH as Standard Solvents	86	85

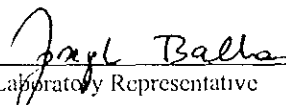
QA/QC Analyzed: 11/10/00

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

R/L = Reporting Limit

Water samples reported in $\mu\text{g/L}$

Soil samples reported in mg/kg


Laboratory Representative

11/30/00
Date Reported

PROJECT NO.		PROJECT NAME					PARAMETERS							INDUSTRIAL HYGIENE SAMPLE	Y		
4422-003		BOFA - SAN LEANDRO													N		
SAMPLERS: (Signature)					(Printed)					NO. OF CONTAINERS	TPH/BIEX	METHANE	ALKALINITY	NITRATE	SULFATE	TPH-SS*	REMARKS
KOR					KEVIN REEVE												
FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION												
MW-1	10/26	1247		X			7	X	X	X	X	X	X	X		* DO SILICATE CLEANUP	
MW-2		1520					5	X	X	X	X	X					
MW-3		1335					5	X	X	X	X	X					
MW-4		1555					2	X									
MW-5		1445					2	X									
Relinquished by: (Signature)			Date / Time		Received by: (Signature)			Relinquished by: (Signature)			Date / Time		Received by: (Signature)				
KOR			10/27/00 0745														
(Printed)					(Printed)			(Printed)					(Printed)				
KEVIN REEVE																	
Relinquished by: (Signature)			Date / Time		Received for Laboratory by: (Signature)			Date / Time		Remarks							
					Angela Balke			10/27/00 07:42		TPH-SS = TPH STANDARD SOLVENT							
(Printed)					(Printed)												

PROJECT NO. 4422-003		PROJECT NAME BOFA - SAN LEANDRO					PARAMETERS							INDUSTRIAL HYGIENE SAMPLE	Y N		
SAMPLERS: (Signature) <i>K. O. R.</i>					(Printed) KEVIN REEVE					NO. OF CONTAINERS	TPH9/BTEX	METHANE	ALKALINITY	NITRATE	SULFATE	TPH -SSX	REMARKS
FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION												
MW-1	10/26	1247		X	W1000088					7	X	X	X	X	X	X	* DO SILICATE CLEANUP
MW-2		1520			W1000089					5	X	X	X	X			
MW-3		1335			W1000090					3	X	X	X	X			
MW-4		1555			W1000091					2	X						
MW-5		1445			W1000092					2	X						
Relinquished by: (Signature) <i>K. O. R.</i>		Date / Time 10/27/00 0745		Received by: (Signature)			Relinquished by: (Signature)			Date / Time		Received by: (Signature)					
(Printed) KEVIN REEVE				(Printed)			(Printed)					(Printed)					
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature) <i>Joseph Balke</i>			Date / Time 10/27/00 07:45		Remarks TPH-SS = TPH STORAGE SOLVENT								
(Printed)				(Printed)													