R.T. NAHAS COMPANY *Since 1947*
REAL ESTATE DEVELOPERS AND INVESTORS

20630 PATIO DRIVE
CASTRO VALLEY, CALIFORNIA 94546
TELEPHONE (510) 538-9600
FAX (510) 881-7618

May 2, 2001

Mr. Scott Seery
Hazardous Materials Specialist
Alameda County Health Care Services
1131 Harbor Bay Pkwy., Room 250
Oakland, CA 94502-6577

Dear Scott:

Enclosed is the March 2001 Semi-Annual Groundwater Monitoring Report

Sincerely,

Randy

Randall E. Nahas

Enclosure
REN/tar

Third Semi-Annual Groundwater Monitoring Report (First Quarter of 2001) Former Unocal 76 Service Station 20405 and 20629 Redwood Road Castro Valley, California

BSK & ASSOCIATES
Geotechnical Consultants, Inc.

BSK JOB NO. P92057.3

Submitted to:
R.T. Nahas Company
Castro Valley, California

April 25, 2001

BSK

BSK
1181 Quarry Lane, Building 300
Pleasanton, CA 94566
(925) 462-4000 • FAX (925) 462-6283

April 25, 2001 **BSK JOB NO. P92057.3**

R. T. Nahas Company/Eden Managements
20630 Patio Drive
Castro Valley, CA 94546

Attention: Mr. Randy T. Nahas

Subject: Third Semi-Annual
Groundwater Monitoring Report
(First Quarter of 2001)
Former Unocal 76 Service Station
20405 and 20629 Redwood Road
Castro Valley, California

Dear Mr. Nahas:

As requested and authorized, we have performed groundwater monitoring well sampling at the above-referenced facility. This report presents the groundwater data obtained during this sampling event, conclusions based on this event's data, and recommendations for further action. The site location is shown on Figure 1, Vicinity Map. The well locations are shown on Figure 2, Site Plan.

GROUNDWATER MONITORING ACTIVITIES – MARCH 2001

General

Third semi-annual monitoring of groundwater Monitoring Wells MW-2, MW-3, MW-5, MW-6, MW-7 and MW-101(Figure 2, Site Plan) was performed on March 31, 2001. The groundwater monitoring well MW-4 was abandoned during the remediation activities carried out in 1999 by others at the Site . The semi-annual sampling schedule–with monitoring activities in the first and third quarter of each year–was requested by Mr. Scott Seery, case officer for the ACDEH, in a letter, dated November 2, 1999, addressed to the R. T. Nahas Company. Field procedures and observations are provided in the following text.

Field Work

All wells were purged using an electric submersible pump. Three to four well casing volumes of water were removed from each well. Purge effluent was field monitored for pH, temperature and conductivity during purging to assess the influx of fresh formation water

into the well. Purged water was transferred to 55-gallon, DOT-approved steel drums for holding. Each drum was labeled according to its contents, content source, and date of accumulation.

Prior to purging, the depth to water in each well was measured using a Solinst Electric Well Sounder, marked in twentieths of a foot. The water depth was then interpolated to the 0.01 foot increment from the tape. Each well was subsequently examined for floating and sinking immiscible product layers and sheen, using a clear bailer having dual check valves for point-source sampling. The piezometric contour and elevation, and well water elevations, are presented in Figure 3, Groundwater Elevation Contour Map.

Upon purge completion, each well was again measured to confirm a minimum of 80% well recovery prior to sampling. Water sampling was then performed with a Teflon® point-source bailer. Sampling for contaminants was performed in the order of decreasing contaminant volatility. Each water sample was decanted into the appropriate container with preservative (as necessary), sealed, labeled and refrigerated for delivery to our State-certified laboratory.

A Well Field Log was prepared for each well sampled, recording the water depth, well volume, pH, water temperature, conductivity and other data. The Well Field Logs are presented as Figures 4.1 through 4.6.

Site Hydrology

The groundwater level in all six wells was measured on March 31, 2001, in order to assess the flow direction and gradient. On that date, groundwater flow was generally to the south, with a gradient of 0.01 ft/ft (Figure 3).

Chemical Analyses

Water samples obtained from each of the wells were analyzed for constituents related to gasoline, Total Petroleum Hydrocarbons as Gasoline (TPHg), Benzene, Toluene, Ethylbenzene and Xylene (BTEX) and Methyl-t-Butyl Ether (MTBE).

The contaminants tested for are those specified by ACDEH, in their letter dated, November 2, 1999. Current and former analysis results are presented for comparison in Table 1. Records of current and past concentrations of BTEX and MTBE in the groundwater samples from MW-2 and MW-3 are graphically presented on Figures 5 and 6, respectively.

The Chemical Test Data Sheets are presented in Appendix A along with the Project Chain-of-Custody record.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Trace contaminant concentrations associated with gasoline (BTEX compounds) are generally at higher concentrations compared to the previous results from the September 2000 sampling event in Wells MW-2 and MW-101. Total Petroleum Hydrocarbons as Gasoline, BTEX and MTBE were not detected in Well MW-5. The Total Petroleum Hydrocarbons as Gasoline detected in well MW-7 probably represents Perchloroethane as was demonstrated in past sampling events.

MTBE was detected in Wells MW-2, MW-3, MW-6 and MW-101. The MTBE detected in well MW-2 was confirmed using EPA Method 8260 as requested by ACDEH.

Recommendations

The six groundwater monitoring wells located at the Site should be sampled on a semi-annual basis as requested by ACDEH (letter dated November 2, 1999). The next semi-annual sampling event is scheduled for September 2001.

REPORT DISTRIBUTION

Copies of this report should be submitted to the Alameda County Department of Environmental Health for their review. We are providing you with extra copies for this purpose. We understand that copies of the report may be forwarded by ACDEH to the Regional Water Quality Control Board in Oakland for their review.

Alameda County Department of Environmental Health
1181 Harbor Bay Parkway
Alameda, CA 94502

LIMITATIONS

The findings and conclusions presented in this report are based on field review and observations, and from the limited testing program described in this report. This report has been prepared in accordance with generally accepted methodologies and standards of

practice in the area. No other warranties, expressed or implied, are made as to the findings, conclusions and recommendations included in the report.

The findings of this report are valid as of the present. The passage of time, natural processes or human intervention on the property or adjacent property can cause changed conditions which can invalidate the findings and conclusions presented in this report.

* * *

BSK is pleased to continue to be of service to you during this project. If you have questions concerning the contents of the report, please do not hesitate to contact us.

Respectfully submitted,
BSK & Associates

Girish Agrawal, Ph.D., P.E., G.E.
Senior Project Engineer
C.E. 53867, G.E. 2478

Alex Y. Eskandari, P.E.
Project Manager
C.E. 38101

AYE/GA:ga
(G:\DOCUMENT\ENV\Projects\NAHAS\P92057(March2001).wpd)
Distribution:
R. T. Nahas Company (4 copies)

The following are attached and complete this report:

TABLE	1	Summary of Groundwater Analysis
FIGURE	1	Vicinity Map
FIGURE	2	Site Plan
FIGURE	3	Groundwater Elevation Contour Map
FIGURES	4.1-4.6	Well Field Logs
FIGURE	5	BTEX/MTBE Concentrations in Groundwater - MW-2
FIGURE	6	BTEX/MTBE Concentrations in Groundwater - MW-3
Appendix "A"		Laboratory Chemical Test Data Sheets and Project Chain-of-Custody Record (7 sheets)

TABLE 1, SUMMARY OF GROUNDWATER ANALYSIS, Results in ug/L

Sample Date	Well Number	Benzene	Toluene	Ethyl-Benzene	Xylenes	Methyl-t-Butyl Ether	TPH Gasoline	TPH Diesel	Total Oil & Grease	EPA 601
March 2001	MW-2	22	1.5	17	27	1300[2]/1200[3]	1000	—	—	—
	MW-3	ND	ND	ND	ND	190	ND	—	—	—
	MW-5	ND	ND	ND	ND	ND	ND	—	—	—
	MW-6	ND	ND	ND	ND	440	130	—	—	—
	MW-7	ND	ND	ND	ND	ND	630	—	—	—
	MW-101	1400	62	3400	7700	970	34000	—	—	—
September 2000	MW-2	0.89	ND	1	0.65	620	180	—	—	—
	MW-3	ND	ND	ND	ND	98	ND	—	—	—
	MW-5	ND	ND	ND	ND	ND	ND	—	—	—
	MW-6	ND	ND	ND	ND	170	54	—	—	—
	MW-7	3	0.32	13	27	ND	770	—	—	—
	MW-101	1100	35	2900	400	1600[2]/1800[3]	12000	—	—	—
September 1995	MW-101	170	94	150	710	–	9400			
March 2000	MW-2	14	0.92	16	24	1400	560	--	--	--
	MW-3	0.61	ND	ND	ND	240	96	--	--	--
	MW-5	ND	ND	ND	ND	ND	ND	–	--	–
	MW-6	ND	0.49	ND	ND	260	78	–	--	–
	MW-7	890	ND	ND	ND	ND	ND	--	--	--
	MW-101	2500	490	4300	10000	2400[2]/1400[3]	40000	--	--	--
November 1997	MW-2	6.8	0.64	4.7	8.2	1200	360	--	--	--
	MW-3	1.7	1.4	2.3	8.3	65	62	--	--	--
	MW-4	ND	ND	ND	ND	ND	ND	ND	--	--
	MW-5	ND	ND	ND	ND	ND	ND	ND	--	--
	MW-6	ND	ND	ND	ND	9	ND	ND	--	--
	MW-7	--	--	--	--	--	--	--	--	--
April 1997	MW-2	23	1.6	21	31.4	1800	470	--	--	--
	MW-3	7.3	ND	3.3	5.4	230	120	--	--	--
	MW-4	ND	ND	ND	ND	ND	ND	ND	--	--
	MW-5	ND	ND	ND	ND	ND	ND	--	--	--
	MW-6	ND	ND	ND	ND	ND	ND	--	--	–
	MW-7	--	--	--	--	--	--	--	--	–

BSK & Associates

TABLE 1, SUMMARY OF GROUNDWATER ANALYSIS, Results in ug/L

Sample Date	Well Number	Benzene	Toluene	Ethyl-Benzene	Xylenes	Methyl-t-Butyl Ether	TPH Gasoline	TPH Diesel	Total Oil & Grease	EPA 601
October 1996	MW-2	9.4	0.5	7.2	9.4	1400	180	--	--	--
	MW-3	3.8	1.5	2.1	6.8	55	79	--	--	--
	MW-4	ND	ND	ND	ND	ND	ND	ND	--	--
	MW-5	ND	ND	ND	ND	ND	ND	--	--	--
	MW-6	ND	ND	ND	ND	17	ND	--	--	--
	MW-7	--	--	--	--	--	--	--	--	--
April 1996	MW-2	41	2.8	27	50	--	690	--	--	--
	MW-3	8.4	1.6	4.7	14	--	170	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	--	--
	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	2.9	2.9	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	--	--	--	--
October 1995	MW-2	7.4	ND	5.1	5.5	--	450	--	--	--
	MW-3	9	3.9	8.5	34	--	340	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	--	--
	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	ND	ND	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	--	--	--	--
April 1995	MW-2	72	2.8	47	22	--	480	--	--	--
	MW-3	26	0.6	40	19	--	450	--	--	--
April 1995	MW-4	ND	ND	ND	ND	--	ND	ND	ND	--
	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	ND	ND	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	--	--	--	--
January 1995	MW-2	48	2.8	15	27	--	440	--	--	--
	MW-3	26	0.6	14	45	--	250	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	2000	--
October 1994	MW-2	2.8	ND	2.9	1.8	--	97	--	--	--
	MW-3	0.9	ND	ND	ND	--	ND	--	--	--
	MW-4	ND	36	ND	1.3	--	70	ND	ND	--
	MW-5	ND	71	0.4	1.7	--	87	--	--	--
	MW-6	0.4	140	0.5	2.3	--	160	--	--	--

TABLE 1, SUMMARY OF GROUNDWATER ANALYSIS, Results in ug/L

Sample Date	Well Number	Benzene	Toluene	Ethyl-Benzene	Xylenes	Methyl-t-Butyl Ether	TPH Gasoline	TPH Diesel	Total Oil & Grease	EPA 601
July	MW-2	14	0.7	5.8	12	--	180	--	--	--
1994	MW-3	7.2	0.4	1.6	4.6	--	52	--	--	--
	MW-4	ND	0.6	ND	ND	--	ND	86	ND	--
April	MW-2	23	1.1	8.2	17	--	270	--	--	--
1994	MW-3	17	1	4.9	24	--	62	--	--	--
	MW-4	ND	ND	ND	0.4	--	ND	ND	ND	--
	MW-5	ND	0.4	ND	1	--	ND	--	--	--
	MW-6	ND	0.3	ND	0.4	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	360 (1)		--	--
January	MW-2	13	3.4	4.9	9.2	--	130	--	--	--
1994	MW-3	5.5	2.1	2.6	14	--	69	--	--	--
	MW-7	ND	ND	ND	ND	--	330 (1)		--	--
October	MW-2	4	ND	2.3	3.1	--	98	--	--	--
1993	MW-3	5	ND	0.6	1.2	--	ND	--	--	--
	MW-4	0.4	ND	ND	0.4	--	ND	ND	ND	Tetrachloroethene 0.7
						--				Trichloroethene 0.9
	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	ND	ND	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	0.7	--	360 (1)		--	--
July	MW-2	17	1.1	6	12	--	220	--	--	--
1993	MW-3	24	11	14	82	--	330	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	1000	--
	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	ND	ND	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	680 (1)		--	--
March	MW-2	110	32	67	28	--	720	--	--	1,2-Dichloroethane 0.6
1993	MW-3	32	0.9	64	13	--	330	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	ND	ND
March	MW-5	ND	ND	ND	ND	--	ND	--	--	Tetrachloroethane 0.8
1993	MW-6	ND	ND	ND	ND	--	ND	--	--	Tetrachloroethane 3.5
	MW-7	ND	ND	ND	ND	--	830 (1)	--	--	Tetrachloroethene 3,700
						--				Trichloroethene 210

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TABLE 1, SUMMARY OF GROUNDWATER ANALYSIS, Results in ug/L

Sample Date	Well Number	Benzene	Toluene	Ethyl-Benzene	Xylenes	Methyl-t-Butyl Ether	TPH Gasoline	TPH Diesel	Total Oil & Grease	EPA 601
January 1993	MW-2	11	5.1	1.4	6.3	--	170	--	--	--
	MW-3	1.2	1	0.6	4.1	--	ND	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	ND	--
	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	ND	ND	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	1900 (1)		--	--
November 1992	MW-7	--	--	--	--	--	2700 (1)	ND	--	Chlorobenzene 2.0 Chloroform 2.0 cis-1,2-Dichloroethene 180 trans-1,2-Dichloroethene 1.5 Tetrachloroethene 14,000 Trichloroethene 660
October 1992	MW-2	2.3	ND	2.3	3	--	ND	--	--	--
	MW-3	2.1	ND	ND	0.3	--	ND	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	120	ND	--
	MW-5	ND	0.4	ND	ND	--	ND	--	--	--
	MW-6	ND	ND	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	3900 (1)		--	--
July 1992	MW-2	10	ND	0.6	2.3	--	84	--	--	--
	MW-3	1.3	0.4	ND	1.3	--	ND	--	--	--
	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	ND	ND	ND	ND	--	ND	--	--	--
	MW-7	ND	ND	ND	ND	--	830 (1)		--	--
April 1992	MW-2	70	0.3	15	7	--	300	--	--	--
	MW-3	1	0.4	ND	0.9	--	ND	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	ND	--
April 1992	MW-5	ND	ND	ND	ND	--	ND	--	--	--
	MW-6	ND	0.3	ND	ND	--	ND	--	--	--
	MW-7	0.4	0.3	0.3	0.9	--	1300 (1)		--	--
January 1992	MW-2	480	870	160	860	--	5200	--	--	--
	MW-3	4	10	2	8	--	60	--	--	--

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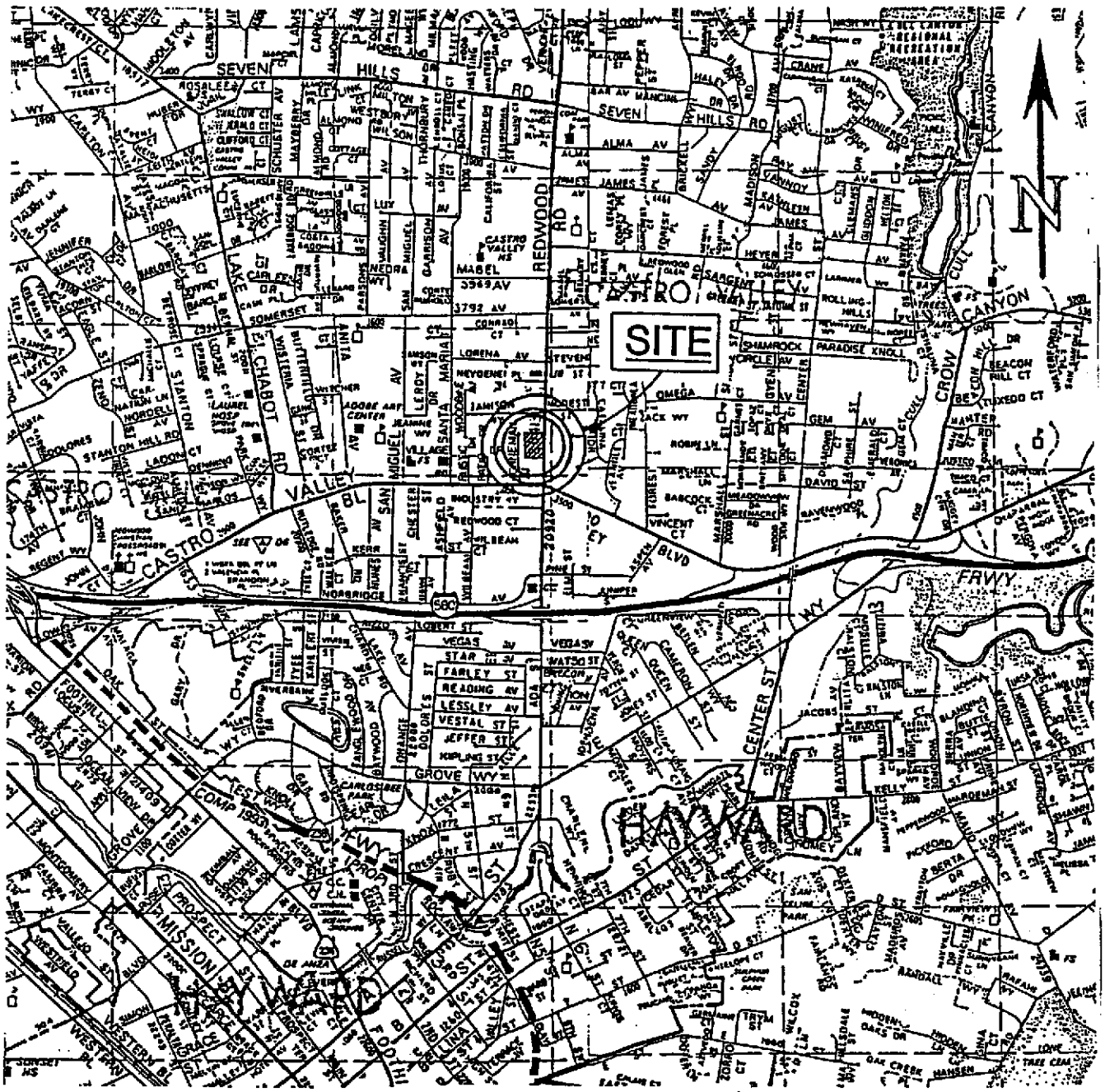
TABLE 1, SUMMARY OF GROUNDWATER ANALYSIS, Results in ug/L

Sample Date	Well Number	Benzene	Toluene	Ethyl-Benzene	Xylenes	Methyl-t-Butyl Ether	TPH Gasoline	TPH Diesel	Total Oil & Grease	EPA 601
October 1991	MW-2	2.9	ND	2.5	6	--	170	--	--	--
	MW-3	ND	ND	ND	ND	--	ND	ND	ND	--
	MW-4	ND	ND	ND	ND	--	ND	ND	ND	--
July 1991	MW-2	14	1	17	8	--	220	--	--	--
	MW-3	14	14	33	8	--	220	--	--	--
April 1991	MW-2	640	520	170	790	--	4800	--	--	--
	MW-3	450	270	150	760	--	3600	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	ND	--
January 1991	MW-2	50	33	22	110	--	430	--	--	--
	MW-3	29	3.3	9.7	34	--	110	--	--	--
August 1990	MW-2	21	3.9	7.2	28	--	180	--	--	--
	MW-3	55	3.8	20	59	--	290	--	--	--
	MW-4	ND	ND	ND	ND	--	ND	ND	ND	--
Maximum Contaminant Level (MCL)		1	150	700	1750	NA	NA	NA	NA	Chlorobenzene - NA Chloroform - NA cis-1,2-Dichloroethene 6.0 trans-1,2-Dichloroethene 10.0 1,2-Dichloroethane 0.5 Tetrachloroethene 5.0 Trichloroethene 5.0

ND = None Detected
-- = Not Analyzed
NA = Not Available
1 = TPHg values have demonstrated to represent Perchloroethane presence
2 = MTBE by EPA 8015/8020
3 = MTBE by EPA 8260
MCLs from California Code of Regulations Title 22, Article 5.5



Semi-Annual
Groundwater Monitoring Report
Former Unocal 76 Service Station
20405 and 20629 Redwood Road
Castro Valley, California

VICINITY MAP
FIGURE: 1
BSK Job No. P92057.3

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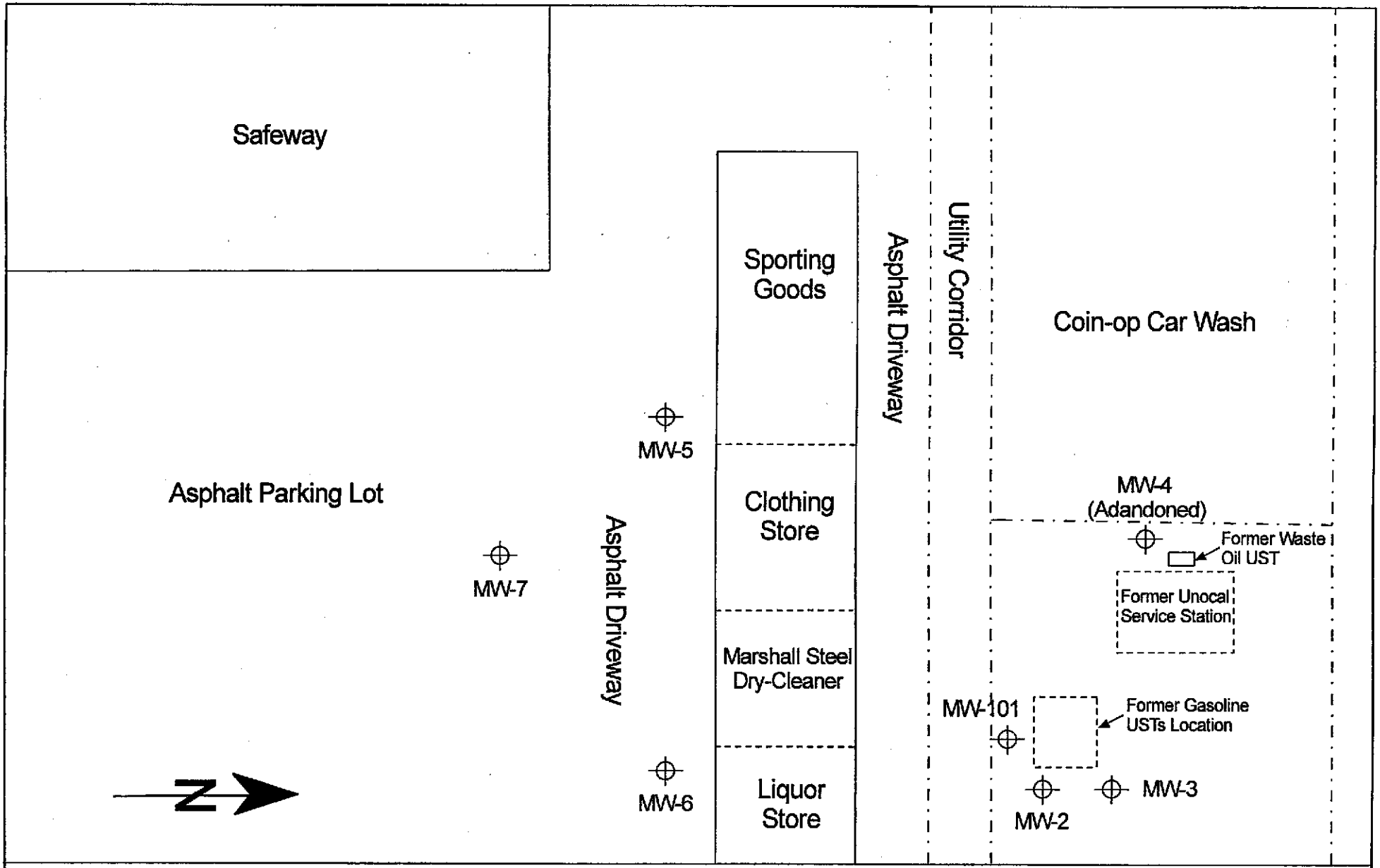
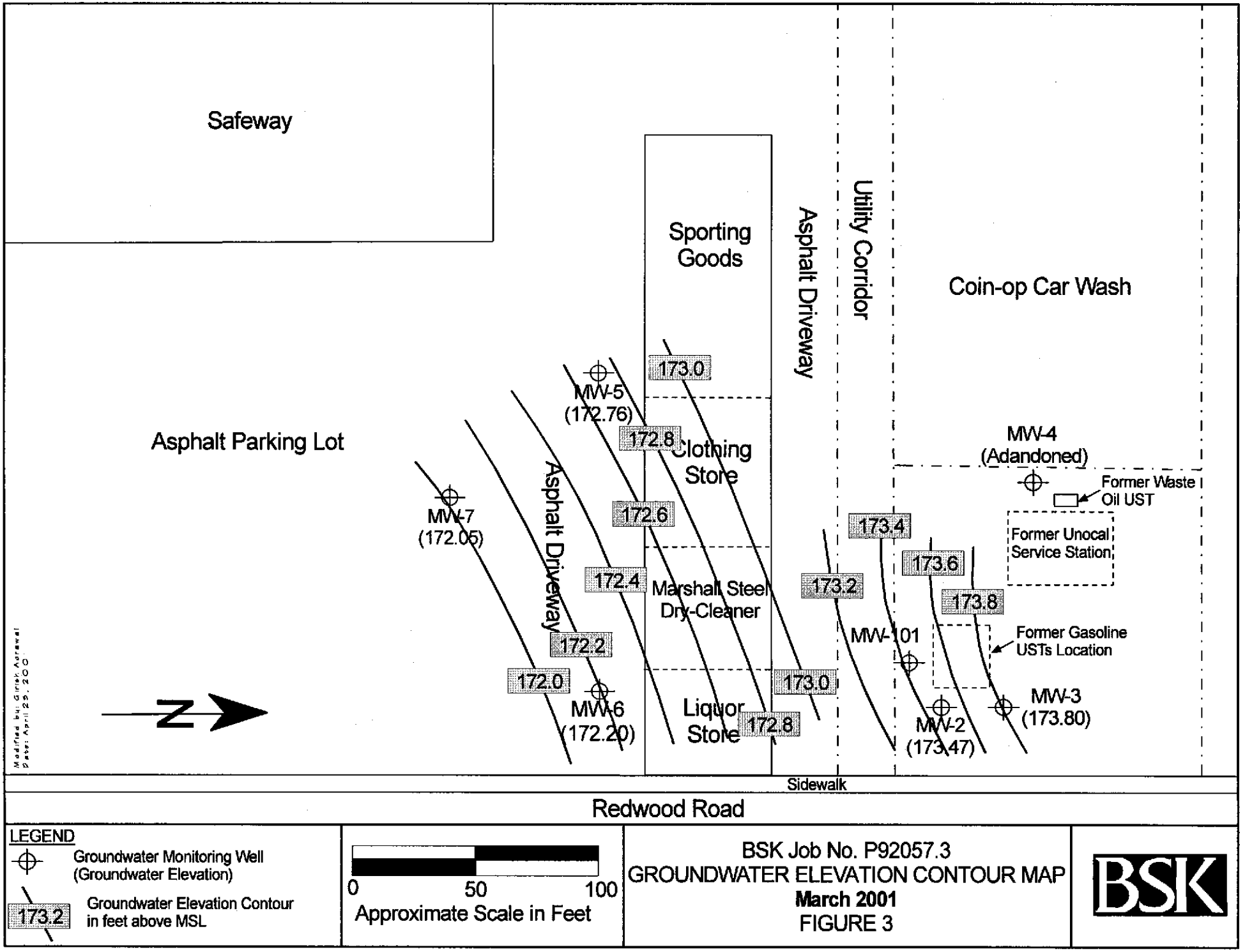

Safeway
Sporting Goods
Clothing Store
Marshall Steel Dry-Cleaner
Liquor Store
Asphalt Driveway
Utility Corridor
Asphalt Driveway
Coin-op Car Wash
Asphalt Parking Lot
MW-5
MW-7
MW-6
MW-4 (Adandoned)
Former Waste Oil UST
Former Unocal Service Station
MW-101
Former Gasoline USTs Location
MW-2
MW-3
N
Sidewalk
Redwood Road
LEGEND
Groundwater Monitoring Well Location & Desgination
0
50
100
Approximate Scale in Feet
BSK Job No. P92057.3
SITE PLAN
FIGURE 2
BSK


Safeway
Sporting Goods
Asphalt Driveway
Utility Corridor
Coin-op Car Wash
Asphalt Parking Lot
173.0
MW-5
(172.76)
172.8
Clothing Store
MW-4
(Adandoned)
Former Waste Oil UST
MW-7
(172.05)
172.6
Asphalt Driveway
173.4
Former Unocal Service Station
173.6
172.4
Marshall Steel Dry-Cleaner
173.2
173.8
MW-101
Former Gasoline USTs Location
172.2
172.0
173.0
MW-6
(172.20)
Liquor Store
172.8
MW-3
(173.80)
MW-2
(173.47)
N
Modified by Girish Agrawal
Date: April 25, 2001
Sidewalk
Redwood Road
LEGEND
Groundwater Monitoring Well (Groundwater Elevation)
173.2
Groundwater Elevation Contour in feet above MSL
0
50
100
Approximate Scale in Feet
BSK Job No. P92057.3
GROUNDWATER ELEVATION CONTOUR MAP
March 2001
FIGURE 3
BSK

BSK Job No. P92057.3
Date: March 2001
Figure No. 4.1

WELL FIELD LOG

Well Observation: **Date:** 03/31/2001
Sample Collection: **Date:** 03/31/2001

Project Name: Groundwater Monitoring
Location: Nahas/Former Union 76
Personnel: FRG/JG
Weather: Clear, Warm

WELL INFORMATION:

Well Number	MW-2	**Date Purged**	03/311/2001
Depth to Water - feet(TOC)	10.00	**Purge Method**	Submersible Pump
Well Depth (feet)	28.85		
Water Volume (gallons)	3.0	**Purge Begin**	14:19
Reference Elevation - feet(TOC)	+183.47	**Purge End**	14:27
Groundwater Elevation (feet)	173.47	**Purge Rate**	1.50 gpm
Measurement Technique	Solinst Electric Well Sounder		

IMMISCIBLE LAYERS:

Top: None Observed
Bottom: None Observed
Detection Method: Visual
Collection Method: Clear Point-Source Bailer

WELL DEVELOPMENT/PURGE DATA:

TIME	VOLUME REMOVED (gallons)	ELECTRICAL CONDUCTIVITY (micromhos)	pH	TEMP. (°F)	COLOR/COMMENTS
14:21	3.0	623	6.7	77	Light brown tint
14:23	6.0	611	6.5	73	Clearing
14:25	9.0	602	6.6	72	Clearing
14:27	12.0	597	6.6	72	Clear

SAMPLE COLLECTION DATA

Sampling Equipment: Teflon Bailer

TIME	ANALYSIS	AMOUNT/CONTAINER USED	SAMPLE INTERVAL
14:35	BTEX/MTBE & TPHg	2-40ml glass VOA with HCl	11 feet

Field Notes:

BSK

BSK Job No. P92057.3
Date: March 2001
Figure No. 4.2

WELL FIELD LOG

Well Observation: **Date:** 03/31/2001
Sample Collection: **Date:** 03/31/2001

Project Name: Groundwater Monitoring
Location: Nahas/Former Union 76
Personnel: FRG/JG
Weather: Clear, Warm

WELL INFORMATION:

Well Number	MW-3	**Date Purged**	03/31/2001
Depth to Water - feet(TOC)	10.23	**Purge Method**	Submersible Pump
Well Depth (feet)	28.85		
Water Volume (gallons)	3.0	**Purge Begin**	13:49
Reference Elevation - feet(TOC)	+184.03	**Purge End**	13:57
Groundwater Elevation (feet)	173.80	**Purge Rate**	1.5 gpm
Measurement Technique	Solinst Electric Well Sounder		

IMMISCIBLE LAYERS:

Top: Slight Yellow Tint, No Odor
Bottom: None Observed
Detection Method: Visual
Collection Method: Clear Point-Source Bailer

WELL DEVELOPMENT/PURGE DATA:

TIME	VOLUME REMOVED (gallons)	ELECTRICAL CONDUCTIVITY (micromhos)	pH	TEMP. (°F)	COLOR/COMMENTS
13:51	3	687	6.7	73	Light brown tint
13:53	6	700	6.6	72	Clearing
13:55	9	703	6.6	71	Clear
13:57	12	705	6.6	71	Clear

SAMPLE COLLECTION DATA

Sampling Equipment: Teflon Bailer

TIME	ANALYSIS	AMOUNT/CONTAINER USED	SAMPLE INTERVAL
14:05	BTEX/MTBE & TPHg	2-40ml glass VOA with HCl	11 feet

Field Notes:

BSK

BSK Job No. P92057.3
Date: March 2001
Figure No. 4.3

WELL FIELD LOG

Well Observation: **Date:** 03/31/2001
Sample Collection: **Date:** 03/31/2001

Project Name: Groundwater Monitoring
Location: Nahas/Former Union 76
Personnel: FRG/JG
Weather: Clear, Warm

WELL INFORMATION:

Well Number	MW-101	**Date Purged**	03/31/2001
Depth to Water - feet(TOC)	10.15	**Purge Method**	Submersible Pump
Well Depth (feet)	29.0		
Water Volume (gallons)	12.5	**Purge Begin**	14:58
Reference Elevation - feet(TOC)	—	**Purge End**	15:37
Groundwater Elevation (feet)	—	**Purge Rate**	1.3gpm
Measurement Technique	Solinst Electric Well Sounder		

IMMISCIBLE LAYERS:

Top: None observed
Bottom: None Observed
Detection Method: Visual
Collection Method: Clear Point-Source Bailer

WELL DEVELOPMENT/PURGE DATA:

TIME	VOLUME REMOVED (gallons)	ELECTRICAL CONDUCTIVITY (micromhos)	pH	TEMP. (°F)	COLOR/COMMENTS
15:04	12.5	467	6.7	71	Light Gray Tint
15:09	25.0	484	6.8	70	Clearing
15:23	37.5	517	6.8	72	Clearing
15:37	50.0	512	6.8	70	Clear

SAMPLE COLLECTION DATA

Sampling Equipment: Teflon Bailer

TIME	ANALYSIS	AMOUNT/CONTAINER USED	SAMPLE INTERVAL
15:45	BTEX/MTBE & TPHg	2-40ml glass VOA with HCl	13 feet

Field Notes:

BSK

BSK Job No. P92057.3
Date: March 2001
Figure No. 4.4

WELL FIELD LOG

Well Observation: **Date:** 03/31/2001
Sample Collection: **Date:** 03/31/2001

Project Name: Groundwater Monitoring
Location: Nahas/Former Union 76
Personnel: FRG/JG
Weather: Clear, Warm

WELL INFORMATION:

Well Number	MW-5	**Date Purged**	03/31/2001
Depth to Water - feet(TOC)	11.16	**Purge Method**	Submersible Pump
Well Depth (feet)	34.5		
Water Volume (gallons)	3.7	**Purge Begin**	12:30
Reference Elevation - feet(TOC)	+183.92	**Purge End**	12:39
Groundwater Elevation (feet)	172.76	**Purge Rate**	1.8 gpm
Measurement Technique	Solinst Electric Well Sounder		

IMMISCIBLE LAYERS:

Top: None Observed
Bottom: None Observed
Detection Method: Visual
Collection Method: Clear Point-Source Bailer

WELL DEVELOPMENT/PURGE DATA:

TIME	VOLUME REMOVED (gallons)	ELECTRICAL CONDUCTIVITY (micromhos)	pH	TEMP. (°F)	COLOR/COMMENTS
12:32	4	656	6.8	78	Light brown tint
12:35	8	620	6.6	77	Clearing
12:37	12	605	6.6	76	Clearing
12:39	16	598	6.6	75	Clear

SAMPLE COLLECTION DATA

Sampling Equipment: Teflon Bailer

TIME	ANALYSIS	AMOUNT/CONTAINER USED	SAMPLE INTERVAL
12:45	BTEX/MTBE & TPHg	2-40ml glass VOA with HCl	13 feet

Field Notes:

BSK

BSK Job No. P92057.3
Date: March 2001
Figure No. 4.5

WELL FIELD LOG

Well Observation: **Date:** 03/31/2001
Sample Collection: **Date:** 03/31/2001

Project Name: Groundwater Monitoring
Location: Nahas/Former Union 76
Personnel: FRG/JG
Weather: Clear, Warm

WELL INFORMATION:

Well Number	MW-6	**Date Purged**	03/31/2001
Depth to Water - feet(TOC)	11.40	**Purge Method**	Submersible Pump
Well Depth (feet)	26.78		
Water Volume (gallons)	2.5	**Purge Begin**	11:55
Reference Elevation - feet(TOC)	+183.60	**Purge End**	12:03
Groundwater Elevation (feet)	172.20	**Purge Rate**	1.25 gpm
Measurement Technique	Solinst Electric Well Sounder		

IMMISCIBLE LAYERS:

Top: None Observed
Bottom: None Observed
Detection Method: Visual
Collection Method: Clear Point-Source Bailer

WELL DEVELOPMENT/PURGE DATA:

TIME	VOLUME REMOVED (gallons)	ELECTRICAL CONDUCTIVITY (micromhos)	pH	TEMP. (°F)	COLOR/COMMENTS
11:57	2.5	765	6.7	78	Brown Colloids
11:59	5.0	749	6.7	76	Clearingt
12:01	7.5	759	6.7	74	Clearing
12:05	10.0	758	6.7	74	Clearing

SAMPLE COLLECTION DATA

Sampling Equipment: Teflon Bailer

TIME	ANALYSIS	AMOUNT/CONTAINER USED	SAMPLE INTERVAL
12:10	BTEX/MTBE & TPHg	2-40ml glass VOA with HCl	13 feet

Field Notes:

BSK

BSK Job No. P92057.3
Date: March 2001
Figure No. 4.6

WELL FIELD LOG

Well Observation: **Date:** 03/31/2001
Sample Collection: **Date:** 03/31/2001

Project Name: Groundwater Monitoring
Location: Nahas/Former Union 76
Personnel: FRG/JG
Weather: Clear, Warm

WELL INFORMATION:

Well Number	MW-7	**Date Purged**	03/31/2001
Depth to Water - feet(TOC)	10.37	**Purge Method**	Submersible Pump
Well Depth (feet)	28.0		
Water Volume (gallons)	2.8	**Purge Begin**	13:05
Reference Elevation - feet(TOC)	+182.42	**Purge End**	13:15
Groundwater Elevation (feet)	172.05	**Purge Rate**	1.20 gpm
Measurement Technique	Solinst Electric Well Sounder		

IMMISCIBLE LAYERS:

Top: None Observed
Bottom: Dark Tint
Detection Method: Visual
Collection Method: Clear Point-Source Bailer

WELL DEVELOPMENT/PURGE DATA:

TIME	VOLUME REMOVED (gallons)	ELECTRICAL CONDUCTIVITY (micromhos)	pH	TEMP. (°F)	COLOR/COMMENTS
13:09	3	711	6.7	76	Light brown tint
13:11	6	788	6.5	75	Clearing
13:13	9	807	6.6	74	Clear
13:15	12	811	6.6	74	Clear

SAMPLE COLLECTION DATA

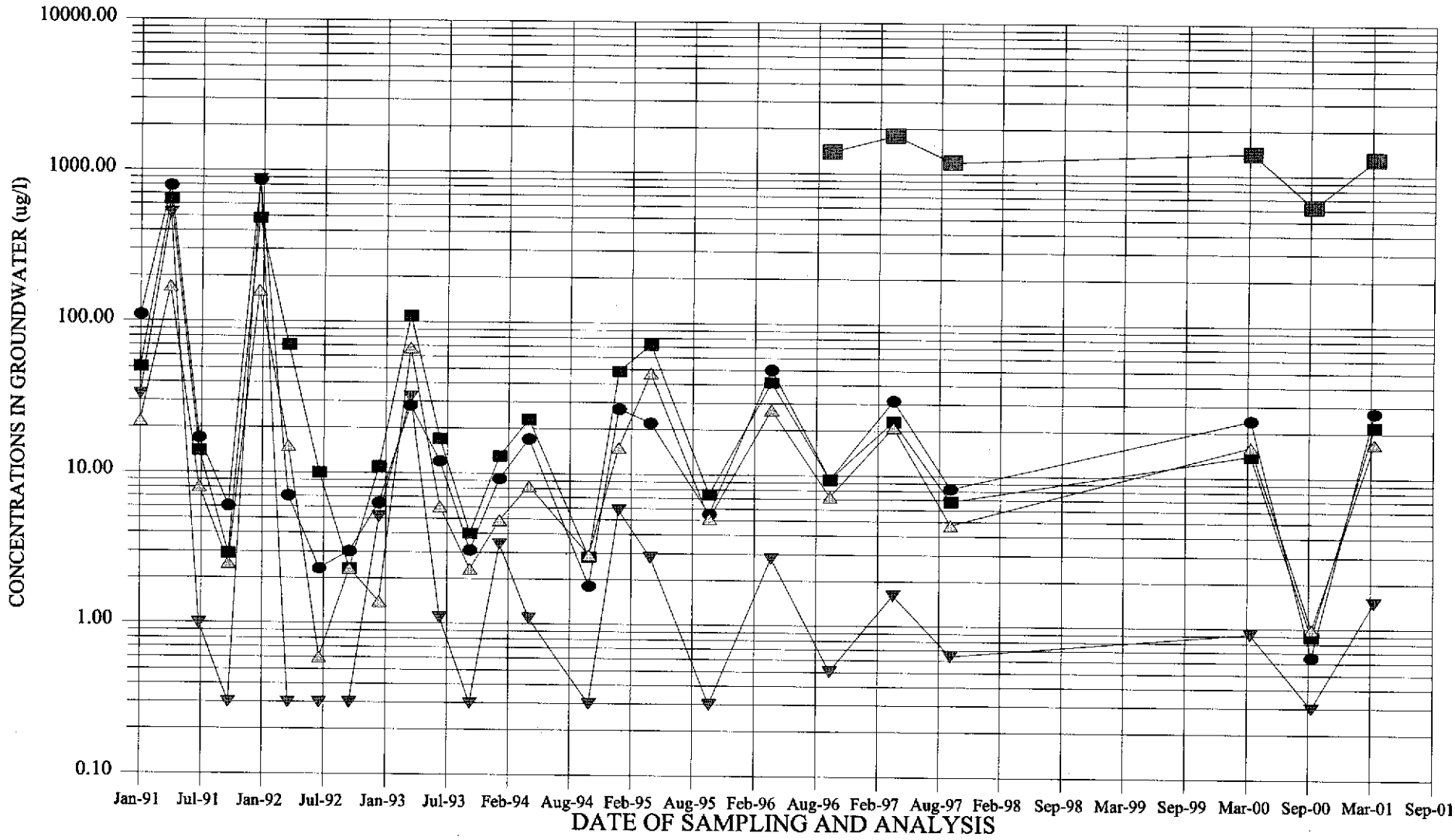
Sampling Equipment: Teflon Bailer

TIME	ANALYSIS	AMOUNT/CONTAINER USED	SAMPLE INTERVAL
13:25	BTEX/MTBE & TPHg	2-40ml glass VOA with HCL	12 feet

Field Notes

BSK

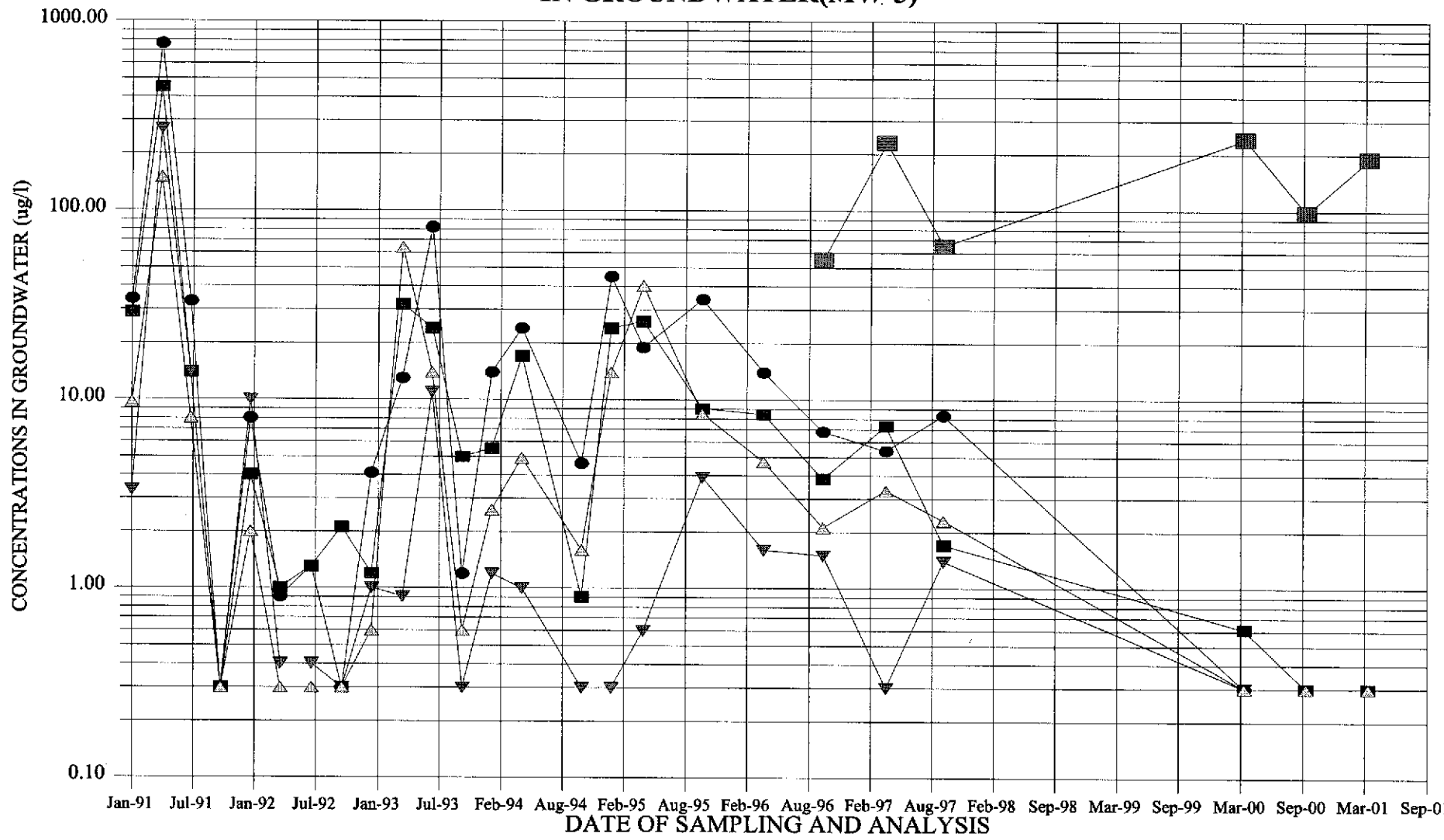
BTEX/MTBE CONCENTRATIONS IN GROUNDWATER(MW-2)



BSK Job No. P92057.3
MARCH 2001
FIGURE 5

BS

BTEX/MTBE CONCENTRATIONS IN GROUNDWATER(MW-3)



BSK Job No. P92057.3

MARCH 2001

FIGURE 6

BSK

APPENDIX "A"

CHEMICAL TEST DATA SHEETS
AND
PROJECT CHAIN-OF-CUSTODY RECORD
(7 SHEETS)

BSK

BSK ANALYTICAL LABORATORIES

Cover Letter

04/19/2001

Alex Y. Eskandari
BSK and Associates - Pleasanton
1181 Quarry Lane Suite 300
Pleasanton, CA 94566

BSK Submission Number: 2001040114

Dear Alex Y. Eskandari:

BSK Analytical Laboratories adheres to a quality assurance plan that has been approved by the State of California Department of Health Services. Our Environmental Laboratory Accreditation Program (ELAP) certification number is 1180.

BSK Analytical Laboratories has prepared this certificate of analysis in response to your request for analytical services. All information was taken from your Chain of Custody or related correspondence. BSK completed all sample handling and analytical procedures within the Laboratory's standard acceptability criteria with any exceptions noted below.

Sample Comments

Submission	Order	Test / Analyte	Comment
2001040114	101414	Methyl-t-Butyl Ether	Confirmation analyzed outside hold time.

If additional clarification of any information is required, please contact our Client Services Department at (800)877-8310 or (559)497-2888.

Sincerely,

BSK Analytical Laboratories

Authorizing Signature(s)

Juliane Adams
Organic Laboratory Supervisor

Ko Yang
Inorganic Laboratory Supervisor

Cynthia Pigman
QA/QC Supervisor

1414 Stanislaus Street • Fresno, CA 93706-1623 • Phone 559-497-2888, In CA 800-877-8310 • Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Alex Y. Eskandari
BSK and Associates - Pleasanton
1181 Quarry Lane Suite 300
Pleasanton, CA 94566

Certificate of Analysis

ELAP Certificate #1180

Report Issue Date: 04/19/2001

BSK Submission #: 2001040114

BSK Sample ID #: 101414

Project ID: P92057.3 Project Desc: R.T. Nahas

Submission Comments:

Sample Type: Liquid
Sample Description: MW-2
Sample Comments:

Date Sampled: 03/31/2001
Time Sampled: 1435
Date Received: 04/03/2001

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date	
TPH as Gasoline	EPA 8015(M)	**1000**	µg/L	50	1	50	04/12/2001	04/13/2001	
Methyl-t-Butyl Ether	EPA 8015/8020	**1300**	µg/L	5	40	200	04/13/2001	04/13/2001	
Benzene	EPA 8020	**22**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001	
Ethylbenzene	EPA 8020	**17**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001	
Toluene	EPA 8020	**1.5**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001	
Total Xylenes	EPA 8020	**27**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001	
Methyl-t-Butyl Ether	EPA 8260	**1200**	µg/L	5	100	500	04/17/2001	04/17/2001	H

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting
: PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Cover Letter for comments.
E: Analysis performed by External laboratory.
See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Alex Y. Eskandari
BSK and Associates - Pleasanton
1181 Quarry Lane Suite 300
Pleasanton, CA 94566

Certificate of Analysis

ELAP Certificate #1180

Report Issue Date: 04/19/2001

BSK Submission #: 2001040114

BSK Sample ID #: 101413

Project ID: P92057.3 Project Desc: R.T. Nahas

Submission Comments:

Sample Type: Liquid
Sample Description: MW-3
Sample Comments:

Date Sampled: 03/31/2001
Time Sampled: 1405
Date Received: 04/03/2001

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
TPH as Gasoline	EPA 8015(M)	**ND**	µg/L	50	1	50	04/12/2001	04/13/2001
Methyl-t-Butyl Ether	EPA 8015/8020	**190**	µg/L	5	1	5	04/12/2001	04/13/2001
Benzene	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001
Ethylbenzene	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001
Toluene	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001
Total Xylenes	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting
: PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Cover Letter for comments.
E: Analysis performed by External laboratory.
See External Laboratory Report attachments.

Report Authentication Code:

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BSK ANALYTICAL LABORATORIES

Alex Y. Eskandari
BSK and Associates - Pleasanton
1181 Quarry Lane Suite 300
Pleasanton, CA 94566

Certificate of Analysis

ELAP Certificate #1180

Report Issue Date: 04/19/2001

BSK Submission #: 2001040114

BSK Sample ID #: 101415

Project ID: P92057.3 Project Desc: R.T. Nahas

Submission Comments:

Sample Type: Liquid
Sample Description: MW-101
Sample Comments:

Date Sampled: 03/31/2001
Time Sampled: 1545
Date Received: 04/03/2001

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
TPH as Gasoline	EPA 8015(M)	**34000**	µg/L	50	20	1000	04/13/2001	04/13/2001
Methyl-t-Butyl Ether	EPA 8015/8020	**970**	µg/L	5	20	100	04/13/2001	04/13/2001
Benzene	EPA 8020	**1400**	µg/L	0.3	200	60	04/14/2001	04/14/2001
Ethylbenzene	EPA 8020	**3400**	µg/L	0.3	200	60	04/14/2001	04/14/2001
Toluene	EPA 8020	**62**	µg/L	0.3	20	6.0	04/13/2001	04/13/2001
Total Xylenes	EPA 8020	**7700**	µg/L	0.3	200	60	04/14/2001	04/14/2001

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Cover Letter for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

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BSK ANALYTICAL LABORATORIES

Alex Y. Eskandari
BSK and Associates - Pleasanton
1181 Quarry Lane Suite 300
Pleasanton, CA 94566

Certificate of Analysis

ELAP Certificate #1180

Report Issue Date: 04/19/2001

BSK Submission #: 2001040114

BSK Sample ID #: 101411

Project ID: P92057.3 Project Desc: R.T. Nahas

Submission Comments:

Sample Type: Liquid
Sample Description: MW-5
Sample Comments:

Date Sampled: 03/31/2001
Time Sampled: 1245
Date Received: 04/03/2001

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
TPH as Gasoline	EPA 8015(M)	**ND**	µg/L	50	1	50	04/12/2001	04/13/2001
Methyl-t-Butyl Ether	EPA 8015/8020	**ND**	µg/L	5	1	5	04/12/2001	04/13/2001
Benzene	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001
Ethylbenzene	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001
Toluene	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001
Total Xylenes	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Cover Letter for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Alex Y. Eskandari
BSK and Associates - Pleasanton
1181 Quarry Lane Suite 300
Pleasanton, CA 94566

Certificate of Analysis

ELAP Certificate #1180

Report Issue Date: 04/19/2001

BSK Submission #: 2001040114

BSK Sample ID #: 101410

Project ID: P92057.3 Project Desc: R.T. Nahas

Submission Comments:

Sample Type: Liquid

Sample Description: MW-6

Sample Comments:

Date Sampled: 03/31/2001

Time Sampled: 1210

Date Received: 04/03/2001

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
TPH as Gasoline	EPA 8015(M)	**130**	µg/L	50	1	50	04/12/2001	04/13/2001
Methyl-t-Butyl Ether	EPA 8015/8020	**440**	µg/L	5	20	100	04/13/2001	04/13/2001
Benzene	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001
Ethylbenzene	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001
Toluene	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001
Total Xylenes	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/12/2001	04/13/2001

LUFT Comments

TPH as Gasoline **Individual peaks inconsistent with fuel fingerprint**

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Cover Letter for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

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BSK ANALYTICAL LABORATORIES

Alex Y. Eskandari
BSK and Associates - Pleasanton
1181 Quarry Lane Suite 300
Pleasanton, CA 94566

Certificate of Analysis

ELAP Certificate #1180

Report Issue Date: 04/19/2001

BSK Submission #: 2001040114

BSK Sample ID #: 101412

Project ID: P92057.3 Project Desc: R.T. Nahas

Submission Comments:

Sample Type: Liquid
Sample Description: MW-7
Sample Comments: *

Date Sampled: 03/31/2001
Time Sampled: 1325
Date Received: 04/03/2001

Organics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
TPH as Gasoline	EPA 8015(M)	**630**	µg/L	50	1	50	04/14/2001	04/14/2001
Methyl-t-Butyl Ether	EPA 8015/8020	**ND**	µg/L	5	1	5	04/14/2001	04/14/2001
Benzene	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/14/2001	04/14/2001
Ethylbenzene	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/14/2001	04/14/2001
Toluene	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/14/2001	04/14/2001
Total Xylenes	EPA 8020	**ND**	µg/L	0.3	1	0.3	04/14/2001	04/14/2001

LUFT Comments

TPH as Gasoline * Individual peaks inconsistent with fuel fingerprint

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Cover Letter for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

ANALYTICAL **BSK** LABORATORIES

Environmental Services

1414 Stanislaus Street
Fresno, CA 93706
(209) 485-8310
(800) 877-8310
(209) 485-6935 FAX

2001040114 04/03/2001

BSK_P TAT: Standard dy

43003

BSK Log Number:

Analytical Due Date:

...se only

Requested Analyses

Client Name: R.T. Nahas	Report Attention: Alex Eskandari	Phone #
Address: c/o BSK-P	Project, Quote or PO #: P92057.3	FAX #
City, State, Zip	Copy to:	System #

LAB use only Sample #	Type	# Cont.	Date Sampled	Time Sampled	Sampled by: FRG — Sample Description/Location	Comment or Station Code	TPH-G, BTEX	MTBE*	(*) confirm Highest MTBE Concentration with 8260 MTBE								
1	L	2	3/31/01	12:10	MW-6	101410	X	X									
2	L	2	↓	12:45	MW-5	101411	X	X									
3	L	2	↓	13:25	MW-7	412	X	X									
4	L	2	↓	14:05	MW-3	413	X	X									
5	L	2	↓	14:35	MW-2	414	X	X									
6	L	2	↓	15:45	MW-101	415	X	X									

Matrix Type: L - Liquid S - Solid G - Gas
Type of Hazards Associated with Samples:

Additional Services:
Rush Priority: [ ] - 2 Day [ ] - 5 Day
[ ] - Formal Chain of Custody [ ] - QC Data package

Additional Services Authorized by:

(Signature)

Payment Received with Delivery
Date: Amount: $
Check #: Initials
Reciept #:

	Signature	Print Name	Company	Date	Time
Requested / Relinquished by:	[signature]	Francis R Greguras	BSK-P	3/31/01	17:00
Received / Relinquished by:	[signature]	Alex Y. Eskandari	BSK-P	4/2/01	17:00
Received / Relinquished by:					
Received / Relinquished by:					
Received for Laboratory by:	[signature]	EVA M LUERA	BSK	4/3/01	0910