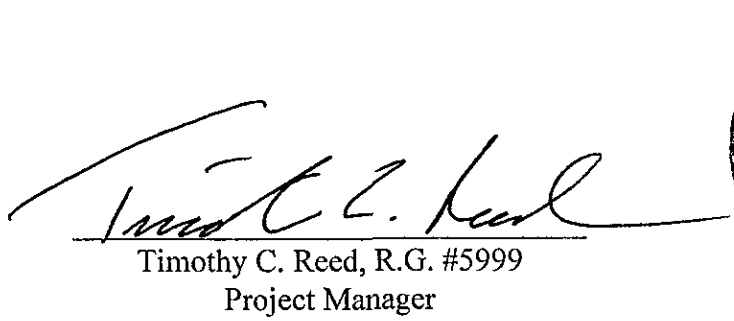
SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

#3813

GROUNDWATER MONITORING REPORT
FIRST QUARTER 1996

FORMER MALIBU GRAND PRIX
8000 South Coliseum Way
Oakland, California

For MGP Holdings, Inc.



Timothy C. Reed, R.G. #5999
Project Manager

April 18, 1996
Smith Environmental Report 8641

6313 Schirra Court • Bakersfield, CA 93313 • (805) 835-7700 • fax (805) 835-7717

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GROUNDWATER MONITORING REPORT
FIRST QUARTER 1996

FORMER MALIBU GRAND PRIX
8000 South Coliseum Way
Oakland, California

For MGP Holdings, Inc.

1.0 INTRODUCTION

Smith Environmental Technologies Corporation has performed the First Quarter, 1996, monitoring of the groundwater at the former Malibu Grand Prix Race Track and Castle areas, 8000 South Coliseum Way, Oakland, California (Plate 1). This report reviews the past history of the site, gives the results of the analysis of groundwater samples collected in March 1995, and recommendations for further action. Ten monitoring wells were sampled during this monitoring event. The results of the analysis indicate that two of the monitoring wells have significant concentrations of hydrocarbons. Groundwater elevation measurements continue to indicate that the local groundwater gradient trends to the west.

2.0 BACKGROUND

Malibu Grand Prix (MGP) operated two adjacent amusement park facilities, a Racetrack for midget cars and a Fun Center with miniature golf and batting cages on leased property at 8000 South Coliseum Way, Oakland (Plates 1 & 2). Prior to 1989 the MGP facility maintained two 6,000 gallon

underground storage tanks containing marine mix gasoline. The tanks were located in the parking lots adjacent to the MGP Castle and Race Track. The tanks were removed on March 29, 1989 and February 1, 1990 respectively. Closure reports were submitted to the Alameda County Department of Environmental Health with all relevant waste manifests and analysis results. On June 29, 1989 a letter from Alameda County was sent to Malibu Grand Prix Corp. requiring an initial site investigation to determine the extent of soil and groundwater contamination present at the MGP Castle while a verbal request was issued for an assessment at the Race Track at the time of the removal. The site assessment at the Castle began on September 21, 1989 and a report was issued on November 15, 1989 recommending further assessment work. The assessment work at the Race Track, and the continued assessment at the Castle began on June 12, 1990. Monitoring Wells 1 through 10 were sampled July 17, 1991. Four additional monitoring wells (MWs) at the Castle and four additional MWs at the Race Track were constructed on August 27-30, 1991. All monitoring wells, MW-1 through -18, were sampled October 9, 10, 11, 1991, for water analyses and pump tests and slug tests were performed on selected wells. Ground water table measurement-data are interpreted to reflect tidal effects and inhomogeneity of the backfill material underlying this site. The analyses of water and sludge samples collected December 2, 1992, from the drainage ditches on the north and west sides of the site indicate that the ditches are not impacted adversely by effluent ground water from the MGP site. A total of twenty borings were made February 9, 10, 11, and August 19, 20, 1993, in the areas of the former USTs to further define the extent of soil impaction and facilitate remediation plans for the soil.

A Soil Remediation Work Plan was prepared in May 1994. The work plan was subsequently approved by the Alameda County Health Care Services Agency (ACHCSA). The Malibu Grand Prix Facility was demolished during the months of December 1994 and January 1995 and is no longer in operation. In May 1995, approximately 4,000 cubic yards of soil was excavated from the location of the two former underground storage tanks. Approximately 3,000 cubic yards of the excavated soil was determined to be impacted. This soil was spread on site and allowed to aerate in accordance with Bay Area Air Pollution Control District guidelines. The Groundwater Monitoring

and Remediation Progress Report, Fourth Quarter 1995, dated October 18, 1995, stated that the results of the analysis of the aerated soil indicated that the soil was clean and no further action was recommended. The ACHCSA concurred with Smith Environmental's recommendation for the soil in a letter dated October 27, 1995. However, continued monitoring of the groundwater was requested.

3.0 GROUNDWATER MONITORING

3.1 Groundwater Monitoring Procedures

On March 20, 1996, ten monitoring wells were sounded, purged and sampled. The stabilized water depth was measured in each well with an electrical measuring tape and the depths were recorded on site prior to sampling. During sampling, the wells were purged of three well volumes of water, or until dry, with a bailer or submersible electric pump. A split sample (two simultaneous samples) was taken with a disposable bailer following purging of each well. Samples were labeled and chilled for transporting to a State certified laboratory under chain of custody. Purged water has been stored on site in DOT 17H drums until proper disposal can be arranged. Sampling procedures are described in Appendix B.

3.2 Groundwater Monitoring Findings

3.2.1 Water Table Elevation Measurements

Depth to water measurements were collected in all monitoring wells. A groundwater contour map showing the estimated lines of equal elevation is presented on Plate 2. Since all of the wells are

located approximately along the strike of the gradient, an accurate groundwater gradient calculation is not possible at this site. However, an interpretation of the data collected seems to indicate that the local groundwater gradient continues to trend to the west with a slight northwest trend at the northern edge of the site. It is also apparent that the aquifer at the subject site is very complex. This can be demonstrated by the different groundwater elevations on the north and south portion of the property.

3.2.2 Water Samples Analyses

Samples collected from the ground water monitoring wells were analyzed for benzene, toluene, ethylbenzene and xylenes plus total petroleum hydrocarbons as gasoline (BTEX-TPHg). Analyses were performed by BC Laboratories in Bakersfield, California. Benzene and TPHg results for each well are shown on Plate 3. Past results of groundwater analysis are tabulated on Table 1. A copy of the most recent analytical report is presented in Appendix A. Of the wells sampled, six had detectable TPH concentrations while only three had detectable concentrations of BTEX. The highest benzene and TPHg concentrations were reported in MW-19 with 290 ppb and 9000 ppb respectively. MW-3 was reported to have 2.7 ppb of benzene with TPHg concentrations below detection. MW-11, MW-12, MW-15 and MW-18 had minor amounts of TPHg ranging from 64 ppb to 160 ppb.

4.0 CONCLUSIONS AND RECOMMENDATIONS

As shown on Table 1, detectable concentrations of benzene were reported in MW-3, and MW-19. Anomalous concentrations of TPH were detected in MW's 12, 15B and 18. Since these wells have not had reportable concentrations for at least three years, it is uncertain at this time whether these concentrations accurately represent the actual conditions at these well locations. Continued monitoring will determine whether a trend has developed. As stated in the 1995 Third and Fourth Quarter Reports, the levels reported in MW-19 suggest that a large concentration of hydrocarbons exists in that location. Past analysis suggest that the groundwater plume at MW-19 is comprised of

PNA hydrocarbons. It is Smith Environmental's belief that the hydrocarbons detected in MW-19 are not associated with the former UST's. As stated in previous reports, the chromatograph pattern does not match a gasoline pattern and samples from monitoring wells located between and down gradient of the former tank locations and MW-19 have been reported to be below detection or at least an order of magnitude less than MW-19, it is surmised that the contamination is the result of a preexisting condition prior to the UST's installation. It is also reasonable to assume that the elevated benzene levels in MW-3 are more likely to be associated with the plume near MW-19 than with either of the plumes associated with the USTs. With the exception of MW-3, no other monitoring wells located on the periphery of the property, in the historic down gradient direction of either UST, were reported to have hydrocarbon concentrations that exceed the California drinking water standard.

Smith Environmental recommends continued monitoring of the groundwater for one additional quarter to verify any trends in groundwater hydrocarbon concentrations that may develop. The next quarterly monitoring event will mark the fourth quarter of groundwater monitoring after the removal and treatment of the soil plume

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TABLE 1

FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-3	09/22/89	1.2	<.05	<.05	<.05	<50
	06/14/90	0.90	4	<.05	<.05	<50
	07/17/91	3.8	<.05	<.05	<.05	<50
	10/10/91	<.05	<.05	<.05	<.05	<50
	08/05/92	9.7	1.4	1.0	0.9	110
	12/02/92	1.3	ND	ND	0.84	<50
	02/11/93	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	2.6	<0.5	<0.5	<1.0	<50
	08/20/93	0.7	0.5	<0.5	1.6	<50
	12/09/93	0.87	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	0.94	<0.5	<0.5	<0.5	<50
	02/17/95	0.78	<0.5	<0.5	<0.5	<50
	09/28/95	10	0.76	<0.3	<0.3	66
	12/20/95	0.54	<0.3	<0.3	<0.3	<50
	03/20/96	2.7	0.89	0.39	1.1	<50
MW-5	06/14/90	<.05	<.05	<.05	<.05	<50
	07/17/91	<.05	<.05	<.05	<.05	<50
	10/09/91	<.05	<.05	<.05	<.05	110
	08/05/92	<0.5	<0.5	2.0	0.9	210
	12/02/92	<0.5	<0.5	<0.5	<0.5	<50
	02/11/93	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	72
	08/20/93	<0.5	<0.5	<0.5	1.0	61
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50

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TABLE 1
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-5	09/28/95	21	1.1	<0.3	<0.3	71
	12/20/95	<0.3	<0.3	<0.3	<0.6	<50
	03/20/96	<0.3	<0.3	<0.3	<0.6	<50
MW-6B	09/28/95	<0.3	<0.3	<0.3	<0.3	<50
	12/20/95	<0.3	<0.3	<0.3	<0.6	<50
	03/20/96	<0.3	<0.3	<0.3	<0.6	<50
MW-10	06/14/90	20	.69	4.3	7.7	400
	07/17/91	4.2	<.05	<.05	<.05	290
	10/10/91	<.05	<.05	<.05	<.05	90
	08/05/92	<0.5	<0.5	<0.5	<0.5	790
	12/02/92	<0.5	<0.5	<0.5	<0.5	85
	02/11/93	23	ND	14	11	1000
	05/26/93	<0.5	<0.5	<0.5	<1.0	130
	08/20/93	<0.5	0.5	<0.5	<1.0	180
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	0.68	<0.5	<0.5	<0.5	130
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	62
	09/28/95	<0.3	<0.3	<0.3	<0.3	<50
	12/20/95	<0.3	<0.3	<0.3	<0.6	<50
	03/20/96	<0.3	<0.3	<0.3	<0.6	<50
MW-11	10/09/91	<.05	1.2	1.0	6.4	430
	08/05/92	<0.5	<0.5	3.2	3.2	580
	12/01/92	<0.5	<0.5	2.2	1.5	140
	02/11/93	1.2	<0.5	3.0	1.8	340
	05/26/93	<0.5	<0.5	<0.5	<1.0	<50

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TABLE 1
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-11	08/20/93	<0.5	<0.5	<0.5	<1.0	<50
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50
	09/28/95	<0.3	<0.3	<0.3	<0.3	<50
	12/20/95	0.35	<0.3	1.2	0.76	350
	03/20/96	<0.3	<0.3	<0.3	<0.3	160
MW-12	10/09/91	<.05	2.6	0.8	5.1	1500
	08/05/92	<0.5	<0.5	9.1	1.1	53
	12/01/92	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	210
	08/20/93	<0.5	<0.5	<0.5	1.7	540
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50
	09/28/95	<0.3	<0.3	<0.3	<0.3	<50
	12/20/95	<0.3	<0.3	<0.3	<0.6	<50
	03/20/96	<0.3	<0.3	<0.3	<0.6	140
MW-14	08/27/91	<.05	<.05	<.05	<.05	<50
	10/09/91	<.05	<.05	<.05	0.9	<50
	08/05/92	<0.5	<0.5	<0.5	<0.5	<50
	12/01/92	<0.5	<0.5	<0.5	<0.5	<50
	02/11/93	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	<50
	08/20/93	<0.5	0.5	<0.5	<1.0	<50
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50

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TABLE 1
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-14	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50
	09/28/95	<0.3	<0.3	<0.3	<0.3	<50
	12/20/95	<0.3	<0.3	<0.3	<0.6	<50
	03/20/96	<0.3	<0.3	<0.3	<0.6	<50
MW-15B	09/28/95	<0.3	<0.3	0.50	1.1	<50
	12/20/95	<0.3	<0.3	<0.3	<0.6	<50
	03/20/96	<0.3	<0.3	<0.3	<0.6	75
MW-18	10/09/91	<.05	<.05	<.05	<.05	<50
	08/05/92	<0.5	<0.5	<0.5	<0.5	<50
	12/02/92	<0.5	<0.5	<0.5	<0.5	<50
	02/11/93	<0.5	<0.5	<0.5	<0.5	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	<50
	08/20/93	<0.5	<0.5	<0.5	<1.0	<50
	12/09/93	<0.5	<0.5	<0.5	<0.5	<50
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	<0.5	<0.5	<0.5	<0.5	<50
	02/17/95	<0.5	<0.5	<0.5	<0.5	<50
	09/28/95	<0.3	<0.3	<0.3	<0.3	<50
	12/20/95	<0.3	<0.3	<0.3	<0.6	<50
	03/20/96	<0.3	0.36	<0.3	<0.6	64

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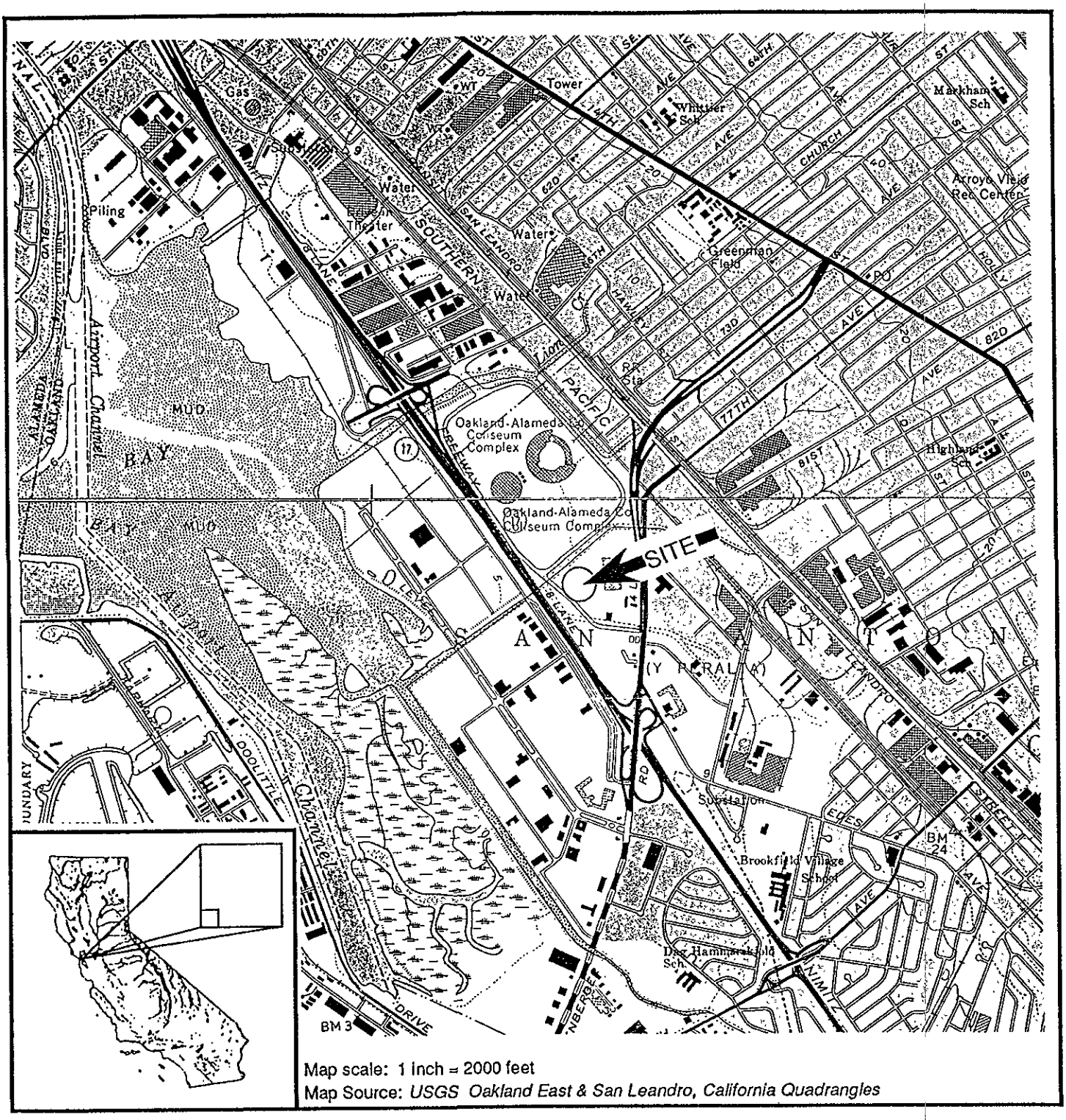
TABLE 1
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-19	09/28/95	630	150	1000	700	5000
	12/20/95	2700	230	1400	870	20000
	03/20/96	290	20	510	280	9000

Notes:

ND = Analytes were not present above the stated limit of detection
NA = Not Analyzed



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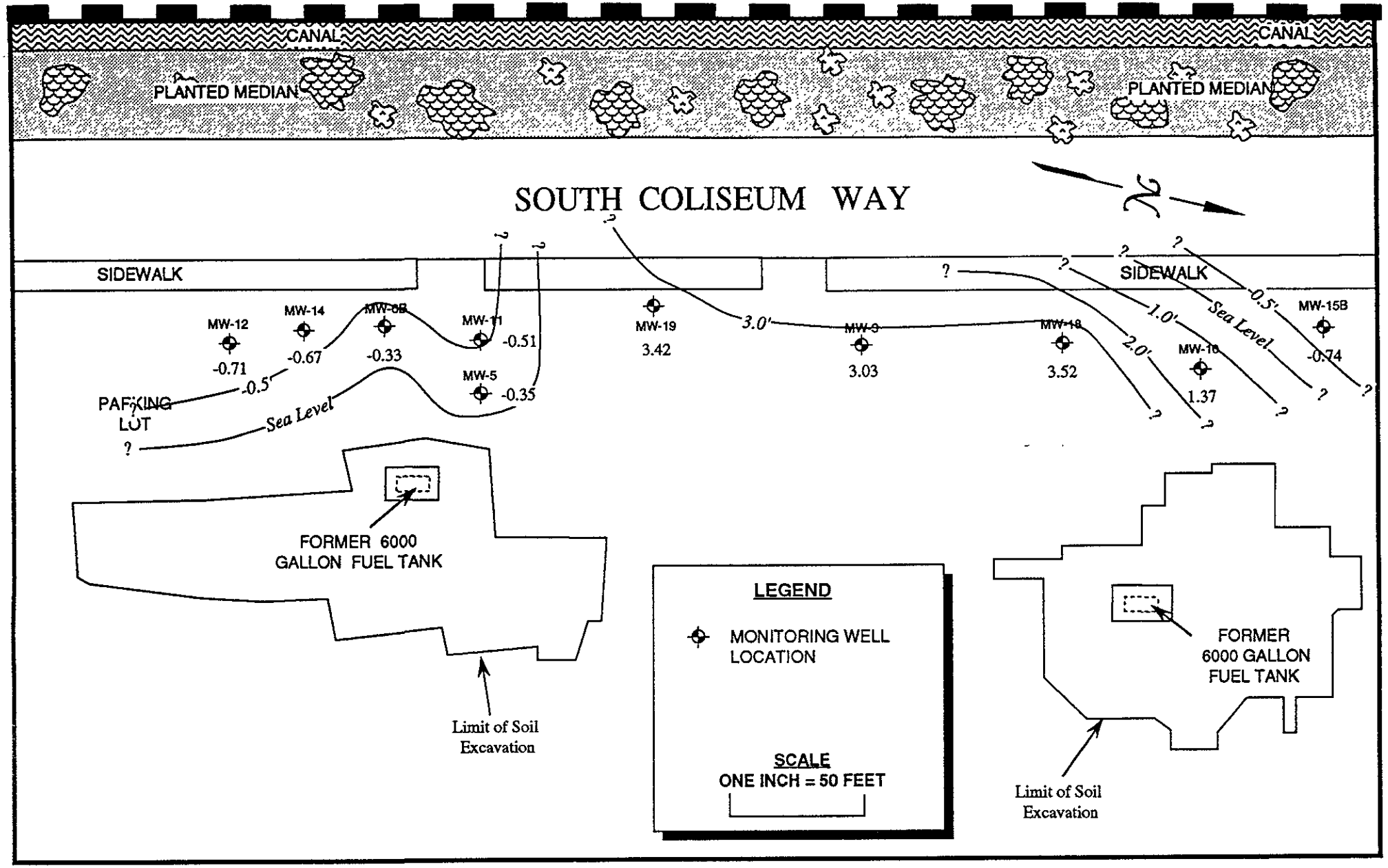
PROJECT NUMBER: 8594

MALIBU GRAND PRIX
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

LOCATION MAP

PLATE
1



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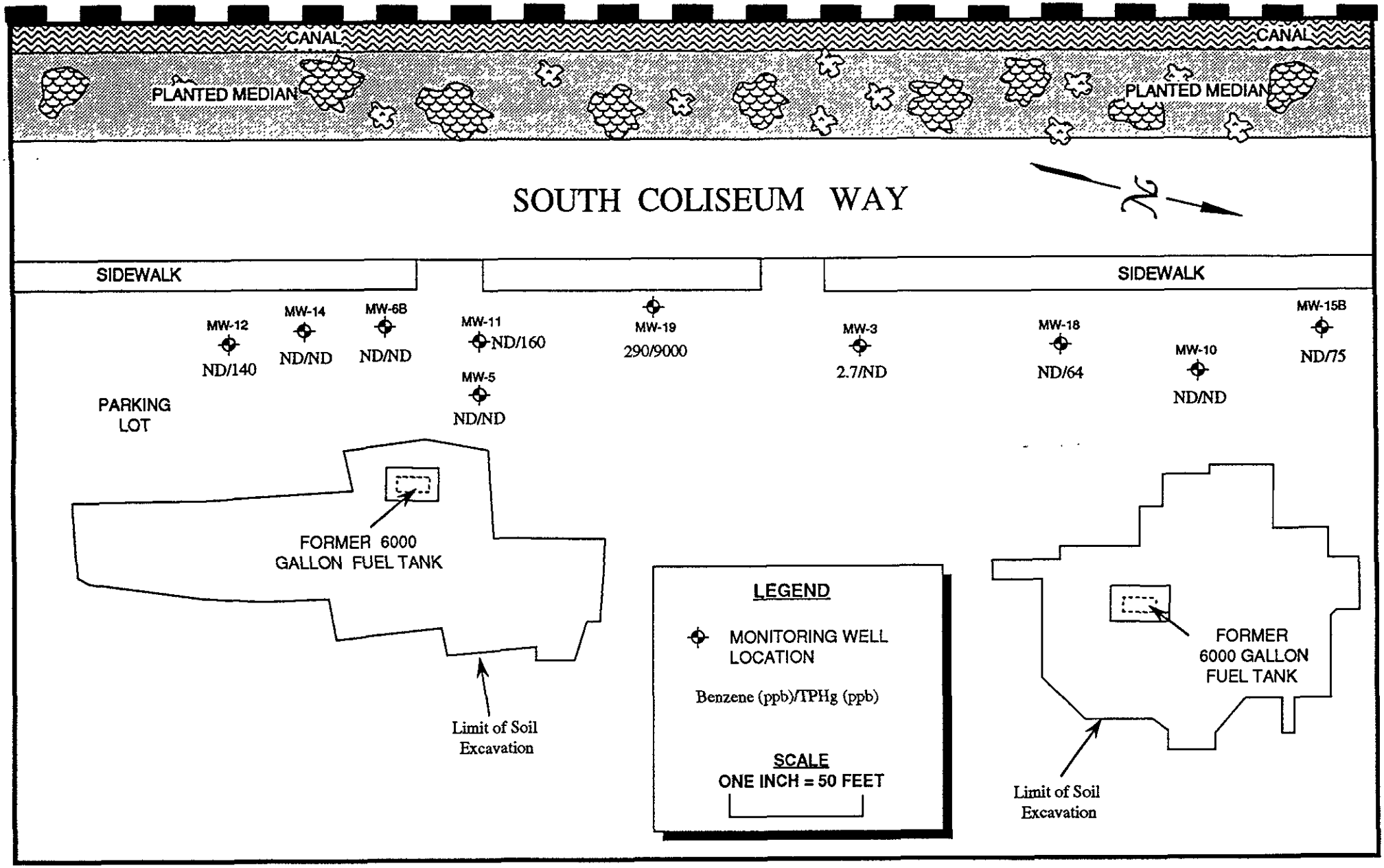
PROJECT NUMBER: 8641

MALIBU GRAND PRIX

8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP
(March 20, 1996)

PLATE
2



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PROJECT NUMBER: 8641

MALIBU GRAND PRIX

8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

HYDROCARBON CONCENTRATIONS IN WELLS
(March 20, 1996)

PLATE
3

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APPENDIX A
Laboratory Analyses

Purgeable Aromatics and Total Petroleum Hydrocarbons

SMITH ENVIRONMENTAL TECH.
6313 SCHIRRA COURT
BAKERSFIELD, CA 93313
Attn: TIM REED 805-835-7700

Date Reported: 04/02/96
Date Received: 03/21/96
Laboratory No.: 96-03378-1

Sample Description: #8641 MGP OAKLAND: MW-3 SAMPLED BY BILL ZOBEL

Sample Matrix: Water

Date Collected: 03/20/96 @ 11:45AM
Date Extracted-8020: 03/26/96
Date Analyzed-8020: 03/26/96
Date Extracted-8015M(g): 03/26/96
Date Analyzed-8015M(g): 03/26/96

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	2.7	µg/L	0.3
Toluene	0.89	µg/L	0.3
Ethyl Benzene	0.39	µg/L	0.3
Total Xylenes	1.1	µg/L	0.6
Total Petroleum Hydrocarbons (gas)	None Detected	µg/L	50.
Surrogate % Recovery	81.	%	70-130

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015
Individual constituents by EPA Method 5030/8020.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

Purgeable Aromatics and Total Petroleum Hydrocarbons

SMITH ENVIRONMENTAL TECH.
6313 SCHIRRA COURT
BAKERSFIELD, CA 93313
Attn: TIM REED 805-835-7700

Date Reported: 04/02/96
Date Received: 03/21/96
Laboratory No.: 96-03378-2

Sample Description: #8641 MGP OAKLAND: MW-5 SAMPLED BY BILL ZOBEL

Sample Matrix: Water

Date Collected: 03/20/96 @ 01:15PM
Date Extracted-8020: 03/26/96
Date Analyzed-8020: 03/26/96
Date Extracted-8015M(g): 03/26/96
Date Analyzed-8015M(g): 03/26/96

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	µg/L	0.3
Toluene	None Detected	µg/L	0.3
Ethyl Benzene	None Detected	µg/L	0.3
Total Xylenes	None Detected	µg/L	0.6
Total Petroleum Hydrocarbons (gas)	None Detected	µg/L	50.
Surrogate % Recovery	88.	%	70-130

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015
Individual constituents by EPA Method 5030/8020.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

Purgeable Aromatics and Total Petroleum Hydrocarbons

SMITH ENVIRONMENTAL TECH.
6313 SCHIRRA COURT
BAKERSFIELD, CA 93313
Attn: TIM REED 805-835-7700

Date Reported: 04/02/96
Date Received: 03/21/96
Laboratory No.: 96-03378-3

Sample Description: #8641 MGP OAKLAND: MW-6B SAMPLED BY BILL ZOBEL

Sample Matrix: Water

Date Collected: 03/20/96 @ 08:30AM
Date Extracted-8020: 03/26/96
Date Analyzed-8020: 03/26/96
Date Extracted-8015M(g): 03/26/96
Date Analyzed-8015M(g): 03/26/96

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	µg/L	0.3
Toluene	None Detected	µg/L	0.3
Ethyl Benzene	None Detected	µg/L	0.3
Total Xylenes	None Detected	µg/L	0.6
Total Petroleum Hydrocarbons (gas)	None Detected	µg/L	50.
Surrogate % Recovery	86.	%	70-130

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015
Individual constituents by EPA Method 5030/8020.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

BC LABORATORIES

Purgeable Aromatics and Total Petroleum Hydrocarbons

SMITH ENVIRONMENTAL TECH.
6313 SCHIRRA COURT
BAKERSFIELD, CA 93313
Attn: TIM REED 805-835-7700

Date Reported: 04/02/96
Date Received: 03/21/96
Laboratory No.: 96-03378-4

Sample Description: #8641 MGP OAKLAND: MW-10 SAMPLED BY BILL ZOBEL

Sample Matrix: Water

Date Collected: 03/20/96 @ 10:00AM
Date Extracted-8020: 03/26/96
Date Analyzed-8020: 03/26/96
Date Extracted-8015M(g): 03/26/96
Date Analyzed-8015M(g): 03/26/96

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	µg/L	0.3
Toluene	None Detected	µg/L	0.3
Ethyl Benzene	None Detected	µg/L	0.3
Total Xylenes	None Detected	µg/L	0.6
Total Petroleum Hydrocarbons (gas)	None Detected	µg/L	50.
Surrogate % Recovery	81.	%	70-130

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015
Individual constituents by EPA Method 5030/8020.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

Purgeable Aromatics and Total Petroleum Hydrocarbons

SMITH ENVIRONMENTAL TECH.
6313 SCHIRRA COURT
BAKERSFIELD, CA 93313
Attn: TIM REED 805-835-7700

Date Reported: 04/02/96
Date Received: 03/21/96
Laboratory No.: 96-03378-5

Sample Description: #8641 MGP OAKLAND: MW-11 SAMPLED BY BILL ZOBEL

Sample Matrix: Water

Date Collected: 03/20/96 @ 12:50PM
Date Extracted-8020: 03/27/96
Date Analyzed-8020: 03/27/96
Date Extracted-8015M(g): 03/27/96
Date Analyzed-8015M(g): 03/27/96

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	µg/L	0.3
Toluene	None Detected	µg/L	0.3
Ethyl Benzene	None Detected	µg/L	0.3
Total Xylenes	None Detected	µg/L	0.6
Total Petroleum Hydrocarbons (gas)	160.	µg/L	50.
Surrogate % Recovery	84.	%	70-130

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015
Individual constituents by EPA Method 5030/8020.

Note: Sample chromatogram not typical of gasoline.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

Purgeable Aromatics and Total Petroleum Hydrocarbons

SMITH ENVIRONMENTAL TECH.
6313 SCHIRRA COURT
BAKERSFIELD, CA 93313
Attn: TIM REED 805-835-7700

Date Reported: 04/02/96
Date Received: 03/21/96
Laboratory No.: 96-03378-6

Sample Description: #8641 MGP OAKLAND: MW-12 SAMPLED BY BILL ZOBEL

Sample Matrix: Water

Date Collected: 03/20/96 @ 08:00AM
Date Extracted-8020: 03/27/96
Date Analyzed-8020: 03/27/96
Date Extracted-8015M(g): 03/27/96
Date Analyzed-8015M(g): 03/27/96

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	µg/L	0.3
Toluene	None Detected	µg/L	0.3
Ethyl Benzene	None Detected	µg/L	0.3
Total Xylenes	None Detected	µg/L	0.6
Total Petroleum Hydrocarbons (gas)	140.	µg/L	50.
Surrogate % Recovery	85.	%	70-130

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015
Individual constituents by EPA Method 5030/8020.

Note: Sample chromatogram not typical of gasoline.
Total Petroleum Hydrocarbons (gas) due to large peak at the beginning of gas range.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

BC LABORATORIES

Purgeable Aromatics and Total Petroleum Hydrocarbons

SMITH ENVIRONMENTAL TECH.
6313 SCHIRRA COURT
BAKERSFIELD, CA 93313
Attn: TIM REED 805-835-7700

Date Reported: 04/02/96
Date Received: 03/21/96
Laboratory No.: 96-03378-7

Sample Description: #8641 MGP OAKLAND: MW-14 SAMPLED BY BILL ZOBEL

Sample Matrix: Water

Date Collected: 03/20/96 @ 08:15AM
Date Extracted-8020: 03/27/96
Date Analyzed-8020: 03/27/96
Date Extracted-8015M(g): 03/27/96
Date Analyzed-8015M(g): 03/27/96

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	µg/L	0.3
Toluene	None Detected	µg/L	0.3
Ethyl Benzene	None Detected	µg/L	0.3
Total Xylenes	None Detected	µg/L	0.6
Total Petroleum Hydrocarbons (gas)	None Detected	µg/L	50.
Surrogate % Recovery	82.	%	70-130

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015
Individual constituents by EPA Method 5030/8020.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

Purgeable Aromatics and Total Petroleum Hydrocarbons

SMITH ENVIRONMENTAL TECH.
6313 SCHIRRA COURT
BAKERSFIELD, CA 93313
Attn: TIM REED 805-835-7700

Date Reported: 04/02/96
Date Received: 03/21/96
Laboratory No.: 96-03378-8

Sample Description: #8641 MGP OAKLAND: MW-15 SAMPLED BY BILL ZOBEL

Sample Matrix: Water

Date Collected: 03/20/96 @ 09:50AM
Date Extracted-8020: 03/27/96
Date Analyzed-8020: 03/27/96
Date Extracted-8015M(g): 03/27/96
Date Analyzed-8015M(g): 03/27/96

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	µg/L	0.3
Toluene	None Detected	µg/L	0.3
Ethyl Benzene	None Detected	µg/L	0.3
Total Xylenes	None Detected	µg/L	0.6
Total Petroleum Hydrocarbons (gas)	75.	µg/L	50.
Surrogate % Recovery	79.	%	70-130

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015
Individual constituents by EPA Method 5030/8020.

Note: Sample chromatogram not typical of gasoline.
Total Petroleum Hydrocarbons (gas) due to large peak at the beginning of gas range.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

Purgeable Aromatics and Total Petroleum Hydrocarbons

SMITH ENVIRONMENTAL TECH.
6313 SCHIRRA COURT
BAKERSFIELD, CA 93313
Attn: TIM REED 805-835-7700

Date Reported: 04/02/96
Date Received: 03/21/96
Laboratory No.: 96-03378-9

Sample Description: #8641 MGP OAKLAND: MW-18 SAMPLED BY BILL ZOBEL

Sample Matrix: Water

Date Collected: 03/20/96 @ 11:30AM
Date Extracted-8020: 03/27/96
Date Analyzed-8020: 03/27/96
Date Extracted-8015M(g): 03/27/96
Date Analyzed-8015M(g): 03/27/96

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	None Detected	µg/L	0.3
Toluene	0.36	µg/L	0.3
Ethyl Benzene	None Detected	µg/L	0.3
Total Xylenes	None Detected	µg/L	0.6
Total Petroleum Hydrocarbons (gas)	64.	µg/L	50.
Surrogate % Recovery	87.	%	70-130

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015
Individual constituents by EPA Method 5030/8020.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

Purgeable Aromatics and Total Petroleum Hydrocarbons

SMITH ENVIRONMENTAL TECH.
6313 SCHIRRA COURT
BAKERSFIELD, CA 93313
Attn: TIM REED 805-835-7700

Date Reported: 04/02/96
Date Received: 03/21/96
Laboratory No.: 96-03378-10

Sample Description: #8641 MGP OAKLAND: MW-19 SAMPLED BY BILL ZOBEL

Sample Matrix: Water

Date Collected: 03/20/96 @ 02:10PM
Date Extracted-8020: 03/27/96
Date Analyzed-8020: 03/27/96
Date Extracted-8015M(g): 03/27/96
Date Analyzed-8015M(g): 03/27/96

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Benzene	290.	µg/L	20.
Toluene	20.	µg/L	2.
Ethyl Benzene	510.	µg/L	6.
Total Xylenes	280.	µg/L	20.
Total Petroleum Hydrocarbons (gas)	9000.	µg/L	300.
Surrogate % Recovery	82.	%	70-130

TEST METHOD: TPH by D.O.H.S. / L.U.F.T. Manual Method - Modified EPA 8015
Individual constituents by EPA Method 5030/8020.

Note: PQL's were raised due to high concentration of target analytes requiring sample dilution.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

96-3578

SMITH

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

40607 per Bill

PROJECT NO.	PROJECT NAME/SITE	P.O. #
8641	MGP OAKLAND	[redacted]

SAMPLERS (SIGN) Bill Zobel (PRINT) Bill Zobel

	SAMPLE IDENTIFICATION	DATE	TIME	COMP	GRAB	PRES. USED	ICED	NO. CONTAINERS	SAMPLE TYPE	BTEX (602/8020)	TPHg (8015)	TPHd (8015)	TOG 418.1/5520	601/8010	624/8240	625/8270	REMARKS
-1	MW-3	3/20/96	11:45		X	HCL	X	2	GW	X	X						Normal TAT
-2	MW-5		1:15														
-3	MW-6B		8:30														
-4	MW-10		10:00														
-5	MW-11		12:50														
-6	MW-12		8:00														
-7	MW-14		8:15														
-8	MW-15		9:50														
-9	MW-18		11:30														
-10	MW-19	↓	2:10		↓	↓	↓	↓	↓	↓	↓	↓					

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
Bill Zobel	3/21/96	10:44AM	
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE 3/21/96	TIME 10:44AM	RECEIVED BY LABORATORY: Jennifer Hamilton

LABORATORY:
BC LABS
4100 ATLAS CT
BAKERSFIELD, CA 93308
327-4911

REQUESTED TURNAROUND TIME:
NORMAL

RECEIPT CONDITION:

PLEASE SEND RESULTS TO:
SMITH ENVIRONMENTAL
6313 SCHIRRA CT
BAKERSFIELD, CA 93313
(805) 835-7700

PROJECT MANAGER:
TIM REED

Received Ice Chest/Blue @ 8°C

SMITH

APPENDIX B
Well Purge Data and Sampling Procedures

Well	Well Depth	Well Diam.	Depth to Water	Hight of Water in Casing	Vol. (gal)	Vol. Purged	pH			Temperature			Conductivity			Comments
MW-3	14.62	2"	9.16	5.46		3	7.30	7.20	7.65	69.9	71.3	73.4	6.30	6.15	6.06	WELL COVERED AND DAMAGED BY DIRTY HAY BALE
MW-5	20.92	4"	12.00	8.92		18	7.03	6.84	6.74	68.3	69.1	68.8	4.13	7.44	11.04	
MW-6B	21.24	4"	11.86	9.38		18	7.00	6.94	6.93	59.7	60.9	61.4	6.35	6.49	6.56	
MW-10	19.34	4"	11.36	7.98		16	7.21	7.07	7.10	63.6	63.7	63.5	6.19	6.03	6.09	
MW-11	20.30	4"	11.66	8.64		17	7.23	7.02	6.89	67.5	66.0	65.2	6.49	7.25	7.96	
MW-12	21.86	4"	12.37	9.49		19	7.20	7.09	6.97	61.5	61.6	61.4	6.38	7.11	7.25	
MW-14	22.32	4"	12.32	10.0		20	7.22	7.14	7.12	61.3	61.4	61.5	1.49	1.41	1.39	
MW-15B	18.82	4"	11.06	7.76		15	6.75	6.69	6.92	66.2	66.5	66.5				UNABLE TO GET COND.
MW-18	14.10	4"	7.52	6.58		13	6.50	6.34	6.45	64.6	64.4	64.1				SLOW RECHARGER UNABLE TO GET COND,
MW-19	16.40	4"	7.76	8.64		17	3.03	7.57	7.42	72.4	70.9	70.5	7.79	1.93	1.90	PURGED DRY AT 7 GALLONS

WELL SAMPLING DATA

Malibu Grand Prix - Oakland

PROJECT NUMBER: B2481.41 #8641

DATE: 3/20/96 BILL ZOBEL

RESNA

Working to Restore Nature

SMITH

Smith Environmental Technologies Corporation (Smith Environmental) has adopted the following Site Investigation Quality Assurance/Quality Control (QA/QC) program intended to facilitate the acquisition of accurate and reliable data. Environmental data gathered during the investigation shall be collected and analyzed following procedures prescribed in the Quality Control Program. A Quality Assurance Program has been established to assure that the Quality Control Program is effective. Both programs are necessary to provide accurate data and documentation for investigations and laboratory analyses. The following field and laboratory procedures shall be implemented to ensure that QA/QC objectives are met.

1.0 RECORDING OF FIELD DATA

All information pertinent to the field investigation shall be kept in a field log book. In addition, boring log and chain-of-custody comprise the field documents in which all of the pertinent information about bore hole soil samples are recorded. Information to be documented includes at least the following:

- Sample number.
- Locations of sample collection.
- Soil boring or well numbers, as applicable.
- Depths at which samples were obtained.
- Names of collectors.
- Dates and times of collection.
- Purpose of sample.
- Sample distribution (e.g., laboratory, archive, etc.).
- Field observations.
- Field measurements (e.g., PID readings, pH, conductivity, water levels).
- Other data records (e.g., development log, soil sampling report, well log, etc.).

2.0 SAMPLE CONTAINERS

Groundwater samples shall be placed in containers supplied by Smith Environmental or an analytical laboratory. Table 1 summarizes the required sample containers.

Soil samples shall be collected in either 8-once widemouth glass jars with screw-on caps lined with teflon or in brass or stainless steel tubes (Table 1). Screw-on caps for the tubes shall be fitted with teflon liners. Tubes shall be tightly capped and sealed with integrity tape.

3.0 QUALITY CONTROL OF WATER SAMPLES

A QC program independent from the laboratory's program shall be maintained. The program entails submittals of travel blanks, duplicates, and field blanks to a certified laboratory. No spiked samples shall be supplied from the field; the laboratory in-house QC program shall include analysis of spiked samples. Field blanks shall be assigned

independent sample numbers and made indistinguishable from non quality control samples.

3.1 Travel Blanks

When sampling groundwater, travel blanks shall be used to detect the introduction of contaminants during transportation from the field to the laboratory. The travel blanks shall be provided by Smith Environmental or the analytical laboratory. They shall be taken to the field and accompany the collected groundwater samples to the laboratory for analysis. The blanks shall consist of deionized water or analytically confirmed organic-free water. The blank is numbered, packaged, and sealed in the same manner as the other samples.

3.2 Duplicates

Five percent (1 in 20) or one (1) per sampling set, whichever is more, shall be submitted to the laboratory for analysis as duplicates. Therefore, if a job site has one (1) and up to twenty (20) wells to be sampled, one (1) duplicate shall be analyzed. If twenty-one (21) wells are to be sampled then two (2) duplicates shall be analyzed. The duplicate is acquired by filling two sample bottles from the same well bailer. If more than one bailer volume is required, each bailer volume shall be split between containers. The duplicates shall be labeled as duplicate without identifying the actual well location either on the chain-of-custody or on the actual sample. The actual well location of the duplicate shall be noted in the field log book.

3.3 Field Blanks

Field blanks shall be prepared and submitted to the analytical laboratory for analysis on the same frequency stated for duplicates. A field blank shall be acquired by sampling the deionized water used to rinse the sampling bailer in between sample points.

3.4 Sample Preservation

Sample containers shall be pre-cooled and transported to the site in coolers. All samples shall be preserved as indicated on Table 1 and placed in coolers immediately after collection. Sealed chemical ice shall be used in the coolers to maintain samples at a temperature of 4 degrees celsius. A high level recording thermometer shall accompany the samples during transport conditions.

4.0 GROUNDWATER SAMPLING PROTOCOL

Immediately prior to sampling, the depth to water (DTW) in the well shall be recorded. If there is free product in the well, the thickness of product on top of the groundwater shall be measured using an interface probe.

If free product is detected, analysis of groundwater at the interface for dissolved product shall not be conducted. A product sample shall be collected for source identification. If all free product cannot be removed, an interval-specific sampling device may be utilized to collect a sample from below the zone of free product. The well shall be purged until indicator parameters (temperature, conductivity and pH) are stabilized. This shall entail the removal of at least four well-casing volumes by bailing or pumping. The criteria for determining well-casing volumes and temporary storage of purged water is outlined in Section 9.0, (Well Development Protocol). The indicator parameter measurements shall be taken both before and after purging of each well-casing volume. Once the well is purged and indicator parameters have stabilized, a sample may be collected after the water level has reached 80 percent of its initial elevation. Where water level recovery is slow, the sample may be collected after stabilization is achieved and enough water is present to fill sample containers.

Cross contamination from transferring pumps (or bailers) from well to well shall be avoided by utilizing dedicated equipment. Where this is not feasible, thorough cleaning of equipment shall be performed between sampling rounds. Sampling shall proceed from the least contaminated to the most contaminated well, if that information is available before sample collection, or if it is indicated by field evidence. Where several types of analysis shall be performed for a given well, individual samples shall be collected in the following order:

1. Volatile organics
2. Purgeable organics
3. Purgeable organic halogens
4. Total organics
5. Total organic halogens
6. Extractable organics
7. Total metals
8. Dissolved metals
9. Phenols
10. Cyanide

The specific analytical methods to be utilized for the common volatile/semi-volatile analyses are shown on Table 2.

Duplicate samples shall be transferred to vials or containers that meet Regional Board specifications (Table 1). Groundwater from the bailer shall be transferred to the sample container by allowing the fluid to flow slowly along the sides of the vessel. All containers shall be filled above the top of the opening to form a positive meniscus. No head space should be present in the sample container once it is sealed. After the vial is capped it should be inverted to check for air bubbles. If bubbles are present the sample

should be discarded and replaced. If it is not possible to collect a sample without air bubbles, the problem shall be noted in the field log book.

5.0 CHAIN-OF-CUSTODY PROCEDURES

5.1 Sample Labels

Each sample container shall be labeled prior to filling to prevent misidentification. The label shall contain at least the following information:

- Sample number which uniquely identifies the sample
- Project title or number
- Location of sample collection
- Soil boring or well number, as applicable
- Name of collector
- Date and time of collection

5.2 Chain-of-Custody Record and Sample Analysis Request Form

A chain-of-custody record for each container or sample shall be used to track possession of the samples from the time they were collected in the field until the time they are analyzed in the laboratory.

The chain-of-custody record shall contain the following information:

1. Site name or project number
2. Signature of collector
3. Date and time of collection
4. Sample identification number(s)
5. Number of containers in sample set
6. Description of sample and container(s)
7. Name and signature of persons, and the companies or agencies they represent, who are involved in the chain-of-custody
8. Inclusive dates and times of possession
9. Type of analysis requested

5.3 Delivery of Samples to Laboratory

Samples shall be delivered to the laboratory on a daily basis. Samples shall be maintained at approximately 4 degrees celsius for shipping. Shipping containers shall be sealed with security tape to assure sample integrity during shipping. Delivered samples shall be accompanied by a chain-of-custody record. The laboratory shall note on the chain-of-custody that samples were properly preserved and security tape was intact upon arrival.

SMITH

6.0 SAMPLING AND DRILLING EQUIPMENT DECONTAMINATION

Prior to arriving at the sampling site, all sampling equipment shall be cleaned with laboratory grade detergent (Alconox or equivalent) and rinsed twice with tap water. This procedure shall also be carried out on-site before sampling of any additional monitoring wells.

All decontamination shall be conducted on an impermeable surface and all decontamination effluent shall be contained. All surfaces of the equipment shall be thoroughly decontaminated using a steam cleaner. The equipment shall be placed on a drying rack for air drying. The water used for decontamination shall be stored in containers certified for hazardous materials storage and disposed of in an approved manner.

7.0 FIELD EQUIPMENT CALIBRATION AND MAINTENANCE

The following measuring equipment may be used during the Site Investigation and/or sample collection. Calibration procedures and frequency are listed for each piece.

Soil Borings and Well Dimensions - Steel and coated cloth tape. Calibration: none.

Water Level Measurements in Wells - Water Sensing tape. Calibration: Manufacturer supplied temperature correction shall be applied as applicable for field conditions. Electrical well sounders.

Total Organic Vapors - Foxboro OVA, flame ionization detector (FID). Calibration: Daily field calibration using manufacturer recommended procedures.

Organic Vapors - Photovac, photoionization detector (PID). Calibration: Daily field calibration using an isobutylene standard as per manufacturer instructions.

Groundwater pH Measurement - Digital pH meter. Calibration: Standard pH solutions of 4, 7, and 10 shall be utilized for daily field calibration according to manufacturer instructions.

Electrical Conductivity - Electrical conductivity meter. Calibration: Factory-calibrated annually and periodically calibrated against laboratory prepared standard calibration solution.

Water Temperature - Alcohol or digital thermometers. Calibration: Factory-calibrated once.

Combustible Gas/Oxygen - Gastech LEL, combustible gas/oxygen meter calibration: Factory calibrated, field calibrated monthly, zeroed daily according to manufacturer's instructions.

Miscellaneous Measuring Devices - Calibration procedures for any other measuring device used shall be documented at the request of the regulatory authority.

All equipment shall be checked before use and replaced as necessary. Instrument manuals and an instrument log book shall accompany equipment into the field. Any calibrations, repairs or related information shall be recorded in the log book.

8.0 GROUNDWATER MONITORING PROTOCOL

Monitoring of depth to water and free product thickness within wells at the site shall be conducted using an interface probe or conductivity meter. For consistency, all measurements shall be taken from the north side of the wellhead at the survey mark. To assess potential infiltration of fine-grained sediments, total well depth shall also be sounded.

Newly installed wells shall be allowed to stabilize for 24 hours after development prior to free product inspection. A clean bailer or sampler shall be used for visual inspection of the groundwater in order to note sheens (difficult to detect with the interface probe), odors, microbial action and sediments.

To reduce the potential for cross contamination between wells, the monitoring shall take place in order from the least to the most contaminated, if known. Wells containing free product shall be monitored last. Between each well monitoring, the equipment shall be decontaminated.

Water level data collected from the wells shall be used to develop a groundwater contour map for the project site. Groundwater flow shall be estimated to be perpendicular to equipotential lines drawn on the map.

9.0 WELL DEVELOPMENT PROTOCOL

Groundwater monitoring wells shall be surged and developed prior to setting the surface seal. Approximately 3 to 5 times the volume of water in the casing shall be withdrawn if possible. Casing volumes shall be calculated in the following manner:

Volume of Schedule 40 PVC Pipe

Diameter (inches)	I.D. (inches)	Volume (gal/linear ft.)
2	2.067	0.17
4	4.026	0.66

If the aquifer is slow to recharge, development shall continue until recharge is too slow to practically continue. The volume of water produced, versus time, shall be recorded.

All withdrawn groundwater shall be stored on-site in 55-gallon waste drums unless permission is granted by the appropriate regulatory agency to discharge the water to the ground surface or sanitary sewer. Drummed water shall be labeled with the source of the water to help ensure appropriate disposal based on contamination levels.

10.0 QUALITY CONTROL OF SOIL SAMPLES

10.1 Travel Blanks

Travel blanks shall not be used for soil sample transportation due to problems associated with obtaining a blank material.

10.2 Duplicates

The effort to collect duplicate soil samples from a bore hole may be compromised by variations of soil texture. This shall be minimized by selecting a duplicate sample location as near as possible to the actual sample. In a split-spoon sampler the lowest tube shall be a duplicate when needed. The middle tube shall be the actual sample. All soil sample tubes shall be marked to show from which end the tube is to be sampled. The ends, where the two sample tubes joined shall be marked. The laboratory shall be instructed to sample the marked end. The upper tube shall be used for soil characterization.

The frequency with which soil duplicates are taken shall be at a minimum five (5) percent (1 in 20). In bore-holes the samples are best collected below the five foot depth in zones of either low or no transition.

When sampling soil piles or tank pits the top inch or two shall be remove before sampling. Efforts shall be made to avoid areas where soil texture changes. Fill the sample jar completely full avoiding any unnecessary head space in the sample jar.

Duplicate soil samples shall be labeled as duplicate without any other identification. A record of its actual sampling point shall be kept in the field log book.

10.3 Field Blanks

A soil field-blank from a bore hole would be best sampled from the top of the bore hole i.e. the first sample depth (not to be greater than five feet) and only if there is no indication of contaminates. The blank should be labeled as to the boring number, depth, and B for blank. For example, a blank obtained from soil boring number two (2), at a depth of five feet would be labeled as SB2-5B. The frequency of blanks may different than that of duplicates, but when possible they shall be of the same frequency, five (5) percent (1 in 20).

A blank from a soil pile or tank pit shall be taken from the surface material only. It shall be taken in a zone where no contamination is indicated.

11.0 SOIL SAMPLING PROTOCOL

11.1 Sample Collection During Drilling Activities

A proposal shall be submitted to the lead Regulatory Authority with proposed boring/sampling locations. The exact location and number of borings at each site shall be determined in the field by the Project Geologist/Engineer.

Prior to arriving at the sample site, the drill rig/augers shall be steam cleaned and all sample equipment shall be cleaned. Cleaning between samples shall be conducted on-site on all sampling equipment.

Soil samples shall be obtained using a California modified split-spoon sampler containing three, six inch long, two inch diameter brass tubes. The sampler shall be driven 18 inches ahead of the hollow stem auger by a 140-pound hammer with a 30-inch drop in accordance with American Society for Testing and Materials (ASTM Method D 1586-84) for split-barrel sampling of soil and (ASTM Method D 1587-83) for thin-walled tube sampling of soils. The blows required to drive the sampler each six-inch interval shall be recorded on the boring log. The sampler shall be removed from the boring and opened to reveal the brass tubes. The middle tube shall be covered with teflon and plastic end caps, taped, labeled, and placed into a cooler containing frozen chemical. A high level temperature recording thermometer shall accompany sample shipments to ensure proper temperature maintenance. The samples shall be delivered to a state certified

laboratory, with a chain-of-custody, following all protocols, within 48 hours of sampling.

Soil in the uppermost brass tube shall be described according to ASTM standard practice for physical description and identification of soils (ASTM Method D 2488-84). Stratigraphic, genetic and other data/interpretations shall also be recorded on a log prepared for each boring/well. The second sample tube may be used with the lowermost tube for preparation of duplicates.

Soil samples shall be collected at five foot intervals, at significant changes in lithology and intervals of obvious contamination in order to develop a complete profile of soil contamination.

11.2 Sample Collection During Tank Removal

Soil samples shall be collected as soon as possible after removal of the tank. Where feasible, all preparations for soil sampling shall be made prior to tank removal. Soil samples collected from a backhoe bucket or directly from the excavation floor shall be collected in glass sampling jar with a Teflon lined screw cap. When sampling, the jar should be filled with soil as completely as possible.

11.3 Sampling from Soil Piles or Shallow Soil Pits

Soil samples shall be collected and transported from excavated material in the manner described in the previous section, however, a backhoe shall not be utilized. If composite samples are collected, four sample jars shall be collected for every 50 cubic yards of material to be sampled unless otherwise specified by the lead regulatory agency. The samples shall be composited by the state certified analytical laboratory personnel prior to testing.