



SHD
3570

September 28, 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, July 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 September 26, 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)

00 SEP 27 PM 0:07
ENVIRONMENTAL
PROTECTION

Trnsall wpd/4422-001

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September 26, 2000

Ms. Donna Proffitt
Bank of America, N.A.
Environmental Services Department #305478
4000 MacArthur Boulevard, Suite 100
Newport Beach, California 92660

Reference: Groundwater Monitoring Report (July 2000)
2585 Nicholson Street in San Leandro, California
ES# 305582
Versar Project No. 4422-002

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 July 20, 2000. The results of this monitoring event are presented graphically on Figures 3 and 4 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 July 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. A fuel fingerprint analysis was requested on the groundwater sample from well MW-1 during the this monitoring event, as described herein.

QUARTERLY GROUNDWATER MONITORING ACTIVITIES

Versar performed groundwater monitoring of the Site on July 20, 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, a fuel fingerprint scan was also 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);



Ms. Donna Proffitt
September 26, 2000
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- 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, fuel fingerprint scan, 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 July 20, 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 was measured to be flowing in a south/southeast direction, at a gradient of approximately 0.001 feet per foot. Groundwater surface elevations are 0.45 to 0.96 foot lower than in April 2000. Figure 3 in Attachment I is a groundwater gradient map generated from the July 20, 2000 data.

Groundwater Sampling Activities

On July 20, 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 fuel fingerprint scan. Versar submitted a groundwater sample from well MW-4 for TPHg and BTEX, but due to laboratory error, the sample was not analyzed. 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 July 20, 2000 sampling event was stored on-site in two DOT-approved, 55-gallon steel drums, and was subsequently recycled by Seaport Environmental. A certificate of disposal for the purge water is presented in Attachment VI.

ANALYTICAL RESULTS

The analytical results of the TPH and BTEX analyses are summarized in Table 2 in Attachment II. Figure 4 in Attachment I spatially depicts the analytical results for the July 20, 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 at a concentration of 28.4 milligrams per liter (mg/L);
- Benzene was detected in wells MW-1, MW-2, and MW-3 at concentrations of 1,470 micrograms per liter ($\mu\text{g/L}$), 0.8 $\mu\text{g/L}$, and 2.0 $\mu\text{g/L}$, respectively;
- Toluene was detected in well MW-1 at a concentration of 190 $\mu\text{g/L}$;
- Ethylbenzene was detected in well MW-1 at a concentration of 299 $\mu\text{g/L}$; and
- Total xylene isomers was detected in well MW-1 at a concentration of 967 $\mu\text{g/L}$.

The fuel fingerprint scan performed on the groundwater sample from well MW-1 did not detect TPHd or TPH as motor oil (TPHmo) above the laboratory reporting limit (see Table 2, Attachment II). As part of the fuel fingerprint scan, Versar requested analysis of stoddard solvent. However, the laboratory failed to include the constituent in the analysis. Consequently, the groundwater sample from MW-1 will be analyzed for stoddard solvent during the October 2000 monitoring event.

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. Nitrate and

sulfate concentrations are less 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 July 2000 monitoring event, the groundwater flow direction was calculated to be to the south/southeast, under a gradient of approximately 0.001 ft/ft. Groundwater surface elevations are 0.45 to 0.96 foot lower than in April 2000.
- TPHg and BTEX were detected in the sample collected from well MW-1. Low levels of benzene were detected in the samples collected from wells MW-2 and MW-3. TPHg, Toluene, ethylbenzene, and total xylenes were not detected in the samples collected from wells MW-2, MW-3, and MW-5. Concentrations of TPHg and BTEX in well MW-1 remained relatively consistent during the July 2000 monitoring event. Concentrations of TPHg and BTEX either decreased or remained consistent in other Site monitoring wells, when compared to the previous 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.
- TPHd, TPHmo, and TPHss were not detected above the laboratory reporting limits 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.



Ms. Donna Proffitt
September 26, 2000
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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, TPHmo, 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.



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September 26, 2000
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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. Dale Anderson, Senior Environmental Technician, performed the groundwater sample collection. Mr. Tim Berger, Registered Geologist, prepared the report, and supervised the field activities. Mr. Scott Allin, Registered Environmental Assessor, reviewed the report.

Prepared by:

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

Reviewed by:

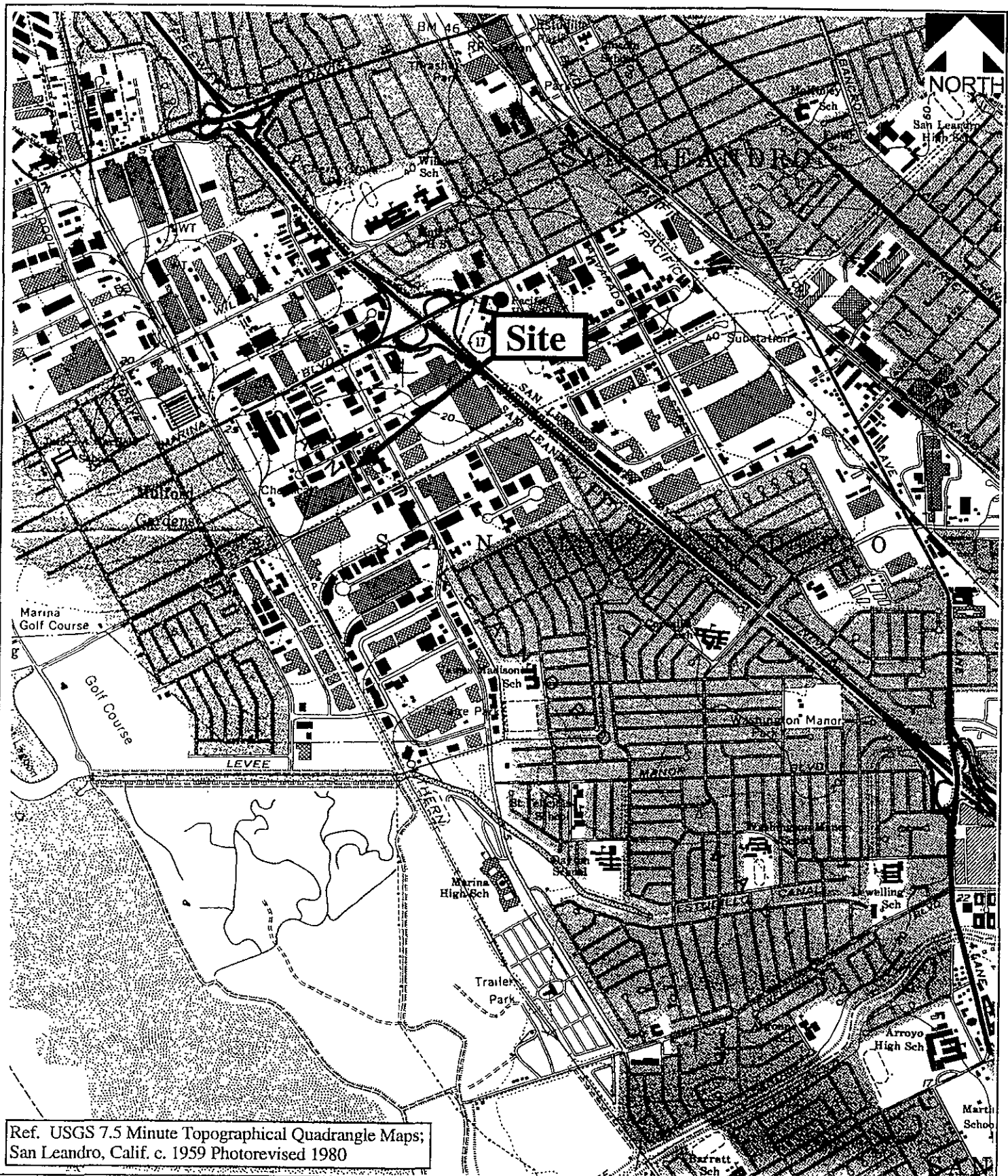
Tim Berger R.G. 5225
Supervising Geologist
Versar - Pacific Region

- 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
- Attachment VI - Certificate of Disposal

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

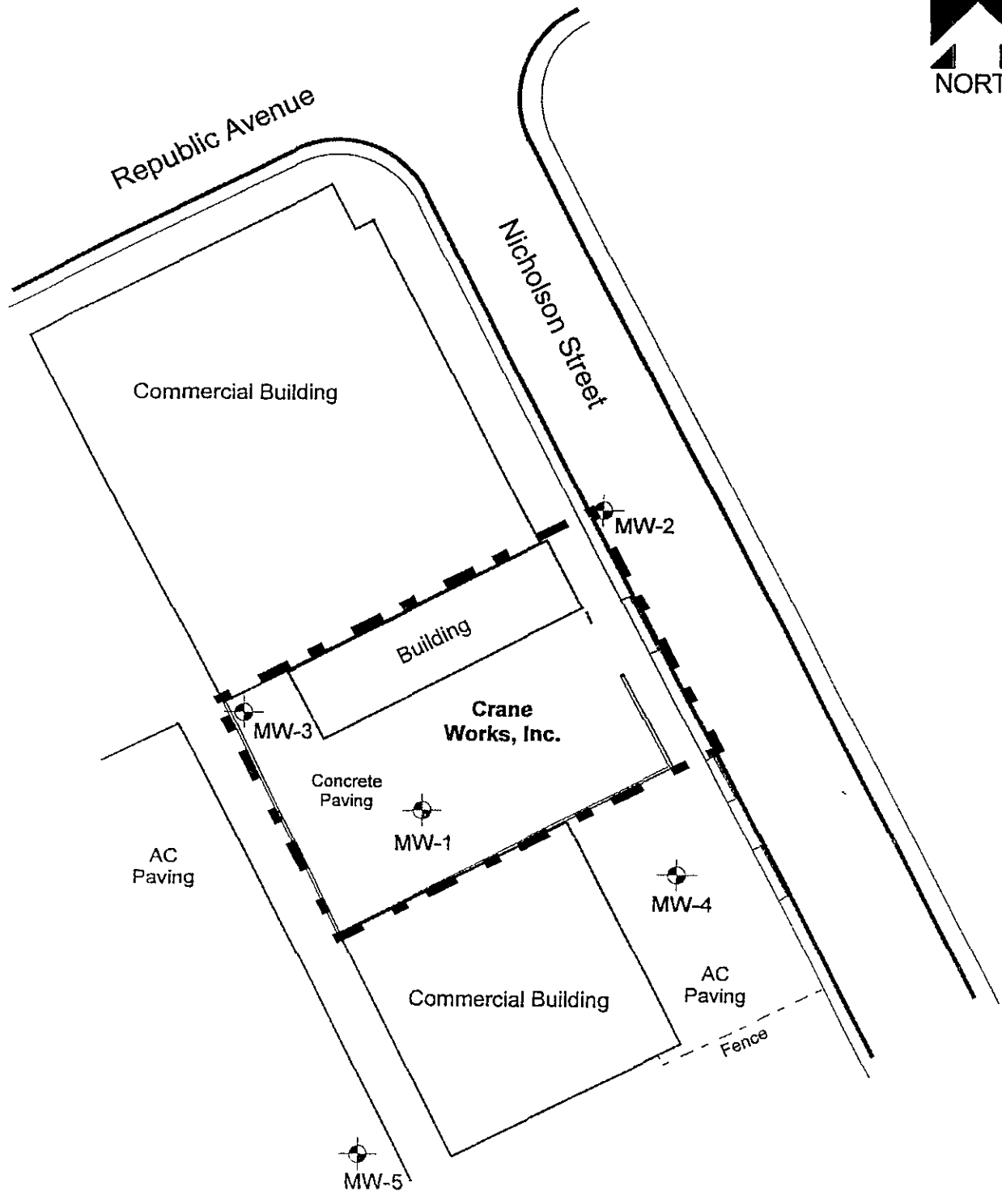
Dr. By: Dale Anderson
Date: 5/10/99
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Versar Project No. 4422-001
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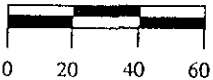
7844 Madison Avenue
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SITE LOCATION
2585 Nicholson Street
San Leandro, California

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



Republic Avenue

Nicholson Street

Commercial Building

MW-1
Depth to Water: 5.74'
G.W. Elevation: 9.53'

MW-2
Depth to Water: 4.06'
G.W. Elevation: 9.63'

MW-3
Depth to Water: 6.27'
G.W. Elevation: 9.61'

Crane Works, Inc.

MW-4
Depth to Water: 5.77'
G.W. Elevation: 9.48'

AC Paving

9.60'

9.50'

Commercial Building

AC Paving




MW-5
Depth to Water: 7.11'
G.W. Elevation: 9.35'

9.40'

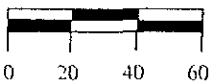
Fence

Groundwater
Gradient: 0.001 ft/ft

Legend

-  Observation Well Location
- 9.35' Groundwater Contour Interval in Feet Above Mean Sea Level
-  Groundwater Contour
-  Groundwater Flow Direction

(Scale - Feet)



Dr. By: Dale Anderson
 Date: 9/18/00
 Scale: 1 inch= 60 feet
 Versar Project No. 4422-002

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Groundwater Contour Map
 July 20, 2000
 2585 Nicholson Street
 San Leandro, California

Figure 3



Republic Avenue

Nicholson Street

Commercial Building

MW-2	
TPH-G:	<0.4
B:	0.8
T:	<0.5
E:	<0.5
X:	<0.5

MW-3	
TPH-G:	<0.4
B:	2.0
T:	<0.5
E:	<0.5
X:	<0.5

MW-1	
TPH-G:	28.4
B:	1,470
T:	190
E:	299
X:	967

MW-4	
TPH-G:	N/A
B:	N/A
T:	N/A
E:	N/A
X:	N/A

MW-5	
TPH-G:	<0.4
B:	<0.5
T:	<0.5
E:	<0.5
X:	<0.5

Crane Works, Inc.

Concrete Paving

AC Paving

MW-1


MW-4

Commercial Building

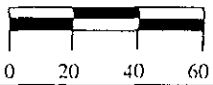
AC Paving

Fence

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: Ethylbenzene
- X: Total Xylenes
- NA: Not analyzed.

(Scale - Feet)



Dr. By: Dale Anderson
Date: 09/18/00
Scale: 1 inch= 60 feet
Versar Project No. 4422-002

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**Laboratory Analytical Results
 For Groundwater Samples
 July 20, 2000
 2585 Nicholson Street
 San Leandro, California**

**Figure
4**

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		

Notes and Abbreviations:
ft/ft = feet per foot
amsl = above mean sea level
toc = top of casing

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	
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
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
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	--	--	--	--	--	--	--	--	--
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

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
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
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
MW-4	Jan-00	--	--	--	--	-060	1.49
	Apr-00	--	--	--	--	181	0.94
	Jul-00	--	--	--	--	033	0.76
MW-5	Jan-00	--	--	--	--	-072	1.91
	Apr-00	--	--	--	--	116	1.48
	Jul-00	--	--	--	--	-045	1.02

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: 4422-002-				Site Name: Bank of America - San Leandro			
Well Number: MW-1				Date(s) Purged: 7/20/00			
OVM - Ambient: NR				Purge Method: Centrifugal Pump			
OVM - Vault: NR				Purge Rate:			
OVM - Casing: NR				Date & Time Sampled: 7/20/00 1315			
Water Level - Initial: 5.74 @ 1223				Purged & Sampled: Dale Anderson			
Water Level - Final: 7.1 @ 1302				Sampling Method: Disposable Bailer - DEDICATED			
Well Depth: 18.0 feet				Free Product: 0			
Well Diameter: 6 inch				Sheen: 0			
Well Casing Volume: 18.4				Odor: MODERATE HYDROCARBON			
Time	Purge Water Removed (gal)	Temperature (degrees Celcius)	pH	Electrical Conductivity (umhos)	Oxidation - Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
1235	10	19.5	7.1	1243	-199	1.09	LOW
1240	20	19.3	7.1	1198	-211	.93	"
1242	25	19.2	7.2	1161	-191	1.07	"
1246	30	19.2	7.2	1221	-185	.83	"
1248	35	19.2	7.2	417	-176	0.89	"
1251	40	19.1	7.2	973	-164	1.06	"
1254	45	19.1	7.2	790	-170	1.04	"
1256	50	19.2	7.2	1011	-164	1.06	"
1300	56	19.0	7.1	450	-167	0.93	"
1315	Sample						



MONITORING WELL PURGE TABLE

Project Number: 4422-002-				Site Name: Bank of America - San Leandro			
Well Number: MW-2				Date(s) Purged: 7/20/00			
OVM - Ambient:				Purge Method: Dedicated Disposable Bailer			
OVM - Vault:				Purge Rate:			
OVM - Casing:				Date & Time Sampled: 7/20/00 1115			
Water Level - Initial: 4.06 @ 14.24				Purged & Sampled: Dale Anderson			
Water Level - Final: 4.10 @ 11.10				Sampling Method: Dedicated Disposable Bailer			
Well Depth: 14.20 feet				Free Product:			
Well Diameter: 2 inch				Sheen:			
Well Casing Volume: 1.7,				Odor:			
Time	Purge Water Removed (gal)	Temperature (degrees Celcius)	pH	Electrical Conductivity (umhos)	Oxidation - Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
1050	.5	19.3	7.3	1082	0.76	0.92	Low
1055	1.0	19.0	7.4	1298	-0.13	0.69	MON
1057	2.0	19.3	7.4	966	-0.22	0.86	11
1059	2.75	19.4	7.4	1344	-0.25	0.83	11
1101	3.25	19.4	7.3	1347	-0.24	1.21	11
1103	3.75	19.4	7.3	1056	-0.31	0.80	11
1105	4.25	19.6	7.2	851	-0.17	0.84	11
1107	4.75	19.7	7.3	935	-0.11	1.22	11
1109	5.25	19.8	7.3	623	-0.17	1.09	11
1115	Sample						



MONITORING WELL PURGE TABLE

Project Number: 4422-002-				Site Name: Bank of America - San Leandro			
Well Number: MW-3				Date(s) Purged: 7/20/00			
OVM - Ambient: NR				Purge Method: Dedicated Disposable Bailer			
OVM - Vault: NR				Purge Rate:			
OVM - Casing: NR				Date & Time Sampled: 7/20/00 0950			
Water Level - Initial: 6.27 @ 905				Purged & Sampled: Dale Anderson			
Water Level - Final: 6.3 @ 938				Sampling Method: Dedicated Disposable Bailer			
Well Depth: 14.90 feet				Free Product: <input checked="" type="checkbox"/>			
Well Diameter: 2 inch				Sheen: <input checked="" type="checkbox"/>			
Well Casing Volume: 1.4				Odor: <input checked="" type="checkbox"/>			
Time	Purge Water Removed (gal)	Temperature (degrees Celcius)	pH	Electrical Conductivity (µmhos)	Oxidation - Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
915	.5	17.9	7.4	185	129	.88	Low
919	1	18.1	7.4	99	158	.91	MOD
0922	1.5	18.1	7.5	266	147	1.13	LL
0924	2.0	17.9	7.6	496	128	.92	11
0926	2.5	18.0	7.6	164	104	.99	11
0928	3.0	18.0	7.6	233	088	1.01	LL
0930	3.5	18.0	7.6	517	084	.87	11
0933	4.0	18.0	7.6	210	060	.96	11
0934	4.25	17.9	7.6	246	064	1.01	4
0950	Sample						



MONITORING WELL PURGE TABLE

Project Number: 4422-002-	Site Name: Bank of America - San Leandro
Well Number: MW-4	Date(s) Purged: 7/20/00
OVM - Ambient: NR	Purge Method: Dedicated Disposable Bailer
OVM - Vault: NR	Purge Rate:
OVM - Casing: NR	Date & Time Sampled: 7/20/00 1200
Water Level - Initial: 5.77 0837	Purged & Sampled: Dale Anderson
Water Level - Final: 5.8 @ 1157	Sampling Method: Dedicated Disposable Bailer
Well Depth: 14.20 feet	Free Product: ⊕
Well Diameter: 2 inch	Sheen: ⊕
Well Casing Volume: 1.4	Odor: ⊕

Time	Purge Water Removed (gal)	Temperature (degrees Celcius)	pH	Electrical Conductivity (µmhos)	Oxidation - Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
1136	.5	22.4	7.3	592	115	.95	clear
1140	1.0	20.8	7.1	1010	075	.87	low
1143	1.5	21.9	7.1	1569	050	.71	mod.
1145	2	21.7	7.2	1102	036	.68	11
1147	2.5	21.8	7.2	1506	027	0.72	11
1149	3	21.1	7.2	1150	024	.57	11
1151	3.5	21.9	7.2	1524	030	.86	11
1153	4	21.4	7.1	1258	032	.61	11
1155	4.25	21.2	7.1	1540	038	.81	11
1200	Sample						



MONITORING WELL PURGE TABLE

Project Number: 4422-002-	Site Name: Bank of America - San Leandro
Well Number: MW-5	Date(s) Purged: 7/20/00
OVM - Ambient: NR	Purge Method: Dedicated Disposable Bailer
OVM - Vault: NR	Purge Rate:
OVM - Casing: NR	Date & Time Sampled: 7/20/00 10:30
Water Level - Initial: 7.11 @ 845	Purged & Sampled: Dale Anderson
Water Level - Final: 7.18 @ 1027	Sampling Method: Dedicated Disposable Bailer
Well Depth: 15.55 feet	Free Product: \emptyset
Well Diameter: 2 inch	Sheen: \emptyset
Well Casing Volume: 1.4	Odor: \emptyset

Time	Purge Water Removed (gal)	Temperature (degrees Celcius)	pH	Electrical Conductivity (μ mhos)	Oxidation - Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
1005	.5	19.4	7.1	1166	621	1.00	LOW
1008	1	19.5	7.1	1424	-027	.87	LOW
1010	1.5	19.7	7.1	1856	-040	.75	11
1012	2	19.2	7.1	624	-043	.83	11
1014	2.5	19.4	7.0	1516	-034	.91	11
1016	3	19.1	7.0	965	-038	.81	11
1018	3.5	19.4	7.0	737	-044	1.24	11
1022	4	18.9	7.0	994	-050	0.80	11
1025	4.25	19.3	7.0	550	-041	1.02	1
1030	Sample						

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: Dale Anderson
Versar Inc.
7844 Madison Ave. Suite 167
Fair Oaks, CA 95628
Project: 4422-002/ Bank of America San Leandro
Method: EPA 602/8015m

Date Sampled: 07/20/00
Date Received: 07/21/00
BTEX/TPHg Analyzed: 07/28/00
TPHd Analyzed: 07/26/00
TPHo Analyzed: 07/26/00
Matrix: Water
Units: µg/L

Client Sample I.D.	MW-3		MW-5		MW-2		MW-1	
LAB NO.	W0700430		W0700431		W0700432		W0700434	
ANALYTE	R/L	Results	R/L	Results	R/L	Results	R/L	Results
Benzene	0.5	2.0	0.5	ND	0.5	0.8	40.0	1470
Toluene	0.5	ND	0.5	ND	0.5	ND	40.0	190
Ethylbenzene	0.5	ND	0.5	ND	0.5	ND	40.0	299
Total Xylenes	0.5	ND	0.5	ND	0.5	ND	40.0	967
TPH as Gasoline	400	ND	400	ND	400	ND	4000	28400

Client Sample I.D.	MW-1	
LAB NO.	W0700434	
ANALYTE	R/L	Results
TPH as Diesel	50	ND
TPH as Oil	500	ND

QA/QC %RECOVERY		
	LCS	LCSD
Benzene	97	106
Toluene	96	107
Ethylbenzene	97	108
Total Xylenes	99	109
TPH as Diesel	82	67

QA/QC Analyzed: 07/26,27/00

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

R/L = Reporting Limit

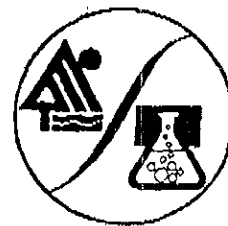

Laboratory Representative

09/01/00
Date Reported

EXCELCHEM

ENVIRONMENTAL LABS

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



ANALYSIS REPORT

Attention: Dale Anderson
Versar Inc.
7844 Madison Ave. Suite ,167
Fair Oaks, CA 95628
Project: 4422-002/ Bank of America San Leandro

Date Sampled: 07/20/00
Date Received: 07/21/00
Alkalinity Analyzed: 07/24/00
Nitrate/Sulfate Analyzed: 07/22,24/00
Matrix: Water

Method: EPA 2320B Units: mg/L CaCO₃

Client Sample I.D.	MW-3		MW-2		MW-1	
LAB. NO.	W0700430		W0700432		W0700434	
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	312	5.0	706	5.0	524

QA/QC % RECOVERY

	LCS	LCSD
Alkalinity, Total	106	104

QA/QC Analyzed: 07/24/00

Units: mg/L

Client Sample I.D.	MW-3		MW-2		MW-1	
LAB. NO.	W0700430		W0700432		W0700434	
ANALYTE	R/L	Results	R/L	Results	R/L	Results
Nitrate EPA 300	0.50	1.9	0.50	6.3	0.50	ND
Sulfate EPA 375.4	5.0	44	5.0	59	5.0	13

QA/QC % RECOVERY

	LCS	MS	MSD
Nitrate	104	100	100

QA/QC Analyzed: 07/22/00

QA/QC % RECOVERY

	LCS	LCSD
Sulfate	110	115

QA/QC Analyzed: 07/24/00

ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.
R/L = Reporting Limit


Laboratory Representative

09/01/00
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: Dale Anderson
Versar Inc.
7844 Madison Ave. Suite ,167
Fair Oaks, CA 95628
Project: 4422-002/ Bank of America San Leandro
Method: EPA RSKSOP-175

Date Sampled: 07/20/00
Date Received: 07/21/00
Date Analyzed: 07/26/00
Matrix: Water
Units: µg/L


Client Sample I.D.	MW-3		MW-2		MW-1	
LAB. NO.	W0700430		W0700432		W0700434	
ANALYTE	R/L	Results	R/L	Results	R/L	Results
Methane	10	31	10	3.1	5.0	2170

QA/QC %RECOVERY		
	LCS	LCSD
Methane	95	89

QA/QC Analyzed: 07/26/00

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

R/L = Reporting Limit


Laboratory Representative

09/01/00
Date Reported

PROJECT NO.		PROJECT NAME					PARAMETERS							INDUSTRIAL HYGIENE SAMPLE	Y						
4422-002		BANK of AMERICA SAN LEANDRO					NO OF CONTAINERS TPH/C/BTEX METHANE APPARENTLY 310 ULTRAFINE 303 SULFIDE 325 EVER FINGERPRINT														
SAMPLERS: (Signature) Dale Anderson					(Printed) DALE ANDERSON									REMARKS							
FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION																
RAW 3	7/20	09:50		X	W0700430	5	X	X	X	X	X	X	X								
RAW -5		6:30			W0700431	2															
MW-2		11:15			W0700432	5	X	X	X	X											
MW-4		12:00			W0700433	2															
MW-7	▽	13:15		▷	W0700434	8	▽	X	X	X	X	X		* ODOR * SINGA CO2 CLEAN-UP							

Relinquished by: (Signature) Dale Anderson	Date / Time 7/21/00 7:45 AM	Received by: (Signature) [Signature]	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
(Printed) DALE ANDERSON		(Printed) Kon Blawski	(Printed)		(Printed)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by (Signature)	Date / Time	Remarks standard TAT per Dale	
(Printed)		(Printed)			

9-01-2000 4:29AM FROM

ATTACHMENT VI

Certificate of Disposal

IWM, Inc.

INTEGRATED WASTESTREAM MANAGEMENT, INC.
950 AMES AVENUE, MILPITAS, CA 95035
PHONE: 408.942.8955 FAX: 408.942.1499

CERTIFICATE OF DISPOSAL

Generator Name: Bank of America NA
Address: _____
Contact: _____
Phone: _____

Facility Name: Crane Works
Address: 2585 Nicholson Street
San Leandro, CA
Facility Contact: Dale Anderson
Phone: 916-863-9333

IWM Job #:	<u>90967-DW</u>
Description of Waste:	<u>2 Drum of</u> <u>Non-Hazardous Water</u>
Removal Date:	<u>8/29/00</u>
Ticket #:	<u>SP290800-Misc</u>

Transporter Information

Name: IWM, Inc.
Address: 950 Ames Avenue
Milpitas, CA 95035
Phone: (408) 942-8955

Disposal Facility Information

Name: Seaport Environmental
Address: 675 Seaport Blvd
Redwood City, CA 94063
Phone: (650) 364-1024

IWM, INC. CERTIFIES THAT THE ABOVE LISTED NON-HAZARDOUS WASTE WILL BE TREATED AND DISPOSED AT THE DESIGNATED FACILITY IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.

William T. DeLon *William T. DeLon*
Authorized Representative (Print Name and Signature)

29 August 2000
Date