BP OIL

BP Oil Company
Environmental Resources Management
Building 13, Suite N
295 SW 41st Street
Renton, Washington 98055-4931
(206) 251-0667
Fax No: (206) 251-0736

July 11, 1996

If no sensitive receptors, but high TPH-g & benzene, but risk < 10^{-4} when is closure possible.

Ms Eva Chu
Alameda County Health Care Services Agency
1131 Harbour Bay Parkway Room 250
Oakland, CA 94502-6577

RE: BP OIL FACILITY #11104
1716 Webster Street
Alameda, CA

Dear Ms Chu:

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT DATED April 12, 1996** for the above referenced facility. Plans for the following quarter include additional groundwater monitoring. All monitoring wells were sampled during this event and the samples were analyzed for total dissolved solids. Groundwater monitoring Wells MW-2 through MW-5 will subsequently be sampled semi-annually.

The groundwater monitoring data for the Chevron Service Station, 1802 Webster Street, are not available at this time.

If you should have any questions regarding this site, I may be reached at (206) 251-0689.

Respectfully,

Scott T. Hooton
Environmental Resources Management
Corrective Action Manager

STH:sb mswordERM11104

cc: Mr. Eddy So, CRWQCB, San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, CA 94612

Mr. Larry Silva, TOSCO Northwest Co., 601 Union Street, Suite 2500, Seattle, WA 98101

Mr. Brady Nagle, Alisto, 1777 Oakland Blvd., Suite 200, Walnut Creek, CA 94596

Site File

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11104
1716 Webster Street
Alameda, California

Project No. 10-155-05-003

Prepared for:

BP Oil Company
Environmental Resources Management
295 S.W. 41st Street
Building 13, Suite N
Renton, Washington

Prepared by:

Alisto Engineering Group
1575 Treat Boulevard, Suite 201
Walnut Creek, California

April 12, 1996

Dale Swain
Project Manager

Al Sevilla, P.E.
Principal

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11104
1716 Webster Street
Alameda, California

Project No. 10-155-05-003

April 12, 1996

INTRODUCTION

This report presents the results and findings of the February 27, 1996 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11104, 1716 Webster Street, Alameda, California. A site vicinity map is shown on Figure 1.

FIELD PROCEDURES

Field activities were performed in accordance with the procedures and guidelines of the Alameda County Health Care Services Agency and the California Regional Water Quality Control Board, San Francisco Bay Region.

Before purging and sampling, the groundwater level in each well was measured from a permanent mark on top of the casing to the nearest 0.01 foot using an electronic sounder. The depth to groundwater and top of casing elevation data were used to calculate the groundwater elevation in each well in reference to mean sea level. The survey data and groundwater elevation measurements collected to date are presented in Table 1.

Before sample collection, each well was purged of 3 casing volumes, while recording field readings of pH, temperature, electrical conductivity, and dissolved oxygen. Groundwater samples were collected for laboratory analysis by lowering a bottom-fill, disposable bailer to just below the water level in the well. The samples were transferred from the bailer into laboratory-supplied containers. The water sampling field survey forms are presented in Appendix A.

SAMPLING AND ANALYTICAL RESULTS

The results of monitoring and laboratory analysis of the groundwater samples for this and previous quarters are summarized in Table 1. The potentiometric groundwater elevations as interpreted from the results of this monitoring event are shown on Figure 2. The results of groundwater analysis are shown on Figure 3. The laboratory report and chain of custody record are presented in Appendix B.

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11104
1716 WEBSTER STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-155

WELL ID		DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	TDS (mg/l)	DO (ppm)	LAB
MW-1		07/21/92	11.98	5.91	6.07	34000	7000	1700	2500	6900	---	---	---	---
MW-1		10/20/92	11.98	6.66	5.32	---	---	---	---	---	---	---	---	---
MW-1		03/05/93	11.98	4.56	7.42	---	---	---	---	---	---	---	---	---
MW-1		04/01/93	11.98	4.57	7.41	---	---	---	---	---	---	---	---	---
MW-1		07/09/93	11.98	5.25	6.73	77000	15000	1400	2100	7400	---	---	---	PACE
MW-1	(c)	07/09/93	11.98	---	---	79000	16000	1500	2200	7700	---	---	---	PACE
MW-1		10/08/93	11.98	6.01	5.97	42000	7100	270	2700	4700	---	---	---	PACE
MW-1		01/06/94	11.98	6.24	5.74	45000	12000	4300	3000	6700	---	---	---	PACE
MW-1		04/26/94	11.98	5.26	6.72	39000	6500	500	1800	1200	---	---	6.3	PACE
MW-1		07/25/94	11.98	5.60	6.38	38000	6300	240	1500	1100	---	---	1.7	PACE
MW-1		10/13/94	11.98	6.15	5.83	25000	6300	130	1300	830	---	---	2.3	PACE
MW-1	(c)	10/13/94	11.98	---	---	25000	7300	120	1200	740	---	---	---	PACE
MW-1		01/17/95	11.98	4.19	7.79	7800	3100	1100	460	850	---	---	7.9	ATI
MW-1	(c)	01/17/95	11.98	---	---	8400	3100	1200	470	1000	---	---	---	ATI
MW-1		03/31/95	11.98	4.48	7.50	37000	6700	6900	1200	4500	---	---	6.4	ATI
MW-1	(c)	03/31/95	11.98	---	---	40000	6900	7300	1300	5000	---	---	---	ATI
MW-1		05/01/95	11.98	4.39	7.59	---	---	---	---	---	---	---	---	---
MW-1		07/12/95	11.98	5.02	6.96	29000	7000	300	1500	3900	---	---	7.2	ATI
QC-1	(c)	07/12/95	---	---	---	29000	6600	380	1500	3900	---	---	---	ATI
MW-1		10/12/95	11.98	5.68	6.30	20000	3400	310	1100	3000	15000	---	6.3	ATI
QC-1	(c)	10/12/95	---	---	---	20000	3500	310	1100	3000	14000	---	---	ATI
MW-1		02/27/96	11.98	4.18	7.80	18000	4400	2900	860	2380	5500	472	7.9	SPL
MW-2		07/21/92	12.98	6.44	6.54	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---
MW-2		10/20/92	12.98	7.39	5.59	---	---	---	---	---	---	---	---	---
MW-2		03/05/93	12.98	4.91	8.07	---	---	---	---	---	---	---	---	---
MW-2		04/01/93	12.98	4.92	8.06	---	---	---	---	---	---	---	---	---
MW-2		07/09/93	12.98	5.60	7.38	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-2		10/08/93	12.98	6.50	6.48	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-1	(c)	10/08/93	12.98	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-2		01/06/94	12.98	6.25	6.73	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-2		04/26/94	12.98	5.73	7.25	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	7.5	PACE
MW-2		07/25/94	12.98	6.07	6.91	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	2.4	PACE
MW-2		10/13/94	12.98	6.80	6.18	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	2.4	PACE
MW-2		01/17/95	12.98	5.10	7.88	---	---	---	---	---	---	---	---	---
MW-2		03/31/95	12.98	4.69	8.29	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	7.3	ATI
MW-2		05/01/95	12.98	5.23	7.75	---	---	---	---	---	---	---	---	---
MW-2		07/12/95	12.98	5.40	7.58	---	---	---	---	---	---	---	---	---
MW-2		10/12/95	12.98	6.06	6.92	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	6.9	ATI
MW-2		02/27/96	12.98	4.66	8.32	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	412	8.7	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11104
1716 WEBSTER STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-155

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	TDS (mg/l)	DO (ppm)	LAB
MW-3 (d)	07/21/92	13.38	7.07	6.31	ND<50	0.95	ND<0.5	ND<0.5	ND<0.5	---	---	---	---
MW-3	10/20/92	13.38	8.06	5.32	---	---	---	---	---	---	---	---	---
MW-3	03/05/93	13.38	5.16	8.22	---	---	---	---	---	---	---	---	---
MW-3	04/01/93	13.38	5.25	8.13	---	---	---	---	---	---	---	---	---
MW-3	07/09/93	13.38	5.80	7.58	ND<50	0.6	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-3	10/08/93	13.38	7.17	6.21	ND<50	0.6	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-3	01/06/94	13.38	6.94	6.44	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-3	04/26/94	13.38	6.18	7.20	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	3.1	PACE
MW-3	07/25/94	13.38	6.67	6.71	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	2.2	PACE
MW-3	10/13/94	13.38	7.43	5.95	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	2.1	PACE
MW-3	01/17/95	13.38	5.07	8.31	---	---	---	---	---	---	---	---	---
MW-3	03/31/95	13.38	4.03	9.35	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	6.6	ATI
MW-3	05/01/95	13.38	4.94	8.44	---	---	---	---	---	---	---	---	---
MW-3	07/12/95	13.38	5.80	7.58	---	---	---	---	---	---	---	---	---
MW-3	10/12/95	13.38	6.64	6.74	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	6.4	ATI
MW-3	02/27/96	13.38	4.75	8.63	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	316	8.5	SPL
MW-4	03/05/93	11.80	4.81	6.99	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---
MW-4	04/01/93	11.80	4.80	7.00	---	---	---	---	---	---	---	---	---
MW-4	07/09/93	11.80	5.54	6.26	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-4	10/08/93	11.80	5.28	5.52	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-4	01/06/94	11.80	5.82	5.98	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-4	04/26/94	11.80	5.50	6.30	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	7.4	PACE
MW-4	07/25/94	11.80	5.83	5.97	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	7.2	PACE
MW-4	10/13/94	11.80	6.26	5.54	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	6.7	PACE
MW-4	01/17/95	11.80	4.19	7.61	---	---	---	---	---	---	---	---	---
MW-4	03/31/95	11.80	3.96	7.84	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	7.1	ATI
MW-4	05/01/95	11.80	4.49	7.31	---	---	---	---	---	---	---	---	---
MW-4	07/12/95	11.80	5.16	6.64	---	---	---	---	---	---	---	---	---
MW-4	10/12/95	11.80	5.80	6.00	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	6.9	ATI
MW-4	02/27/96	11.80	4.22	7.58	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	256	8.9	SPL
MW-5	04/01/93	11.62	4.77	6.85	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---
MW-5	07/09/93	11.62	5.40	6.22	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-5	10/08/93	11.62	5.87	5.75	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-5	01/06/94	11.62	5.75	5.87	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-5	04/26/94	11.62	5.49	6.13	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	7.1	PACE
MW-5	07/25/94	11.62	5.69	5.93	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	6.6	PACE
MW-5	10/13/94	11.62	6.03	5.59	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	3.0	PACE
MW-5	01/17/95	11.62	4.74	6.88	---	---	---	---	---	---	---	---	---
MW-5	03/31/95	11.62	4.58	7.04	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	7.1	ATI
MW-5	05/01/95	11.62	4.79	6.83	---	---	---	---	---	---	---	---	---
MW-5	07/12/95	11.62	5.32	6.30	---	---	---	---	---	---	---	---	---
MW-5	10/12/95	11.62	5.70	5.92	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	6.7	ATI
MW-5 (e)	02/27/96	11.62	---	---	---	---	---	---	---	---	---	---	---

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11104
1716 WEBSTER STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-155

WELL ID		DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	TDS (mg/l)	DO (ppm)	LAB
RW-1		01/06/94	11.84	5.59	6.25	23000	3800	210	840	2100	—	—	—	PACE
QC-1	(c)	01/06/94	—	—	—	24000	3700	210	830	2000	—	—	—	PACE
RW-1		04/26/94	11.84	5.21	6.63	24000	3500	120	800	1700	—	—	6.4	PACE
QC-1	(c)	04/26/94	—	—	—	22000	3300	110	700	1700	—	—	—	PACE
RW-1		07/25/94	11.84	5.52	6.32	31000	4800	290	1100	1700	—	—	5.5	PACE
QC-1	(c)	07/25/94	—	—	—	28000	4400	240	960	1400	—	—	—	PACE
RW-1		10/13/94	11.84	6.05	5.79	20000	4200	46	990	440	—	—	6.8	PACE
RW-1		01/17/95	11.84	4.02	7.82	9600	1500	65	300	2700	—	—	7.7	ATI
RW-1		03/31/95	11.84	3.81	8.03	16000	1500	780	370	2000	—	—	7.8	ATI
RW-1		05/01/95	11.84	4.21	7.63	—	—	—	—	—	—	—	—	—
RW-1		07/12/95	11.84	4.93	6.91	22000	3700	150	950	2800	—	—	7.2	ATI
RW-1		10/12/95	11.84	5.46	6.38	30000	1600	1500	1700	8500	4300	—	7.0	ATI
RW-1		02/27/96	11.84	4.00	7.84	1800	30	24	41	440	52	194	7.7	SPL
QC-1	(c)	02/27/96	—	—	—	1600	30	23	38	420	50	—	—	SPL
QC-2	(f)	07/09/93	—	—	—	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	PACE
QC-2	(f)	10/08/93	—	—	—	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	PACE
QC-2	(f)	01/06/94	—	—	—	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	PACE
QC-2	(f)	04/26/94	—	—	—	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	PACE
QC-2	(f)	07/25/94	—	—	—	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	PACE
QC-2	(f)	10/13/94	—	—	—	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	PACE
QC-2	(f)	01/17/95	—	—	—	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1	—	—	—	ATI
QC-2	(f)	03/31/95	—	—	—	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	—	—	—	ATI
QC-2	(f)	07/12/95	—	—	—	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	—	—	—	ATI
QC-2	(f)	10/12/95	—	—	—	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	—	—	ATI
QC-2	(f)	02/27/96	—	—	—	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	—	—	SPL

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
MTBE	Methyl tert butyl ether
TDS	Total dissolved solids
DO	Dissolved oxygen
ug/l	Micrograms per liter
mg/l	Milligrams per liter
ppm	Parts per million
---	Not applicable/analyzed/measured
ND	Not detected above reported detection limit
PACE	Pace, Inc.
ATI	Analytical Technologies, Inc.
SPL	SPL, Inc.

NOTES:

(a) Top of casing elevations surveyed in reference to USGS benchmark (14.108 feet above mean sea level) at northwest corner of Webster Street and Pacific Avenue.

(b) Groundwater elevations in feet above mean sea level.

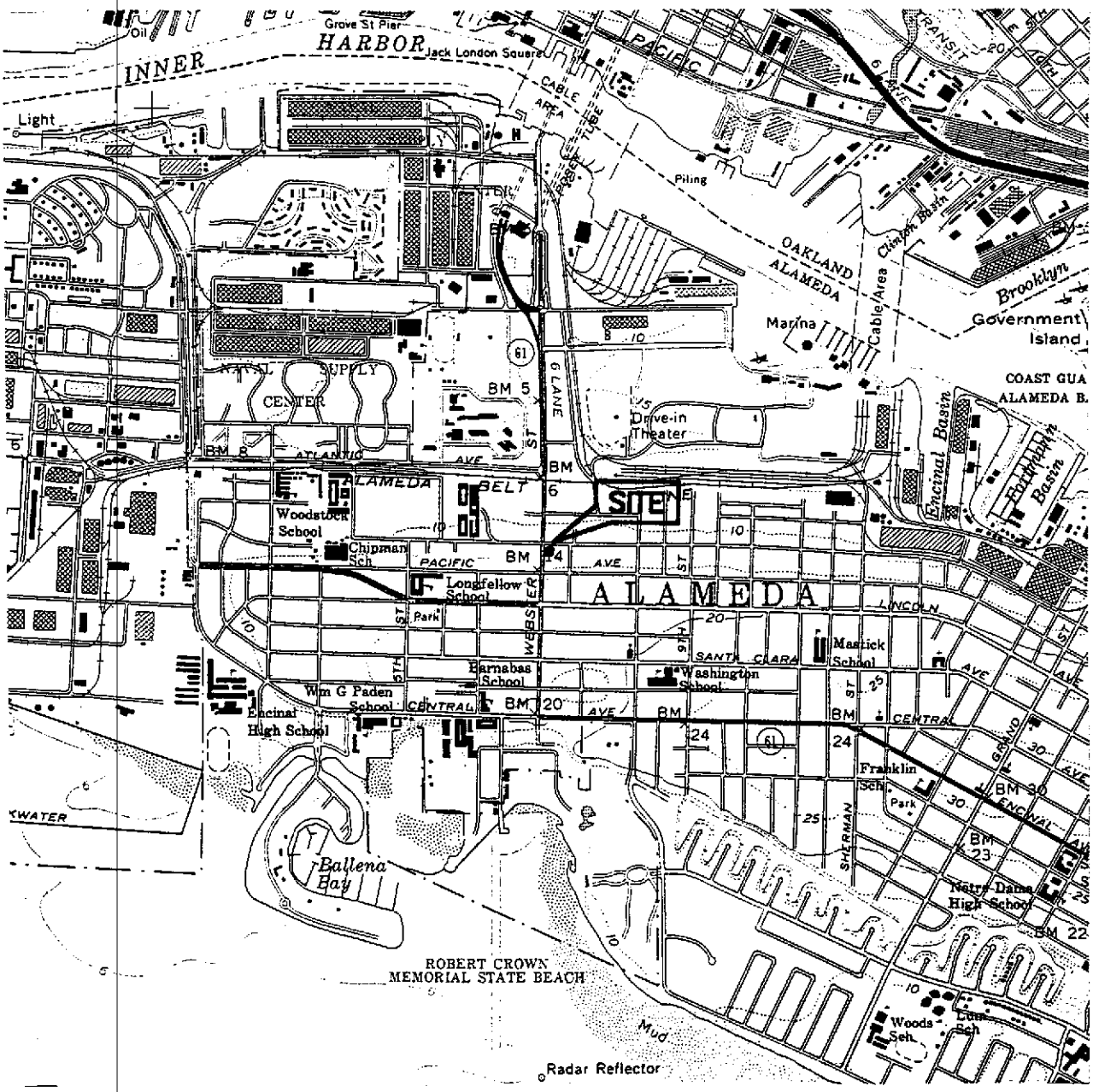
(c) Blind duplicate.

(d) Sample also analyzed for cadmium, nickel, chromium, lead, and zinc. None were detected above the reported detection limit.

(e) Well inaccessible.

(f) Travel blank.

P:\0\10-155\155-5-3.WQ2



SOURCE:
USGS MAP, OAKLAND WEST QUADRANGLE, CALIFORNIA. 7.5 MINUTE SERIES. 1959. PHOTOREVISED 1980.

N

0 1000' 2000'

FIGURE 1

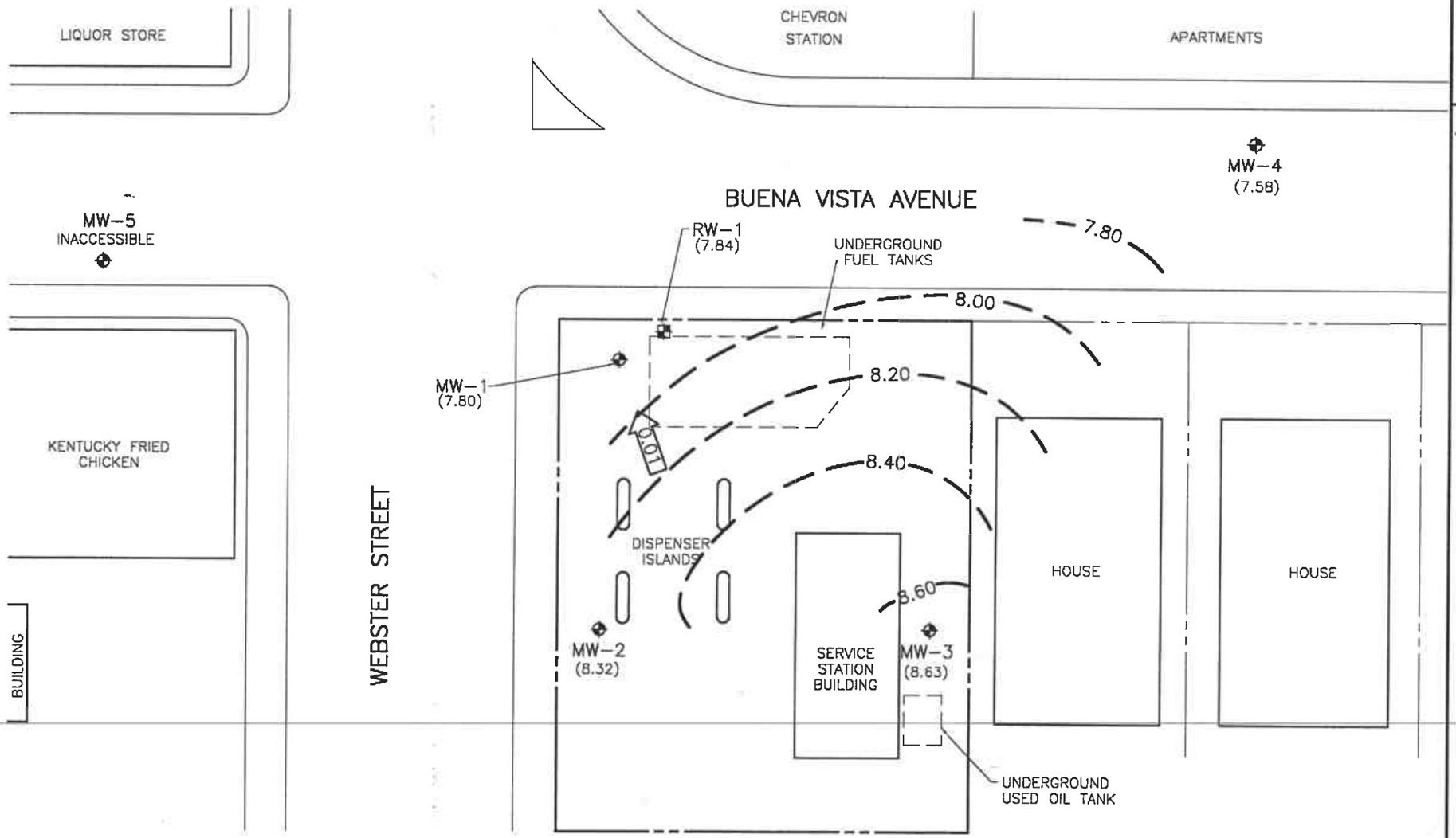
SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11104
1716 WEBSTER STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-155

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10155B---.DWG 8-10-93 RKW 1=1



N

0 30 60

SCALE IN FEET

LEGEND

- GROUNDWATER MONITORING WELL
- GROUNDWATER RECOVERY WELL
- (7.58) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 7.80 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.20 FOOT)
- 0.01 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

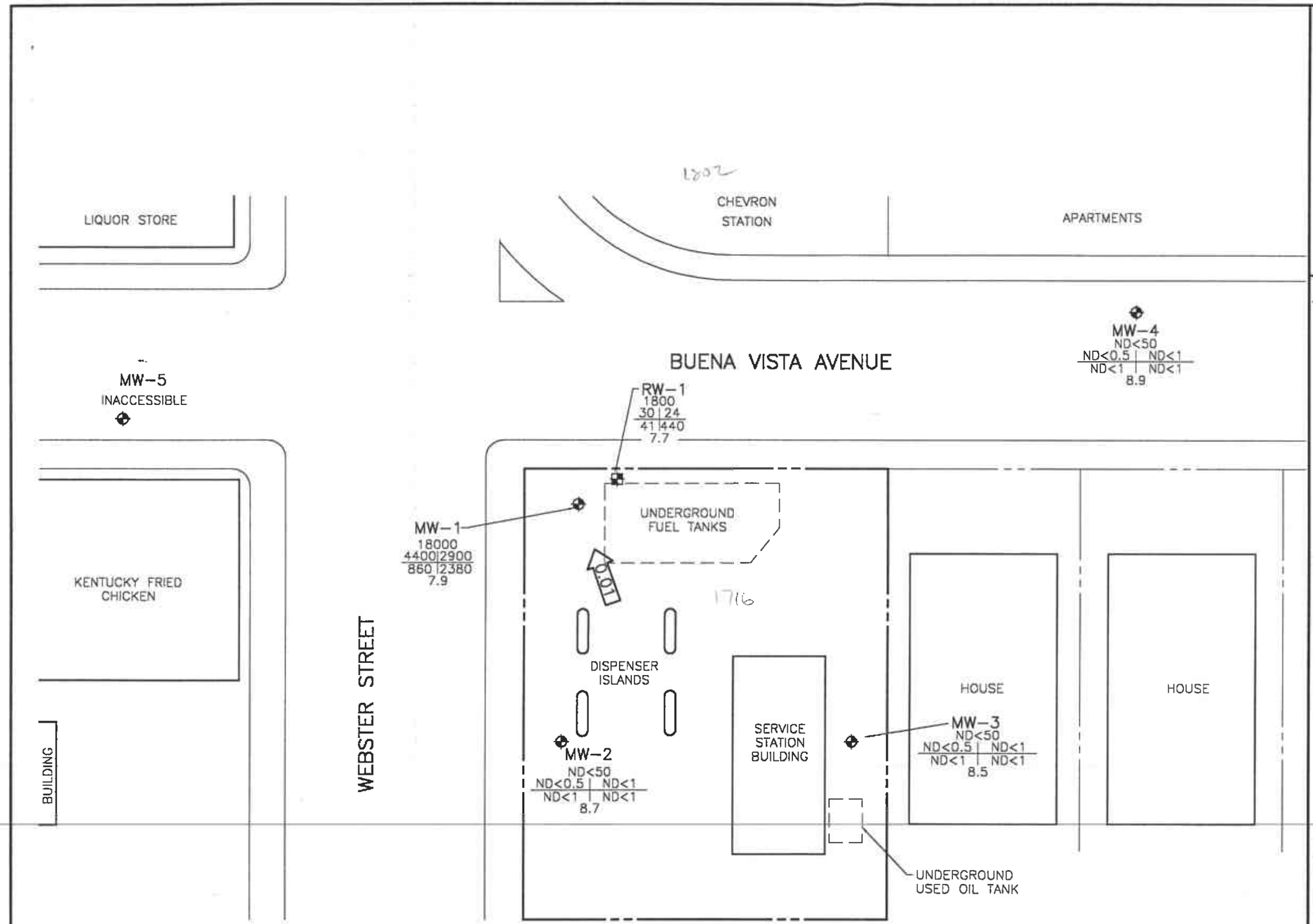
FEBRUARY 27, 1996

BP OIL SERVICE STATION NO. 11104
1716 WEBSTER STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10–155

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

101350-D.DWG 4-3-96 JVC 1=30



N

0 30 60

SCALE IN FEET

LEGEND

◆	GROUNDWATER MONITORING WELL
◆	GROUNDWATER RECOVERY WELL
TPH-G / B | T / E | X / DO	CONCENTRATION OF CONSTITUENTS IN MICROGRAMS PER LITER, EXCEPT DISSOLVED OXYGEN, WHICH IS IN PARTS PER MILLION
TPH-G	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
DO	DISSOLVED OXYGEN
ND	NOT DETECTED ABOVE REPORTED DETECTION LIMIT
⇦ 0.01	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

FEBRUARY 27, 1996

BP OIL SERVICE STATION NO. 11104
1716 WEBSTER STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-155

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10155E-Q.DWG 4-3-96 JVC 1=30

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO

ENGINEERING
GROUP
1575 TREAT BOULEVARD, SUITE 201
WALNUT CREEK CA 94598 (510) 295-1650 FAX 295-1823

Field Report / Sampling Data Sheet

Project No. 10-155-05-003 Date: 2/27/96
Address 1716 Webster St. Day: M (T) W TH F
Contract No. G602065 City: Alameda
Station No. BP 11104 Sampler: DC

DEPTH TO GROUNDWATER SUMMARY

WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME SAMPLED	COMMENTS:
MW-1	S-4	2"	16.88	4.18'	ϕ	1124	
MW-2	S-3	↓	15.84	4.66'	↓	1117	SEMI IN OCTOBER; sampled this time for TDS
MW-3	S-1		16.60	4.75'		1107	SEMI IN OCTOBER
MW-4	S-2	↓	14.80	4.22'	↓	1112	SEMI IN OCTOBER
MW-5	Not	—	—	—	—	—	SEMI IN OCTOBER; not see pg 2 inaccessible
RW-1	S-5	6"	21.61	4.00'	ϕ	1130	

FIELD INSTRUMENT CALIBRATION DATA

pH METER Hydac 4.00 ✓ 7.00 ✓ 10.00 — TEMPERATURE COMPENSATED (Y) N TIME 1200 WEATHER Overcast

D.O. METER Jim ZERO d.O. SOLUTION 0.80 BAROMETRIC PRESSURE 763 TEMP 59°F

** CONDUCTIVITY METER Hydac 10,000 ✓ TURBIDITY METER _____ 5.0 NTU _____ OTHER _____

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-3	4.75'	2"	required	ϕ	Y (N)	2	1207	58.3	6.09	0.37	8.0
						4	1210	60.0	6.17	0.39	
						5.75	1215	59.4	6.37	0.37	8.5

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
16.60 - 4.75 = 11.85 x .16 = 1.90 x 3 = 5.69

Purge Method: OSurface Pump ODisp.Tube OWinch ✗Disp. Bailer(s) 1 OSys Port

Comments:

O EPA 601 ____
✗ TPH-G/BTEX Hydac
O TPH Diesel ____
✗ ~~TOG 5520~~ TDS none

TIME/SAMPLE ID: 1220 / S-1

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-4	4.22'	2"	OK	ϕ	Y (N)	2	1230	57.5	6.62	0.35	8.9
						4	1237	59.7	6.52	0.34	
						5	1242	60.2	6.47	0.34	8.9

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
14.80 - 4.22' = 10.58 x .16 = 1.69 x 3 = 5.08

Purge Method: OSurface Pump ODisp.Tube OWinch ✗Disp. Bailer(s) 1 OSys Port

Comments:

O EPA 601 ____
✗ TPH-G/BTEX Hydac
O TPH Diesel ____
✗ ~~TOG 5520~~ TDS none

TIME/SAMPLE ID: 1246 / S-2

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING
GROUP
1575 TREAT BOULEVARD, SUITE 201
WALNUT CREEK CA 94598 (510) 295-1650 FAX 295-1823

Project No. 10-155-05-003 Date: 2/27/96
Address 1716 Webster St. Day: M (T) W TH F
Contract No. G602065 City: Alameda
Station No. BP 11104 Sampler: DC

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-2	4.66	2"	OK	Ø	Y (N)	2	1303	59.6	6.80	0.57	8.3
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						4	1306	61.9	6.81	0.55	
15.84 - 4.66 = 11.19 x .16 = 1.79 x 3 = 5.36						5.5	1309	62.3	6.83	0.55	8.7
Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

O EPA 601_____
~~O~~ TPH-G/BTEX none
O TPH Diesel____
~~O~~ ~~TOG 5520~~ TDS none
TIME/SAMPLE ID
1315 /S-3

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-1	4.18'	2"	OK	Ø	Y (N)	2	1326	57.6	6.79	0.57	6.2
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						4	1331	59.5	6.56	0.58	
16.98 - 4.18' = 12.7 x .16 = 2.03 x 3 = 6.10						6.25	1335	59.7	6.54	0.60	7.9
Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments: Strong odor											

O EPA 601_____
~~O~~ TPH-G/BTEX none
O TPH Diesel____
~~O~~ ~~TOG 5520~~ TDS none
TIME/SAMPLE ID
1340 /S-4

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-1	4.00	6"	OK	Ø	Y (N)	60	1351	58.9	6.92	0.24	7.8
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						70	1400	60.5	6.83	0.27	
21.61 - 4.00 = 17.61 x 1.47 = 25.89 x 3 = 77.66						80	1410	59.9	6.94	0.27	7.7
Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments: QC-1 from this well (S-6)											

O EPA 601_____
~~O~~ TPH-G/BTEX none
O TPH Diesel____
~~O~~ ~~TOG 5520~~ TDS none
TIME/SAMPLE ID
1420 /S-5

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
					Y N						
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.											
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

O EPA 601_____
O TPH-G/BTEX___
O TPH Diesel____
O TOG 5520 ___
TIME/SAMPLE ID

* MW-5 had truck on it @ 1100; will check periodically to see if truck eventually moves; truck still there @ 1300

** conductivity readings are x1000 µS/cm units

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL, INC.

REPORT APPROVAL SHEET

WORK ORDER NUMBER: 96 - 02 - C56

Approved for release by:

M. Scott Sample Date: 3/7/96

M. Scott Sample, Laboratory Director

Ed Fry Date: 3/7/96

Ed Fry, Project Manager

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9602C56-01

Alisto Engineering
1575 Treat Blvd.
Walnut Creek, CA 94598
ATTN: Bill Howell

P.O.# G602065 , COC#061535
DATE: 03/06/96

PROJECT: BP Oil #11104
SITE: 1716 Webster St., Alameda, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-1

PROJECT NO: 10-155-5-3
MATRIX: WATER
DATE SAMPLED: 02/27/96 12:20:00
DATE RECEIVED: 02/28/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1 P	µg/L
Ethylbenzene	ND	1 P	µg/L
Total Xylene	ND	1 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	91		
4-Bromofluorobenzene	69		
METHOD 8020***			
Analyzed by: VHZ			
Date: 03/06/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	103		
4-Bromofluorobenzene	58		
CA LUFT - Gasoline			
Analyzed by: VHZ			
Date: 03/06/96 09:31:00			
Total Dissolved Solids	316	4	mg/L
METHOD 160.1 *			
Analyzed by: JS			
Date: 02/29/96			

ND - Not detected. (P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

HOUSTON LABORATORY,
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9602C56-02

Alisto Engineering
1575 Treat Blvd.
Walnut Creek, CA 94598
ATTN: Bill Howell

P.O.# G602065 , COC#061535
DATE: 03/06/96

PROJECT: BP Oil #11104
SITE: 1716 Webster St., Alameda, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-2

PROJECT NO: 10-155-5-3
MATRIX: WATER
DATE SAMPLED: 02/27/96 12:46:00
DATE RECEIVED: 02/28/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1 P	µg/L
Ethylbenzene	ND	1 P	µg/L
Total Xylene	ND	1 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	90		
4-Bromofluorobenzene	54 «		
METHOD 8020***			
Analyzed by: VHZ			
Date: 03/06/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	101		
4-Bromofluorobenzene	46 «		
CA LUFT - Gasoline			
Analyzed by: VHZ			
Date: 03/06/96 09:57:00			
Total Dissolved Solids	256	4	mg/L
METHOD 160.1 *			
Analyzed by: JS			
Date: 02/29/96			

ND - Not detected. (P) - Practical Quantitation Limit
« - Recovery beyond control limits.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9602C56-03

Alisto Engineering
1575 Treat Blvd.
Walnut Creek, CA 94598
ATTN: Bill Howell

P.O.# G602065 , COC#061535
DATE: 03/06/96

PROJECT: BP Oil #11104
SITE: 1716 Webster St., Alameda, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-3

PROJECT NO: 10-155-5-3
MATRIX: WATER
DATE SAMPLED: 02/27/96 13:15:00
DATE RECEIVED: 02/28/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1 P	µg/L
Ethylbenzene	ND	1 P	µg/L
Total Xylene	ND	1 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	86		
4-Bromofluorobenzene	51 «		
METHOD 8020***			
Analyzed by: VHZ			
Date: 03/06/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	102		
4-Bromofluorobenzene	42 «		
CA LUFT - Gasoline			
Analyzed by: VHZ			
Date: 03/06/96 12:06:00			
Total Dissolved Solids	412	4	mg/L
METHOD 160.1 *			
Analyzed by: JS			
Date: 02/29/96			

ND - Not detected. (P) - Practical Quantitation Limit
« - Recovery beyond control limits.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9602C56-04

Alisto Engineering
1575 Treat Blvd.
Walnut Creek, CA 94598
ATTN: Bill Howell

P.O.# G602065 , COC#061535
DATE: 03/06/96

PROJECT: BP Oil #11104
SITE: 1716 Webster St., Alameda, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-4

PROJECT NO: 10-155-5-3
MATRIX: WATER
DATE SAMPLED: 02/27/96 13:40:00
DATE RECEIVED: 02/28/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	5500	500 P	µg/L
Benzene	4400	25 P	µg/L
Toluene	2900	50 P	µg/L
Ethylbenzene	860	50 P	µg/L
Total Xylene	2380	50 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	113		
4-Bromofluorobenzene	107		
METHOD 8020***			
Analyzed by: VHZ			
Date: 03/06/96			
Total Petroleum Hydrocarbons-Gasoline	18	2.5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	122		
4-Bromofluorobenzene	119		
CA LUFT - Gasoline			
Analyzed by: VHZ			
Date: 03/06/96 12:33:00			
Total Dissolved Solids	472	4	mg/L
METHOD 160.1 *			
Analyzed by: JS			
Date: 02/29/96			

(P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9602C56-05

Alisto Engineering
1575 Treat Blvd.
Walnut Creek, CA 94598
ATTN: Bill Howell

P.O.# G602065 , COC#061535
DATE: 03/06/96

PROJECT: BP Oil #11104
SITE: 1716 Webster St., Alameda, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-5

PROJECT NO: 10-155-5-3
MATRIX: WATER
DATE SAMPLED: 02/27/96 14:20:00
DATE RECEIVED: 02/28/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	52	50 P	µg/L
Benzene	30	2.5 P	µg/L
Toluene	24	5 P	µg/L
Ethylbenzene	41	5 P	µg/L
Total Xylene	440	5 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	93		
4-Bromofluorobenzene	110		
METHOD 8020***			
Analyzed by: VHZ			
Date: 03/06/96			
Total Petroleum Hydrocarbons-Gasoline	1.8	0.25 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	106		
4-Bromofluorobenzene	128		
CA LUFT - Gasoline			
Analyzed by: VHZ			
Date: 03/06/96 12:59:00			
Total Dissolved Solids	194	4	mg/L
METHOD 160.1 *			
Analyzed by: JS			
Date: 02/29/96			

(P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9602C56-06

Alisto Engineering
1575 Treat Blvd.
Walnut Creek, CA 94598
ATTN: Bill Howell

P.O.# G602065 , COC#061535
DATE: 03/06/96

PROJECT: BP Oil #11104
SITE: 1716 Webster St., Alameda, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-6

PROJECT NO: 10-155-5-3
MATRIX: WATER
DATE SAMPLED: 02/27/96
DATE RECEIVED: 02/28/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	50	50 P	µg/L
Benzene	30	2.5 P	µg/L
Toluene	23	5 P	µg/L
Ethylbenzene	38	5 P	µg/L
Total Xylene	420	5 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	93		
4-Bromofluorobenzene	108		
METHOD 8020***			
Analyzed by: VHZ			
Date: 03/06/96			
Total Petroleum Hydrocarbons-Gasoline	1.6	0.25 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	106		
4-Bromofluorobenzene	126		
CA LUFT - Gasoline			
Analyzed by: VHZ			
Date: 03/06/96 04:56:00			

(P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9602C56-07

Alisto Engineering
1575 Treat Blvd.
Walnut Creek, CA 94598
ATTN: Bill Howell

P.O.# G602065 , COC#061535
DATE: 03/06/96

PROJECT: BP Oil #11104
SITE: 1716 Webster St., Alameda, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-7

PROJECT NO: 10-155-5-3
MATRIX: WATER
DATE SAMPLED: 02/27/96
DATE RECEIVED: 02/28/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1 P	µg/L
Ethylbenzene	ND	1 P	µg/L
Total Xylene	ND	1 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	90		
4-Bromofluorobenzene	51 «		
METHOD 8020***			
Analyzed by: VHZ			
Date: 03/06/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	101		
4-Bromofluorobenzene	43 «		
CA LUFT - Gasoline			
Analyzed by: VHZ			
Date: 03/06/96 05:22:00			

ND - Not detected. (P) - Practical Quantitation Limit
« - Recovery beyond control limits.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

QUALITY CONTROL

DOCUMENTATION

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL BATCH QUALITY CONTROL REPORT **

METHOD 8020/602

Matrix: Aqueous

Batch Id: HP_J960305175700

Units: µg/L

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
MTBE	ND	50	47	94.0	20 - 110
Benzene	ND	50	48	96.0	62 - 121
Toluene	ND	50	45	90.0	66 - 136
EthylBenzene	ND	50	43	86.0	70 - 136
O Xylene	ND	50	46	92.0	74 - 134
M & P Xylene	ND	100	91	91.0	77 - 140

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	662	20	660	NC	640	NC	NC	20	39 - 150
BENZENE	ND	20	17	85.0	16	80.0	6.06	25	39 - 150
TOLUENE	ND	20	15	75.0	14	70.0	6.90	26	56 - 134
ETHYLBENZENE	ND	20	14	70.0	13	65.0	7.41	38	61 - 128
O XYLENE	ND	20	15	75.0	14	70.0	6.90	29	40 - 130
M & P XYLENE	ND	40	29	72.5	27	67.5	7.14	20	43 - 152

Analyst: VHZ

Sequence Date: 03/05/96

SPL ID of sample spiked: 9602C52-01A

Sample File ID: J___331.TX0

Method Blank File ID:

Blank Spike File ID: J___329.TX0

Matrix Spike File ID: J___336.TX0

Matrix Spike Duplicate File ID: J___337.TX0

* = Values Outside QC Range

NC = Not Calculated (Sample exceeds spike by factor of 4 or more)

ND = Not Detected/Below Detection Limit

% Recovery = [(<1> - <2>) / <3>] x 100

LCS % Recovery = (<1> / <3>) x 100

Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100

(**) = Source: SPL-Houston Historical Data (3rd Q '95)

(***) = Source: SPL-Houston Historical Data (2nd Q '95)

SAMPLES IN BATCH(SPL ID):

9602C56-03A 9602C56-04A 9602C56-05A 9602C45-03A
9602C46-03A 9602C56-06A 9602C56-07A 9602C45-01A
9602C46-01A 9602C46-02A 9602C56-01A 9602C56-02A
9602C52-01A 9602B09-07A 9602C52-01A 9602C52-04A
9602C52-02A 9602C52-03A

QC Officer

** SPL BATCH QUALITY CONTROL REPORT **
CA LUFT

PAGE HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Matrix: Aqueous
Units: mg/L

Batch Id: HP_J960305151800

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
Petroleum Hydrocarbons-Gas	ND	1.0	0.84	84.0	50 - 150

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
PETROLEUM HYDROCARBONS-GAS	ND	0.9	0.69	76.7	0.71	78.9	2.83	50	50 - 150

Analyst: VHZ
Sequence Date: 03/05/96
SPL ID of sample spiked: 9602C52-04A
Sample File ID: JJ__332.TX0
Method Blank File ID:
Blank Spike File ID: JJ__328.TX0
Matrix Spike File ID: JJ__338.TX0
Matrix Spike Duplicate File ID: JJ__339.TX0

* = Values Outside QC Range
NC = Not Calculated (Sample exceeds spike by factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100
(**) = Source: Temporary Limits
(***) = Source: Temporary Limits

SAMPLES IN BATCH(SPL ID): 9602C56-03A 9602C56-04A 9602C56-05A 9602C56-06A 9602C56-07A 9602C56-01A 9602C56-02A 9602C52-01A 9602C52-04A 9602C52-02A 9602C52-03A

QC Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 03/01/96
Analyzed on: 02/29/96
Analyst: JS

This sample was randomly selected for use in the SPL quality control program. The results are as follows:

Total Dissolved Solids
METHOD 160.1 *

-- DUPLICATE ANALYSIS --

SPL Sample ID	Original Sample Concentration mg/L	Duplicate Sample mg/L	RPD	RPD Max.
9602C56-01B	316	316	0	20

-9603019

Samples in batch:

9602C56-01B 9602C56-02B 9602C56-03B 9602C56-04B
9602C56-05B

COMMENTS:

SPL, Incorporated

QC Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 03/01/96
Analyzed on: 02/29/96
Analyst: JS

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Total Dissolved Solids
METHOD 160.1 *

SPL Sample ID Number	Blank Value mg/L	LCS Concentration mg/L	Measured Concentration mg/L	% Recovery	QC Limits Recovery
LCS	ND	408.5	399.0	97.7	90 - 110

-9603018

Samples in batch:

9602C56-01B 9602C56-02B 9602C56-03B 9602C56-04B
9602C56-05B

COMMENTS:

LCS = SPL ID#: 9553522-3

SPL, Incorporated

QC Officer

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

9602C56 2/29/96

CHAIN OF CUSTODY

No. 061535 Page 1 of 1

CONSULTANT'S NAME	ADDRESS	CITY	STATE	ZIP CODE
Alisto Engineering	1575 Treat Blvd	Walnut Creek	CA	94598

BP SITE NUMBER	BP CORNER ADDRESS/CITY	CONSULTANT PROJECT NUMBER
11104	1716 Webster St, Alameda CA	10-155-5-3

CONSULTANT PROJECT MANAGER	PHONE NUMBER	FAX NUMBER	CONSULTANT CONTRACT NUMBER
Bill Howell	(510) 295 1650	(510) 295 1823	G602065

BP CONTACT	BP ADDRESS	PHONE NUMBER	FAX NO.
Scott Hooton	Renton WA	–	–

LAB CONTACT	LABORATORY ADDRESS	PHONE NUMBER	FAX NO.
SPL	Houston Texas	–	✓

SAMPLED BY (Please Print Name)	SAMPLED BY (Signature)	SHIPMENT DATE	SHIPMENT METHOD
Dave Cosack	Dave Cosack	2/27/96	Fed ex

TAT: ☐ 24 Hours ☐ 48 Hours ☐ 1 Week ☒ Standard 2 Weeks

ANALYSIS REQUIRED

AIRBILL NUMBER: 936071594O

SAMPLE DESCRIPTION	COLLECTION DATE / COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE / LAB SAMPLE #	TPHG BTEX MTBE	TDS	COMMENTS
S-1 1220	2/27/96	H2O	4	VOA/40mL		X	X	
S-2 1246								
S-3 1315								
S-4 1340								
S-5 1420			↓	↓			↓	
S-6 –			3	VOA				
S-7 –			3	↓				

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Dave Cosack Alisto	2/28/96	1600	S. West	2/28/96	1000

ADDITIONAL COMMENTS: 3°C Intact

CLV-16722

Distribution: White - Original (with Data) Yellow - BP Pink - Lab Blue - Consultant Field Staff

SPL Houston Environmental Laboratory

Sample Login Checklist

Date:	Time:
2/28/96	1000

SPL Sample ID:
9602C56

			Yes	No
1	Chain-of-Custody (COC) form is present.		✓	
2	COC is properly completed.		✓	
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.		✓	
5	If yes, custody seals are intact.		✓	
6	All samples are tagged or labeled.		✓	
7	If no, Non-Conformance Worksheet has been completed.			
8	Sample containers arrived intact		✓	
9	Temperature of samples upon arrival:		3° C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	936071584 0	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name:	Date:
Dayna Rocas	2/28/96