SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

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GROUNDWATER MONITORING AND REMEDIATION PROGRESS REPORT THIRD QUARTER 1995

FORMER MALIBU GRAND PRIX
8000 South Coliseum Way
Oakland, California

Prepared For

MGP Holdings, Inc.

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THIRD QUARTER 1995

FORMER MALIBU GRAND PRIX
8000 South Coliseum Way
Oakland, California

For MGP Holdings, Inc.

1.0 INTRODUCTION

Smith Environmental Technologies Corporation has performed the Third Quarter, 1995, monitoring of the groundwater at the former Malibu Grand Prix Race Track and Castle areas, 8000 South Coliseum Way, Oakland, California (Plate 1). The quarterly monitoring of the groundwater was last performed in mid-February 1995. Additional groundwater monitoring was not performed until the addition of three new wells that were installed after the completion of the soil excavation. This report reviews the past history of the site, gives the results of the analysis of groundwater samples collected in September 1995, and reports on the results of the soil remediation. Recommendations for further action is also included. Seven monitoring wells were destroyed and three monitoring wells were constructed on September 27-28, 1995. Upon completion of the three new monitoring wells, all remaining wells were sounded for depth to water and sampled. Soil samples were also collected from the aerated soil at the site.

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. 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.

3.0 MONITORING WELL ABANDONMENT AND INSTALLATION

On September 27-28, 1995, seven monitoring wells were destroyed and three new monitoring wells were constructed (Plate 2). Four wells (MW-1, MW-4, MW-8 and MW-9) were removed during the soil excavation in May 1995. The remaining seven wells slated for destruction were drilled out and their casings removed. The borings were then filled with a sand and cement grout to the surface.

Three new wells were constructed to either replace wells that were abandoned or provide an additional data point. All three of the wells were drilled to a depth of 20 feet. Water was encountered at nine to ten feet below grade. Four inch PVC casing was placed in each well with 0.020" slotted intervals from 20 feet to 5 feet. The sand pack was place from 20 feet to 4 feet with #3 Monterey sand. Bentonite pellets were placed and hydrated up to two feet below grade. A sand and cement grout was then poured in the annular space to the surface. Log of the borings and well installations are presented on Plates 3-5.

During the drilling of MW-19, a strong creosote odor was detected and a sheen was observed in the drill cuttings. A large amount of debris material was also observed in the cuttings.

4.0 SOIL AERATION

4.1 Soil Aeration Sampling Procedures

On September 28, 1995, composite soil samples were collected from the impacted soil previously spread on site for aeration. The soil has been allowed to aerate for approximately eight weeks and was tilled once during that period. As proposed in the Soil Remediation letter report dated June 23, 1995, a four point composite sample was collected for every 100 cubic yards of soil aerated on site. In order to obtain consistent samples, a grid pattern was used to determine sample locations. An average soil depth of 0.5 feet was determined with each grid square comprising an area of approximately 75 feet by 75 feet. This made each grid area representative of approximately 100 cubic yards of soil (Plate 6). Four separate soil samples were collected from each grid square and composited at the lab to form a representative composite sample for each 100 yards of soil.

Each sample was collected in a three inch stainless steel sleeve with teflon lined plastic caps. The samples were sealed, labeled and placed in a cooler for transport to the laboratory. Each of the samples were composited at the lab and analyzed for benzene, toluene, ethylbenzene and xylene (BTEX) and Total Petroleum Hydrocarbons as gasoline (TPHg).

4.2 Soil Aeration Findings

The results of the analysis show that with the exception of a persistent indication of low levels of toluene, BTEX concentrations were below the detection limit of 5.0 ppb. The highest TPHg concentration was reported in sample B1 at 1.4 ppm. The results of the analysis are presented on Table 1.

5.0 GROUNDWATER MONITORING

During the demolition of the subject site, all of the monitoring wells suffered some damage. Some of the wells were either completely destroyed or rendered unusable. Four wells (MW-1, MW-4, MW-8 and MW-9) were destroyed during the soil excavation. Another seven wells were drilled out and abandoned while three new wells were installed to replace destroyed wells or to provide an additional data point (see Plate 2).

5.1 Groundwater Monitoring Procedures

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, which followed depth measurement, the wells were purged of three well volumes of water, or until dry, with a bailer and 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 will be transported to Gibson Environmental for disposal. Sampling procedures are described in Appendix B.

5.2 Groundwater Monitoring Findings

5.2.1 Water Table Elevation Measurements

Depth to water measurements were collected in all remaining monitoring wells. A groundwater contour map could not be developed, however, since nearly all of the wells suffered damage to the top of the casing. The previous surveyed well head elevations would not, therefore, provide an accurate representation of the groundwater elevation. The wells will be re-surveyed after all earth moving work is completed at the site. Over the last four years, however, the groundwater gradient and slope has not changed appreciably. Therefore it can be assumed that the groundwater at the site has maintained a westerly groundwater flow direction, as observed during the past four years.

5.2.2 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 Zalco Laboratories, Bakersfield, California. Benzene and TPHg results for each well is shown on Plate 3. Past results of groundwater analysis is tabulated on Table 2. A copy of the most recent analytical report is presented in Appendix A. Of the wells sampled, only three had significant hydrocarbon concentrations. The highest benzene and TPHg concentrations were reported

in MW-19 with 630 ppb and 5,000 ppb respectively. MW-3 and MW-5 were reported to have 10 ppb and 21 ppb of benzene respectively with TPHg concentrations below 100 ppb. During the drilling of MW-19, a strong creosote odor was detected in the drill cuttings and purge water.

6.0 RECOMMENDATIONS

6.1 Soil Remediation

The results of the soil analysis presented on Table 1 indicate that the BTEX and TPHg concentrations in the aerated soil are below the suggested clean up levels of 1.0 ppm for total BTEX and 100 ppm for TPHg. It is not known at this time why nearly every sample was reported to have trace concentrations of toluene and TPHg. It may be due to cross contamination in transport or at the laboratory. However, since all of the concentrations are well below the suggested cleanup levels, it is Smith Environmental's opinion that continued remediation of the soil is no longer necessary. Since lead concentrations were reported to be above the action levels in samples collected during the excavation, and it has been determined that lead contamination is systemic to the site and not associated with the underground storage tanks (USTs), all excavated soil should remain on site.

6.2 Groundwater Monitoring

As shown on Table 2, significant concentrations of benzene were reported in MW-3, MW-5 and MW-19. MW-5 is the closest down gradient well to the location of the Castle UST. It has historically had detectable concentrations of TPHg but was never reported to have reportable levels of benzene. MW-3 also had higher than usual benzene levels, however, past concentrations have been reported near the current level. The levels reported in MW-19 suggest that a large concentration of hydrocarbons exists in that location. As stated above, a strong creosote odor and sheen was detected during the well placement and groundwater purging. It is Smith Environmental's belief that the hydrocarbons detected in MW-19 are not associated with the former UST's. Since 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 can be 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. All other monitoring wells located on the periphery of the property, in the historic down gradient direction of either UST, were reported to have no hydrocarbon concentration above the stated detection limit.

Smith Environmental recommends continued monitoring of the groundwater for a minimum of two quarters to identify any trends in groundwater hydrocarbon concentrations that may develop subsequent to the excavation of the soil plume. In addition, the sample collected from MW-19 should be analyzed using EPA method 8015 to quantify the amount of any creosote like compounds or other hydrocarbon constituents that may also be part of a groundwater plume in that location.

The remaining groundwater wells are to be re-surveyed and fitted with traffic rated well boxes once the new parking lot grade can be determined. This will be done before the next monitoring event scheduled for December 1995. It should be noted, however, that all of the remaining wells are located approximately along the strike of the groundwater gradient. This will made an accurate determination of the gradient difficult since there are no offset wells to provide an upgradient reference point.

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TABLE 1

FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
SOIL SAMPLE ANALYSIS RESULTS, ppm

Sample I.D.	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
A1	<0.005	0.110	<0.005	<0.015	0.30
A2	<0.005	0.018	<0.005	<0.015	<0.10
A3	<0.005	0.021	<0.005	<0.015	0.30
A4	<0.005	0.063	<0.005	<0.015	0.16
A5	<0.005	0.130	<0.005	<0.015	0.35
A6	<0.005	0.022	<0.005	<0.015	<0.10
A7	<0.005	0.177	<0.005	<0.015	0.44
A8	<0.005	0.170	<0.005	<0.015	0.43
A9	<0.005	0.170	<0.005	<0.015	0.45
B1	<0.005	0.310	<0.005	<0.015	1.40
B2	<0.005	0.220	<0.005	<0.015	0.95
B3	<0.005	0.330	<0.005	<0.015	1.30
B4	<0.005	0.140	<0.005	<0.015	0.60
B5	<0.005	0.120	<0.005	<0.015	0.32
B6	<0.005	0.240	<0.005	<0.015	1.00
B7	<0.005	0.082	<0.005	<0.015	0.32
B8	<0.005	0.120	<0.005	<0.015	0.49
C1	<0.005	0.250	<0.005	<0.015	1.00
C2	<0.005	0.160	<0.005	<0.015	0.67
C3	<0.005	0.085	<0.005	<0.015	0.49
C4	<0.005	0.200	<0.005	<0.015	0.81
C5	<0.005	0.170	<0.005	<0.015	0.70
C6	<0.005	0.170	<0.005	<0.015	0.70
D1	<0.005	0.230	<0.005	<0.015	0.94
D2	<0.005	0.130	<0.005	<0.015	0.36
D3	<0.005	0.170	<0.005	<0.015	0.66
D4	<0.005	0.160	<0.005	<0.015	0.65
E2	<0.005	0.150	<0.005	<0.015	0.59
E3	<0.005	0.200	<0.005	<0.015	0.86
F2	<0.005	0.180	<0.005	<0.015	0.86

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TABLE 2

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

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-1	09/22/89	410	1800	1100	7100	35000
	06/14/90	.66	<.05	1.3	2.3	210
	07/17/91	<.05	.06	<.05	<.05	270
	10/09/91	<.05	<.05	<.05	<.05	370
	08/05/92	<0.5	<0.5	<0.5	<0.5	600
	12/02/92	<0.5	<0.5	<0.5	<0.5	190
	02/11/93	<0.5	<0.5	<0.5	<0.5	75
	05/26/93	<0.5	<0.5	<0.5	<1.0	110
	08/20/93	<0.5	<0.5	<0.5	<1.0	70
	12/09/93	<0.5	<0.5	<0.5	<0.5	310
	03/25/94	<0.5	<0.5	<0.5	<0.5	<50
	09/28/94	NA	NA	NA	NA	NA
	02/17/95	NA	NA	NA	NA	NA
	05/16/95		Destroyed			
MW-2	09/22/89	<.05	<.05	<.05	<.05	<50
	06/14/90	<.05	<.05	<.05	<.05	<50
	07/17/91	<.05	<.05	<.05	<.05	<50
	10/09/91	<.05	<.05	<.05	<.05	<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	0.8	<0.5	0.6	<50
	05/26/93	<0.5	<0.5	<0.5	<1.0	<50
	08/20/93	<0.5	<0.5	1.5	<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	NA	NA	NA	NA	NA
	09/28/95		Destroyed			
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

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TABLE 2
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-4	09/22/89	410	430	78	324	4000
	06/14/90	200	3.7	1.2	9.5	660
	07/17/91	49	4.3	1.5	38	1100
duplicate	07/17/91	45	2.7	1.0	33	1000
	10/09/91	0.8	<.05	<.05	<.05	88
	08/05/92	11	8.9	2.4	4.7	5800
	12/02/92	6.5	4.3	0.6	1.4	1500
	02/11/93	6.6	1.1	0.8	2.4	2000
	05/26/93	<0.5	<0.5	13	49	1500
	08/20/93	1.8	<0.5	<0.5	1.4	1100
	12/09/93	<0.5	<0.5	0.61	<0.5	1400
	03/25/94	100	<0.5	42	64	3100
	09/28/94	<0.5	<0.5	<0.5	<0.5	700
	02/17/95	<0.5	<0.5	<0.5	3.7	880
	05/16/95		Destroyed			
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
	09/28/95	21	1.1	<0.3	<0.3	71
MW-6	06/14/90	73	<.05	17	29.7	1800
	07/17/91	7.4	<.05	<.05	5.6	1200
	10/09/91	<.05	<.05	<.05	<.05	<50
	08/05/92	1.4	<0.5	12	4.1	1900
	12/01/92	<0.5	<0.5	2.5	1.3	140
	02/11/93	1.1	<0.5	<0.5	1.9	970
	05/26/93	0.6	<0.5	1.9	10.0	230
	08/20/93	<0.5	<0.5	0.91	4.9	140
	12/09/93	4.7	<0.5	<0.5	<0.5	270
	03/25/94	1.2	<0.5	<0.5	1.9	230
	09/28/94	<0.5	<0.5	<0.5	<0.5	230
	02/17/95	NA	NA	NA	NA	NA
	09/28/95		Destroyed			

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TABLE 2
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-6B	09/28/95	<0.3	<0.3	<0.3	<0.3	<50
MW-7	06/14/90	0.84	<.05	1.2	1.8	58
	07/17/91	12	1.7	4.7	3.8	120
	10/09/91	<.05	<.05	<.05	<.05	<50
	08/05/92	<0.5	<0.5	0.6	<0.5	<50
	12/01/92	0.9	<0.5	<0.5	<0.5	<50
	02/11/93	<0.5	<0.5	3.6	<0.5	200
	05/26/93	<0.5	0.7	<0.5	3.5	78
	08/20/93	7.2	1.2	<0.5	2.1	63
	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	4.1	<0.5	<0.5	3.2	53
	02/17/95	NA	NA	NA	NA	NA
	09/28/95		Destroyed			
MW-8	06/14/90	680	36	150	1060	13000
	07/17/91	330	1.8	1.7	3.6	1300
	10/10/91	3.1	0.6	0.7	<.05	76
duplicate	10/10/91	3.2	0.6	0.7	<.05	72
	08/05/92	35	1.2	0.6	2.4	1700
	12/02/92	5.5	0.9	<0.5	1.8	450
	02/11/93	77	<0.5	11	11	2000
	05/26/93	130	4.8	1.9	<1.0	670
	08/20/93	0.71	<0.5	<0.5	<0.5	230
	12/09/93	<0.5	<0.5	<0.5	0.55	210
	03/25/94	4.0	<0.5	<0.5	0.69	320
	09/28/94	3.5	<0.5	<0.5	6.0	480
	02/17/95	6.7	<0.5	<0.5	<0.5	100
	05/16/95		Destroyed			
MW-9	06/14/90	12	0.78	4.5	2.54	3200
	07/17/91	3.4	<.05	<.05	<.05	87
	10/10/91	1.8	<.05	<.05	<.05	100
	08/05/92	1.7	<0.5	<0.5	1.3	150
	12/02/92	1.3	<0.5	<0.5	<0.5	62
	02/11/93	0.7	ND	ND	ND	55
	05/26/93	0.6	<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	NA	NA	NA	NA	NA
	05/16/95		Destroyed			

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TABLE 2
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
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
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
	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
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
MW-12	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
MW-13	10/09/91	<.05	0.9	0.6	3.0	720
	08/05/92	<0.5	2.7	<0.5	0.69	1400
duplicate	08/05/92	<0.5	3.0	<0.5	0.7	1100
	12/01/92	<0.5	2.9	<0.5	0.9	670
	02/11/93	4.1	0.9	<0.5	<0.5	600
	05/26/93	<0.5	<0.5	<0.5	<1.0	220

SMITH

TABLE 2
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-13	08/20/93	0.6	0.5	<0.5	<1.0	230
	12/09/93	<0.5	<0.5	<0.5	<0.5	160
	03/25/94	<0.5	<0.5	<0.5	<0.5	110
	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		Destroyed			
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
	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
MW-15	10/10/91	<.05	<.05	<.05	<.05	<50
	08/05/92	0.8	<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	77
	08/20/93	<0.5	<0.5	<0.5	<1.0	56
	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	NA	NA	NA	NA	NA
	09/28/95		Destroyed			
MW-15B	09/28/95	<0.3	<0.3	0.50	1.1	<50
MW-16	10/09/91	<.05	<.05	<.05	<.05	78
	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	0.65	<0.5	<0.5	<50
	02/17/95	NA	NA	NA	NA	NA

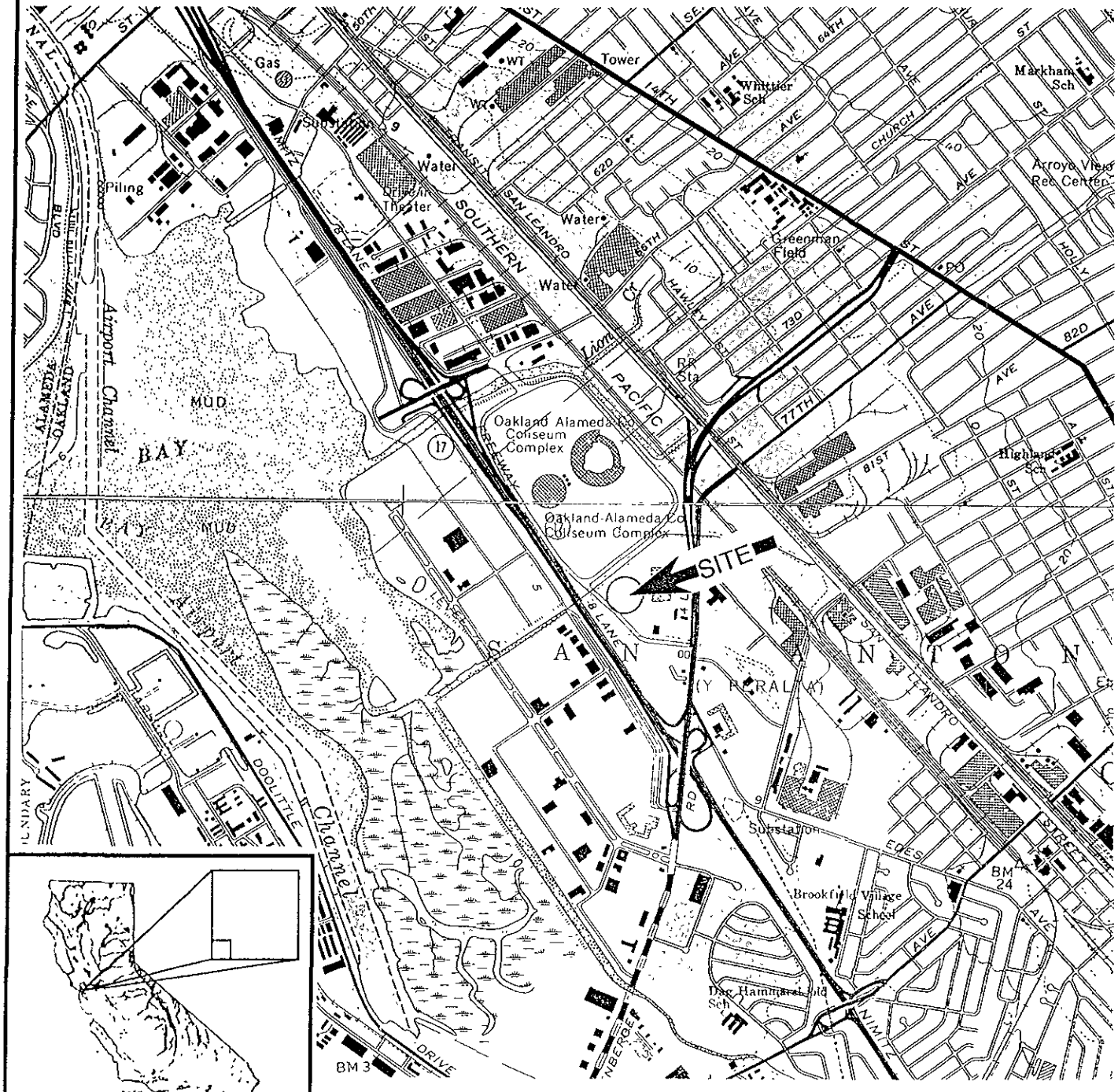
SMITH

TABLE 2
(Continued)
FORMER MALIBU GRAND PRIX – OAKLAND, CALIFORNIA
WATER SAMPLE ANALYSIS RESULTS, ppb

Well #	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPHg
MW-16	09/28/95		Destroyed			
MW-17	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
MW-17	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	NA	NA	NA	NA	NA
	09/28/95		Destroyed			
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

Notes:

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



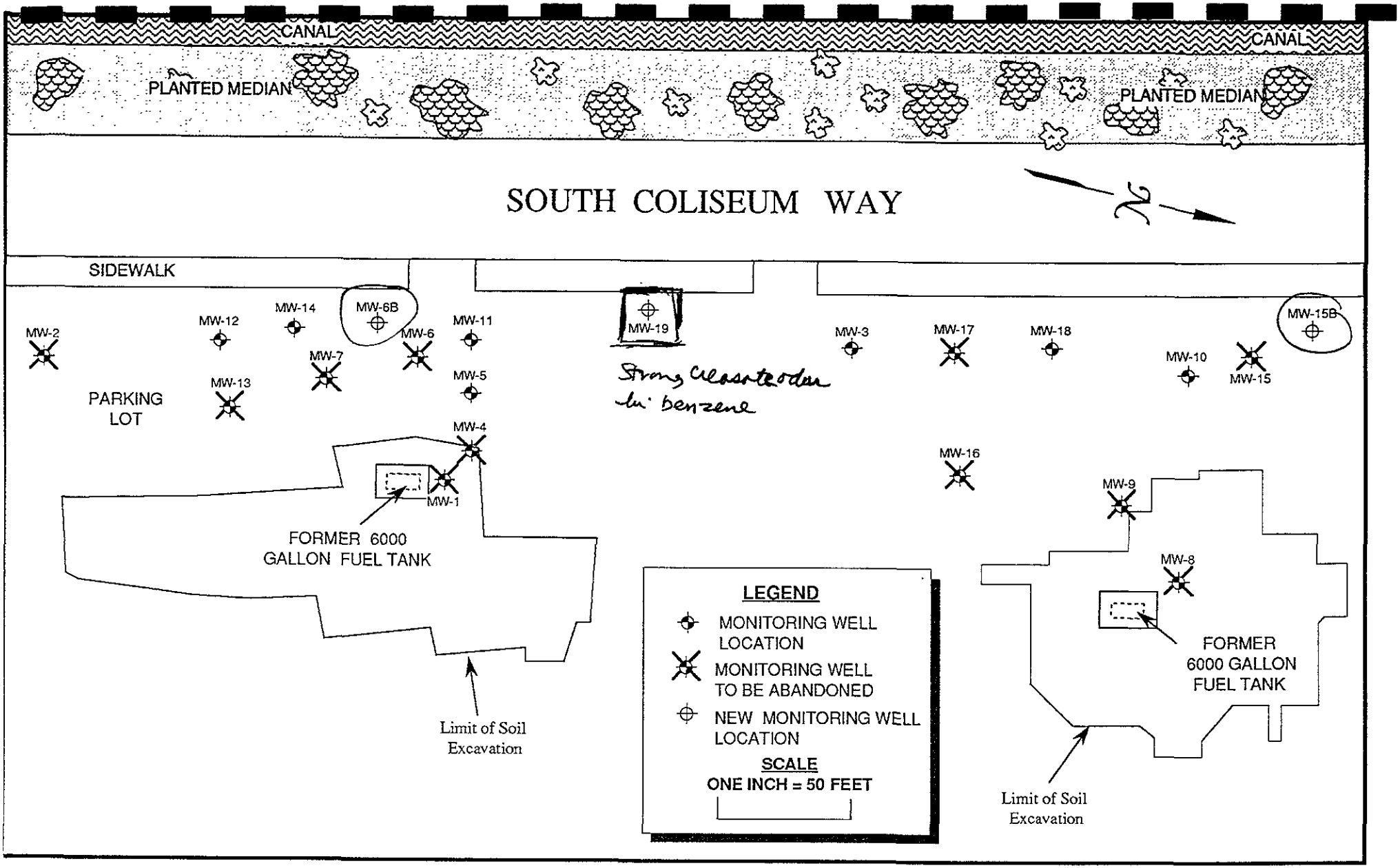
SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

PROJECT NUMBER: 8594

MALIBU GRAND PRIX
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

LOCATION MAP

PLATE
1



SMITH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

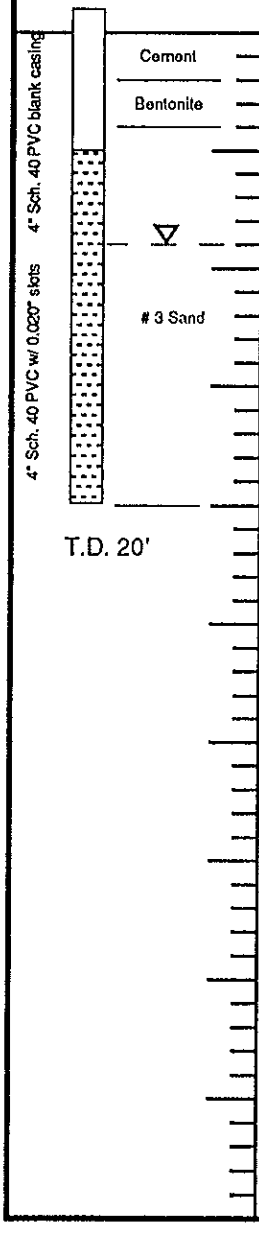
PROJECT NUMBER: 8641

MALIBU GRAND PRIX

8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

SITE PLAN

PLATE
2

WELL COMPLETION	ANALYSES Lab Benzene TPH ppm	ANALYSES Field Hnu P.I.D. ppm	BLOWCOUNT	DEPTH (feet)	SAMPLE INTERVAL	SAMPLE NUMBER	lithology symbol	u.s.c.s.-desig.	SOIL DESCRIPTION
				0					
				5					Fill Material- black silt and silty clay, abundant debris, moist, no odor, no stain
				10					
				15				CL	Silty Clay- dark gray, high plast, saturated, no odor, no stain
				20					
				25					
				30					
				35					
				40					
				45					
				50					

LOGGED BY: TCR
DATE DRILLED: 9-27-95
TOTAL DEPTH: 20 ft.
DRILLING COMPANY: Exploration Geoservices

DIAMETER OF BORING: 10 inch
WATER ENCOUNTERED AT: 9 ft.
SAMPLING METHOD:

SMTH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

Project Number: 8641

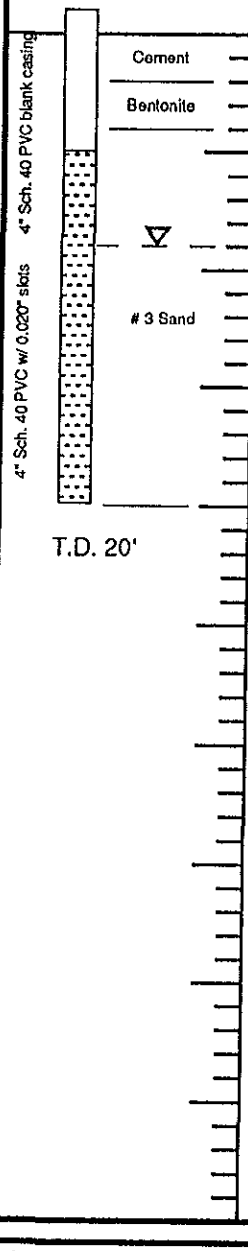
PROJECT NAME: Malibu Grand Prix - Oakland
SITE NAME:

BORING LOCATION: 8000 S. Coliseum Way, Oakland

LOG OF BORING MW-6A

PLATE 3

page 1 of 1

WELL COMPLETION	ANALYSES Lab Benzene TPH ppm	ANALYSES Field Hnu P.I.D. ppm	BLOWCOUNT	DEPTH (feet)	SAMPLE INTERVAL	SAMPLE NUMBER	lithology symbol	u.s.c.s.-desig.	SOIL DESCRIPTION
				0					Fill Material- black silt and silty clay, abundant debris, moist, no odor, no stain
				5					
				10					
				15					
				20				CL	Silty Clay- dark gray, high plast, saturated, no odor, no stain
				25					
				30					
				35					
				40					
				45					
				50					

LOGGED BY: TCR
DATE DRILLED: 9-27-95
TOTAL DEPTH: 20 ft.
DRILLING COMPANY: Exploration Geoservices

DIAMETER OF BORING: 10 inch
WATER ENCOUNTERED AT: 9 ft.
SAMPLING METHOD:

SMTH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

Project Number: 8641

PROJECT NAME: *Malibu Grand Prix - Oakland*
SITE NAME:

BORING LOCATION: 8000 S. Coliseum Way, Oakland

LOG OF BORING MW-15A

PLATE 4

page 1 of 1

WELL COMPLETION	ANALYSES Lab Benzene TPH ppm	ANALYSES Field Hnu P.I.D. ppm	BLOWCOUNT	DEPTH (feet)	SAMPLE INTERVAL	SAMPLE NUMBER	lithology symbol	u.s.c.s.-desig.	SOIL DESCRIPTION
Cement Bentonite 4" Sch. 40 PVC blank casing # 3 Sand 4" Sch. 40 PVC w/ 0.020" slots T.D. 20'				0 5 10 15 20 25 30 35 40 45 50				CL	Fill Material- black silt and silty clay, abundant debris, moist, no odor, no stain Silty Clay- dark gray, high plast, saturated, strong creosote odor, dark stain

LOGGED BY: TCR
DATE DRILLED: 9-27-95
TOTAL DEPTH: 20 ft.
DRILLING COMPANY: Exploration Geoservices

DIAMETER OF BORING: 10 Inch
WATER ENCOUNTERED AT: 9 ft.
SAMPLING METHOD:

SMTH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

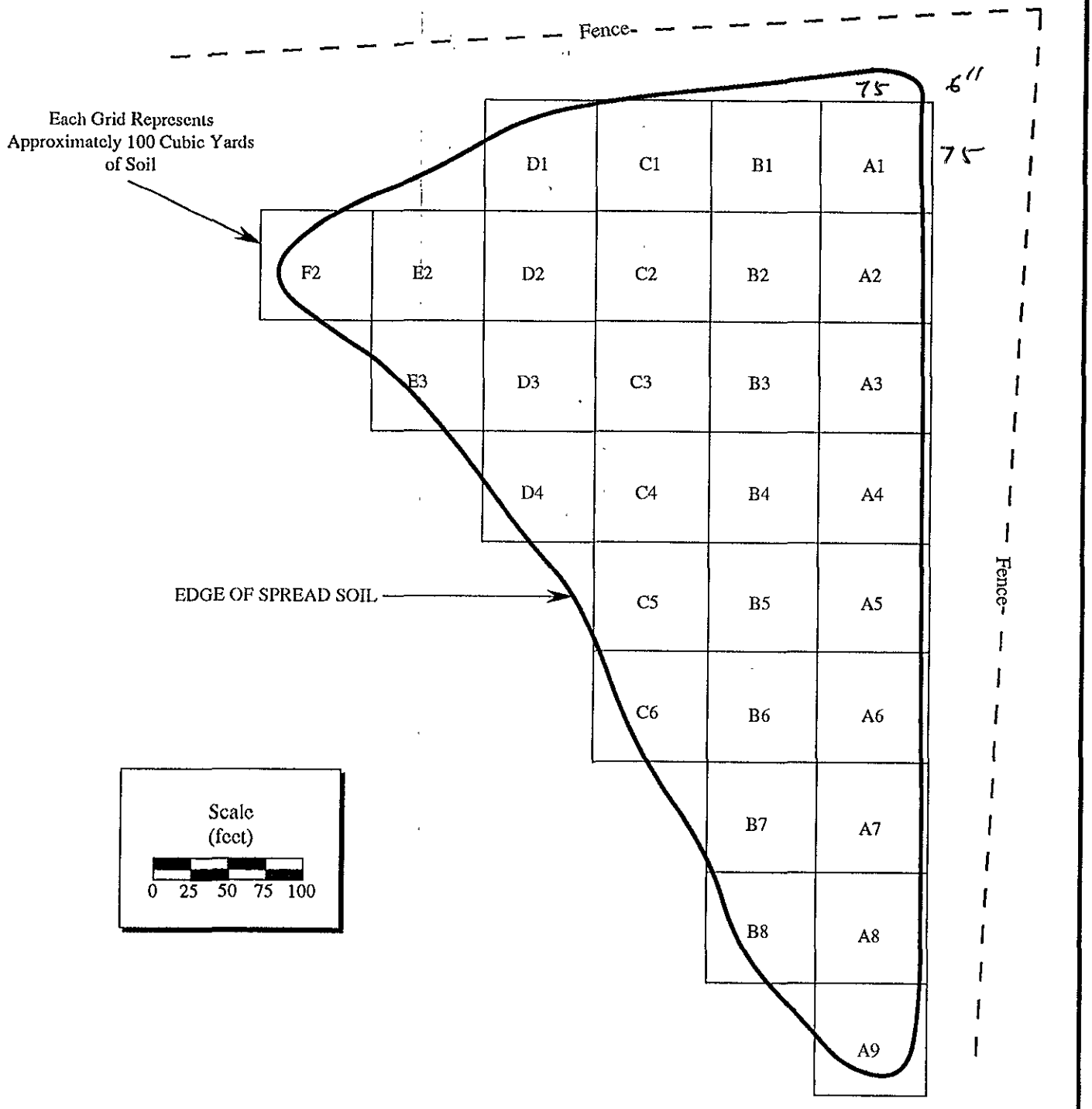
Project Number: 8641

PROJECT NAME: Malibu Grand Prix - Oakland
SITE NAME:

BORING LOCATION: 8000 S. Coliseum Way, Oakland

LOG OF BORING MW-19

PLATE
5
page 1 of 1



SMTH
ENVIRONMENTAL TECHNOLOGIES CORPORATION

PROJECT NUMBER: 8641

FORMER MALIBU GRAND PRIX
8000 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

SAMPLING GRID FOR SOIL AERATION

PLATE
6

SMITH

APPENDIX A

ANALYTICAL REPORTS

ZALCO LABORATORIES, INC.
Analytical & Consulting Services

4309 Armour Avenue
Bakersfield, California 93308

(805) 395-0539
FAX (805) 395-3069

Smith Environmental
1500 S. Union Avenue
Bakersfield, CA 93307

Laboratory No: 45539
Date Received: 9-29-95
Date Reported: 10-13-95
P O #: 34619

Attention: Tim Reed

Sample: Water

Sample Description: 45539-1 MW-3; Sampled at 1305 hours
45539-2 MW-5; Sampled at 1315 hours
45539-3 MW-B6; Sampled at 1320 hours
Sampled by T. Moore on 9-27-95

	-1 µg/l	-2 µg/l	-3 µg/l	MRL
Volatile Aromatic Hydrocarbons				
Benzene	10	21	< 0.3	0.3
Toluene	0.76	1.1	< 0.3	0.3
Ethyl Benzene	< 0.3	< 0.3	< 0.3	0.3
Xylenes	< 0.3	< 0.3	< 0.3	0.3
Date Analyzed:	10-11-95	10-10-95	10-11-95	

Method: EPA 8020

Total Petroleum Hydrocarbons as Gasoline	66	71	< 50	50
Date Analyzed:	10-11-95	10-10-95	10-11-95	

Method: DOHS Luft Manual

MRL = Minimum Reporting Level

Jim Etherton
Lab Operations Manager

JE/lb

ZALCO LABORATORIES, INC.
Analytical & Consulting Services
4309 Armour Avenue
Bakersfield, California 93308
(805) 395-0539
FAX (805) 395-3069

Smith Environmental
1500 S. Union Avenue
Bakersfield, CA 93307

Laboratory No: 45539
Date Received: 9-29-95
Date Reported: 10-13-95
P O #: 34619

Attention: Tim Reed

Sample: Water

Sample Description: 45539-4 MW-10; Sampled at 1250 hours
45539-5 MW-11; Sampled at 1310 hours
45539-6 MW-12; Sampled at 1330 hours
Sampled by T. Moore on 9-27-95

	-4 µg/l	-5 µg/l	-6 µg/l	MRL
Volatile Aromatic Hydrocarbons				
Benzene	< 0.3	< 0.3	< 0.3	0.3
Toluene	< 0.3	< 0.3	< 0.3	0.3
Ethyl Benzene	< 0.3	< 0.3	< 0.3	0.3
Xylenes	< 0.3	< 0.3	< 0.3	0.3
Date Analyzed:	10-10-95	10-10-95	10-11-95	

Method: EPA 8020

Total Petroleum Hydrocarbons as Gasoline	< 50	< 50	< 50	50
Date Analyzed:	10-10-95	10-10-95	10-11-95	

Method: DOHS Luft Manual

MRL = Minimum Reporting Level

Jim Etherton
Lab Operations Manager

JE/lb

ZALCO LABORATORIES, INC.
Analytical & Consulting Services

4309 Armour Avenue
Bakersfield, California 93308

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FAX (805) 395-3069

Smith Environmental
1500 S. Union Avenue
Bakersfield, CA 93307

Laboratory No: 45539
Date Received: 9-29-95
Date Reported: 10-13-95
P O #: 34619

Attention: Tim Reed

Sample: Water

Sample Description: 45539-7 MW-14; Sampled at 1325 hours
45539-8 MW-15B; Sampled at 1245 hours
45539-9 MW-18; Sampled at 1300 hours
Sampled by T. Moore on 9-27-95

	-7 µg/l	-8 µg/l	-9 µg/l	MRL
Volatile Aromatic Hydrocarbons				
Benzene	< 0.3	< 0.3	< 0.3	0.3
Toluene	< 0.3	< 0.3	< 0.3	0.3
Ethyl Benzene	< 0.3	0.50	< 0.3	0.3
Xylenes	< 0.3	1.1	< 0.3	0.3
Date Analyzed:	10-11-95	10-12-95	10-12-95	

Method: EPA 8020

Total Petroleum Hydrocarbons as Gasoline	< 50	< 50	< 50	50
Date Analyzed:	10-11-95	10-12-95	10-12-95	

Method: DOHS Luft Manual

MRL = Minimum Reporting Level

Jim Etherton
Lab Operations Manager

JE/lb

ZALCO LABORATORIES, INC.
Analytical & Consulting Services

4309 Armour Avenue
Bakersfield, California 93308

(805) 395-0539
FAX (805) 395-3069

Smith Environmental
1500 S. Union Avenue
Bakersfield, CA 93307

Laboratory No: 45539
Date Received: 9-29-95
Date Reported: 10-13-95
P O #: 34619

Attention: Tim Reed

Sample: Water

Sample Description: 45539-10 MW-19; Sampled at 1335 hours
45539-11 TB
Sampled by T. Moore on 9-27-95

	-10 µg/l	MRL	-11* µg/l	MRL
Volatile Aromatic Hydrocarbons				
Benzene	630	7.5	< 0.6	0.6
Toluene	150	7.5	< 0.6	0.6
Ethyl Benzene	1000	7.5	< 0.6	0.6
Xylenes	700	7.5	< 0.6	0.6
Date Analyzed:	10-12-95		10-12-95	

Method: EPA 8020

Total Petroleum Hydrocarbons as Gasoline	5000	1250	< 100	100
Date Analyzed:	10-12-95		10-12-95	

Method: DOHS Luft Manual

MRL = Minimum Reporting Level

*NOTE: Due to the carryover of high results of the previous sample, this sample had to be reanalyzed. Since only one vial was provided, there was only 16.5 ml remaining for analysis. The elevated detection limits are for this sample only.

Jim Etherton
Lab Operations Manager

JE/lb

RESNA

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO.	PROJECT NAME/SITE	PO #
[redacted] 5641	MEP / Oakland	

SAMPLERS (SIGN) / (PRINT) T. Mora

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
MW-3	9/27	13:05		X	HCl	X	3	GW	X	X						
MW-5	"	13:15		"	"	"	"	"	"	"						
MW-B6	"	13:20		"	"	"	"	"	"	"						
MW-10	"	12:50		"	"	"	"	"	"	"						
MW-11	"	13:10		"	"	"	"	"	"	"						
MW-12	"	13:30		"	"	"	"	"	"	"						
MW-14	"	13:25		"	"	"	"	"	"	"						
MW-15B	"	12:45		"	"	"	"	"	"	"						
MW-16	"	13:00		"	"	"	"	"	"	"						
MW-19	✓	13:35		✓	✓	✓	✓	✓	✓	✓						
TB					✓	✓	1									

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	LABORATORY:	PLEASE SEND RESULTS TO
T. Mora	9/27/95	1:30		Kaiser Labs	[illegible]
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:		
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	REQUESTED TURNAROUND TIME: Norm.	
RELINQUISHED BY:	DATE 9-29-95	TIME 1350	RECEIVED BY LABORATORY:	RECEIPT CONDITION: OK	PROJECT MANAGER: [illegible]

Original : Project file
cc: Tim Reed

POSITIVE LAB SERVICE
781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

FILE COPY

10/09/95

Smith Environmental
File# 71928
1500 S. Union Avenue
Bakersfield, CA 93307

Attn: Tim Reed
805/835/7700

Project No. 8641
Project Name/Site: MGP/O

Sample #: 5276134001
Received: 10/03/95
Type: Soil

Collector: Client
Sampling Date & Time: 09/26/95, 0400
Method: Submitted By Client

I.D.: A1.(1,2,3,4) Composite

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.30	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	110	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	82	Percent	

Sample #: 5276134002
Received: 10/03/95
Type: Soil

Collector: Client
Sampling Date & Time: 09/26/95, 0420
Method: Submitted By Client

I.D.: A2.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	ND	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	18	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg

[ND = None Detected; MDL = Method Detection Limit]

5276134

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

=========CONSTITUENT==========	====METHOD====	==RESULT==	===UNIT===	===MDL====
Surrogate		*		
Trifluorotoluene	EPA 8020	77	Percent	

Sample #: 5276134003
Received: 10/03/95
Type: Soil

Collector: Client
Sampling Date & Time: 09/26/95, 0420
Method: Submitted By Client

I.D.: A3.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/05/95		
Analysis Date		10/05/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	ND	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	21	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	69	Percent	

Sample #: 5276134004
Received: 10/03/95
Type: Soil

Collector: Client
Sampling Date & Time: 09/26/95, 0500
Method: Submitted By Client

I.D.: A4.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.16	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	63	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	78	Percent	

[ND = None Detected; MDL = Method Detection Limit]

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Sample #: 5276134005 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/26/95, 0515
Type: Soil Method: Submitted By Client

I.D.: A5.(1,2,3,4) Composite

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.35	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	130	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	76	Percent	

Sample #: 5276134006 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/26/95, 0530
Type: Soil Method: Submitted By Client

I.D.: A6.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/05/95		
Analysis Date		10/05/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	ND	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	22	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	94	Percent	

[ND = None Detected; MDL = Method Detection Limit]

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Sample #: 5276134007
Received: 10/03/95
Type: Soil

Collector: Client
Sampling Date & Time: 09/26/95, 0545
Method: Submitted By Client

I.D.: A7.(1,2,3,4) Composite

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.44	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	170	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	76	Percent	

Sample #: 5276134008
Received: 10/03/95
Type: Soil

Collector: Client
Sampling Date & Time: 09/26/95, 0600
Method: Submitted By Client

I.D.: A8.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.43	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	170	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	80	Percent	

[ND = None Detected; MDL = Method Detection Limit]

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Sample #: 5276134009 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/26/95, 0610
Type: Soil Method: Submitted By Client

I.D.: A9.(1,2,3,4) Composite

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 5030	10/05/95		
Analysis Date		10/05/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.45	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	170	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	68	Percent	

Sample #: 5276134010 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/27/95, 0715
Type: Soil Method: Submitted By Client

I.D.: B1.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	1.4	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	310	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	80	Percent	

(ND = None Detected; MDL = Method Detection Limit)

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Sample #: 5276134011
Received: 10/03/95
Type: Soil

Collector: Client
Sampling Date & Time: 09/27/95, 0745
Method: Submitted By Client

I.D.: B2.(1,2,3,4) Composite

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.95	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	220	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	111	Percent	

Sample #: 5276134012
Received: 10/03/95
Type: Soil

Collector: Client
Sampling Date & Time: 09/27/95, 0755
Method: Submitted By Client

I.D.: B3.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	1.3	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	330	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	83	Percent	

[ND = None Detected; MDL = Method Detection Limit]

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Sample #: 5276134013
Received: 10/03/95
Type: Soil

Collector: Client
Sampling Date & Time: 09/27/95, 0810
Method: Submitted By Client

I.D.: B4.(1,2,3,4) Composite

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.60	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	140	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	91	Percent	

Sample #: 5276134014
Received: 10/03/95
Type: Soil

Collector: Client
Sampling Date & Time: 09/27/95, 0825
Method: Submitted By Client

I.D.: B5.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/05/95		
Analysis Date		10/05/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.32	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	120	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	83	Percent	

[ND = None Detected; MDL = Method Detection Limit]

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Sample #: 5276134015 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/27/95, 0840
Type: Soil Method: Submitted By Client

I.D.: B6.(1,2,3,4) Composite

=========CONSTITUENT==========	====METHOD====	==RESULT==	===UNIT===	===MDL====
Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	1.0	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	240	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	62	Percent	

Sample #: 5276134016 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/27/95, 0845
Type: Soil Method: Submitted By Client

I.D.: B7.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.32	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	82	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	71	Percent	

[ND = None Detected; MDL = Method Detection Limit]

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Sample #: 5276134017
Received: 10/03/95
Type: Soil

Collector: Client
Sampling Date & Time: 09/27/95, 0850
Method: Submitted By Client

I.D.: B8.(1,2,3,4) Composite

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.49	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	120	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	88	Percent	

Sample #: 5276134018
Received: 10/03/95
Type: Soil

Collector: Client
Sampling Date & Time: 09/27/95, 0925
Method: Submitted By Client

I.D.: C1.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	1.0	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	250	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	81	Percent	

[ND = None Detected; MDL = Method Detection Limit]

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Sample #: 5276134019 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/27/95, 0930
Type: Soil Method: Submitted By Client

I.D.: C2.(1,2,3,4) Composite

=========CONSTITUENT==========	====METHOD====	==RESULT==	===UNIT===	===MDL====
Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.67	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	160	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	110	Percent	

Sample #: 5276134020 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/27/95, 0935
Type: Soil Method: Submitted By Client

I.D.: C3.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/05/95		
Analysis Date		10/05/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.49	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	85	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	94	Percent	

[ND = None Detected; MDL = Method Detection Limit]

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Sample #: 5276134021 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/27/95, 0940
Type: Soil Method: Submitted By Client

I.D.: C4.(1,2,3,4) Composite

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.81	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	200	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	61	Percent	

Sample #: 5276134022 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/27/95, 0945
Type: Soil Method: Submitted By Client

I.D.: C5.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.70	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	170	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	82	Percent	

[ND = None Detected; MDL = Method Detection Limit]

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Sample #: 5276134023
Received: 10/03/95
Type: Soil

Collector: Client
Sampling Date & Time: 09/27/95, 0950
Method: Submitted By Client

I.D.: C6.(1,2,3,4) Composite

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.70	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	170	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	5.0 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	60	Percent	

Sample #: 5276134024
Received: 10/03/95
Type: Soil

Collector: Client
Sampling Date & Time: 09/27/95, 1010
Method: Submitted By Client

I.D.: D1.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.94	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	230	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	5.0 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	104	Percent	

[ND = None Detected; MDL = Method Detection Limit]

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Sample #: 5276134025 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/27/95, 1015
Type: Soil Method: Submitted By Client

I.D.: D2.(1,2,3,4) Composite

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 5030	10/05/95		
Analysis Date		10/05/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.36	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	130	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	79	Percent	

Sample #: 5276134026 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/27/95, 1020
Type: Soil Method: Submitted By Client

I.D.: D3.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.66	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	170	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	100	Percent	

[ND = None Detected; MDL = Method Detection Limit]

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Sample #: 5276134027 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/27/95, 1025
Type: Soil Method: Submitted By Client

I.D.: D4.(1,2,3,4) Composite

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.65	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	160	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	61	Percent	

Sample #: 5276134028 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/27/95, 0955
Type: Soil Method: Submitted By Client

I.D.: E2.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.59	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	150	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	71	Percent	

[ND = None Detected; MDL = Method Detection Limit]

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Sample #: 5276134029 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/27/95, 1000
Type: Soil Method: Submitted By Client

I.D.: E3.(1,2,3,4) Composite

CONSTITUENT	METHOD	RESULT	UNIT	MDL
Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.86	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	200	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	88	Percent	

Sample #: 5276134030 Collector: Client
Received: 10/03/95 Sampling Date & Time: 09/26/95, 1005
Type: Soil Method: Submitted By Client

I.D.: F2.(1,2,3,4) Composite

Extraction Method/Date	EPA 5030	10/04/95		
Analysis Date		10/04/95		
EPA 8015M/8020, Combination		*		
TPH-Gasoline	EPA 8015M	0.86	mg/kg	0.1 mg/kg
Benzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Toluene	EPA 8020	180	ug/kg	5.0 ug/kg
Ethylbenzene	EPA 8020	ND	ug/kg	5.0 ug/kg
Xylenes	EPA 8020	ND	ug/kg	15 ug/kg
Surrogate		*		
Trifluorotoluene	EPA 8020	105	Percent	

Respectfully Submitted,

Shahid Noori, Organic Supervisor

[ND = None Detected; MDL = Method Detection Limit]

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October 9, 1995

Quality Control Report
Matrix Spike and Duplicate Spike

Client: Smith Environmental
File No: 71928
Report No: 52761340
Matrix: Soil
Method: EPA 8015/8020
Lab No: 5276134026
Batch No: 52778015/8020-1
Date Analyzed: 10/4/95

PARAMETER		SAMPLE RESULTS (ug/kg)	AMOUNT SPIKED (ug/kg)	AMOUNT RECOVERED (ug/kg)	% REC	SPIKE RECOVERY ACCEPTANCE RANGE(%)	R.P.D
Benzene	(S)	ND	66.7	54.4	82		
Benzene	(DS)	ND	66.7	54.6	82	61-137	<1
Toluene	(S)	169	66.7	210	61		
Toluene	(DS)	169	66.7	219	75	60-135	11
Ethyl Benzene	(S)	ND	66.7	40.1	60		
Ethyl Benzene	(DS)	ND	66.7	40.3	60	56-135	<1
Xylene	(S)	ND	201	112	56		
Xylene	(DS)	ND	201	113	56	58-136	<1
Surrogate	(S)		200	205.5	103		
Surrogate	(DS)		200	210.5	105	60-132	2

S = Spike
DS = Duplicate Spike
R.P.D. = Relative Percent Difference
ND = None Detected

POSITIVE LAB SERVICE

781 East Washington Blvd., Los Angeles, CA 90021
(213) 745-5312 FAX (213) 745-6372

October 9, 1995

Quality Control Report
Matrix Spike and Duplicate Spike

Client: Smith Environmental
File No: 71928
Report No: 52761340
Matrix: Soil
Method: EPA 8015/8020
Lab No: 5278140401
Batch No: 52788015/8020-1
Date Analyzed: 10/5/95

PARAMETER		SAMPLE RESULTS (ug/kg)	AMOUNT SPIKED (ug/kg)	AMOUNT RECOVERED (ug/kg)	% REC	SPIKE RECOVERY ACCEPTANCE RANGE(%)	R.P.D.
Benzene	(S)	ND	40	36.8	92		
Benzene	(DS)	ND	40	36.3	91	61-137	1
Toluene	(S)	ND	40	35.1	88		
Toluene	(DS)	ND	40	35.1	88	60-135	<1
Ethyl Benzene	(S)	ND	40	32.6	82		
Ethyl Benzene	(DS)	ND	40	32.2	80	56-135	1
Xylene	(S)	ND	120	98.3	82		
Xylene	(DS)	ND	120	98.0	82	58-136	<1
Surrogate	(S)		150	126.5	84		
Surrogate	(DS)		150	133	89	60-132	5

S = Spike
DS = Duplicate Spike
R.P.D. = Relative Percent Difference
ND = None Detected

RESNA

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO.	PROJECT NAME/SITE	PO #
8641	MCP/O	34/36-1

SAMPLERS (SIGN) T. Moore (PRINT) T. Moore

	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	A1.1	9/26/95	4:00	X	X	—	X	1	S	X	X						
	A1.2																Note: All soil sample groups (.1 → .4) equals A composite 1 2
	A1.3																
	A1.4			X													
2	A2.1		4:20	X													
	A2.2																
	A2.3																
	A2.4			X													
3	A3.1		4:40	X													
	A3.2																
	A3.3																
	A3.4			X													
4	A4.1		5:00	X													
	A4.2																
	A4.3																

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	LABORATORY:	PLEASE SEND RESULTS TO
T. Moore	10-2-95	11:00	SCHEDULED - SHIPPED CAL. OVERNIGHT	POSITIVE LAB	SMITH ENVIRONMENTAL
RELINQUISHED BY:	DATE 10/3/95	TIME	RECEIVED BY:		
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	REQUESTED TURNAROUND TIME: NORMAL	
RELINQUISHED BY:	DATE 10/4/95	TIME 1000	RECEIVED BY LABORATORY:	RECEIPT CONDITION: Good 56°F	PROJECT MANAGER Tim R...

RESNA

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO.	PROJECT NAME/SITE	PO #
8641	MCP/O	34861

SAMPLERS (SIGN) / (PRINT) T. Moore

	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
	A4.4	9/26	5:00		X		Y	1	S	X	X						
5	A5.1		5:15														Composite 4 ⇒ 1
	A5.2																
	A5.3																
	A5.4																
6	A6.1		5:30														
	A6.2																
	A6.3																
	A6.4																
7	A7.1		5:45														
	A7.2																
	A7.3																
	A7.4																
8	A8.1		6:00														
	A8.2																

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
T. Moore	10-2-95	11:00	SCREED & SHIPPED CAL OVERNIGHT
RELINQUISHED BY:	DATE 10/3/95	TIME 10:00	RECEIVED BY:
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE 10/3/95	TIME 10:00	RECEIVED BY LABORATORY:

LABORATORY: POSITIVE LAB

REQUESTED TURNAROUND TIME: NORMAL

RECEIPT CONDITION: 58°F

PLEASE SEND RESULTS TO: SMITH ENVIRONMENTAL

PROJECT MANAGER: TIM R. O

RESNA

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO	PROJECT NAME/SITE
8641	MEP/O

SAMPLERS (SIGN) T. Moore (PRINT) T. Moore

PO # 34561

	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
	A8.3	9/26	6:00		X		X	1	S	X	X						
	A8.4		6:00		1												
9	A9.1		6:10														Composite 4=1
	A9.2																
	A9.3																
	A9.4																
10	B1.1	9/27	7:15														
	B1.2																
	B1.3																
	B1.4																
11	B2.1		7:45														
	B2.2																
	B2.3																
	B2.4																
12	B3.1		7:55														

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	LABORATORY:	PLEASE SEND RESULTS TO
T. Moore	10-2-95	11:00	SOMCO - SHIPPED CAL OVERNIGHT	POSITIVE LAB	SMITH & IV.
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:		
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	REQUESTED TURNAROUND TIME:	
RELINQUISHED BY:	DATE 10/3/95	TIME 1000	RECEIVED BY LABORATORY:	RECEIPT CONDITION: JBG2	PROJECT MANAGER TIM R[illegible]

RESNA

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO.	PROJECT NAME/SITE
7641	MGP/O

SAMPLERS (SIGN) T. Moore (PRINT) T. Moore

PO # 54561

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
B3.2	9/27	7:55		X		X	1	S	X	X						
B3.3																
B3.4																Composite 4=1
13 B4.1		8:10														
B4.2																
B4.3																
B4.4																
14 B5.1		8:25														
B5.2																
B5.3																
B5.4																
15 B6.1		8:40														
B6.2																
B6.3																
B6.4																

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
T. Moore	10-2-95	11:00	SEALED. SHIPPED CAL OVERNIGHT
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE 10/3/95	TIME 1000	RECEIVED BY LABORATORY:

LABORATORY: POINT LAB

PLEASE SEND RESULTS TO: SMITH ENV.

REQUESTED TURNAROUND TIME: NORMAL

RECEIPT CONDITION: 56°F

PROJECT MANAGER: Tim Reed

RESNA

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO.	PROJECT NAME/SITE
8641	MGPO

SAMPLERS (SIGN) / (PRINT) T. Moore

PO # 31587

	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
16	B7.1	9/27	8:45		X		X	1	S	X	X						
	B7.2	"	"		"		"	"	"	"	"						Comp. 4 =
	B7.3	"	"		"		"	"	"	"	"						
	B7.4	"	↓		"		"	"	"	"	"						
17	B8.1	"	8:50		"		"	"	"	"	"						
	B8.2	"	"		"		"	"	"	"	"						
	B8.3	"	"		"		"	"	"	"	"						
	B8.4	"	↓		"		"	"	"	"	"						
18	C1.1	"	9:25		"		"	"	"	"	"						
	C1.2	"	"		"		"	"	"	"	"						
	C1.3	"	"		"		"	"	"	"	"						
	C1.4	"	↓		"		"	"	"	"	"						
19	C2.1	"	9:30		"		"	"	"	"	"						
	C2.2	"	"		"		"	"	"	"	"						
	C2.3	↓	↓		↓		↓	↓	↓	↓	↓						

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
T. Moore	10-2-95	11:00	SEALED - SHIPPED VIA OVERNIGHT
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE 10/3/95	TIME 1100	RECEIVED BY LABORATORY:

LABORATORY: POSITIVE LAB

REQUESTED TURNAROUND TIME: NORMAL

RECEIPT CONDITION: 58°F

PLEASE SEND RESULTS TO: SMITH ENV

PROJECT MANAGER: TIM [illegible]

RESNA

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO.	PROJECT NAME/SITE
8641	MCP/O

PO # 34861

SAMPLERS (SIGN) T. Moore (PRINT) T. Moore

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
C 2.4	9/27	9:30		X		X	1	S	X	X						
C 3.1		9:35														Composite 4: 1
C 3.2																
C 3.3																
C 3.4																
C 4.1		9:40														
C 4.2																
C 4.3																
C 4.4																
C 5.1		9:45														
C 5.2																
C 5.3																
C 5.4																
C 6.1		9:50														
C 6.2																

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	LABORATORY:	PLEASE SEND RESULTS TO
T. Moore	10-2-95	11:00	SEALED - SHIPPED UNDER CHAIN OF CUSTODY	POSITIVE LAB	SMITH ENV.
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:		
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	REQUESTED TURNAROUND TIME: NORMAL	
RELINQUISHED BY:	DATE 10/3/95	TIME 1600	RECEIVED BY LABORATORY:	RECEIPT CONDITION:	PROJECT MANAGER: TIM REED

RESNA

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO: ~~3486~~ 8641

PROJECT NAME/SITE: MGP/O

PO # 34561

SAMPLERS (SIGN): T. Moore (PRINT): T. Moore

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
C6.3	9/27	9:50		X		✓	1	S	X	X						
C 6.4		↓														
D1.1		10:10														Composite 4 = 1
D1.2																
D1.3																
D1.4		↓														
D2.1		10:15														
D2.2																
D2.3																
D2.4		↓														
D3.1		10:20														
D3.2																
D3.3																
D3.4		↓														
D4.1	↓	10:25		↓		✓	✓	✓	✓	✓						

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
T. Moore	10-2-95	11:00	SEALED - SHIPPED CM OVERNIGHT
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE 10/3/95	TIME 1000	RECEIVED BY LABORATORY

LABORATORY: PACIFIC LAB

REQUESTED TURNAROUND TIME: NORMAL

RECEIPT CONDITION: 56°F

PLEASE SEND RESULTS TO: SMITH ENV

PROJECT MANAGER: TIM RILEY

RESNA

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO.	PROJECT NAME/SITE
8641	MEP/O

SAMPLERS (SIGN) T. Moore (PRINT) T Moore

ANALYSIS REQUESTED — PO # 24/56.1

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
D 4.2	9/27	10:25		X		X	1	S	X	X						
D 4.3																Composite #1
D 4.4																
28 E 2.1		9:55														
E 2.2																
E 2.3																
E 2.4																
29 E 3.1		10:00														
E 3.2																
E 3.3																
E 3.4																
30 F 2.1		10:05														
F 2.2																
F 2.3																
F 2.4																

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	LABORATORY:	PLEASE SEND RESULTS TO
T. Moore	10-2-95	11:00	SCALCO - SHIPPED CAL OVERNIGHT	POSTINE LAB	SMITH ENV
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:		
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	REQUESTED TURNAROUND TIME: NORMAL	
RELINQUISHED BY:	DATE 10/3/95	TIME 1600	RECEIVED BY LABORATORY:	RECEIPT CONDITION: 56°F	PROJECT MANAGER: TIM RAGEN

SMITH

APPENDIX B

QUALITY ASSURANCE AND QUALITY CONTROL PROGRAM

SAMPLING PROTOCOL

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.

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.