Weiss Associates *Environmental and Geologic Services*

5500 Shellmound Street, Emeryville, CA 94608-2411 *Fax: 510-547-5043* *Phone: **510-450-6000***

August 14, 1996

Susan Hugo
Alameda County Department
of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Re: **Subsurface Investigation Report**
Shell Service Station
WIC #204-2495-0101
1800 Powell Street
Emeryville, California
WA Job #81-0794-06

Dear Ms. Hugo:

On behalf of Shell Oil Products Company (Shell), Weiss Associates' (WA) presents the results of the subsurface investigation conducted at the Shell service station referenced above (Figure 1). As outlined in WA's March 6, 1996 workplan, the subsurface investigation objectives were to assess whether petroleum or other hydrocarbons are in soil and ground water down gradient of the Shell site. Our scope of work, site background and results for this investigation are presented below.

Scope of Work

WA's scope of work for this investigation was to:

- Locate underground utilities down grading of the site and prepare a site-specific health and safety plan;
- Obtain city encroachment permits from the Emeryville Department of Public Works and drilling permits from the Alameda County Zone 7 Water Agency;
- Drill four soil borings (Figure 2) using a Geoprobe drill rig, collect soil samples at 5-foot intervals for hydrogeologic description and possible chemical analysis;
- Analyze selected soil samples for total petroleum hydrocarbons between C_5 and C_{32}, petroleum oil and grease, metals, volatile organic compounds, and semi-volatile organic compounds;

- Collect one ground water sample from each boring for possible laboratory analysis;
- Prepare a subsurface investigation report that includes the site background, and presents the results of the investigation.

Site History

The operating Shell service station is built on fill consisting of imported clayey and sandy soil, industrial waste and construction debris. Beginning in 1884, Paraffine Company operated an industrial complex on the Emeryville waterfront and filled areas along the shoreline through 1969. Based on available boring log data, the fill at the Shell service station is at least 10 feet deep and appears continuous across the site.

Products manufactured by Paraffine included: linoleum and other hard-surfaced floor coverings, roofing and building materials, paints, varnishes, lacquers and enamels. A 1949 aerial photograph shows two above ground storage tanks located about 700 feet north of the current Shell site. The contents of the former above ground tanks are unknown.

A previously completed site assessment report described a 1957 aerial photograph that showed that the area of the Shell site was completely filled with soil and waste material. Dumping was active west of the Shell site. According to the site assessment report, a 1969 aerial photograph indicated that all of the above ground tanks observed in earlier photographs had been removed. The removal of the tanks was apparently related to the closure of the Paraffine facility in the 1960s.

By 1970, land use in the area began to convert from industrial complexes to hotels, condominiums, restaurants and office buildings. Given present and historical land use within the vicinity of the Shell service station, it does not appear that the shallow ground water is likely to be used as a potable, industrial or agricultural water source. Also, water quality data shows that over 3,000 parts per million (ppm) total dissolved solids (TDS) have been measured in ground water from the Shell wells. Therefore, based on state standards, ground water is not suitable for domestic or municipal supply.

In September 1982, an underground fuel leak was reported in the Shell service station in which the fiberglass piping connected to the underground storage tank was damaged and about 3,200 gallons of super unleaded gasoline was released.

Shell has installed seven ground water monitoring wells in the site vicinity since 1988. Quarterly monitoring and sampling of the wells began that same year. Up to 2.38 feet of separate-phase hydrocarbons (SPH) have been detected on top of ground water in well S-9 (Figure 2) since February 22, 1995. The SPH appears to be an oil consisting of hydrocarbons heavier than gasoline. Thus, it is unlikely that the SPH resulted from Shell's operations because Shell has not operated a garage or has had a waste oil tank at the site.

Ground water depth in the site vicinity ranges from 7.5 to 12 feet below ground surface (bgs) with local ground water flow towards the south. Up to 2,500 parts per billion (ppb) total petroleum hydrocarbon as diesel (TPH-D), 1,900 ppb total petroleum hydrocarbon as gasoline (TPH-G) and 470 ppb benzene were detected in the most recent quarterly monitoring event (Attachment A).

In November 1995, WA collected a SPH sample from monitoring well S-9 (Figure 2) and submitted the sample to Shell's Westhollow analytical laboratory in Houston, Texas for analysis. The analysis indicated that the SPH is about 50% gasoline and 50% of a hydrocarbon mixture with carbon range of n-C_{20} to over n-C_{50}, possibly roofing tar. This conclusion is consistent with historical land uses at this site.

May 1996 Subsurface Investigation

Permits Obtained: Encroachment permit from the City of Emeryville Department of Public Work and drilling permits from the Alameda County Zone 7 Water Agency (Permit No. 96336)

Drilling Date: May 20, 1996

Drilling Geologist: WA Geologist Elizabeth Brogna and Engineer Yi-Ran Wu under the supervision of Certified Hydrogeologist James W. Carmody

Drilling Method: On May 20, 1996, Gregg Drilling and Testing, Inc. (Gregg) of Martinez, California advanced two-inch diameter continuous-core samplers using a hydraulically powered Geoprobe. WA's standard field procedures are presented in Attachment B.

Number of Borings: Six, B-1 through B-6 (Figure 2)

Boring Depths: 7 to 16 ft bgs

Sediments Encountered: Sediments in borings B-1 through B-6 consisted of silt and clay of medium estimated permeability mixed with concrete and brick debris. The boring logs are included in Attachment C.

Depth to Ground Water: Ground water was encountered about 12' bgs. However, the depth to water during drilling does not reflect the static water level since the borehole was only open long enough to allow for the collection of a ground water sample.

Soil Sampling Method: In borings B-1 through B-6, continuous coring was conducted from the surface to about 7 to 16 ft bgs. Soil samples were collected about every five feet using clean split-spoon drive samplers lined with brass tubes for field screening and lithologic description. Soil

Water Sampling Method:

Ground water samples were collected from borings B-1, B-2 and B-6 with a clean stainless steel bailer from inside a temporary PVC casing pushed into the water-bearing zone by a steel outer protective casing.

Soil and Water Analytical Methods:

Selected soil samples were analyzed for total petroleum hydrocarbons as gasoline by Modified EPA Method 8015, fuel fingerprint between C_9 and C_{40} by Modified EPA Method 8015, benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method 8020, volatile organics (VOCs) by EPA Method 8240, semi-volatile organics (SVOCs) by EPA Method 8270, PCBs and pesticides by EPA Method 8080, petroleum oil and grease (TRPH) by Standard Method 5520, and inorganic persistent and bioaccumulative toxic substances (TTLC) by EPA Method 6010. Ground water samples were analyzed for TPH-G and TPH-D by Modified EPA Method 8015, benzene, toluene, ethylbenzene and total xylenes (BTEX) and methyl-tertiary butyl ether (MTBE) by EPA Method 8020, petroleum oil and grease by Standard Method 5520, and semi-volatile organics by EPA Method 8270. The analytic report and chain-of-custody form for the soil and ground water samples are presented in Attachment D.

Analytic Laboratory:

Sequoia Analytical, Incorporated in Redwood City, California.

Soil Analytic Results:

Analytic results for soil are tabulated on Table 1 and 2. Up to 43 parts per million (ppm) TPH-G and 1,500 ppm TRPH were detected in the soil borings. No benzene was detected in any of the soil borings above the detection limit. Up to 870 ppm extractable hydrocarbons were detected in sample B-2-11.0. Soil samples taken from the capillary fringe zone at borings B-1 and B-2 contained heavy oils. Up to 1.9 ppm phenol and no other VOCs or SVOCs above the detection limits were detected in the soil borings. No organochlorine pesticides or PCBs were detected in the sample taken 7 feet bgs from boring B-1.

Ground Water Analytic Results:

Analytic results for ground water are tabulated on Table 1. No TPH-G, BTEX, VOCs, or MTBE and virtually no VOCs were detected above the detection limits in the grab ground water samples collected from borings B-1, B-2 and B-6.

Boring Backfill:

All borings were backfilled from their total depth to ground surface with Portland Type I/II cement grout containing 3 to 5% bentonite using a tremie pipe.

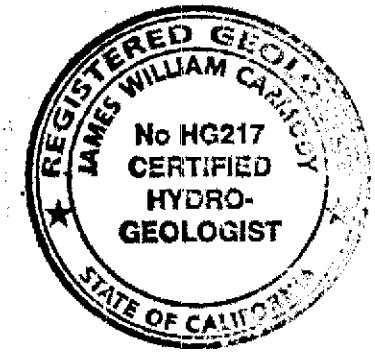
Conclusions

The results of this investigation indicate that:

- TPH-G was only detected in one of 14 soil samples at 43 ppm, while up to 1,500 ppm TRPH (with longer chain hydrocarbons) were detected in every one of the analyzed samples.
- No TPH-G, BTEX, VOCs, or MTBE and virtually no VOCs were detected above the detection limits in the grab ground water samples collected from borings B-1, B-2 and B-6.
- Up to 1.9 ppm phenol and no other VOCs or SVOCs above the detection limits were detected in the soil borings. No organochlorine pesticides or PCBs were detected in the sample taken 7 feet bgs from boring B-1.

We trust that this submittal meets your needs. Please call if you have any questions or comments.

Sincerely,
Weiss Associates



Yi-Ran Wu
Staff Engineer

James W. Carmody, C.H.G.
Senior Project Hydrogeologist

Attachments:

Figure 1	Site Location Map
Figure 2	Site Plan - Soil Boring Location
Table 1 and 2	Analytic Results

A - 1st Quarter 1996 Ground Water Monitoring Results
B - Standard Field Procedures
C - Boring Logs
D - Soil and Ground Water Analytic Report and Chain-of-Custody Form

cc: R. Jeff Granberry, Shell Oil Company, P.O. Box 4023, Concord, California 94524
Kevin Graves, Regional Water Quality Control Board - San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, California 94612

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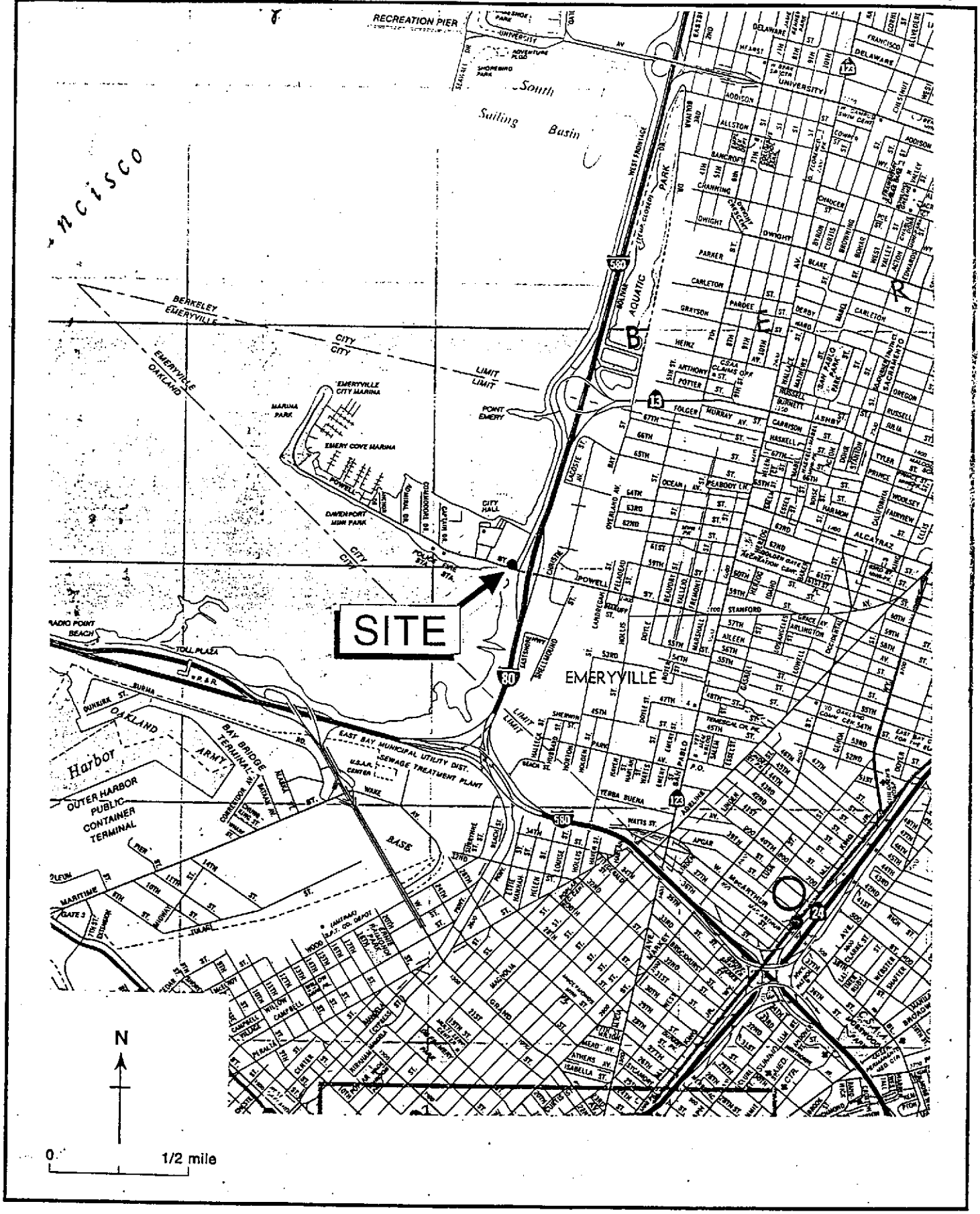

Figure 1. Site Location Map - Shell Service Station WIC# 204-2495-01, 1800 Powell Street, Emeryville, California

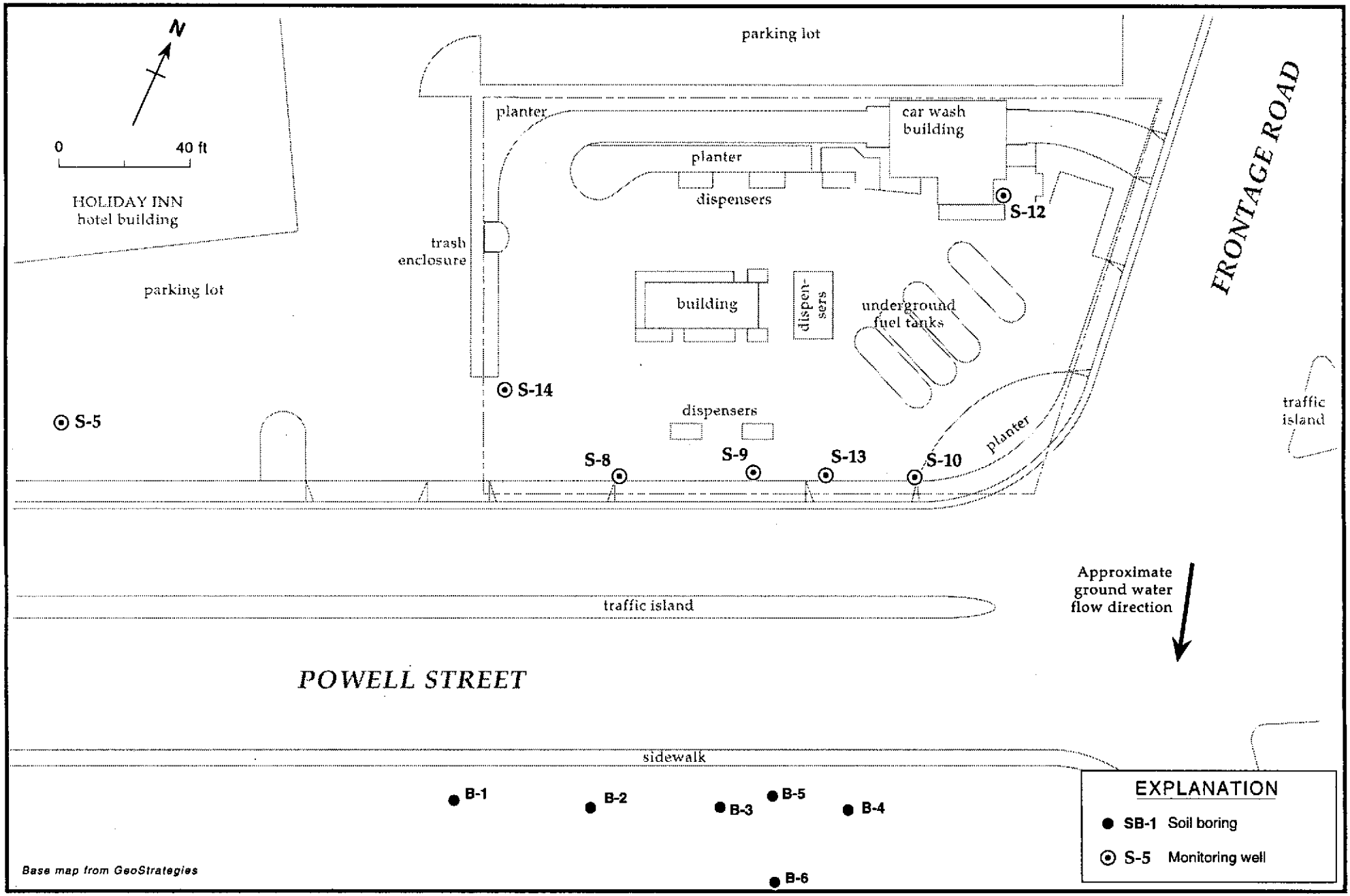

Figure 2. Soil Boring Locations - Shell Service Station - WIC# 204-2495-0107, 1800 Powell Street, Emeryville, California

Table 1. Analytic Results for Soil and Ground Water - Shell Service Station, WIC #204-2495-0101, 1800 Powell Street, Emeryville, California

Sample ID	Date Sampled	Sample Depth (ft)	TPH-G	FF	B	T	E	X	P&P	VOCs	SVOCs	TRPH	MTBE
			← ppm for soil, ppb for water →										
Soil Samples: (mg/kg)													
B1-2.0	5/20/96	2.0	<1.0	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B1-7.0	5/20/96	7.0	<1.0	---	<0.005	<0.005	<0.005	<0.005	ND	ND	ND[a]	---	---
B1-13.0	5/20/96	13.0	<1.0	160	<0.005	<0.005	<0.005	<0.005	---	---	---	67	---
B1-15.0	5/20/96	15.0	43	350	<0.025	<0.025	0.072	0.19	---	---	---	1,100	---
B2-2.0	5/20/96	2.0	<1.0	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B2-7.5	5/20/96	7.5	<1.0	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B2-11.0	5/20/96	11.0	<1.0	870	<0.005	<0.005	<0.005	<0.005	---	---	---	1,500	---
B3-6.5	5/20/96	6.5	<1.0	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B3-10.5	5/20/96	10.5	<1.0	31	<0.005	<0.005	<0.005	<0.005	---	---	---	82	---
B4-6.5	5/20/96	6.5	<1.0	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B5-3.0	5/20/96	3.0	<1.0	---	<0.005	<0.005	<0.005	0.0054	---	---	---	---	---
B6-3.5	5/20/96	3.5	<1.0	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B6-6.5	5/20/96	6.5	<1.0	---	<0.005	<0.005	<0.005	<0.005	---	---	---	---	---
B6-11.0	5/20/96	11.0	<1.0	40	<0.005	<0.005	<0.005	<0.005	---	---	---	380	---
Grab Ground Water Samples (ug/l):													
B1-GW	5/20/96		<50	---	<0.50	<0.50	<0.50	<0.50	---	ND[b]	---	---	<2.5
B2-GW	5/20/96		<50	---	<0.50	<0.50	<0.50	<0.50	---	ND	---	---	<2.5
B6-GW	5/20/96		<50	---	<0.50	<0.50	<0.50	<0.50	---	ND	---	---	<2.5

Table 1. Analytic Results for Soil and Ground Water - Shell Service Station, WIC #204-2495-0101, 1800 Powell Street, Emeryville, California (continued)

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
FF = Fuel Fingerprint between C_9 and C_{40} by Modified EPA Method 8015; (Sample results expressed as ppm of Extractable Hydrocarbons)
B = Benzene by EPA Method 8020
T = Toluene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
X = Xylenes by EPA Method 8020
P&P = Organochlorine Pesticides and PCBs by EPA Modified Method 8080
VOCs = Volatile Organics by EPA Method 8240
SVOCs = Semi-Volatile Organics by EPA Method 8270
TRPH = Total Recoverable Petroleum Hydrocarbon by Standard Method 5520
<n = Not detected at detection limits of n ppm or ppb
ND = Not detected at the detection limits for all compounds within the analysis

Note:

Analytical Laboratory: Sequoia Analytical of Redwood City, California.

a: Phenol concentration was detected at 1.9 parts per million (ppm)

b: Acetone concentration detected at 14 ppb

Table 2. Analytic Results for Soil Sample B1-7.0, Inorganic Persistent and Bioaccumulative Toxic Substances (TTLC) - Shell Service Station, WIC #204-2495-0101, 1800 Powell Street, Emeryville, California

Analyte	Max. Limit (mg/Kg)	Detection Limit (mg/Kg)	Sample Results (mg/Kg)
Antimony (Sb)	500	5.0	10
Arsenic (As)	500	5.0	ND
Barium (Ba)	10,000	5.0	180
Beryllium (Be)	75	0.50	ND
Cadmium (Cd)	100	0.50	ND
Chromium (Cr)	2,500	0.50	44
Cobalt (Co)	8,000	2.5	9.5
Copper (Cu)	2,500	0.50	44
Lead (Pb)	1,000	5.0	37
Mercury (Hg)	20	0.020	0.079
Molybdenum (Mo)	3,500	2.5	ND
Nickel (Ni)	2,000	2.5	45
Selenium (Se)	100	5.0	ND
Silver (Ag)	500	0.50	ND
Thallium (Tl)	700	5.0	12
Vanadium (V)	2,400	2.5	30
Zinc (Zn)	5,000	0.50	88

ATTACHMENT A

1ST QUARTER 1996 GROUND WATER MONITORING RESULTS

Table 1. Ground Water Elevations and Analytic Results - Shell Service Station WIC# 204-2495-0101, 1800 Powell Street, Emeryville, California

Well ID	Sampling Date	Top-of-Box Elevation (ft msl)	Depth to Water (ft)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation (ft msl)	TDS (ppm)	TPH-G	TPH-D	B	T	E	X	MTBE
							← parts per billion (µg/L) →						
S-5	10/26/84	11.72	---	---	---	---	3,000	---	660	20	20	70	---
	02/09/85		---	---	---	---	2,800	---	740	20	20	140	---
	04/27/85		---	---	---	---	4,300	---	750	10	20	<30	---
	07/06/85		---	---	---	---	1,500	---	300	8.0	7.0	9.0	---
	10/24/85		---	---	---	---	2,100	---	760	10	40	50	---
	01/03/86		---	---	---	---	1,300	---	520	9.0	8.0	10	---
	07/05/86		8.36	---	3.36	---	1,400	---	500	10	4.0	<10	---
	10/18/86		---	---	---	---	4,200	---	1,100	9.0	14	7.0	---
	01/13/87		---	---	---	---	4,500	6,100	1,100	15	30	25	---
	07/07/87		9.15	---	2.57	---	3,200	---	1,000	16	9.0	12	---
	10/10/87		9.67	---	2.05	---	1,700	---	16	5.7	5.2	8.9	---
	02/11/88		9.00	---	2.72	---	1,300	---	300	5.0	<5	<5	---
	05/10/88		8.61	---	3.11	---	1,900	---	490	<0.5	<5	<5	---
	08/31/88		9.61	---	2.11	---	6,700	---	760	26	<25	<25	---
	12/03/88		9.47	---	2.25	---	2,900	---	890	5.3	7.3	13	---
	02/16/89		8.29	---	3.43	---	1,300	---	280	3.0	3.4	9.4	---
	08/10/89		9.30	---	2.42	---	1,700	---	530	5.5	<5	5.8	---
	11/11/89		9.42	---	2.30	---	---	---	---	---	---	---	---
	02/21/94		7.95	---	3.77	---	1,000	---	250	<5	<5	<5	---
	02/21/94[dup]		7.95	---	3.77	---	1,300	---	220	<5	<5	11	---
	05/16/94		8.00	---	3.72	---	1,200	---	230	<5	<5	<5	---
	08/09/94[a]		---	---	---	---	---	---	---	---	---	---	---
	11/09/94		8.32	---	3.40	---	1,600	---	220	3.2	1.8	5.0	---
	11/09/94[dup]		8.32	---	---	---	1,600	---	250	3.3	1.9	5.9	---
	02/22/95[a]		---	---	---	---	---	---	---	---	---	---	---
	05/02/95[a]		---	---	---	---	---	---	---	---	---	---	---
	05/10/95		---	---	---	---	910	---	170	1.5	1.3	5.2	---
	08/24/95		8.78	---	2.94	---	620	---	210	<0.5	1.2	5.3	---
	12/08/95		9.78	---	1.94	---	1,600	---	510	3.3	1.5	6.6	---

Table 1. Ground Water Elevations and Analytic Results - Shell Service Station WIC# 204-2495-0101, 1800 Powell Street, Emeryville, California (continued)

Well ID	Sampling Date	Top-of-Box Elevation (ft msl)	Depth to Water (ft)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation (ft msl)	TDS (ppm)	TPH-G	TPH-D	B	T	E	X	MTBE
							← parts per billion (µg/L) →						
	12/08/95[dup]		9.78	---	1.94	---	1,600	---	530	1.8	1.1	5.4	---
	02/29/96		**7.64**	**—**	**4.08**	**—**	**1,900**	**—**	**470**	**5.8**	**<5.0**	**<5.0**	**46**
	02/29/96[dup]		**7.64**	**—**	**4.08**	**—**	**1,700**	**—**	**440**	**5.4**	**<5.0**	**<5.0**	**40**
S-6[b]	04/27/85		---	---	---	---	6,500	---	2,400	30	50	210	---
	07/06/85		---	---	---	---	3,700	---	1,700	34	55	200	---
	10/24/85		---	---	---	---	<50	---	23	<0.5	<5	10	---
S-7[b]	10/26/84		---	---	---	---	50	---	1.1	<1	<1	4	---
	02/09/85		---	---	---	---		---	0.90	<1	<1	<3	---
	04/27/85		---	---	---	---	<50	---	<1	<1	<1	<3	---
	07/06/85		---	---	---	---	70	---	2.2	<1	<1	<3	---
	10/24/85		---	---	---	---	6,200	---	2,200	130	190	660	---
S-8	10/26/84	12.76	---	---	---	---	1,000	---	610	9.0	1.0	42	---
	02/09/85		---	---	---	---	500	---	160	5.0	<2	17	---
	04/27/85		---	---	---	---	2,700	---	1500	20	10	40	---
	07/06/85		---	---	---	---	440	---	180	5.0	2.0	12	---
	10/24/85		---	---	---	---	2,000	---	1,100	17	5.0	70	---
	01/03/86		---	---	---	---	1,900	---	1,300	20	<10	70	---
	07/05/86		9.50	---	3.26	---	1,600	---	920	30	<10	60	---
	10/18/86		---	---	---	---	1,400	---	640	<10	<10	30	---
	01/13/87		---	---	---	---	670	760	190	5.8	<0.5	19	---
	04/22/87		---	---	---	---	2,400	---	740	54	5.7	59	---
	07/07/87		10.45	---	2.31	---	1,100	---	450	15	<2.5	42	---
	10/10/87		10.83	---	1.93	---	340	---	4.0	0.60	<0.5	17	---
	02/11/88		10.44	---	2.32	---	<1,000	---	260	<10	<10	11	---
	05/10/88		10.17	---	2.59	---	1,800	---	700	14	<5	46	---
	08/31/88[SPH]		10.81	---	1.95	---	---	---	---	---	---	---	---
	12/03/88		10.81	---	1.95	---	960	---	250	4.3	<2.5	14	---

Table 1. Ground Water Elevations and Analytic Results - Shell Service Station WIC# 204-2495-0101, 1800 Powell Street, Emeryville, California (continued)

Well ID	Sampling Date	Top-of-Box Elevation (ft msl)	Depth to Water (ft)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation (ft msl)	TDS (ppm)	TPH-G	TPH-D	B	T	E	X	MTBE
							← parts per billion (µg/L) →						
	02/16/89		9.65	---	3.11	---	2,700	---	800	35	10	83	---
	05/28/89		10.46	---	2.3	---	960	---	710	25	84	80	---
	08/10/89		10.59	---	2.17	---	1,300	---	630	17	<5	46	---
	11/11/89		10.29	---	2.47	---	910	---	180	8	<2.5	15	---
	02/21/94		9.52	---	3.24	2,910	3,200	---	480	52	<5	130	---
	05/16/94		9.49	---	3.27	---	1,000	---	220	7.3	<5	28	---
	05/16/94[dup]		9.49	---	3.27	---	1,000	---	280	10	<5	29	---
	08/09/94		10.37	---	2.39	4,500	400	---	27	6.6	<0.5	18	---
	11/09/94		9.58	---	3.18	4,600	650	---	170	5.3	<0.5	17	---
	02/22/95		9.02	---	3.74	---	650	---	210	10	1.2	22	---
	05/02/95		8.45	---	4.31	---	1,000	---	280	17	1.4	32	---
	08/24/95		10.02	---	2.74	---	480	---	180	11	1.0	19	---
	08/24/95[dup]		10.02	---	2.74	---	700	---	180	6.5	<0.5	17	---
	12/08/95		10.65	---	2.11	---	740	---	230	6.9	0.7	15	---
	02/29/96		**9.10**	**---**	**3.66**	**---**	**740**	**---**	**260**	**8.1**	**<5.0**	**19**	**58**
S-9	10/26/84[SPH]	12.75	---	---	---	---	---	---	---	---	---	---	---
	02/09/85[SPH]		---	1.30	---	---	---	---	---	---	---	---	---
	04/27/85[SPH]		---	1.25	---	---	---	---	---	---	---	---	---
	07/06/85[SPH]		---	1.20	---	---	---	---	---	---	---	---	---
	10/24/85[SPH]		---	---	---	---	---	---	---	---	---	---	---
	01/03/86[SPH]		---	---	---	---	---	---	---	---	---	---	---
	04/11/86[SPH]		---	---	---	---	---	---	---	---	---	---	---
	07/05/86[SPH]		9.67	---	3.08	---	---	---	---	---	---	---	---
	10/18/86[SPH]		---	---	---	---	---	---	---	---	---	---	---
	01/13/87[SPH]		---	---	---	---	---	---	---	---	---	---	---
	04/22/87[SPH]		---	---	---	---	---	---	---	---	---	---	---
	07/07/87[SPH]		---	---	---	---	---	---	---	---	---	---	---
	10/10/87[SPH]		22.30	---	-9.55	---	---	---	---	---	---	---	---
	02/24/94[SPH]		---	---	---	---	---	---	---	---	---	---	---

Table 1. Ground Water Elevations and Analytic Results - Shell Service Station WIC# 204-2495-0101, 1800 Powell Street, Emeryville, California (continued)

Well ID	Sampling Date	Top-of-Box Elevation (ft msl)	Depth to Water (ft)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation (ft msl)	TDS (ppm)	TPH-G	TPH-D	B	T	E	X	MTBE
							← parts per billion (µg/L) →						
	05/16/94[SPH]		---	1.5	---	---	---	---	---	---	---	---	---
	08/09/94[SPH]		11.80	2.0	---	---	---	---	---	---	---	---	---
	11/09/94[SPH]		---	---	---	---	---	---	---	---	---	---	---
	02/22/95[SPH]		11.40	2.38	---	---	---	---	---	---	---	---	---
	05/02/95[SPH]		11.83	2.12	---	---	---	---	---	---	---	---	---
	12/08/95		11.92	1.06	---	---	---	---	---	---	---	---	---
	02/29/96		**12.10**	**2.79**	**2.88**	---	---	---	---	---	---	---	---
S-10	10/26/84	12.58	---	---	---	---	700,000	---	37,000	100,000	20,000	110,000	---
	02/09/85		---	---	---	---	6,500	---	480	700	100	1,800	---
	04/27/85		---	---	---	---	13,000	---	1,300	500	600	3,700	---
	07/06/85		---	---	---	---	14,000	---	1,300	310	270	2,400	---
	10/24/85		---	---	---	---	4,200	---	580	34	4	440	---
	01/03/86		---	---	---	---	1,700	---	360	10	7.8	170	---
	04/11/86[SPH]		---	0.01	---	---	---	---	---	---	---	---	---
	07/05/86[SPH]		9.16	0.01	3.42	---	---	---	---	---	---	---	---
	10/18/86[SPH]		---	0.03	---	---	---	---	---	---	---	---	---
	01/13/87[SPH]		---	0.03	---	---	---	---	---	---	---	---	---
	04/22/87[SPH]		---	0.01	---	---	---	---	---	---	---	---	---
	07/07/87[SPH]		9.41	0.03	3.17	---	---	---	---	---	---	---	---
	10/10/87[SPH]		7.77	---	4.81	---	---	---	---	---	---	---	---
	02/11/88		6.41	---	6.17	---	1,200	---	470	16	<5	14	---
	05/10/88		9.04	---	3.54	---	1,100	---	100	6	4	19	---
	08/31/88[SPH]		9.38	0.01	3.20	---	---	---	---	---	---	---	---
	12/03/88[SPH]		6.89	---	5.69	---	---	---	---	---	---	---	---
	02/16/89		7.34	---	5.24	---	530	---	89	8.5	1.6	4.5	---
	05/28/89		6.60	---	5.98	---	240	---	65	3.8	2.2	8.6	---
	08/10/89		9.09	---	3.49	---	250	---	23	4.1	<1	6.4	---
	11/11/89		6.58	---	6.00	---	320	---	1.6	1.3	1.4	6.2	---
	02/21/94		8.32	---	4.26	---	1,400	---	190	9.9	<2.5	19	---

Table 1. Ground Water Elevations and Analytic Results - Shell Service Station WIC# 204-2495-0101, 1800 Powell Street, Emeryville, California (continued)

Well ID	Sampling Date	Top-of-Box Elevation (ft msl)	Depth to Water (ft)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation (ft msl)	TDS (ppm)	TPH-G	TPH-D	B	T	E	X	MTBE
							← parts per billion (µg/L) →						
	05/16/94		8.35	---	4.23	---	300	---	45	8.6	6.2	19	---
	08/08/94		8.66	---	3.92	---	700	---	57	14	<0.5	9.3	---
	11/09/94		6.68	---	5.90	---	640	---	130	2.0	1.6	4.1	---
	02/22/95		9.12	---	3.46	---	500	---	65	5.9	1.0	8.2	---
	05/02/95		9.50	---	3.08	---	530	---	59	2.3	0.8	8.2	---
	08/24/95		10.06	---	2.52	---	350	---	35	4.6	<0.5	6.7	---
	12/08/95		10.08	---	2.50	---	690	---	28	4.6	0.9	8.6	---
	02/29/96		**5.32**	**---**	**7.26**	**---**	**430**	**---**	**32**	**1.8**	**0.5**	**5.8**	**16**
S-12	07/06/85	12.84	8.22	---	---	---	<250	2,200	0.71	<0.5	<0.5	<3.6	---
	11/16/85		---	---	---	---	<250	1,400	18	<2	<2	<5	---
	01/03/86		---	---	---	---	<250	---	24	2	<2	<5	---
	07/05/86		8.27	---	4.57	---	80	---	15	0.7	<0.5	2	---
	10/18/86		---	---	---	---	150	---	12	9	<0.5	3.6	---
	01/13/87		---	---	---	---	120	1,000	3.6	0.8	<0.5	2.9	---
	04/22/87		---	---	---	---	100	820	3.7	3.8	0.8	11	---
	07/07/87		9.5	---	3.34	---	70	---	2.5	0.8	<0.5	2.4	---
	10/10/87		9.9	---	2.94	---	220	2,500	2.1	0.7	<0.5	1.2	---
	02/11/88		9.43	---	3.41	---	110	2,500	0.8	<0.5	<0.5	1.3	---
	05/10/88		8.65	---	4.19	---	140	3,800[d]	0.8	0.8	<0.5	2.5	---
	08/31/88		9.86	---	2.98	---	190	2,600[d]	3	15	0.5	4.5	---
	12/03/88		9.93	---	2.91	---	180	3,900[d]	1.2	1	1	7.7	---
	02/16/89		8.08	---	4.76	---	350[e]	2,100[d]	0.6	<0.5	0.5	5.5	---
	05/28/89		9.08	---	3.76	---	290	2,200	2	1.6	4.4	6	---
	08/10/89		9.35	---	3.49	---	240	720	0.7	<0.5	<0.5	1.1	---
	11/11/89		9.28	---	3.56	---	210[e]	4,100	0.7	0.5	<0.5	3.4	---
	02/21/94		8.22	---	4.62	---	240[f]	2,200[g]	0.7	<0.5	<0.5	3.6	---
	05/16/94		8.92	---	3.92	---	96	2,200	1.5	<0.5	<0.5	2.0	---
	08/08/94		---	---	---	---	110[h]	3,500[i]	<0.5	<0.5	<0.5	<0.5	---
	11/09/94		7.56	---	5.28	---	80	5,400[i]	80	<0.5	<0.5	0.6	---

Table 1. Ground Water Elevations and Analytic Results - Shell Service Station WIC# 204-2495-0101, 1800 Powell Street, Emeryville, California (continued)

Well ID	Sampling Date	Top-of-Box Elevation (ft msl)	Depth to Water (ft)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation (ft msl)	TDS (ppm)	TPH-G	TPH-D	B	T	E	X	MTBE
							← parts per billion (µg/L) →						
	02/22/95		7.98	---	4.86	---	110	2,900[i,j]	0.7	<0.5	<0.5	3.7	---
	02/22/95[dup]		7.98	---	4.86	---	110	3,400[i,j]	4.8	7.1	<0.5	2.1	---
	05/02/95		8.44	---	4.40	---	140	2,800	2.4	1.1	0.8	4.3	---
	08/24/95		9.00	---	3.84	---	200	1,600	19	12	5.6	24	---
	12/08/95		9.62	---	3.22	---	170	2,700	2.2	0.7	0.9	3.6	---
	02/29/96		**7.64**	**---**	**5.20**	**---**	**1,700**	**2,200**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	**5,600**
S-13	07/06/85	12.59	9.26	---	---	---	700	3,600	200	<5	<5	45	---
	11/16/85		---	---	---	---	1,900	2,000	700	160	70	340	---
	01/03/86		---	---	---	---	2,800	---	1,400	130	10	500	---
	07/05/86		9.47	---	3.12	---	3,100	---	1,800	60	40	270	---
	10/23/86		---	---	---	---	3,400	---	1,500	28	28	250	---
	01/13/87		---	---	---	---	1,900	900	830	15	<10	99	---
	04/22/87		---	---	---	---	2,900[e]	770[j]	1,100	20	30	140	---
	07/07/87		10.38	---	2.21	---	1,500	---	880	10	6	160	---
	10/10/87		10.78	---	1.81	---	480	2,400	830	15	<0.5	120	---
	02/11/88		10.48	---	2.11	---	1,300	1,300	510	<10	<10	86	---
	05/10/88		9.48	---	3.11	---	1,000	1,300[d]	470	<0.5	<5	50	---
	08/31/88[SPH]		10.74	---	1.85	---	---	---	---	---	---	---	---
	12/03/88		10.3	---	2.29	---	900	2,400[d]	290	4.6	<2.5	20	---
	02/16/89		7.6	---	4.99	---	840[e]	1,200[d]	310	3.5	<2.5	27	---
	05/28/89[c]		10.6	---	1.99	---	2,100	4,600	1,100	19	50	350	---
	08/10/89[c]		10.58	---	2.01	---	900	2,300	230	16	6.9	65	---
	11/11/89		9.84	---	2.75	---	2,800	2,800	200	15	8.6	58	---
	02/21/94		9.26	---	3.33	---	700	1,800[f]	200	<5	<5	45	---
	05/16/94		9.62	---	2.97	---	650	1,700	180	2.5	<2.5	21	---
	08/08/94		10.32	---	2.27	---	470	2,600[i]	12	1.5	0.5	14	---
	11/09/94[a]		---	---	---	---	---	---	---	---	---	---	---
	02/22/95		8.92	---	3.67	---	550	2,400[i,j]	190	4.0	<0.5	17	---
	05/02/95		9.52	---	3.07	---	790	2,100	250	6.9	1.2	22	---

Table 1. Ground Water Elevations and Analytic Results - Shell Service Station WIC# 204-2495-0101, 1800 Powell Street, Emeryville, California (continued)

Well ID	Sampling Date	Top-of-Box Elevation (ft msl)	Depth to Water (ft)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation (ft msl)	TDS (ppm)	TPH-G	TPH-D	B	T	E	X	MTBE
							← parts per billion (µg/L) →						
	08/24/95		10.02	---	2.57	---	330	1,500	93	<0.5	<0.5	2.0	---
	12/08/95		10.75	---	1.84	---	440	2,400	110	2.2	0.8	23	---
	02/29/96		**9.02**	**---**	**3.57**	**---**	**560**	**2,500**	**130**	**<5.0**	**<5.0**	**30**	**30**
S-14	11/16/85	12.69	---	---	---	---	<250	400	3	<2	<2	<5	---
	01/03/86		---	---	---	---	<250	---	3	2	<2	<5	---
	04/22/87		---	---	---	---	1,200	18,000	7.4	2.7	15	110	---
	07/07/87		10.32	---	2.37	---	190	---	6.5	0.6	1.9	26	---
	10/10/87		10.77	---	1.92	---	4,900	21,000	7	1.2	<0.5	25	---
	02/11/88		10.4	---	2.29	---	370	12,000[e]	4.6	<2.5	<2.5	26	---
	05/10/88		9.66	---	3.03	---	660	2,200[d]	2.9	<2.5	<2.5	24	---
	08/31/88		10.74	---	1.95	---	700	7,900	3.2	<2.5	<2.5	15	---
	12/03/88		10.69	---	2.00	---	210	11,000[d]	<0.5	<0.5	0.8	6.8	---
	02/16/89		9.69	---	3.00	---	130[e]	5,700[d]	<0.5	<0.5	<0.5	4.4	---
	05/28/89		10.42	---	2.27	---	770	5,200	<0.5	<0.5	<0.5	4.5	---
	08/10/89		10.54	---	2.15	---	920	8,800	<1	<1	1.6	17	---
	11/11/89		9.91	---	2.78	---	710	28,000	20	57	25	69	---
	02/21/94		9.3	---	3.09	---	2,800	3,600	<5	<5	<5	14	---
	02/21/94		9.30	---	3.39	---	2,300[f]	3,600[g]	<5.0	<5	<5	14	---
	05/16/94		9.54	---	3.15	---	310	6,700	<2.5	<2.5	<2.5	3.1	---
	08/08/94		10.29	---	2.4	---	480[k]	2,900	<0.5	0.6	<0.5	0.8	---
	08/08/94[dup]		10.29	---	2.4	---	590[k]	2,900	<0.5	0.6	<0.5	1.5	---
	11/09/94		9.52	---	3.07	---	170[k]	6,400[i]	0.7	<0.5	<0.5	2.7	---
	02/22/95		9.18	---	3.51	---	550	7,000[i,j]	<0.5	<0.5	<0.5	1.6	---
	05/02/95		9.49	---	3.2	---	210	2,300	1.0	0.9	1.1	6.3	---
	05/02/95[dup]		9.49	---	3.2	---	160	2,600	0.6	0.6	0.7	3.8	---
	08/24/95		9.94	---	2.75	---	180	3,700	0.5	<0.5	<0.5	1.3	---
	12/08/95		10.65	---	2.04	---	190	4,900	1.0	<0.5	0.6	4.6	---
	02/29/96		**8.90**	**---**	**3.79**	**---**	**200**	**11,000**	**<0.5**	**<0.5**	**<0.5**	**2.0**	**3.0**

Table 1. Ground Water Elevations and Analytic Results - Shell Service Station WIC# 204-2495-0101, 1800 Powell Street, Emeryville, California (continued)

Well ID	Sampling Date	Top-of-Box Elevation (ft msl)	Depth to Water (ft)	Separate-Phase Hydrocarbon Thickness (ft)	Ground Water Elevation (ft msl)	TDS (ppm)	TPH-G	TPH-D	B	T	E	X	MTBE
							← parts per billion (µg/L) →						
Trip Blank	02/21/94		---	---	---	---	<50	---	<0.5	<0.5	<0.5	<0.5	---
	02/24/94		---	---	---	---	<50	---	<0.5	<0.5	<0.5	<0.5	---
	05/16/94		---	---	---	---	<50	---	<0.5	<0.5	<0.5	<0.5	---
	08/08/94		---	---	---	---	<50	---	<0.5	<0.5	<0.5	<0.5	---
	11/09/94		---	---	---	---	<50	---	<0.5	<0.5	<0.5	<0.5	---
	02/22/95		---	---	---	---	<50	---	<0.5	0.9	<0.5	<0.5	---
	05/02/95		---	---	---	---	<50	---	<0.5	<0.5	<0.5	<0.5	---
	05/10/95		---	---	---	---	<50	---	<0.5	<0.5	<0.5	<0.5	---
	12/08/95		**---**	**---**	**---**	**---**	**<50**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**---**
DHS MCLs				---		---	NE	NE	1	100[c]	680	1,750	NE

Abbreviations:

ft msl = Feet above mean sea level
TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
TPH-D = Total petroleum hydrocarbons as diesel by Modified EPA Method 8015
B = Benzene by EPA Method 8020
T = Toluene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
X = Xylenes by EPA Method 8020
MTBE = Methyl tertiary butyl ether by EPA Method 8020
DHS MCLs = California Department of Health Services maximum contaminant levels for drinking water
NE = Not established
<n = Not detected at a detection limit of n ppb
dup = Duplicate sample
SPH = Separate-phase hydrocarbons present, often unable to measure thickness accurately
--- = Not analyzed/not measured

Notes:

a = Well inaccessible
b = Well abandoned on 11/09/85
c = DHS recommended action level; MCL not established
d = Compounds detected within the chromatographic range appear to be weathered diesel
e = Compounds detected within the chromatographic range of gasoline but not characteristic of the standard gasoline pattern.
f = The concentrations reported as gasoline for samples S-12 and S-14 are primarily due to the presence of a discrete peak
g = The concentrations reported as diesel for samples S-12, S-13 and S-14 are due to the presence of a combination of diesel and a heavier petroleum product of hydrocarbon range C18 - C36, possibly motor oil
h = The result for gasoline is an unknown hydrocarbon which consists of several peaks
i = The positive result appears to be a heavier hydrocarbon than diesel
j = Compounds detected within the chromatographic range of diesel appears to include gasoline compounds.
k = The positive result appears to be a heavier hydrocarbon than gasoline

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ATTACHMENT B

STANDARD FIELD PROCEDURES

WA has developed standard procedures for drilling and sampling soil borings and installing, developing and sampling ground water monitoring wells. These procedures comply with Federal, State and local regulatory guidelines. Specific procedures are summarized below.

Soil Boring and Sampling

Objectives/Supervision

Soil sampling objectives include characterizing subsurface lithology, assessing whether the soils exhibit obvious hydrocarbon or other compound vapor or staining, and collecting samples for analysis at a State-certified laboratory. All borings are logged using the Unified Soil Classification System by a trained geologist working under the supervision of a California Registered Geologist (RG) or a Certified Engineering Geologist (CEG).

Soil Boring and Sampling

Deep soil borings or borings for well installation are typically drilled using hollow-stem augers. Split-barrel samplers lined with steam-cleaned brass or stainless steel tubes are driven through the hollow auger stem into undisturbed sediments at the bottom of the borehole using a 140 pound hammer dropped 30 inches. Soil samples can also be collected without using hollow-stem augers by progressively driving split-barrel soil samplers to depths of up to 30 ft.

Soil samples are collected at least every five ft to characterize the subsurface sediments and for possible chemical analysis. Near the water table and at lithologic changes, the sampling interval may be less than five ft.

Drilling and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Analysis

After noting the lithology at each end of the sampling tubes, the tube chosen for analysis is immediately trimmed of excess soil and capped with Teflon tape and plastic end caps. The sample is labeled, stored in crushed ice at or below 4°C, and transported under chain-of-custody to a State-certified analytic laboratory.

Screening

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatile from the soil. After ten to fifteen minutes, a portable photoionization detector (PID) measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. PID measurements are used along with the stratigraphy and ground water depth to select soil samples for analysis.

Grouting

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe. If wells are completed in the borings, the well installation, development and sampling procedures summarized below are followed.

ATTACHMENT C

BORING LOGS

WEISS ASSOCIATES

BOREHOLE / WELL CONSTRUCTION LOG

BOREHOLE LOCATION	Project: (facility, address, city, state) Shell pownall St
	Borehole/Well No: B-1
	Job No: 81-0794-205
	Logged By: R. Devany
	Edited By:
	Project Manager: T. Foust
	Drill Rig:
	Drilling Contractor: (name, city, state) Gregg - Martinez CA
	Driller:
	License # : C57-
	Drilling Method: Geoprobe
	Sample Method: Core
	Well Head Completion: NA
	Ground Surface Elevation:
	Hammer Weight/Drop: NA
	Borehole Diameter:
	Started, Time: 10:30 Date: 5/20/96
	Completed, Time: 11:30 Date: 5/20/96
	Water Depth
Approximate Scale:	Boring/Casing Depth
Notes:	Time
	Date

Total Boring Depth:	Total Well Depth:
Screened Interval:	Well Diameter:
Sand Pack (Type and Interval):	
Well Development Method:	
Time: Date:	Flow Rate:
Geophysical Logs, Type:	
By:	Date:

Sample ID	PID / FID (ppm)	Sampler Type / depth	Blows per 6 Inches	Inches Driven	Inches Recovered	Sample Condition	Boring Diameter	Conductor Casing(s) Interval and Diameter	Sand / Grout	Well Casing / Screen	Depth in Feet	Recovery / Sample Loc.	Contact / Hyd. Conduct.	LITHOLOGIC DESCRIPTIONS
		GP 0									1			CLAYEY SILT (ML) DK. Brown (7.5YR 4/2) Med stiff, Dry to damp, 10% vf-m sand, 0-5% SA pebbles to 1/2 in, lowest K, ft, roots, rm.
B1-2											2			to gravelly Silty Clay (CH) Black (7.5YR 2/0) very stiff, damp, 5-20% vf-mg sand 5-25% angular to sub angular pebble to 1 inch, trace to very coarse, 1" ± φ concrete block in shoe
		GP 4		48	35	G					4			
											5			Silty Clay (CH) Lt brownish gray (2.5YR 6/2) w/ 10% gray + blk mottling med stiff, damp, low est ±
											6			
B1-7											7			gravelly clay (CH) as above except softer (stiff)
		GP 8		48	18						8			
B1-10											9			Sandy Silt (ML) Blk (7.5YR 2/0) w/ gray green mottling, soft to med stiff, wet, 10%-20% vf-mg sand
											10			

WEISS ASSOCIATES

BOREHOLE / WELL CONSTRUCTION LOG (cont.)

Project / Job No.: 81 0794 - 205

Borehole/Well No.: SB-1

Notes:

PID/FID	Sampler Type	Blows / 6 Inches	Inches Driven	Inches Recov'd	Sample Cond.	Boring Diameter	Conduct. Casing	Sand / Grout	Well Casing	Depth (ft)	Recovery	Contact
SB-13										1		
										2		
										3		
										4		
										5		
SB-15										6		
										7		
										8		
										9		
										10		
										1		
										2		
										3		
										4		
										5		
										6		
										7		
										8		
										9		
										0		

5/20/96 11:45

Silty Sand (SM) gray green to black (5Y 5/1 to 7.5YR 2/0) dense, wet, 20-30 s.ft, modest k (hydrocarbon odor at 14 ft.)

Silt (ML) to clayey silt gray green to black (5Y 5/1 to 7.5YR 2/0) soft, non plastic - mod plast, modest k (hydrocarbon odor)

WEISS ASSOCIATES

BOREHOLE / WELL CONSTRUCTION LOG

BOREHOLE LOCATION	Project: (facility, address, city, state) Shell - Powell St
	Borehole/Well No: B-2
	Job No: BL-0794-205
	Logged By: R Devany / Edited By:
	Project Manager: T. Foyt / Drill Rig:
	Drilling Contractor: (name, city, state) Gregs
	Driller: / License # : C57-
	Drilling Method: geoprobe / Sample Method:
	Well Head Completion: / Ground Surface Elevation:
	Hammer Weight/Drop: / Borehole Diameter:
	Started, Time: / Date:
	Completed, Time: / Date:
Approximate Scale:	Water Depth / Boring/Casing Depth / Time / Date
Notes:	

Total Boring Depth:	Total Well Depth:
Screened Interval:	Well Diameter:
Sand Pack (Type and Interval):	
Well Development Method:	
Time: Date:	Flow Rate:
Geophysical Logs, Type:	
By:	Date:

Sample ID	PID / FID (ppm)	Sampler Type / depth	Blows per 6 Inches	Inches Driven	Inches Recovered	Sample Condition	Boring Diameter	Conductor Casing(s) Interval and Diameter	Sand / Grout	Well Casing / Screen	Depth in Feet	Recovery / Sample Loc.	Contact / Hyd. Conduct.	LITHOLOGIC DESCRIPTIONS
		GP 0		48	36	G					0			Gravelly SILT (ML) Dkbrn (7.5YR 4/2), med stiff, dry to damp, 5-10% pebbles to 1" bricks, debris. (Fill)
B2-2											1			
											2			
											3			
		GP 1		48	33	F					4			
											5			
											6			
											7			← 3-4 in sandy gravel layer - lt gray
B2-7.5											8			
		GP 8		48	32	F					9			
											10			

WEISS ASSOCIATES

BOREHOLE / WELL CONSTRUCTION LOG (cont.)

Project / Job No.: 81-0794-205

Borehole/Well No.: B-2

Notes:

Sample ID	PID/FID	Sampler Type	Blows / 6 Inches	Inches Driven	Inches Recov'd	Sample Cond.	Boring Diameter	Conduct. Casing	Sand / Grout	Well Casing	Depth (ft)	Recovery	Contact
B2-11		GP 12		6	6						1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		

Clayey silt (MH) green-gray (5Y 5/1) soft, damp to moist, 0-5% vf-mg sand lowest K

← refusal at 12.5 ft

WEISS ASSOCIATES

BOREHOLE / WELL CONSTRUCTION LOG

BOREHOLE LOCATION	Project: (facility, address, city, state)
	Borehole/Well No: B-3
	Job No: 81-0794-205
	Logged By: D. Downey / Edited By:
	Project Manager: T. Foyt / Drill Rig:
	Drilling Contractor: (name, city, state) Gregg Monterey CA
	Driller: / License # : C57-
	Drilling Method: Geoprobe / Sample Method: core
	Well Head Completion: NA / Ground Surface Elevation:
	Hammer Weight/Drop: NA / Borehole Diameter:
	Started, Time: 12:45 / Date: 5/20
	Completed, Time: 13:15 / Date:
	Water Depth
Approximate Scale:	Boring/Casing Depth
Notes:	Time
	Date

Total Boring Depth:	Total Well Depth:
Screened Interval:	Well Diameter:
Sand Pack (Type and Interval):	
Well Development Method:	
Time: Date:	Flow Rate:
Geophysical Logs, Type:	
By: Date:	

Sample ID	PID / FID (ppm)	Sampler Type / depth	Blows per 6 Inches	Inches Driven	Inches Recovered	Sample Condition	Boring Diameter	Conductor Casing(s) Interval and Diameter	Sand / Grout	Well Casing / Screen	Depth in Feet	Recovery / Sample Loc.	Contact / Hyd. Conduct.	LITHOLOGIC DESCRIPTIONS
C		GP 0		48	42						0			Clayey Silt (ML/MH) Med Brown (10YR 4/3) to very dk gray (10YR 3/1), soft to med stiff, 5-20% vf-mg sand, 5-10% pebbles occasional to 1 in, low est K, Brick fragment
B3-3.5		GP 4		48	32						4			Sandy Gravel (GW) 2.5Y 7/0 Light grey dense, dry, 30%-40% sand, Very Fine-Medium Coarse sand, angular-subangular pebbles up to Two inches, High K (concrete?)
B3-6.5		GP 8		30	24						8			Clayey Silt (ML) dark greyish Brn. (2.5YR 4/2) med. stiff 5% V Fine sand, Low K. as described in section at 4' (concrete?)

WEISS ASSOCIATES

BOREHOLE / WELL CONSTRUCTION LOG (cont.)

Project / Job No.:

Borehole/Well No.: B-3

Notes:

Sample ID	PID/FID	Sampler Type	Blows / 6 Inches	Inches Driven	Inches Recov'd	Sample Cond.	Boring Diameter	Conduct. Casing	Sand / Grout	Well Casing	Depth (ft)	Recovery	Contact	
B3-10.5											0			Refusal at 10.5 ft
											1			
											2			
											3			
											4			
											5			
											6			
											7			
											8			
											9			
											0			
											1			
											2			
											3			
											4			
											5			
											6			
											7			
											8			
											9			

WEISS ASSOCIATES

BOREHOLE / WELL CONSTRUCTION LOG

BOREHOLE LOCATION

Approximate Scale:

Notes:

Project: (facility, address, city, state)	Borehole/Well No: B-4
	Job No: 81-0794-01
Logged By: Yi-Ran Wu	Edited By:
Project Manager: T. Fojut	Drill Rig:
Drilling Contractor: (name, city, state) Gregg Drilling	
Driller:	License # : C57-
Drilling Method: Geoprobe	Sample Method: Core
Well Head Completion: NA	Ground Surface Elevation:
Hammer Weight/Drop: NA	Borehole Diameter:
Started, Time: 13:25	Date: 5/20
Completed, Time: 13:55	Date:
Water Depth	
Boring/Casing Depth	
Time	
Date	

Total Boring Depth:	Total Well Depth:
Screened Interval:	Well Diameter:
Sand Pack (Type and Interval):	
Well Development Method:	
Time: Date:	Flow Rate:
Geophysical Logs, Type:	
By:	Date:

Sample ID	PID / FID (ppm)	Sampler Type / depth	Blows per 6 Inches	Inches Driven	Inches Recovered	Sample Condition	Boring Diameter	Conductor Casing(s) Interval and Diameter	Sand / Grout	Well Casing / Screen	Depth in Feet	Recovery / Sample Loc.	Contact / Hyd. Conduct.	LITHOLOGIC DESCRIPTIONS
														Clayey silt (ML) very dark greyish Brown – Black 7.5YR 2/0 to 10YR 3/2 Subangular - angular pebbles to 1" damp, Low K
B4-4											1			
											2			
											3			
											4			
											5			
B4-6.5											6			
											7			
											8			(Concrete) Clayey silt (ML) very dark greyish Brown (10YR 3/2) to Black (7.5YR 2/0) Low K, damp
											9			Hit refusal at 9' cement in the Shoe
											10			

WEISS ASSOCIATES

BOREHOLE / WELL CONSTRUCTION LOG

BOREHOLE LOCATION	Project: (facility, address, city, state)
	Borehole/Well No: B5
	Job No: 81-0794-01
	Logged By: Yi-Ran Wu
	Edited By:
	Project Manager: T. Fojut
	Drill Rig:
	Drilling Contractor: (name, city, state) Gregg Drilling
	Driller:
	License # : C57-
	Drilling Method: Geoprobe
	Sample Method: Core
	Well Head Completion: NA
	Ground Surface Elevation:
	Hammer Weight/Drop: NA
	Borehole Diameter:
	Started, Time: 14:00
	Date:
	Completed, Time: 14:30
	Date:
	Water Depth
Approximate Scale:	Boring/Casing Depth
Notes:	Time
	Date

Total Boring Depth:	Total Well Depth:
Screened Interval:	Well Diameter:
Sand Pack (Type and Interval):	
Well Development Method:	
Time: Date:	Flow Rate:
Geophysical Logs, Type:	
By:	Date:

Sample ID	PID / FID (ppm)	Sampler Type / depth	Blows per 6 Inches	Inches Driven	Inches Recovered	Sample Condition	Boring Diameter	Conductor Casing(s) Interval and Diameter	Sand / Grout	Well Casing / Screen	Depth in Feet	Recovery / Sample Loc.	Contact / Hyd. Conduct.	LITHOLOGIC DESCRIPTIONS
														Clayey silt (ML) very dark grey (10YR 3/1) damp, low K, subangular - angular pebbles up to 1"
													←	6" reddish yellow brick dense
SB											1			
B5-3											2			
											3			
											4			Clayey silt (ML) very dark grey (10YR 3/1) dry to damp subangular - angular pebbles up to 2" (concrete?) on top & bottom of core. 10% - 30% sand, low K
											5			
											6			
											7			hit refusal at 7'
											8			
											9			
											10			

WEISS ASSOCIATES

BOREHOLE / WELL CONSTRUCTION LOG

BOREHOLE LOCATION	Project: (facility, address, city, state)
Approximate Scale:	Borehole/Well No: B6
Notes:	Job No: 81-0794-01
	Logged By: Yi-Ran Wu / Edited By:
	Project Manager: T. Fojut / Drill Rig:
	Drilling Contractor: (name, city, state) Gregg Drilling
	Driller: / License # : CS7-
	Drilling Method: Geoprobe / Sample Method: Core
	Well Head Completion: NA / Ground Surface Elevation:
	Hammer Weight/Drop: NA / Borehole Diameter:
	Started, Time: 14:30 / Date:
	Completed, Time: 15:00 / Date:
	Water Depth
	Boring/Casing Depth
	Time
	Date

Total Boring Depth:	Total Well Depth:
Screened Interval:	Well Diameter:
Sand Pack (Type and Interval):	
Well Development Method:	
Time: Date:	Flow Rate:
Geophysical Logs, Type:	
By:	Date:

Sample ID	PID / FID (ppm)	Sampler Type / depth	Blows per 6 Inches	Inches Driven	Inches Recovered	Sample Condition	Boring Diameter	Conductor Casing(s) Interval and Diameter	Sand / Grout	Well Casing / Screen	Depth in Feet	Recovery / Sample Loc.	Contact / Hyd. Conduct.	LITHOLOGIC DESCRIPTIONS
B6-3.5											0–10			Clayey Silt (ML) Very dark gray (10YR 3/1) to Black, low k, damp
B6-6.5														
B6-11														Same as above description with a few exceptions: High moisture content, with increasing silt content

WEISS ASSOCIATES

BOREHOLE / WELL CONSTRUCTION LOG (cont.)

Project / Job No.:

Borehole/Well No.: B-6

Notes:

Sample ID	PID/FID	Sampler Type	Blows / 6 Inches	Inches Driven	Inches Recov'd	Sample Cond.	Boring Diameter	Conduct. Casing	Sand / Grout	Well Casing	Depth (ft)	Recovery	Contact

ATTACHMENT D

SOIL AND GROUND WATER ANALYTIC REPORT AND CHAIN-OF-CUSTODY FORM

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Weiss Associates
5500 Shellmound
Emeryville, CA 94608
Attention: Yi-Ran Wu

Project: Shell 1800 Powell St.

Enclosed are the results from samples received at Sequoia Analytical on May 22, 1996. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9605H09 -01	SOLID, B1-2.0	05/20/96	TPHGBS Purgeable TPH/BTEX
9605H09 -02	SOLID, B1-7.0	05/20/96	8080 Organochlorine Pest
9605H09 -02	SOLID, B1-7.0	05/20/96	8240 Volatile Organic Co
9605H09 -02	SOLID, B1-7.0	05/20/96	8270 SemiVolatile Organi
9605H09 -02	SOLID, B1-7.0	05/20/96	ITTLCS Title 22: Metals, T
9605H09 -02	SOLID, B1-7.0	05/20/96	TPHGBS Purgeable TPH/BTEX
9605H09 -03	SOLID, B1-13.0	05/20/96	TRPH (SM 5520 E&F Mod.)
9605H09 -03	SOLID, B1-13.0	05/20/96	TPHFFS Fuel Fingerprint
9605H09 -03	SOLID, B1-13.0	05/20/96	TPHGBS Purgeable TPH/BTEX
9605H09 -04	SOLID, B1-15.0	05/20/96	TRPH (SM 5520 E&F Mod.)
9605H09 -04	SOLID, B1-15.0	05/20/96	TPHFFS Fuel Fingerprint
9605H09 -04	SOLID, B1-15.0	05/20/96	TPHGBS Purgeable TPH/BTEX
9605H09 -05	SOLID, B2-2.0	05/20/96	TPHGBS Purgeable TPH/BTEX

SEQUOIA ANALYTICAL

Sequoia Analytical

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SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9605H09 -06	SOLID, B2-7.5	05/20/96	TPHGBS Purgeable TPH/BTEX
9605H09 -07	SOLID, B2-11.0	05/20/96	TRPH (SM 5520 E&F Mod.)
9605H09 -07	SOLID, B2-11.0	05/20/96	TPHFFS Fuel Fingerprint
9605H09 -07	SOLID, B2-11.0	05/20/96	TPHGBS Purgeable TPH/BTEX

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B1-2.0	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: 8015Mod/8020	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-01	Reported: 06/07/96

QC Batch Number: GC052996BTEXEXA
Instrument ID: GCHP6

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	105

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B1-7.0	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/28/96
	Analysis Method: EPA 8080,R-1	Analyzed: 06/06/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-02	Reported: 06/07/96

QC Batch Number: GC0528968080EXA
Instrument ID: GCHP10

Organochlorine Pesticides and PCBs by EPA 8080 (Modified)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Aldrin	5.0	N.D.
alpha-BHC	5.0	N.D.
beta-BHC	5.0	N.D.
delta-BHC	5.0	N.D.
gamma-BHC (Lindane)	5.0	N.D.
Chlordane	100	N.D.
4,4'-DDD	30	N.D.
4,4'-DDE	10	N.D.
4,4'-DDT	30	N.D.
Dieldrin	10	N.D.
Endosulfan I	10	N.D.
Endosulfan II	10	N.D.
Endosulfan sulfate	30	N.D.
Endrin	10	N.D.
Endrin aldehyde	30	N.D.
Heptachlor	5.0	N.D.
Heptachlor epoxide	5.0	N.D.
Methoxychlor	100	N.D.
Toxaphene	400	N.D.
PCB-1016	100	N.D.
PCB-1221	400	N.D.
PCB-1232	100	N.D.
PCB-1242	100	N.D.
PCB-1248	100	N.D.
PCB-1254	100	N.D.
PCB-1260	100	N.D.

Surrogates	Control Limits %		% Recovery
Dibutylchlorendate	30	150	71
Tetrachloro-m-xylene	30	150	61

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B1-7.0	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: EPA 8240	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-02	Reported: 06/07/96

QC Batch Number: MS0529968240EXA
Instrument ID: F2

Volatile Organics (EPA 8240)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acetone	500	N.D.
Benzene	100	N.D.
Bromodichloromethane	100	N.D.
Bromoform	100	N.D.
Bromomethane	100	N.D.
2-Butanone	500	N.D.
Carbon disulfide	100	N.D.
Carbon tetrachloride	100	N.D.
Chlorobenzene	100	N.D.
Chloroethane	100	N.D.
2-Chloroethyl vinyl ether	500	N.D.
Chloroform	100	N.D.
Chloromethane	100	N.D.
Dibromochloromethane	100	N.D.
1,1-Dichloroethane	100	N.D.
1,2-Dichloroethane	100	N.D.
1,1-Dichloroethene	100	N.D.
cis-1,2-Dichloroethene	100	N.D.
trans-1,2-Dichloroethene	100	N.D.
1,2-Dichloropropane	100	N.D.
cis-1,3-Dichloropropene	100	N.D.
trans-1,3-Dichloropropene	100	N.D.
Ethylbenzene	100	N.D.
2-Hexanone	500	N.D.
Methylene chloride	250	N.D.
4-Methyl-2-pentanone	500	N.D.
Styrene	100	N.D.
1,1,2,2-Tetrachloroethane	100	N.D.
Tetrachloroethene	100	N.D.
Toluene	100	N.D.
1,1,1-Trichloroethane	100	N.D.
1,1,2-Trichloroethane	100	N.D.
Trichloroethene	100	N.D.
Trichlorofluoromethane	100	N.D.
Vinyl acetate	250	N.D.
Vinyl chloride	100	N.D.

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B1-7.0	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: EPA 8240	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-02	Reported: 06/07/96

QC Batch Number: MS0529968240EXA
Instrument ID: F2

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Total Xylenes	100	N.D.

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	70	121	104
Toluene-d8	81	117	103
4-Bromofluorobenzene	74	121	105

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B1-7.0	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: EPA 8270	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-02	Reported: 06/07/96

QC Batch Number: MS0523968270EXA
Instrument ID: H5

Semivolatile Organics (EPA 8270)

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
Acenaphthene	250	N.D.
Acenaphthylene	250	N.D.
Anthracene	250	N.D.
Benzoic Acid	500	N.D.
Benzo(a)anthracene	250	N.D.
Benzo(b)fluoranthene	250	N.D.
Benzo(k)fluoranthene	250	N.D.
Benzo(g,h,i)perylene	250	N.D.
Benzo(a)pyrene	250	N.D.
Benzyl alcohol	250	N.D.
Bis(2-chloroethoxy)methane	250	N.D.
Bis(2-chloroethyl)ether	250	N.D.
Bis(2-chloroisopropyl)ether	250	N.D.
Bis(2-ethylhexyl)phthalate	500	N.D.
4-Bromophenyl phenyl ether	250	N.D.
Butyl benzyl phthalate	250	N.D.
4-Chloroaniline	500	N.D.
2-Chloronaphthalene	250	N.D.
4-Chloro-3-methylphenol	250	N.D.
2-Chlorophenol	250	N.D.
4-Chlorophenyl phenyl ether	250	N.D.
Chrysene	250	N.D.
Dibenzo(a,h)anthracene	250	N.D.
Dibenzofuran	250	N.D.
Di-n-butyl phthalate	500	N.D.
1,2-Dichlorobenzene	250	N.D.
1,3-Dichlorobenzene	250	N.D.
1,4-Dichlorobenzene	250	N.D.
3,3-Dichlorobenzidine	500	N.D.
2,4-Dichlorophenol	250	N.D.
Diethyl phthalate	250	N.D.
2,4-Dimethylphenol	250	N.D.
Dimethyl phthalate	250	N.D.
4,6-Dinitro-2-methylphenol	500	N.D.
2,4-Dinitrophenol	500	N.D.
2,4-Dinitrotoluene	250	N.D.

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B1-7.0	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: EPA 8270	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-02	Reported: 06/07/96

QC Batch Number: MS0523968270EXA
Instrument ID: H5

Analyte	Detection Limit ug/Kg	Sample Results ug/Kg
2,6-Dinitrotoluene	250	N.D.
Di-n-octyl phthalate	250	N.D.
Fluoranthene	250	N.D.
Fluorene	250	N.D.
Hexachlorobenzene	250	N.D.
Hexachlorobutadiene	250	N.D.
Hexachlorocyclopentadiene	500	N.D.
Hexachloroethane	250	N.D.
Indeno(1,2,3-cd)pyrene	250	N.D.
Isophorone	250	N.D.
2-Methylnaphthalene	250	N.D.
2-Methylphenol	250	N.D.
4-Methylphenol	250	N.D.
Naphthalene	250	N.D.
2-Nitroaniline	500	N.D.
3-Nitroaniline	500	N.D.
4-Nitroaniline	500	N.D.
Nitrobenzene	250	N.D.
2-Nitrophenol	250	N.D.
4-Nitrophenol	500	N.D.
N-Nitrosodiphenylamine	250	N.D.
N-Nitroso-di-n-propylamine	250	N.D.
Pentachlorophenol	500	N.D.
Phenanthrene	250	N.D.
Phenol	**250**	**1900**
Pyrene	250	N.D.
1,2,4-Trichlorobenzene	250	N.D.
2,4,5-Trichlorophenol	500	N.D.
2,4,6-Trichlorophenol	250	N.D.

Surrogates	Control Limits %		% Recovery
2-Fluorophenol	25	121	57
Phenol-d5	24	113	68
Nitrobenzene-d5	23	120	51
2-Fluorobiphenyl	30	115	62
2,4,6-Tribromophenol	19	122	49
p-Terphenyl-d14	18	137	68

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

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Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B1-7.0	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: Title 22	Analyzed: 05/30/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-02	Reported: 06/07/96

QC Batch Number: ME0529966010MDF
Instrument ID: MTJA-2

Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	**500**	**5.0**	**10**
Arsenic, As	500	5.0	N.D.
Barium, Ba	**10000**	**5.0**	**180**
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	N.D.
Chromium, Cr	**2500**	**0.50**	**44**
Cobalt, Co	**8000**	**2.5**	**9.5**
Copper, Cu	**2500**	**0.50**	**44**
Lead, Pb	**1000**	**5.0**	**37**
Mercury, Hg	**20**	**0.020**	**0.079**
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	**2000**	**2.5**	**45**
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	N.D.
Thallium, Tl	**700**	**5.0**	**12**
Vanadium, V	**2400**	**2.5**	**30**
Zinc, Zn	**5000**	**0.50**	**88**

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

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Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B1-7.0	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: 8015Mod/8020	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-02	Reported: 06/07/96

QC Batch Number: GC052996BTEXEXA
Instrument ID: GCHP6

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	102

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

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Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B1-13.0	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/28/96
	Analysis Method: EPA 8015 Mod	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-03	Reported: 06/07/96

QC Batch Number: GC0528960HBPEXB
Instrument ID: GCHP5A

Fuel Fingerprint

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Extractable Hydrocarbons Chromatogram Pattern:	**4.0**	**160 C9-C40**

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	173 Q

Analytes reported as N.D. were not present above the stated limit of detection.

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Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B1-13.0	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: 8015Mod/8020	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-03	Reported: 06/07/96

QC Batch Number: GC052996BTEXEXA
Instrument ID: GCHP6

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	97

Analytes reported as N.D. were not present above the stated limit of detection.

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Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B1-15.0	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/28/96
	Analysis Method: EPA 8015 Mod	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-04	Reported: 06/07/96

QC Batch Number: GC0528960HBPEXB
Instrument ID: GCHP5A

Fuel Fingerprint

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Extractable Hydrocarbons Chromatogram Pattern:	**5.0**	**350 C9-C40**

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	444 Q

Analytes reported as N.D. were not present above the stated limit of detection.

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Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B1-15.0	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: 8015Mod/8020	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-04	Reported: 06/07/96

QC Batch Number: GC052996BTEXEXA
Instrument ID: GCHP6

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**5.0**	**43**
Benzene	0.025	N.D.
Toluene	0.025	N.D.
Ethyl Benzene	**0.025**	**0.072**
Xylenes (Total)	**0.025**	**0.19**
Chromatogram Pattern:		**C8-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	102

Analytes reported as N.D. were not present above the stated limit of detection.

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Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B2-2.0	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: 8015Mod/8020	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-05	Reported: 06/07/96

QC Batch Number: GC052996BTEXEXA
Instrument ID: GCHP6

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	116

Analytes reported as N.D. were not present above the stated limit of detection.

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Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B2-7.5	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: 8015Mod/8020	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-06	Reported: 06/07/96

QC Batch Number: GC052996BTEXEXA
Instrument ID: GCHP6

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	95

Analytes reported as N.D. were not present above the stated limit of detection.

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Mike Gregory
Project Manager

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Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B2-11.0	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/30/96
	Analysis Method: EPA 8015 Mod	Analyzed: 05/31/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-07	Reported: 06/07/96

QC Batch Number: GC0529960HBPEXA
Instrument ID: GCHP5A

Fuel Fingerprint

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Extractable Hydrocarbons Chromatogram Pattern:	**10**	**870 C9-C40**

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	352 Q

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
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Weiss Associates	Client Proj. ID: Shell 1800 Powell St.	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B2-11.0	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: 8015Mod/8020	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605H09-07	Reported: 06/07/96

QC Batch Number: GC052996BTEXEXA
Instrument ID: GCHP6

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	92

Analytes reported as N.D. were not present above the stated limit of detection.

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Mike Gregory
Project Manager

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Weiss Associates 5500 Shellmound Emeryville, CA 94608 Attention: Yi-Ran Wu	Client Proj. ID: Shell 1800 Powell St. Lab Proj. ID: 9605H09	Received: 05/22/96 Reported: 06/07/96

LABORATORY NARRATIVE

DIESEL: Sample# 3,4 and 7 contains heavy oil.
Surrogate recovery is high due to co-elution.

8080: Sample 02 run at a dilution due to matrix.

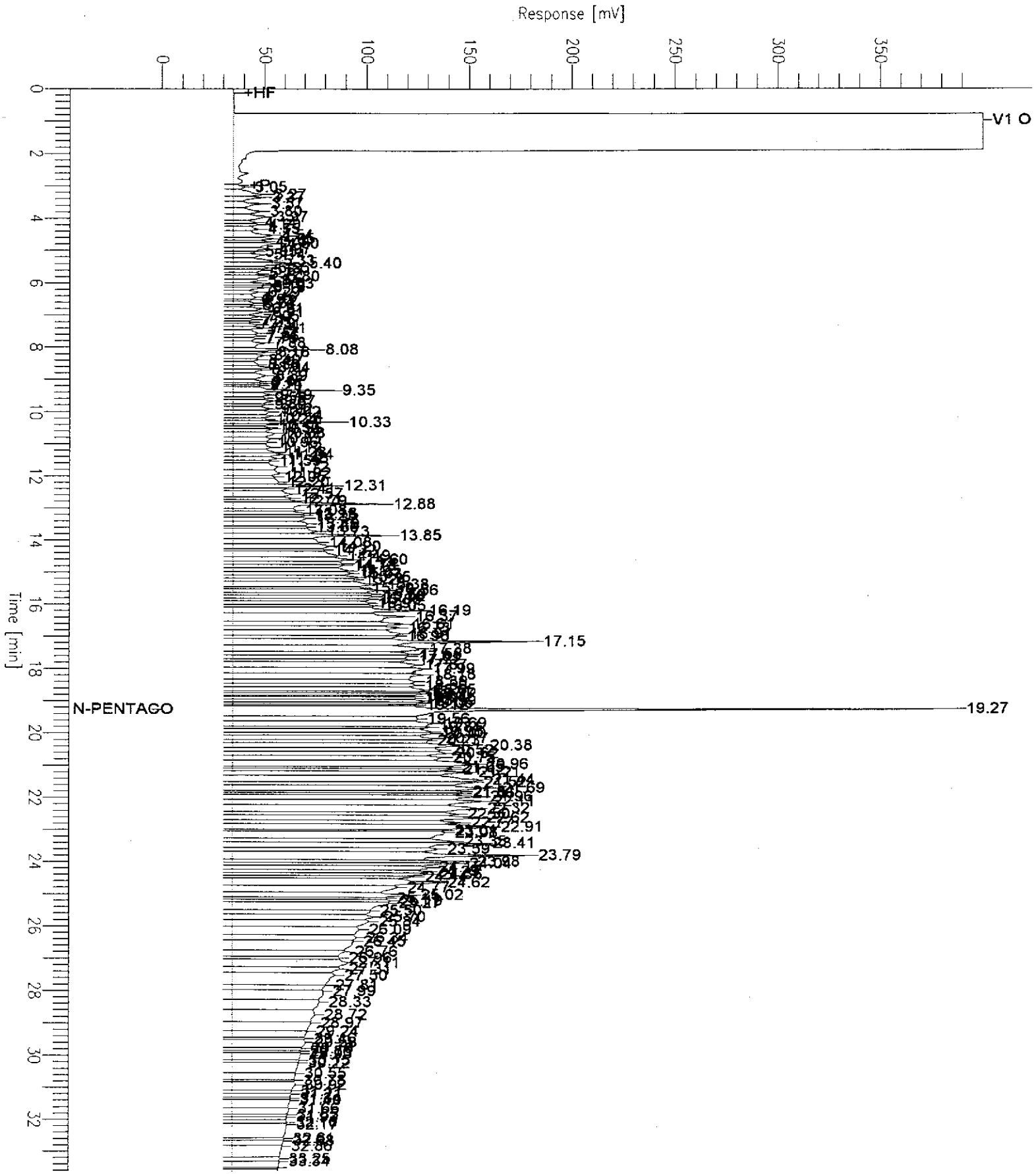
SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Chromatogram

Sample Name : DS9605H09-4 (20:1*5) RS1
FileName : S:\GHP_05\0602\528A029.raw
Method : TPH05A
Start Time : 0.00 min End Time : 33.65 min
Scale Factor: 0.0 Plot Offset: 0 mV

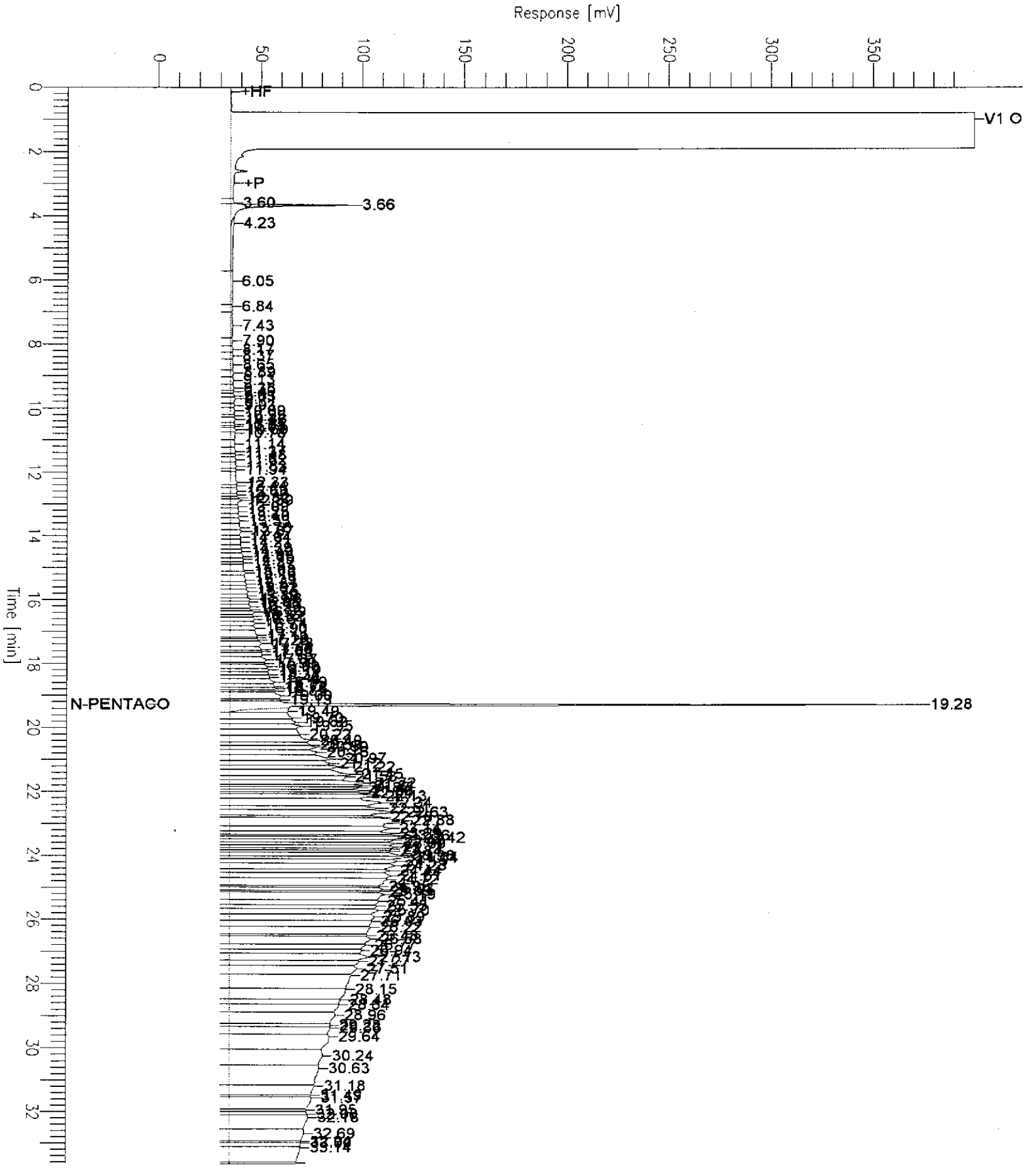
Sample #: B1-15.0 Page 1 of 1
Date : 6/3/96 09:09
Time of Injection: 5/29/96 12:33
Low Point : 0.00 mV High Point : 400.00 mV
Plot Scale: 400.0 mV



Chromatogram

Sample Name : DS9605H09-3 (20:1*4) RS1
FileName : S:\GHP_05\0602\528A028.raw
Method : TPH05A
Start Time : 0.00 min End Time : 33.65 min
Scale Factor: 0.0 Plot Offset: 0 mV

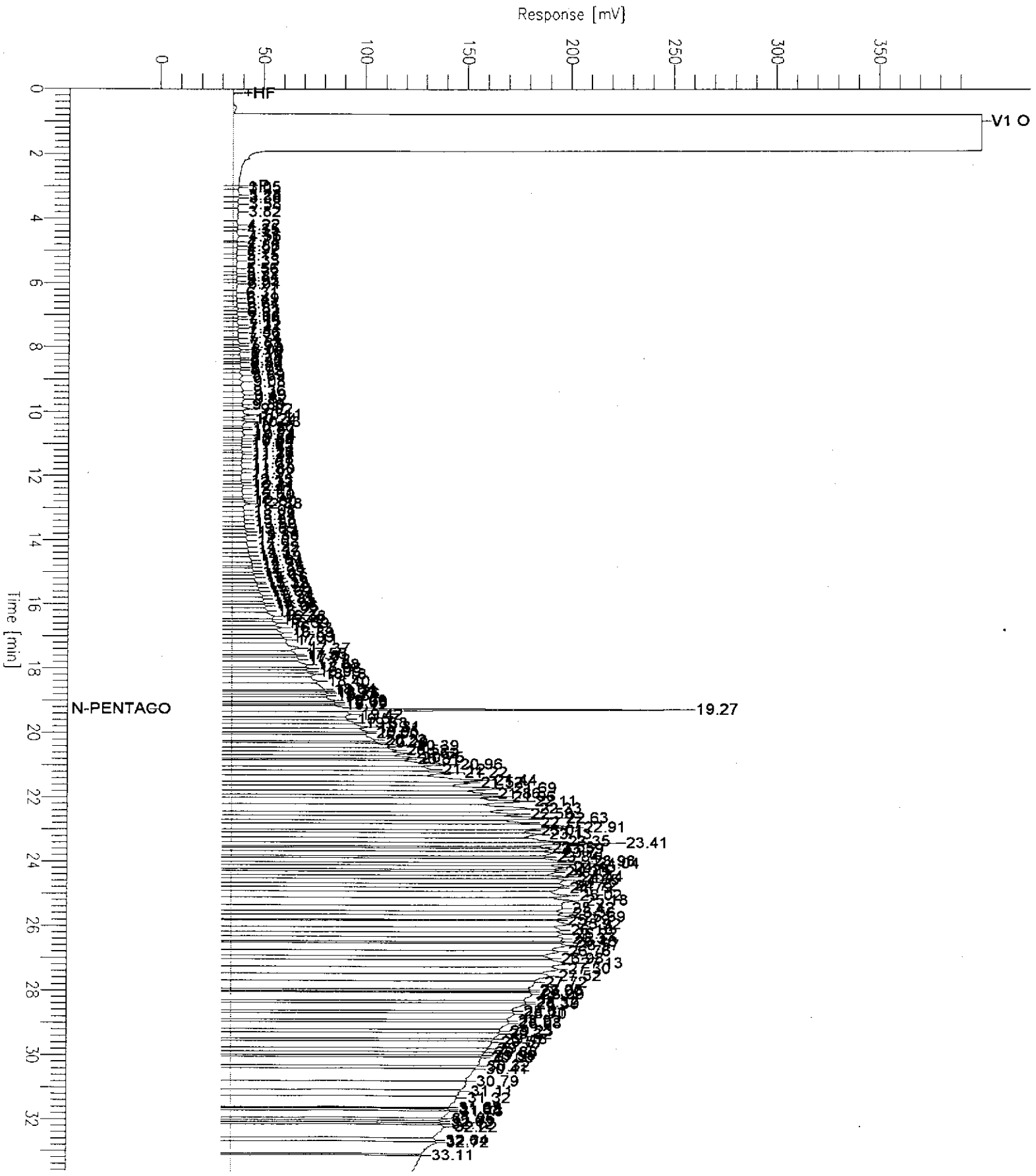
Sample #: B1-13.0 Page 1 of 1
Date : 6/3/96 09:09
Time of Injection: 5/29/96 10:53
Low Point : 0.00 mV High Point : 400.00 mV
Plot Scale: 400.0 mV



Chromatogram

Sample Name : DS9605H09-7 (20:1*10)RS1
FileName : S:\GHP_05\0602\530A043.raw
Method : TPH05A
Start Time : 0.00 min End Time : 33.65 min
Scale Factor: 0.0 Plot Offset: 0 mV

Sample #: B2-11.0 Page 1 of 1
Date : 6/3/96 09:10
Time of Injection: 5/31/96 13:31
Low Point : 0.00 mV High Point : 400.00 mV
Plot Scale: 400.0 mV



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Weiss & Associates	Client Project ID:	Shell 1800 Powell St.	
5500 Shellmound	Matrix:	Solid	
Emeryville, CA 94608			
Attention: Yi-Ran Wu	Work Order #:	9605H09 -01 - 07	Reported: Jun 21, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC052996BTEXEXA	GC052996BTEXEXA	GC052996BTEXEXA	GC052996BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	E. Cunanan	E. Cunanan	E. Cunanan	E. Cunanan
MS/MSD #:	9605C38-03	9605C38-03	9605C38-03	9605C38-03
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	5/29/96	5/29/96	5/29/96	5/29/96
Analyzed Date:	5/29/96	5/29/96	5/29/96	5/29/96
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/kg	0.20 mg/kg	0.20 mg/kg	0.60 mg/kg
Result:	0.16	0.16	0.16	0.48
MS % Recovery:	80	80	80	80
Dup. Result:	0.16	0.16	0.16	0.50
MSD % Recov.:	80	80	80	83
RPD:	0.0	0.0	0.0	4.1
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	GBLK052996BSA	GBLK052996BSA	BLK052996BSA	GBLK052996BSA
Prepared Date:	5/29/96	5/29/96	5/29/96	5/29/96
Analyzed Date:	5/29/96	5/29/96	5/29/96	5/29/96
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/kg	0.20 mg/kg	0.20 mg/kg	0.60 mg/kg
LCS Result:	0.19	0.19	0.19	0.56
LCS % Recov.:	95	95	95	93

MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

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Weiss & Associates	Client Project ID:	Shell 1800 Powell St.	
5500 Shellmound	Matrix:	Solid	
Emeryville, CA 94608			
Attention: Yi-Ran Wu	Work Order #:	9605H09 -02	Reported: Jun 21, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Heptachlor	Aldrin	Dieldrin
QC Batch#:	GC0528968080EXB	GC0528968080EXB	GC0528968080EXB
Analy. Method:	EPA 8080	EPA 8080	EPA 8080
Prep. Method:	EPA 3550	EPA 3550	EPA 3550
Analyst:	D. Nelson	D. Nelson	D. Nelson
MS/MSD #:	9605G09-01	9605G09-01	9605G09-01
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	5/28/96	5/28/96	5/28/96
Analyzed Date:	6/19/96	6/19/96	6/19/96
Instrument I.D.#:	GCHP10	GCHP10	GCHP10
Conc. Spiked:	3.3 ug/kg	3.3 ug/kg	13 ug/kg
Result:	-	-	-
MS % Recovery:	-	-	-
Dup. Result:	-	-	-
MSD % Recov.:	-	-	-
RPD:	-	-	-
RPD Limit:	0-50	0-50	0-50

LCS #:	BLK052896BS	BLK052896BS	BLK052896BS
Prepared Date:	5/28/96	5/28/96	5/28/96
Analyzed Date:	6/6/96	6/6/96	6/6/96
Instrument I.D.#:	GCHP10	GCHP10	GCHP10
Conc. Spiked:	3.3 ug/kg	3.3 ug/kg	13 ug/kg
LCS Result:	2.1	2.0	8.4
LCS % Recov.:	63	60	63
MS/MSD LCS Control Limits	35-145	31-170	10-176

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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Weiss & Associates	Client Project ID:	Shell 1800 Powell St.	
5500 Shellmound	Matrix:	Solid	
Emeryville, CA 94608			
Attention: Yi-Ran Wu	Work Order #:	9605H09 -02	Reported: Jun 21, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Phenol	2-Chlorophenol	1,4-Dichloro benzene	N-Nitroso-Di-N-propylamine
QC Batch#:	MS0523968270EXA	MS0523968270EXA	MS0523968270EXA	MS0523968270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3550	EPA 3550	EPA 3550	EPA 3550
Analyst:	B. Pitamah	B. Pitamah	B. Pitamah	B. Pitamah
MS/MSD #:	9605F09-01	9605F09-01	9605F09-01	9605F09-01
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	5/23/96	5/23/96	5/23/96	5/23/96
Analyzed Date:	5/24/96	5/24/96	5/24/96	5/24/96
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	3300 ug/kg	3300 ug/kg	3300 ug/kg	3300 ug/kg
Result:	2800	2800	2700	3200
MS % Recovery:	85	85	82	97
Dup. Result:	2800	2800	2700	3100
MSD % Recov.:	85	85	82	94
RPD:	0.0	0.0	0.0	3.2
RPD Limit:	0-20	0-23	0-26	0-32
LCS #:	SB0523SA	SB0523SA	SB0523SA	SB0523SA
Prepared Date:	5/23/96	5/23/96	5/23/96	5/23/96
Analyzed Date:	5/24/96	5/24/96	5/24/96	5/24/96
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	3300 ug/kg	3300 ug/kg	3300 ug/kg	3300 ug/kg
LCS Result:	2800	2800	2700	3200
LCS % Recov.:	85	85	82	97
MS/MSD LCS Control Limits	28-90	25-102	28-104	41-126

SEQUOIA ANALYTICAL

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Weiss & Associates	Client Project ID:	Shell 1800 Powell St.	
5500 Shellmound	Matrix:	Solid	
Emeryville, CA 94608			
Attention: Yi-Ran Wu	Work Order #:	9605H09 -02	Reported: Jun 21, 1996

QUALITY CONTROL DATA REPORT

Analyte:	1,2,4-Trichloro benzene	4-Chloro-3 Methylphenol	Acenaphthene	4-Nitrophenol
QC Batch#:	MS0523968270EXA	MS0523968270EXA	MS0523968270EXA	MS0523968270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3550	EPA 3550	EPA 3550	EPA 3550
Analyst:	B. Pitamah	B. Pitamah	B. Pitamah	B. Pitamah
MS/MSD #:	9605F09-01	9605F09-01	9605F09-01	9605F09-01
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	5/23/96	5/23/96	5/23/96	5/23/96
Analyzed Date:	5/24/96	5/24/96	5/24/96	5/24/96
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	3300 ug/kg	3300 ug/kg	3300 ug/kg	3300 ug/kg
Result:	2900	2800	3100	2700
MS % Recovery:	88	85	94	82
Dup. Result:	2900	2900	3100	2600
MSD % Recov.:	88	88	94	79
RPD:	0.0	3.5	0.0	3.8
RPD Limit:	0-25	0-24	0-29	0-40

LCS #:	SB0523SA	SB0523SA	SB0523SA	SB0523SA
Prepared Date:	5/23/96	5/23/96	5/23/96	5/23/96
Analyzed Date:	5/24/96	5/24/96	5/24/96	5/24/96
Instrument I.D.#:	H5	H5	H5	H5
Conc. Spiked:	3300 ug/kg	3300 ug/kg	3300 ug/kg	3300 ug/kg
LCS Result:	2800	2800	2800	2500
LCS % Recov.:	85	85	85	76

MS/MSD LCS Control Limits	38-107	26-103	31-137	11-114

SEQUOIA ANALYTICAL

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Weiss & Associates	Client Project ID:	Shell 1800 Powell St.	
5500 Shellmound	Matrix:	Solid	
Emeryville, CA 94608			
Attention: Yi-Ran Wu	Work Order #:	9605H09 -02	Reported: Jun 21, 1996

QUALITY CONTROL DATA REPORT

Analyte:	2,4-Dinitro-toluene	Pentachloro-phenol	Pyrene
QC Batch#:	MS0523968270EXA	MS0523968270EXA	MS0523968270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3550	EPA 3550	EPA 3550
Analyst:	B. Pitamah	B. Pitamah	B. Pitamah
MS/MSD #:	9605F09-01	9605F09-01	9605F09-01
Sample Conc.:	N.D.	N.D.	N.D.
Prepared Date:	5/23/96	5/23/96	5/23/96
Analyzed Date:	5/24/96	5/24/96	5/24/96
Instrument I.D.#:	H5	H5	H5
Conc. Spiked:	3300 ug/kg	3300 ug/kg	3300 ug/kg
Result:	2800	2300	3600
MS % Recovery:	85	70	109
Dup. Result:	2700	2000	3600
MSD % Recov.:	82	61	109
RPD:	3.6	14	0.0
RPD Limit:	0-31	0-43	0-25

LCS #:	SB0523SA	SB0523SA	SB0523SA
Prepared Date:	5/23/96	5/23/96	5/23/96
Analyzed Date:	5/24/96	5/24/96	5/24/96
Instrument I.D.#:	H5	H5	H5
Conc. Spiked:	3300 ug/kg	3300 ug/kg	3300 ug/kg
LCS Result:	2700	1600	3100
LCS % Recov.:	82	48	94

MS/MSD LCS Control Limits	28-89	17-109	35-142

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SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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Emeryville, CA 94608			
Attention: Yi-Ran Wu	Work Order #:	9605H09 -02	Reported: Jun 21, 1996

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chloro-benzene
QC Batch#:	MS0529968240EXA	MS0529968240EXA	MS0529968240EXA	MS0529968240EXA	MS0529968240EXA
Analy. Method:	EPA 8240	EPA 8240	EPA 8240	EPA 8240	EPA 8240
Prep. Method:	N.A.	N.A.	N.A.	N.A.	N.A.
Analyst:	L. Duong	L. Duong	L. Duong	L. Duong	L. Duong
MS/MSD #:	9605H09-02	9605H09-02	9605H09-02	9605H09-02	9605H09-02
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	5/29/96	5/29/96	5/29/96	5/29/96	5/29/96
Analyzed Date:	5/29/96	5/29/96	5/29/96	5/29/96	5/29/96
Instrument I.D.#:	MS-F2	MS-F2	MS-F2	MS-F2	MS-F2
Conc. Spiked:	2500 ug/kg	2500 ug/kg	2500 ug/kg	2500 ug/kg	2500 ug/kg
Result:	2300	2200	2600	2700	2600
MS % Recovery:	92	88	104	108	104
Dup. Result:	2300	2200	2400	2500	2400
MSD % Recov.:	92	88	96	100	96
RPD:	0.0	0.0	8.0	7.7	8.0
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	VB052996MS	VB052996MS	VB052996MS	VB052996MS	VB052996MS
Prepared Date:	5/29/96	5/29/96	5/29/96	5/29/96	5/29/96
Analyzed Date:	5/29/96	5/29/96	5/29/96	5/29/96	5/29/96
Instrument I.D.#:	MS-F2	MS-F2	MS-F2	MS-F2	MS-F2
Conc. Spiked:	2500 ug/kg	2500 ug/kg	2500 ug/kg	2500 ug/kg	2500 ug/kg
LCS Result:	2700	2600	2800	2700	2700
LCS % Recov.:	108	104	108	104	104
MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	65-135	70-130	70-130	70-130	70-130
Control Limits					

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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Weiss & Associates	Client Project ID:	Shell 1800 Powell St.	
5500 Shellmound	Matrix:	Solid	
Emeryville, CA 94608			
Attention: Yi-Ran Wu	Work Order #:	9605H09 -03, 04	Reported: Jun 21, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Diesel
QC Batch#:	GC052896OHBPEXB
Analy. Method:	EPA 8015 M
Prep. Method:	EPA 3550

Analyst:	J. Minkel
MS/MSD #:	9605D18-02
Sample Conc.:	1.0
Prepared Date:	5/28/96
Analyzed Date:	5/29/96
Instrument I.D.#:	GCHP4A
Conc. Spiked:	25 mg/kg
Result:	28
MS % Recovery:	108
Dup. Result:	23
MSD % Recov.:	88
RPD:	20
RPD Limit:	0-50

LCS #:	BLK052896C
Prepared Date:	5/28/96
Analyzed Date:	5/28/96
Instrument I.D.#:	GCHP4A
Conc. Spiked:	25 mg/kg
LCS Result:	27
LCS % Recov.:	108

MS/MSD LCS Control Limits	50-150

SEQUOIA ANALYTICAL

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Weiss & Associates	Client Project ID:	Shell 1800 Powell St.	
5500 Shellmound	Matrix:	Solid	
Emeryville, CA 94608			
Attention: Yi-Ran Wu	Work Order #:	9605H09 -07	Reported: Jun 21, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Diesel
QC Batch#:	GC0529960HBPEXA
Analy. Method:	EPA 8015 M
Prep. Method:	EPA 3550
Analyst:	B. Ali
MS/MSD #:	9605H24-01
Sample Conc.:	2.1
Prepared Date:	5/29/96
Analyzed Date:	5/30/96
Instrument I.D.#:	GCHP5A
Conc. Spiked:	25 mg/kg
Result:	27
MS % Recovery:	100
Dup. Result:	27
MSD % Recov.:	100
RPD:	0.0
RPD Limit:	0-50

LCS #:	BLK052996S
Prepared Date:	5/29/96
Analyzed Date:	5/30/96
Instrument I.D.#:	GCHP5A
Conc. Spiked:	25 mg/kg
LCS Result:	21
LCS % Recov.:	84

MS/MSD LCS Control Limits	50-150

SEQUOIA ANALYTICAL

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5500 Shellmound	Matrix:	Solid	
Emeryville, CA 94608			
Attention: Yi-Ran Wu	Work Order #:	9605H09 -03, 04	Reported: Jun 21, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Total Recoverable Pet. Hydrocarbons
QC Batch#:	OP052996SM5520EXA
Analy. Method:	SM 5520 EF Mod
Prep. Method:	EPA 3550

Analyst:	C. Alcayde
MS/MSD #:	9605F45-15
Sample Conc.:	N.D.
Prepared Date:	5/29/96
Analyzed Date:	5/30/96
Instrument I.D.#:	MANUAL
Conc. Spiked:	500 mg/kg
Result:	390
MS % Recovery:	78
Dup. Result:	370
MSD % Recov.:	74
RPD:	5.4
RPD Limit:	0-50

LCS #:	BLK052996
Prepared Date:	5/29/96
Analyzed Date:	5/30/96
Instrument I.D.#:	MANUAL
Conc. Spiked:	500 mg/kg
LCS Result:	380
LCS % Recov.:	76

MS/MSD	60-140
LCS	70-110
Control Limits	

SEQUOIA ANALYTICAL

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5500 Shellmound	Matrix:	Solid	
Emeryville, CA 94608			
Attention: Yi-Ran Wu	Work Order #:	9605H09 -07	Reported: Jun 21, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Total Recoverable Pet. Hydrocarbons
QC Batch#:	OP053096SM5520EXA
Analy. Method:	SM 5520 EF Mod
Prep. Method:	EPA 3550

Analyst:	C. Alcayde
MS/MSD #:	9605C35-01
Sample Conc.:	150
Prepared Date:	5/30/96
Analyzed Date:	5/31/96
Instrument I.D.#:	MANUAL
Conc. Spiked:	500 mg/kg
Result:	300
MS % Recovery:	30
Dup. Result:	410
MSD % Recov.:	52
RPD:	3.1
RPD Limit:	0-50

LCS #:	BLK053096
Prepared Date:	5/30/96
Analyzed Date:	5/31/96
Instrument I.D.#:	MANUAL
Conc. Spiked:	500 mg/kg
LCS Result:	370
LCS % Recov.:	74

MS/MSD	60-140
LCS	70-110
Control Limits	

SEQUOIA ANALYTICAL

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Attention: Yi-Ran Wu	Work Order #:	9605H09 -02	Reported: Jun 21, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME0529966010MDE	ME0529966010MDE	ME0529966010MDE	ME0529966010MDE
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3050	EPA 3050	EPA 3050	EPA 3050
Analyst:	C. Medefesser	C. Medefesser	C. Medefesser	C. Medefesser
MS/MSD #:	9605H24-01	9605H24-01	9605H24-01	9605H24-01
Sample Conc.:	N.D.	N.D.	27	14
Prepared Date:	5/29/96	5/29/96	5/29/96	5/29/96
Analyzed Date:	5/30/96	5/30/96	5/30/96	5/30/96
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/kg	100 mg/kg	100 mg/kg	100 mg/kg
Result:	99	100	130	110
MS % Recovery:	99	100	103	96
Dup. Result:	100	100	130	110
MSD % Recov.:	100	100	103	96
RPD:	1.0	0.0	0.0	0.0
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	BLK052996MS	BLK052996MS	BLK052996MS	BLK052996MS
Prepared Date:	5/29/96	5/29/96	5/29/96	5/29/96
Analyzed Date:	5/30/96	5/30/96	5/30/96	5/30/96
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/kg	100 mg/kg	100 mg/kg	100 mg/kg
LCS Result:	98	100	100	100
LCS % Recov.:	98	100	100	100
MS/MSD LCS Control Limits	80-120	80-120	80-120	80-120

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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Weiss & Associates	Client Project ID:	Shell 1800 Powell St.	
5500 Shellmound	Matrix:	Solid	
Emeryville, CA 94608			
Attention: Yi-Ran Wu	Work Order #:	9605H09 -02	Reported: Jun 21, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Mercury
QC Batch#:	ME052996471M4A
Analy. Method:	EPA 7471
Prep. Method:	EPA 7471

Analyst:	T. Hua
MS/MSD #:	9605H09-02A
Sample Conc.:	0.079
Prepared Date:	5/29/96
Analyzed Date:	5/30/96
Instrument I.D.#:	MPE4
Conc. Spiked:	0.40 mg/kg
Result:	0.50
MS % Recovery:	105
Dup. Result:	0.48
MSD % Recov.:	100
RPD:	4.1
RPD Limit:	0-30

LCS #:	BLK052996B
Prepared Date:	5/29/96
Analyzed Date:	5/29/96
Instrument I.D.#:	MPE4
Conc. Spiked:	0.40 mg/kg
LCS Result:	0.35
LCS % Recov.:	88

MS/MSD LCS Control Limits	75-115

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Weiss Associates
5500 Shellmound
Emeryville, CA 94608
Attention: Yi-Ran Wu

Project: Shell 1800 Powell, Emeryville

Enclosed are the results from samples received at Sequoia Analytical on May 22, 1996. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9605E85 -01	SOLID, B3-6.5	05/20/96	TPHGBS Purgeable TPH/BTEX
9605E85 -02	SOLID, B3-10.5	05/20/96	TRPH (SM 5520 E&F Mod.)
9605E85 -02	SOLID, B3-10.5	05/20/96	TPHFFS Fuel Fingerprint
9605E85 -02	SOLID, B3-10.5	05/20/96	TPHGBS Purgeable TPH/BTEX
9605E85 -04	SOLID, B4-6.5	05/20/96	TPHGBS Purgeable TPH/BTEX
9605E85 -05	SOLID, B5-3	05/20/96	TPHGBS Purgeable TPH/BTEX
9605E85 -06	SOLID, B6-3.5	05/20/96	TPHGBS Purgeable TPH/BTEX
9605E85 -07	SOLID, B6-6.5	05/20/96	TPHGBS Purgeable TPH/BTEX
9605E85 -08	SOLID, B6-11	05/20/96	TRPH (SM 5520 E&F Mod.)
9605E85 -08	SOLID, B6-11	05/20/96	TPHFFS Fuel Fingerprint
9605E85 -08	SOLID, B6-11	05/20/96	TPHGBS Purgeable TPH/BTEX

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Sequoia Analytical

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Weiss Associates
5500 Shellmound
Emeryville, CA 94608

Attention: Yi-Ran Wu

Client Proj. ID: Shell 1800 Powell, Emeryville

Lab Proj. ID: 9605E85

Sampled: 05/20/96
Received: 05/22/96
Analyzed: see below

Reported: 06/04/96

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9605E85-02 Sample Desc : **SOLID,B3-10.5**				
TRPH (SM 5520 E&F Mod.)	**mg/Kg**	**05/30/96**	**50**	**82**
Lab No: 9605E85-08 Sample Desc : **SOLID,B6-11**				
TRPH (SM 5520 E&F Mod.)	**mg/Kg**	**05/30/96**	**50**	**380**

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Weiss Associates	Client Proj. ID: Shell 1800 Powell, Emeryville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B3-6.5	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: 8015Mod/8020	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605E85-01	Reported: 06/04/96

QC Batch Number: GC052996BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	91

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Weiss Associates	Client Proj. ID: Shell 1800 Powell, Emeryville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B3-10.5	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: EPA 8015 Mod	Analyzed: 05/30/96
Attention: Yi-Ran Wu	Lab Number: 9605E85-02	Reported: 06/04/96

QC Batch Number: GC0529960HBPEXA
Instrument ID: GCHP5A

Fuel Fingerprint

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Extractable Hydrocarbons Chromatogram Pattern:	**1.0**	**31 C9-C40**

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	109

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

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Project Manager

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Weiss Associates	Client Proj. ID: Shell 1800 Powell, Emeryville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B3-10.5	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: 8015Mod/8020	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605E85-02	Reported: 06/04/96

QC Batch Number: GC052996BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	89

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Weiss Associates	Client Proj. ID: Shell 1800 Powell, Emeryville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B4-6.5	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: 8015Mod/8020	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605E85-04	Reported: 06/04/96

QC Batch Number: GC052996BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	93

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Weiss Associates	Client Proj. ID: Shell 1800 Powell, Emeryville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B5-3	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: 8015Mod/8020	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605E85-05	Reported: 06/04/96

QC Batch Number: GC052996BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	**0.0050**	**0.0054**
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	92

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Weiss Associates	Client Proj. ID: Shell 1800 Powell, Emeryville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B6-3.5	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: 8015Mod/8020	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605E85-06	Reported: 06/04/96

QC Batch Number: GC052996BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	92

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Weiss Associates	Client Proj. ID: Shell 1800 Powell, Emeryville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B6-6.5	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: 8015Mod/8020	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605E85-07	Reported: 06/04/96

QC Batch Number: GC052996BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	93

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Weiss Associates	Client Proj. ID: Shell 1800 Powell, Emeryville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B6-11	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: EPA 8015 Mod	Analyzed: 05/30/96
Attention: Yi-Ran Wu	Lab Number: 9605E85-08	Reported: 06/04/96

QC Batch Number: GC0529960HBPEXA
Instrument ID: GCHP5A

Fuel Fingerprint

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
Extractable Hydrocarbons Chromatogram Pattern:	**1.0**	**40 C9-C40**

Surrogates	Control Limits %		% Recovery
n-Pentacosane (C25)	50	150	101

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Weiss Associates	Client Proj. ID: Shell 1800 Powell, Emeryville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B6-11	Received: 05/22/96
Emeryville, CA 94608	Matrix: SOLID	Extracted: 05/29/96
	Analysis Method: 8015Mod/8020	Analyzed: 05/29/96
Attention: Yi-Ran Wu	Lab Number: 9605E85-08	Reported: 06/04/96

QC Batch Number: GC052996BTEXEXA
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	89

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

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Weiss Associates	Client Proj. ID: Shell 1800 Powell, Emeryville	Received: 05/22/96
5500 Shellmound		
Emeryville, CA 94608	Lab Proj. ID: 9605E85	Reported: 06/04/96
Attention: Yi-Ran Wu		

LABORATORY NARRATIVE

DIESEL: Both samples contains heavy oil.

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Sequoia Analytical

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Weiss & Associates	Client Project ID:	Shell 1800 Powell, Emeryville	
5500 Shellmound	Matrix:	Solid	
Emeryville, CA 94608			
Attention: Yi-Ran Wu	Work Order #:	9605E85 01, 02, 04-08	Reported: Jun 4, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC052996BTEXEXA	GC052996BTEXEXA	GC052996BTEXEXA	GC052996BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	E. Cunanan	E. Cunanan	E. Cunanan	E. Cunanan
MS/MSD #:	9605C38-03	9605C38-03	9605C38-03	9605C38-03
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	5/29/96	5/29/96	5/29/96	5/29/96
Analyzed Date:	5/29/96	5/29/96	5/29/96	5/29/96
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/kg	0.20 mg/kg	0.20 mg/kg	0.60 mg/kg
Result:	0.16	0.16	0.16	0.48
MS % Recovery:	80	80	80	80
Dup. Result:	0.16	0.16	0.16	0.50
MSD % Recov.:	80	80	80	83
RPD:	0.0	0.0	0.0	4.1
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	GBLK052996BSA	GBLK052996BSA	BLK052996BSA	GBLK052996BSA
Prepared Date:	5/29/96	5/29/96	5/29/96	5/29/96
Analyzed Date:	5/29/96	5/29/96	5/29/96	5/29/96
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/kg	0.20 mg/kg	0.20 mg/kg	0.60 mg/kg
LCS Result:	0.19	0.19	0.19	0.56
LCS % Recov.:	95	95	95	93
MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

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Weiss & Associates	Client Project ID:	Shell 1800 Powell, Emeryville	
5500 Shellmound	Matrix:	Solid	
Emeryville, CA 94608			
Attention: Yi-Ran Wu	Work Order #:	9605E85 -02, 08	Reported: Jun 4, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Diesel	Total Recoverable Petroleum Hydro.
QC Batch#:	GC052996OHBPEXA	OP052996SM5520EXA
Analy. Method:	EPA 8015 M	SM 5520 EF Mod
Prep. Method:	EPA 3550	EPA 3550
Analyst:	B. Ali	C. Alcayde
MS/MSD #:	9605H24-01	9605F45-15
Sample Conc.:	2.1	N.D.
Prepared Date:	5/29/96	5/29/96
Analyzed Date:	5/30/96	5/30/96
Instrument I.D.#:	GCHP5A	MANUAL
Conc. Spiked:	25 mg/kg	500 mg/kg
Result:	27	390
MS % Recovery:	100	78
Dup. Result:	27	370
MSD % Recov.:	100	74
RPD:	0.0	5.4
RPD Limit:	0-50	0-50

LCS #:	BLK052996S	BLK052996
Prepared Date:	5/29/96	5/29/96
Analyzed Date:	5/30/96	5/30/96
Instrument I.D.#:	GCHP5A	MANUAL
Conc. Spiked:	25 mg/kg	500 mg/kg
LCS Result:	21	380
LCS % Recov.:	84	76

MS/MSD	60-140	60-140
LCS	50-150	70-110
Control Limits		

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

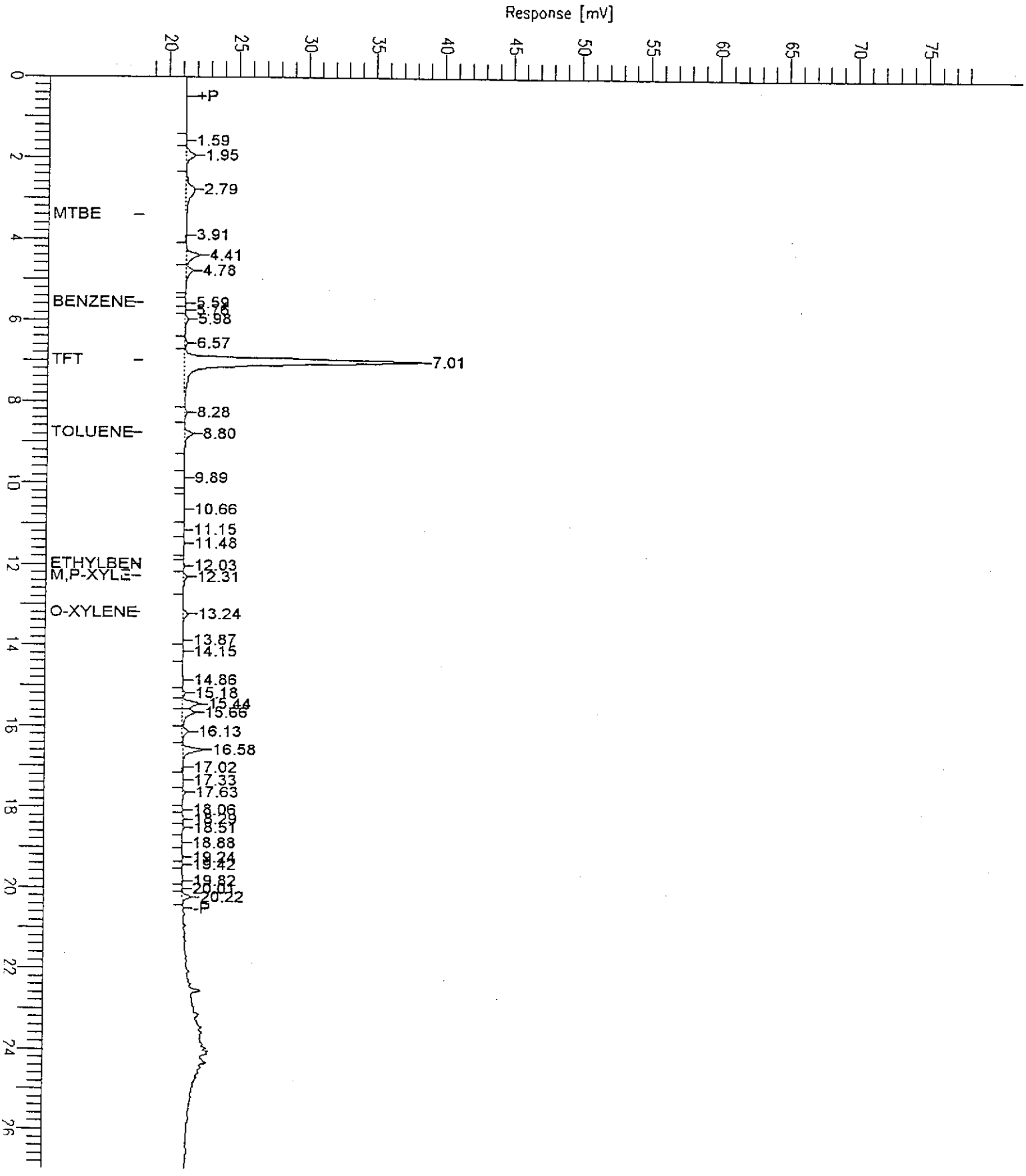
Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Chromatogram

mple Name : GS9605E85-01
leName : S:\GHP_18\0602\529B018.raw
thod : TPH
art Time : 0.00 min End Time : 26.99 min
ale Factor: -1.0 Plot Offset: 18 mV

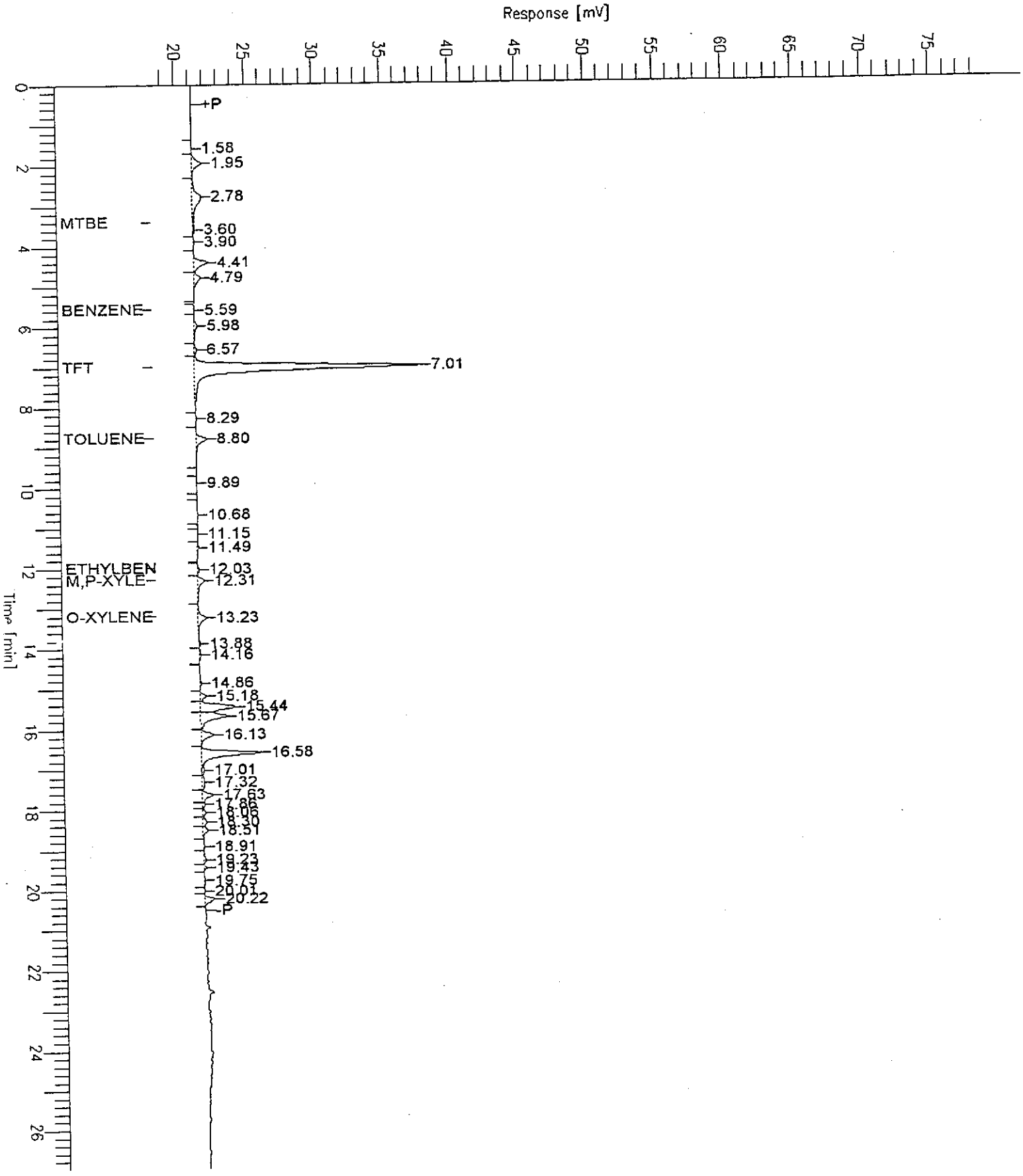
Sample #: B3-6.5
Date : 5/29/96 21:57
Time of Injection: 5/29/96 21:29
Low Point : 18.20 mV High Point : 78.20 mV
Plot Scale: 60.0 mV



Chromatogram

mple Name : GS9605E85-02
leName : S:\GHP_18\0602\529B019.raw
thod : TPH
art Time : 0.00 min End Time : 26.99 min
ale Factor: -1.0 Plot Offset: 18 mV

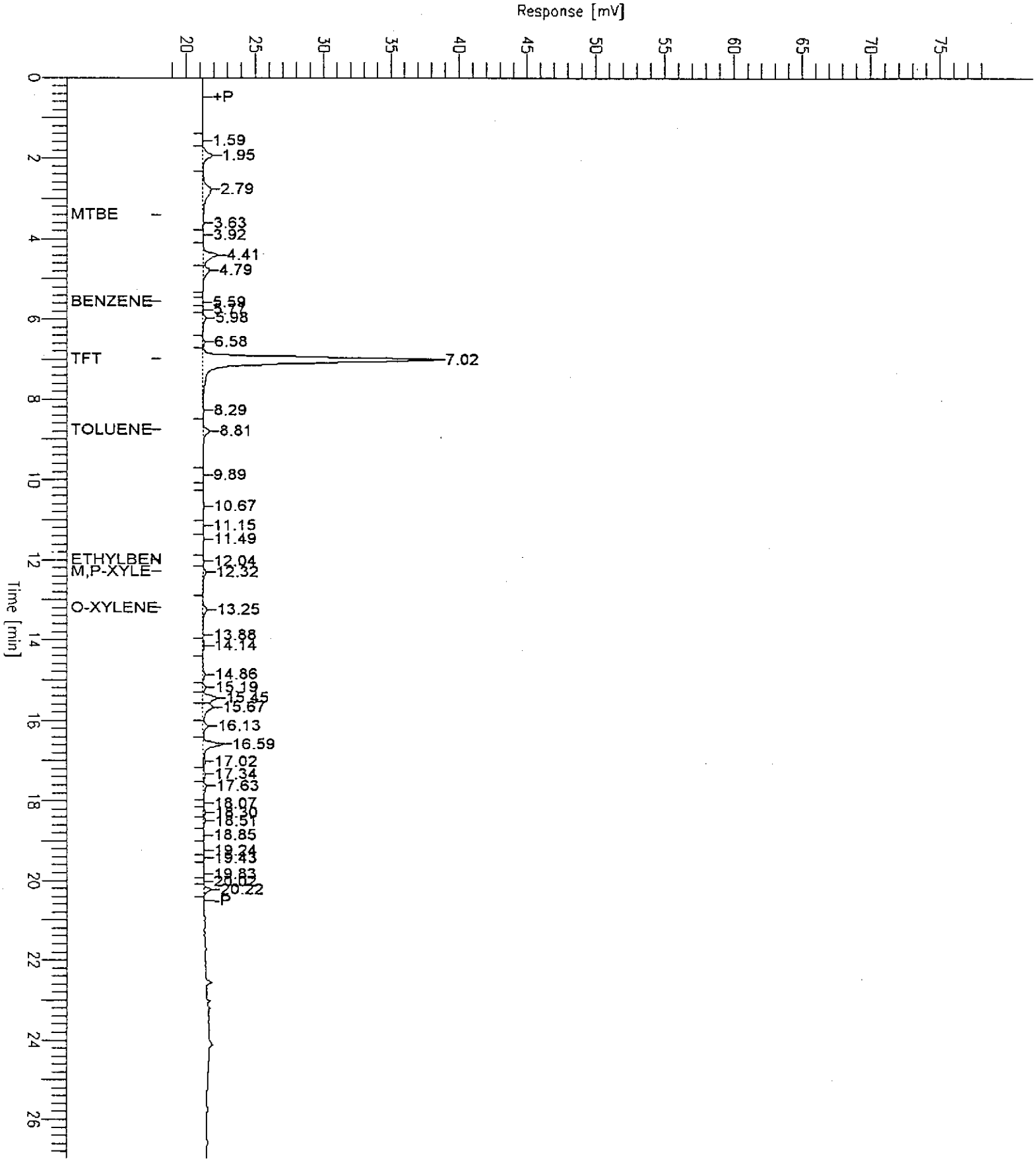
Sample #: B3-10.5 Page 1 of 1
Date : 5/29/96 22:32
Time of Injection: 5/29/96 22:05
Low Point : 18.23 mV High Point : 78.23 mV
Plot Scale: 60.0 mV



Chromatogram

Sample Name : GS9605E85-04
FileName : S:\GHP_18\0602\529B020.raw
Method : TPH
Start Time : 0.00 min End Time : 26.99 min
Scale Factor: -1.0 Plot Offset: 18 mV

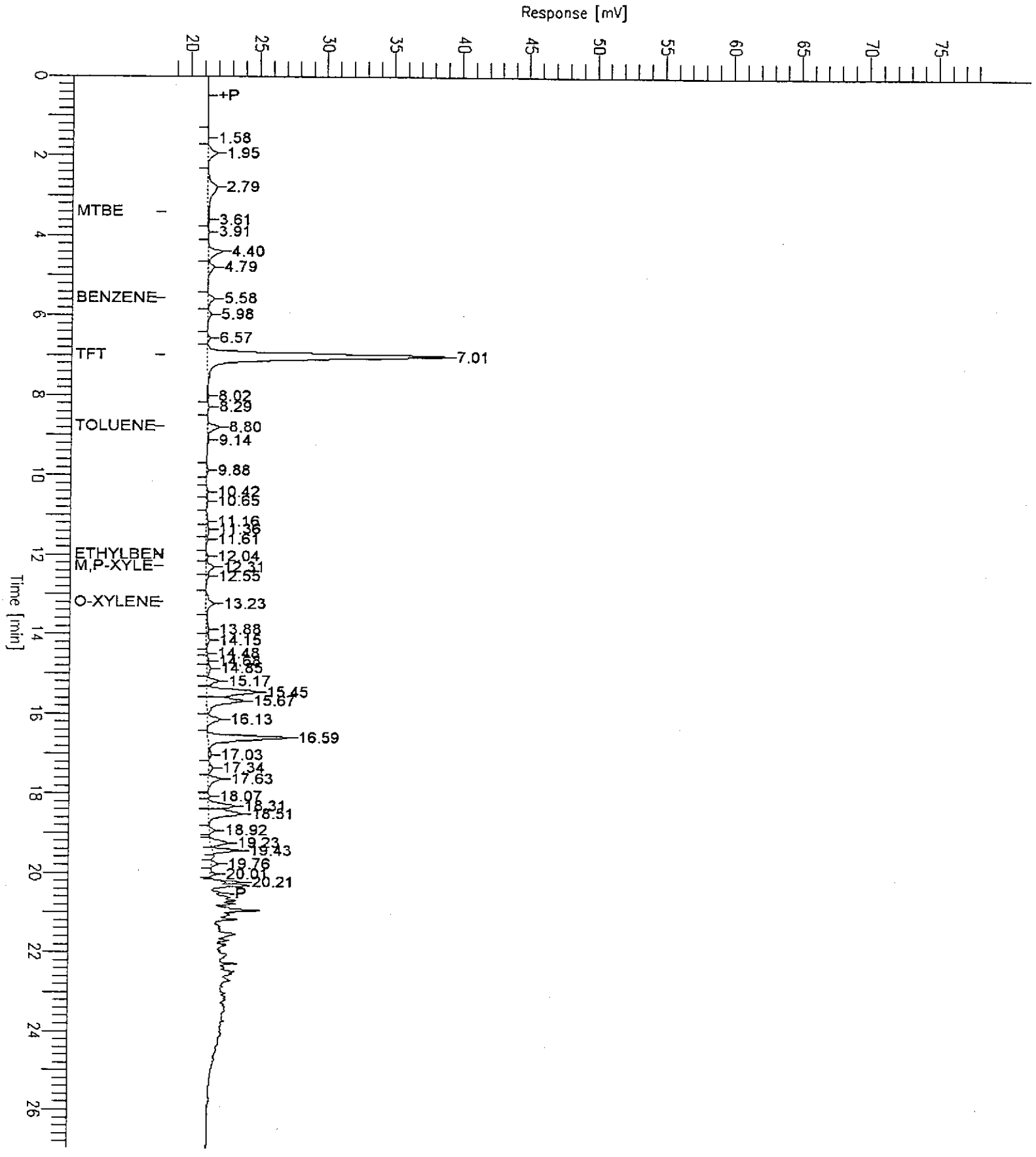
Sample #: B4-6.5 Page 1 of 1
Date : 5/29/96 23:08
Time of Injection: 5/29/96 22:40
Low Point : 18.22 mV High Point : 78.22 mV
Plot Scale: 60.0 mV



Chromatogram

Sample Name : GS9605E85-05
FileName : S:\GHP_18\0602\529B021.raw
Method : TPH
Start Time : 0.00 min End Time : 26.99 min
Scale Factor: -1.0 Plot Offset: 18 mV

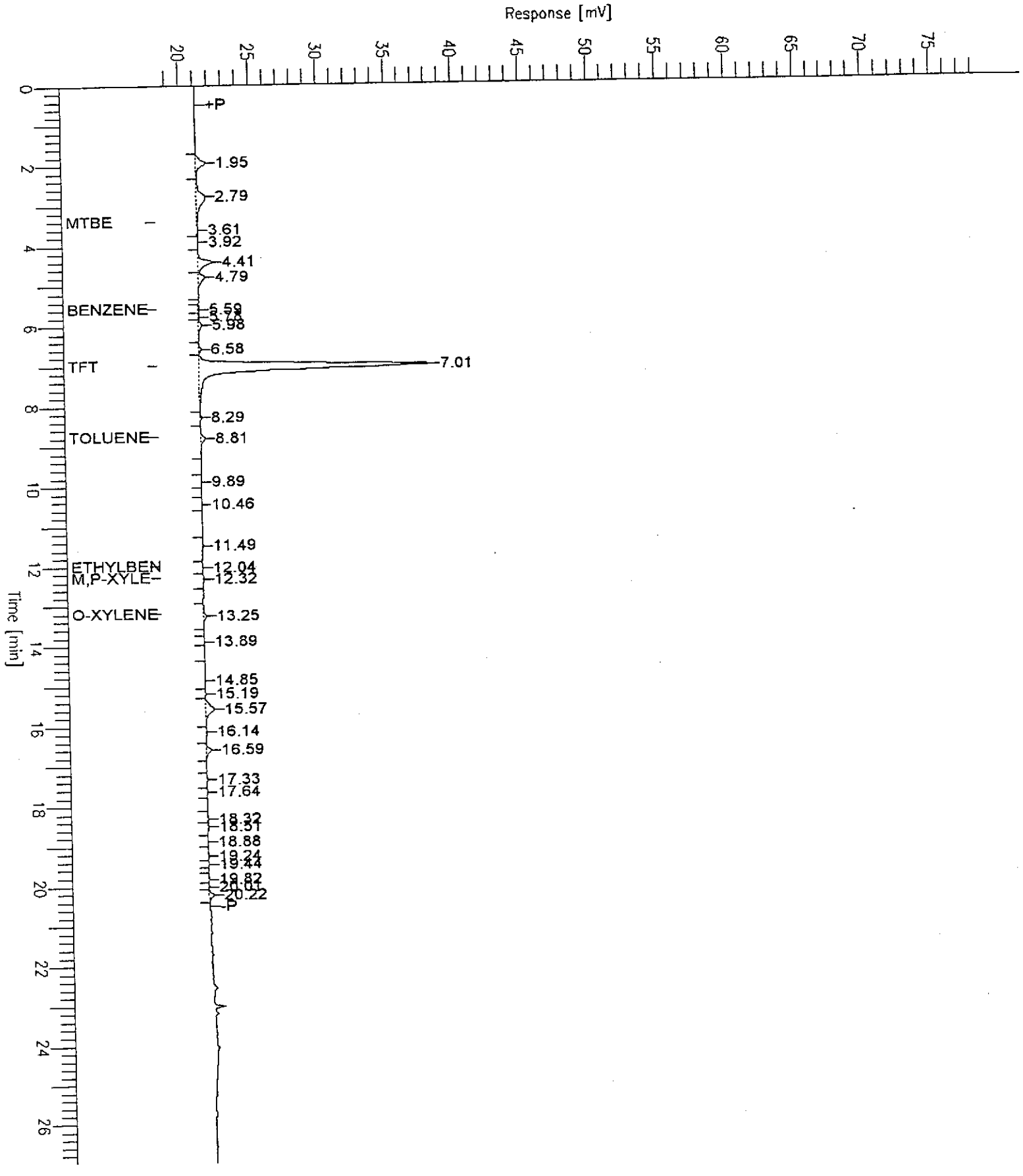
Sample #: B5-3
Date : 5/29/96 23:43
Time of Injection: 5/29/96 23:15
Low Point : 18.21 mV High Point : 78.21 mV
Plot Scale: 60.0 mV



Chromatogram

ample Name : GS9605E85-06
ileName : S:\GHP_18\0602\529B022.raw
ethod : TPH
tart Time : 0.00 min End Time : 26.99 min
cale Factor: -1.0 Plot Offset: 18 mV

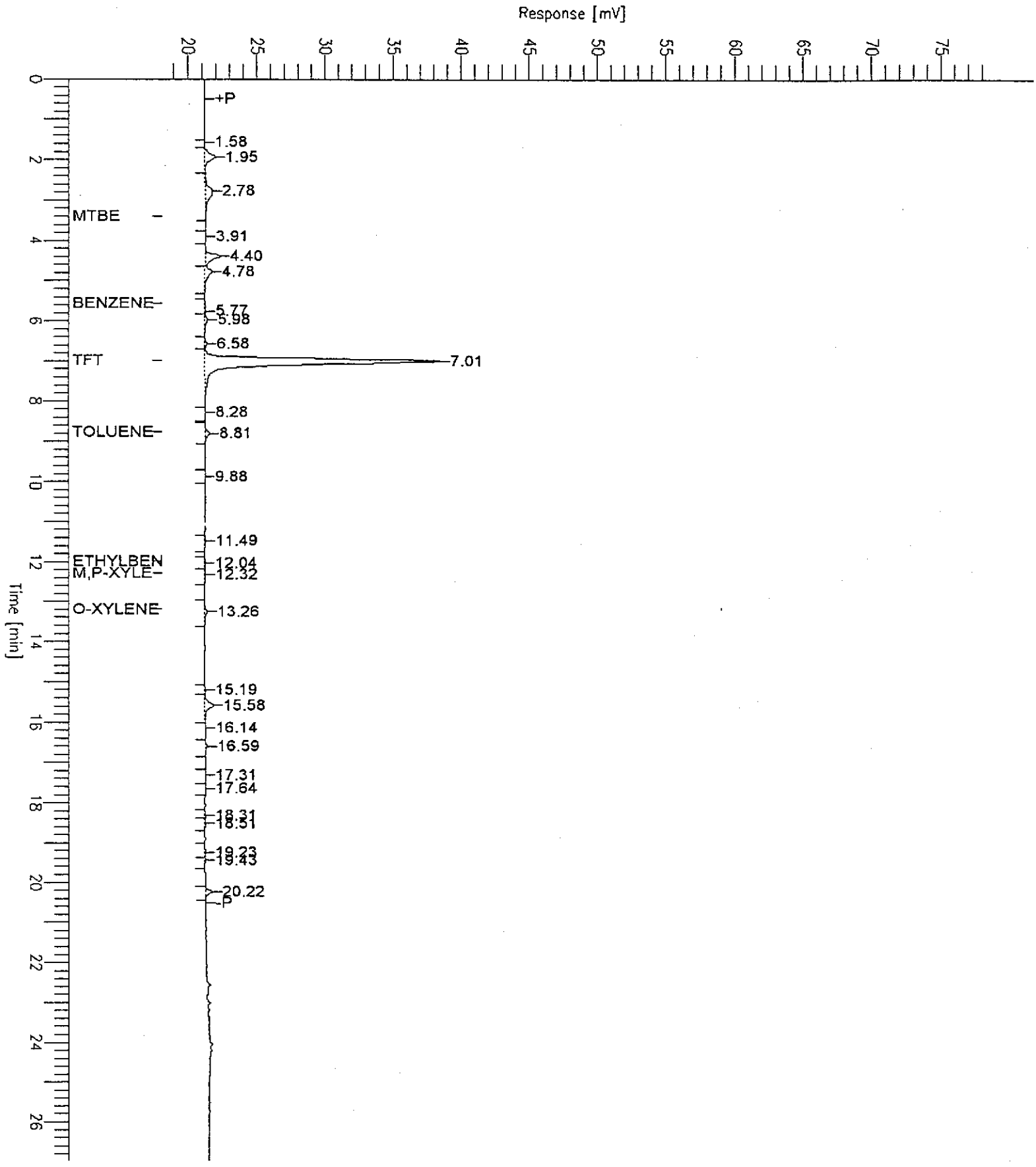
Sample #: B6-3.5 Page 1 of 1
Date : 5/30/96 00:19
Time of Injection: 5/29/96 23:51
Low Point : 18.21 mV High Point : 78.21 mV
Plot Scale: 60.0 mV



Chromatogram

Sample Name : GS9605E85-07
FileName : S:\GHP_18\0602\529B023.raw
Method : TPH
Start Time : 0.00 min End Time : 26.99 min
Scale Factor: -1.0 Plot Offset: 18 mV

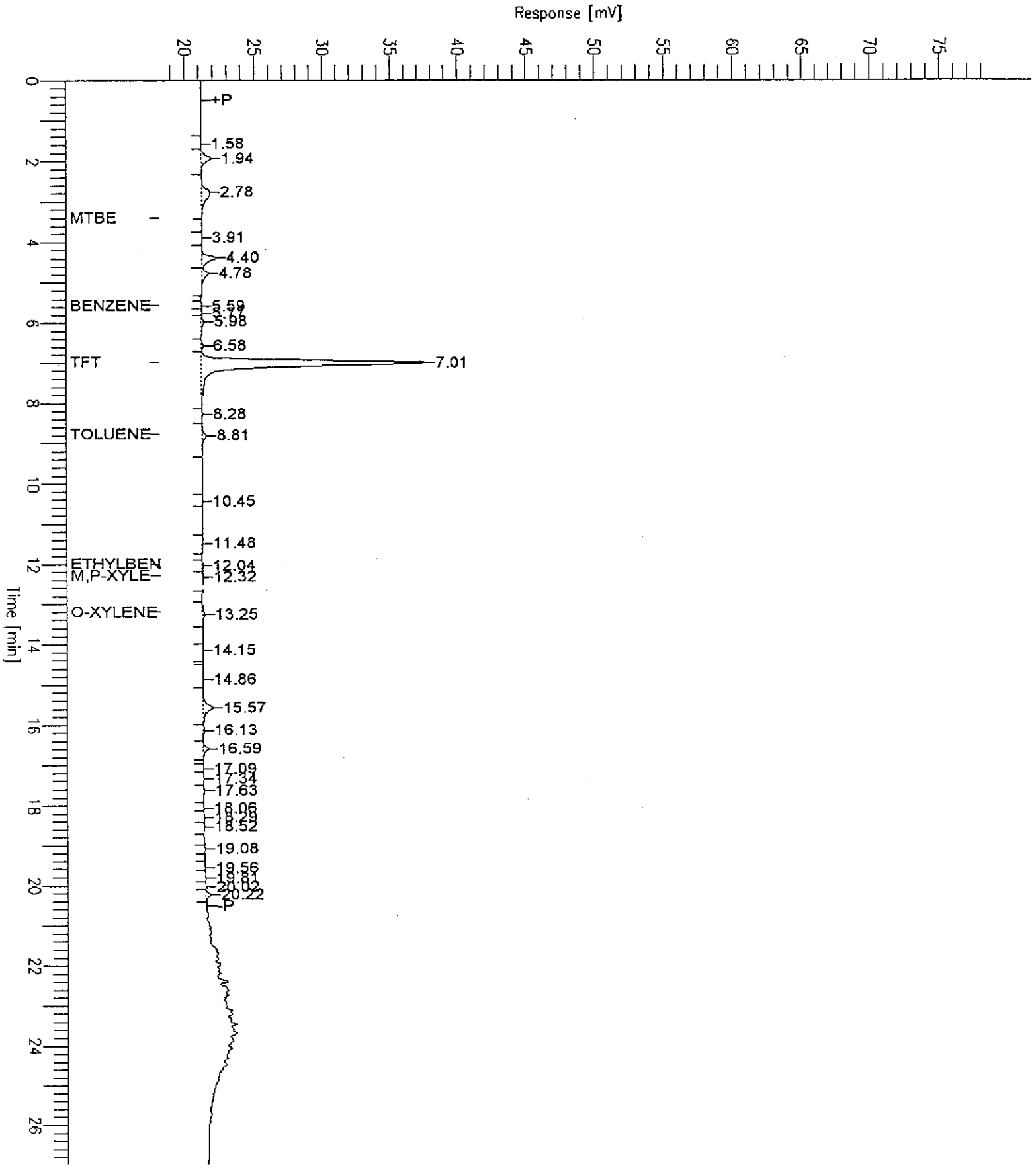
Sample #: B6-6.5 Page 1 of 1
Date : 5/30/96 00:55
Time of Injection: 5/30/96 00:26
Low Point : 18.21 mV High Point : 78.21 mV
Plot Scale: 60.0 mV



Chromatogram

Sample Name : GS9605E85-08
FileName : S:\GHP_18\0602\529B024.raw
Method : TPH
Start Time : 0.00 min End Time : 26.99 min
Scale Factor: -1.0 Plot Offset: 18 mV

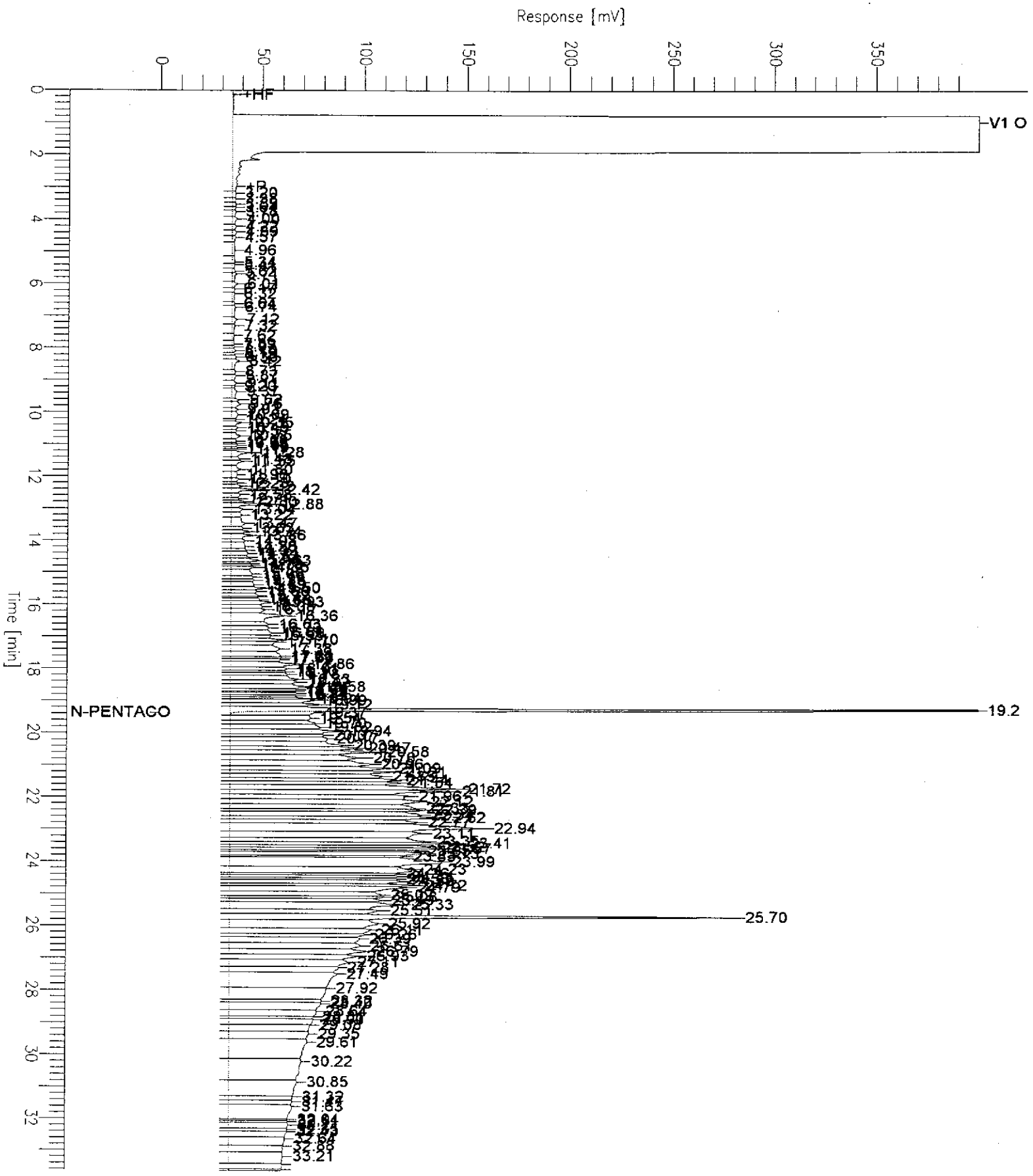
Sample #: B6-11 Page 1 of 1
Date : 5/30/96 01:30
Time of Injection: 5/30/96 01:02
Low Point : 18.21 mV High Point : 78.21 mV
Plot Scale: 60.0 mV



Chromatogram

Sample Name : DS9605E85-2 (20:1)
FileName : S:\GHP_05\0602\530A012.raw
Method : TPH05A
Start Time : 0.00 min End Time : 33.65 min
Scale Factor: 0.0 Plot Offset: 0 mV

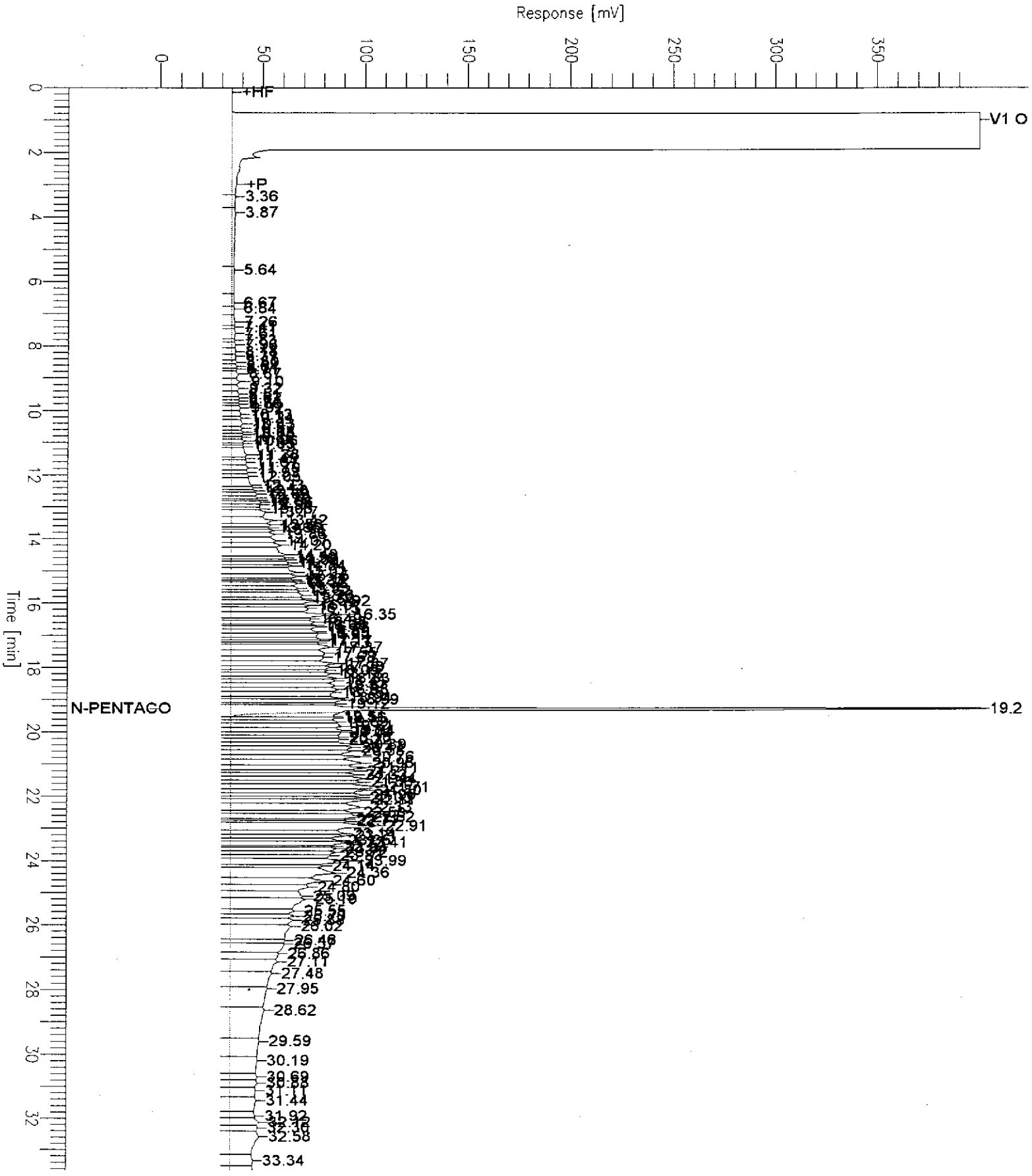
Sample #: B3-10.5 Page 1 of 1
Date : 6/3/96 09:10
Time of Injection: 5/30/96 15:24
Low Point : 0.00 mV High Point : 400.00 mV
Plot Scale: 400.0 mV



Chromatogram

Sample Name : DS9605E85-8 (20:1)
FileName : S:\GHP_05\0602\530A011.raw
Method : TPH05A
Start Time : 0.00 min End Time : 33.65 min
Scale Factor: 0.0 Plot Offset: 0 mV

Sample #: B6-11 Page 1 of 1
Date : 6/3/96 09:10
Time of Injection: 5/30/96 14:42
Low Point : 0.00 mV High Point : 400.00 mV
Plot Scale: 400.0 mV



Sequoia Analytical

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Weiss Associates
5500 Shellmound
Emeryville, CA 94608

Attention: Yi-Ran Wu

Client Proj. ID: Shell 1800 Powell St.

Lab Proj. ID: 9605H09

Sampled: 05/20/96
Received: 05/22/96
Analyzed: see below

Reported: 06/07/96

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9605H09-03 Sample Desc : **SOLID,B1-13.0**				
TRPH (SM 5520 E&F Mod.)	**mg/Kg**	**05/30/96**	**50**	**67**
Lab No: 9605H09-04 Sample Desc : **SOLID,B1-15.0**				
TRPH (SM 5520 E&F Mod.)	**mg/Kg**	**05/30/96**	**50**	**1100**
Lab No: 9605H09-07 Sample Desc : **SOLID,B2-11.0**				
TRPH (SM 5520 E&F Mod.)	**mg/Kg**	**05/31/96**	**50**	**1500**

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

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Weiss Associates
5500 Shellmound
Emeryville, CA 94608
Attention: Jeff Granberry

Project: Shell 81-0794-01/Everyville

Enclosed are the results from samples received at Sequoia Analytical on May 22, 1996. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9605E72 -01	LIQUID, B1-GW	05/20/96	8240 Volatile Organic Co
9605E72 -01	LIQUID, B1-GW	05/20/96	TPGBMW Purgeable TPH/BTEX
9605E72 -02	LIQUID, B2-GW	05/20/96	8240 Volatile Organic Co
9605E72 -02	LIQUID, B2-GW	05/20/96	TPGBMW Purgeable TPH/BTEX
9605E72 -03	LIQUID, B6-GW	05/20/96	8240 Volatile Organic Co
9605E72 -03	LIQUID, B6-GW	05/20/96	TPGBMW Purgeable TPH/BTEX

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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Weiss Associates	Client Proj. ID: Shell 81-0794-01/Everyville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B1-GW	Received: 05/22/96
Emeryville, CA 94608	Matrix: LIQUID	
	Analysis Method: EPA 8240	Analyzed: 05/28/96
Attention: Jeff Granberry	Lab Number: 9605E72-01	Reported: 05/30/96

QC Batch Number: MS0528968240F3A
Instrument ID: F3

Volatile Organics (EPA 8240)

Analyte	Detection Limit ug/L	Sample Results ug/L
Acetone	**10**	**14**
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
Dibromochloromethane	2.0	N.D.
1,1-Dichloroethane	2.0	N.D.
1,2-Dichloroethane	2.0	N.D.
1,1-Dichloroethene	2.0	N.D.
cis-1,2-Dichloroethene	2.0	N.D.
trans-1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis-1,3-Dichloropropene	2.0	N.D.
trans-1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	5.0	N.D.
Vinyl chloride	2.0	N.D.

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Weiss Associates	Client Proj. ID: Shell 81-0794-01/Everyville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B1-GW	Received: 05/22/96
Emeryville, CA 94608	Matrix: LIQUID	
	Analysis Method: EPA 8240	Analyzed: 05/28/96
Attention: Jeff Granberry	Lab Number: 9605E72-01	Reported: 05/30/96

QC Batch Number: MS0528968240F3A
Instrument ID: F3

Analyte	Detection Limit ug/L	Sample Results ug/L
Total Xylenes	2.0	N.D.

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	101
Toluene-d8	88	110	100
4-Bromofluorobenzene	86	115	99

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

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Weiss Associates	Client Proj. ID: Shell 81-0794-01/Everyville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B1-GW	Received: 05/22/96
Emeryville, CA 94608	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/24/96
Attention: Jeff Granberry	Lab Number: 9605E72-01	Reported: 05/30/96

QC Batch Number: GC052496BTEX17B
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	94

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
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Weiss Associates	Client Proj. ID: Shell 81-0794-01/Everyville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B2-GW	Received: 05/22/96
Emeryville, CA 94608	Matrix: LIQUID	
	Analysis Method: EPA 8240	Analyzed: 05/28/96
Attention: Jeff Granberry	Lab Number: 9605E72-02	Reported: 05/30/96

QC Batch Number: MS0528968240F3A
Instrument ID: F3

Volatile Organics (EPA 8240)

Analyte	Detection Limit ug/L	Sample Results ug/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
Dibromochloromethane	2.0	N.D.
1,1-Dichloroethane	2.0	N.D.
1,2-Dichloroethane	2.0	N.D.
1,1-Dichloroethene	2.0	N.D.
cis-1,2-Dichloroethene	2.0	N.D.
trans-1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis-1,3-Dichloropropene	2.0	N.D.
trans-1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	5.0	N.D.
Vinyl chloride	2.0	N.D.

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Weiss Associates	Client Proj. ID: Shell 81-0794-01/Everyville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B2-GW	Received: 05/22/96
Emeryville, CA 94608	Matrix: LIQUID	
	Analysis Method: EPA 8240	Analyzed: 05/28/96
Attention: Jeff Granberry	Lab Number: 9605E72-02	Reported: 05/30/96

QC Batch Number: MS0528968240F3A
Instrument ID: F3

Analyte	Detection Limit ug/L	Sample Results ug/L
Total Xylenes	2.0	N.D.

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	102
Toluene-d8	88	110	99
4-Bromofluorobenzene	86	115	103

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
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Weiss Associates	Client Proj. ID: Shell 81-0794-01/Everyville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B2-GW	Received: 05/22/96
Emeryville, CA 94608	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/24/96
Attention: Jeff Granberry	Lab Number: 9605E72-02	Reported: 05/30/96

QC Batch Number: GC052496BTEX03A
Instrument ID: GCHP3

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	99

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

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Weiss Associates	Client Proj. ID: Shell 81-0794-01/Everyville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B6-GW	Received: 05/22/96
Emeryville, CA 94608	Matrix: LIQUID	
	Analysis Method: EPA 8240	Analyzed: 05/28/96
Attention: Jeff Granberry	Lab Number: 9605E72-03	Reported: 05/30/96

QC Batch Number: MS0528968240F3A
Instrument ID: F3

Volatile Organics (EPA 8240)

Analyte	Detection Limit ug/L	Sample Results ug/L
Acetone	10	N.D.
Benzene	2.0	N.D.
Bromodichloromethane	2.0	N.D.
Bromoform	2.0	N.D.
Bromomethane	2.0	N.D.
2-Butanone	10	N.D.
Carbon disulfide	2.0	N.D.
Carbon tetrachloride	2.0	N.D.
Chlorobenzene	2.0	N.D.
Chloroethane	2.0	N.D.
2-Chloroethyl vinyl ether	10	N.D.
Chloroform	2.0	N.D.
Chloromethane	2.0	N.D.
Dibromochloromethane	2.0	N.D.
1,1-Dichloroethane	2.0	N.D.
1,2-Dichloroethane	2.0	N.D.
1,1-Dichloroethene	2.0	N.D.
cis-1,2-Dichloroethene	2.0	N.D.
trans-1,2-Dichloroethene	2.0	N.D.
1,2-Dichloropropane	2.0	N.D.
cis-1,3-Dichloropropene	2.0	N.D.
trans-1,3-Dichloropropene	2.0	N.D.
Ethylbenzene	2.0	N.D.
2-Hexanone	10	N.D.
Methylene chloride	5.0	N.D.
4-Methyl-2-pentanone	10	N.D.
Styrene	2.0	N.D.
1,1,2,2-Tetrachloroethane	2.0	N.D.
Tetrachloroethene	2.0	N.D.
Toluene	2.0	N.D.
1,1,1-Trichloroethane	2.0	N.D.
1,1,2-Trichloroethane	2.0	N.D.
Trichloroethene	2.0	N.D.
Trichlorofluoromethane	2.0	N.D.
Vinyl acetate	5.0	N.D.
Vinyl chloride	2.0	N.D.

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Weiss Associates	Client Proj. ID: Shell 81-0794-01/Everyville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B6-GW	Received: 05/22/96
Emeryville, CA 94608	Matrix: LIQUID	
	Analysis Method: EPA 8240	Analyzed: 05/28/96
Attention: Jeff Granberry	Lab Number: 9605E72-03	Reported: 05/30/96

QC Batch Number: MS0528968240F3A
Instrument ID: F3

Analyte	Detection Limit ug/L	Sample Results ug/L
Total Xylenes	2.0	N.D.

Surrogates	Control Limits %		% Recovery
1,2-Dichloroethane-d4	76	114	101
Toluene-d8	88	110	100
4-Bromofluorobenzene	86	115	101

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

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Weiss Associates	Client Proj. ID: Shell 81-0794-01/Everyville	Sampled: 05/20/96
5500 Shellmound	Sample Descript: B6-GW	Received: 05/22/96
Emeryville, CA 94608	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 05/24/96
Attention: Jeff Granberry	Lab Number: 9605E72-03	Reported: 05/30/96

QC Batch Number: GC052496BTEX03A
Instrument ID: GHCP3

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	97

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Weiss & Associates	Client Project ID:	Shell 81-0794-01/Everyville	
5500 Shellmound	Matrix:	Liquid	
Emeryville, CA 94608			
Attention: Jeff Granberry	Work Order #:	9605E72 -01	Reported: May 31, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC052496BTEX17B	GC052496BTEX17B	GC052496BTEX17B	GC052496BTEX17B
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	G9605C37-02B	G9605C37-02B	G9605C37-02B	G9605C37-02B
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	5/24/96	5/24/96	5/24/96	5/24/96
Analyzed Date:	5/24/96	5/24/96	5/24/96	5/24/96
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	10	10	10	31
MS % Recovery:	100	100	100	103
Dup. Result:	10	10	10	31
MSD % Recov.:	100	100	100	103
RPD:	0.0	0.0	0.0	0.0
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	GBLK052496B	GBLK052496B	GBLK052496B	GBLK052496B
Prepared Date:	5/24/96	5/24/96	5/24/96	5/24/96
Analyzed Date:	5/24/96	5/24/96	5/24/96	5/24/96
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
LCS Result:	10	10	10	31
LCS % Recov.:	100	100	100	103
MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Weiss & Associates	Client Project ID:	Shell 81-0794-01/Everyville	
5500 Shellmound	Matrix:	Liquid	
Emeryville, CA 94608			
Attention: Jeff Granberry	Work Order #:	9605E72 -02 -03	Reported: May 31, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC052496BTEX03A	GC052496BTEX03A	GC052496BTEX03A	GC052496BTEX03A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Woo	J. Woo	J. Woo	J. Woo
MS/MSD #:	G9605978-02G	G9605978-02G	G9605978-02G	G9605978-02G
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	5/24/96	5/24/96	5/24/96	5/24/96
Analyzed Date:	5/24/96	5/24/96	5/24/96	5/24/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	9.7	9.6	9.5	28
MS % Recovery:	97	96	95	93
Dup. Result:	9.9	9.9	9.8	29
MSD % Recov.:	99	99	98	97
RPD:	2.0	3.1	3.1	3.5
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	GBLK052496A	GBLK052496A	GBLK052496A	GBLK052496A
Prepared Date:	5/24/96	5/24/96	5/24/96	5/24/96
Analyzed Date:	5/24/96	5/24/96	5/24/96	5/24/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
LCS Result:	10	9.9	9.8	30
LCS % Recov.:	100	99	98	100
MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:
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** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Weiss & Associates
5500 Shellmound
Emeryville, CA 94608
Attention: Jeff Granberry

Client Project ID: Shell 81-0794-01/Everyville
Matrix: Liquid
Work Order #: 9605E72 -01 -03

Reported: May 31, 1996

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloroethene	Trichloroethene	Benzene	Toluene	Chloro-benzene
QC Batch#:	MS0528968240F3A	MS0528968240F3A	MS0528968240F3A	MS0528968240F3A	MS0528968240F3A
Analy. Method:	EPA 8240	EPA 8240	EPA 8240	EPA 8240	EPA 8240
Prep. Method:	N.A.	N.A.	N.A.	N.A.	N.A.
Analyst:	L.Duong	L.Duong	L.Duong	L.Duong	L.Duong
MS/MSD #:	9605E72-01	9605E72-01	9605E72-01	9605E72-01	9605E72-01
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	5/28/96	5/28/96	5/28/96	5/28/96	5/28/96
Analyzed Date:	5/28/96	5/28/96	5/28/96	5/28/96	5/28/96
Instrument I.D.#:	F3	F3	F3	F3	F3
Conc. Spiked:	50 ug/L	50 ug/L	50 ug/L	50 ug/L	50 ug/L
Result:	48	51	52	51	50
MS % Recovery:	96	102	104	102	100
Dup. Result:	49	50	53	50	51
MSD % Recov.:	98	100	106	100	102
RPD:	2.1	2.0	2.0	2.0	2.0
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BB052896MS	BB052896MS	BB052896MS	BB052896MS	BB052896MS
Prepared Date:	5/28/96	5/28/96	5/28/96	5/28/96	5/28/96
Analyzed Date:	5/28/96	5/28/96	5/28/96	5/28/96	5/28/96
Instrument I.D.#:	F3	F3	F3	F3	F3
Conc. Spiked:	50 ug/L	50 ug/L	50 ug/L	50 ug/L	50 ug/L
LCS Result:	48	49	50	49	50
LCS % Recov.:	96	98	100	98	100
MS/MSD	60-140	60-140	60-140	60-140	60-140
LCS	65-135	70-130	70-130	70-130	70-130
Control Limits					

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

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SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 960514109

Date: 5/20/96
Page 1 of 1

Site Address: 1800 Powell St, Emeryville CA

WIC#: 204-2495-0101

Shell Engineer: Jeff Granberry — Phone No.: (510) 675-6168 Fax #: 675-6172

Consultant Name & Address: WEISS ASSOCIATES 5500 SHELLMOUND ST EMERYVILLE CA 94608

Consultant Contact: WA JOB #B1-0794-01 — Phone No.: (510) 450-6000 Fax #: 547-5043

Comments:

Sampled by: Yi-Ran Wu

Printed Name: Yi-Ran Wu

LAB: Sequoia

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND TIME
G.W. Monitoring	4461	24 hours
Site Investigation	X 4441	48 hours
Soil Classify/Disposal	4442	15 days X (Normal)
Water Classify/Disposal	4443	Other
Soil/Air Rem. or Sys. O & M	4452	NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.
Water Rem. or Sys. O & M	4453	
Other		

UST AGENCY: ALAMEDA CO DEPT OF ENV HEALTH

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas) TPH-GAS	TPH (EPA 8015 Mod. Diesel) FUEL FINGERPRINT (C9-C40)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	~~Test for Disposal~~ PCBs & Pesticides (8080)	Combination TPH 8015 & BTEX 8020	PETROLEUM OIL & GREASE (5520)	SEMI-VOCs (8270)	~~Asbestos~~ CAM 17 METALS	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
1 B1-2.0	5/20		X			1	X		X							N/A	N	N	SOIL-GAS	GOOD
2 B1-7.0							X		X	X	X			X	X					
B1-10.0																				Hold per Yi-Ran Wu 5/23/96 MG
3 B1-13.0							X	X	X				X							
4 B1-15.0							X	X DISCARD	X	Yi-Ran MG			X							
5 B2-2.0							X		X											
6 B2-7.5							X		X											
7 B2-11.0 B3-3.5							X	X	X				X							Hold per Yi-Ran Wu

Relinquished By (signature)	Printed Name	Date / Time	Received (signature)	Printed Name	Date / Time
	Anni Kreml	Date: 5/22/96 Time: 1125		Will VanSlambrook	Date: 5/22/96 Time: 1123
	Will VanSlambrook	Date: 5-22-96 Time: 1301			Date: Time:
		Date: Time:		M. Biederman	Date: 5-22-96 Time: 1306

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

Rev. 1/12/93 — Shell Oil Chn. of Custody

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date: 5/20/96
Page 1 of 1

Site Address: 1800 Powell St Emeryville, CA

WIC#: 1-204-2495-0101

Shell Engineer: Jeff Granberry — Phone No.: (510) 675-6168 Fax #: 675-6172

Consultant Name & Address: WEISS ASSOCIATES 5500 SHELLMOUND ST EMERYVILLE CA 94608

Consultant Contact: WA JOB # 81-0794-01 — Phone No.: (510) 450-6000 Fax #: 547-5043

Comments:

Sampled by: Yi-Ran Wu

Printed Name: Yi-Ran Wu

LAB: Sequoia

Analysis Required

CHECK ONE (1) BOX ONLY | CT/DT | TURN AROUND TIME

- G.W. Monitoring ☐ 4461
- Site Investigation ☒ 4441
- Soil Classify/Disposal ☐ 4442
- Water Classify/Disposal ☐ 4443
- Soil/Air Rem. or Sys. O & M ☐ 4452
- Water Rem. or Sys. O & M ☐ 4453
- Other ☐

TURN AROUND TIME: 24 hours ☐ | 48 hours ☐ | 15 days ☒ (Normal) | Other ☐ ____

NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.

UST AGENCY: ALAMEDA CO DEPT OF ENV HEALTH

	Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 ~~Mod. Diesel~~ FUEL FINGERPRINT (C9-C44))	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	PETROLEUM OIL & GREASE (5520)	9605E85	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
01	B3-6.5	5/20		X			1	X		X							N/A	N	N	SOIL-GAS	GOOD
02	B3-10.5							X	X	X				X							
03	B4-4																			9605E85	Hold per Yi-Ran Wu 5/23/96 mc
04	B4-6.5							X		X											
05	B5-3							X		X											
06	B6-3.5							X		X											
07	B6-6.5							X		X											
08	B6-11							X	X	X				X							

Relinquished By (signature):	Printed Name: ANNI KREML	Date: 5/22/96 Time: 1125	Received (signature):	Printed Name: NEIL VAN SLAMBROOK	Date: 5/22/96 Time: 1125
Relinquished By (signature):	Printed Name: NEIL VAN SLAMBROOK	Date: 5/22/96 Time: 1300	Received (signature):	Printed Name:	Date: Time:
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature):	Printed Name: M. Biederman	Date: 5-22-96 Time: 1300

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

Rev. 7/12/93 — Shell Oil Chn. of Custody

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date: 5/20/96
Page 1 of 1

Site Address: 1800 Powell St., Emeryville, CA

WIC#: 204-2495-0101

Shell Engineer: Jeff Granberry — Phone No.: — Fax #:

Consultant Name & Address: WEISS ASSOCIATES
5500 SHELLMOUND ST EMERYVILLE CA 94608

Consultant Contact: WA JOB # 81-0794-01 — Phone No.: (510) 450-6000 Fax #: 547-5043

Comments:

Sampled by: Yi-Ran Wu

Printed Name: Yi-Ran Wu

LAB: SEQUOIA

UST AGENCY: ALAMEDA CO OF ENV HEALTH

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND TIME
G.W. Monitoring	☐ 4461	24 hours ☐
Site Investigation	☒ 4441	48 hours ☐
Soil Classify/Disposal	☐ 4442	15 days ☒ (Normal)
Water Classify/Disposal	☐ 4443	Other ☐ ____
Soil/Air Rem. or Sys. O & M	☐ 4452	NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.
Water Rem. or Sys. O & M	☐ 4453	
Other	☐	

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 ~~Mod. Gas~~)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020 + MTBE	PETROLEUM OIL & GREASE (5520)	SEMI - VOCs	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
B1-GW	5/20	01		1		3				X		X				N/A	N	N	WATER-GAS	GOOD
B2-GW	↓	02		↓		↓				↓		↓				↓	↓	↓	↓	↓
B6-GW	↓	03		↓		↓				↓		↓				↓	↓	↓	↓	↓
																			9605E72	

Relinquished By (signature):	Printed Name: ANNI KREML	Date: 5/22/96 Time: 1125	Received (signature):	Printed Name: Neil VanSlambrook	Date: 5/22/96 Time: 1125
Relinquished By (signature):	Printed Name: Neil VAN SLAMBROOK	Date: 5/22/96 Time: 1900	Received (signature):	Printed Name:	Date: Time:
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature):	Printed Name: M. Biederman	Date: 5-22-96 Time: 1300

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

Rev. 1/12/93 — Shell Oil Chain of Custody