Received 10/15/91

WEISS ASSOCIATES
Geologic and Environmental Services
Fax: 415-547-5043 Phone: 415-547-5420
5500 Shellmound Street, Emeryville, CA 94608

October 17, 1991

Mr. Scott Seery
Alameda County Department
of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, CA 94621-1426

Re: Shell Service Station
WIC #204-6852-0703
1289 Bancroft Avenue
San Leandro, California 94577
WA Job #81-423-01

Dear Mr. Seery:

This letter describes Weiss Associates' (WA) third quarter 1991 activities at the Shell service station referenced above (Figure 1.) This status report satisfies the quarterly reporting requirements outlined in our February 23, 1990 workplan, and prescribed by California Administrative Code Title 23 Waters, Chapter 3, Subchapter 16, Article 5, Section 265.d. Included below are:

- Descriptions and results of activities performed in the third quarter 1991, and
- Proposed work for the fourth quarter 1991.

## THIRD QUARTER 1991 ACTIVITIES

During this quarter, WA:

- Collected ground water samples from the one site well,
- Measured the ground water depth and determined the ground water elevation,
- Analyzed the ground water samples and tabulated the analytic results, and
- Submitted a workplan to the Alameda County Department of Environmental Health (ACDEH) for the installation of two additional ground water monitoring wells.

These activities are described below.

Ground Water Sampling

WA collected ground water samples from monitoring well MW-1 (Figure 2) on September 7, 1991 as part of the quarterly ground water monitoring program at Shell Service Station WIC #204-6852-0703 in San Leandro, California. The samples contained tetrachloroethene (PCE) above the California Department of Health Services (DHS) maximum contaminant level (MCL) for drinking water.

*Sampling Personnel*: WA Environmental Technician Bruce Beale

*Method of Purging Well:* Dedicated PVC bailer

*Volume of Water Purged Prior to Sampling*:

- Well MW-1 was purged of four well-casing volumes, about 40 gallons.

*Method of Collecting Ground Water Samples*:

- Drawn through the sampling port on the side of the dedicated PVC bailer

*Methods of Containing Ground Water Samples*:

- 40 ml glass volatile organic analysis vials, preserved with hydrochloric acid and packed in protective foam sleeves for total petroleum hydrocarbons as gasoline (TPH-G) and benzene, ethylbenzene, toluene, and xylene (BETX), and halogenated volatile organic compound (HVOC) analyses

- 1000 ml amber glass bottles for total petroleum hydrocarbons as diesel (TPH-D) analysis

All samples were refrigerated and transported under chain-of-custody to the analytical laboratory.

*Water Samples Transported to*:

- National Environmental Testing Pacific, Inc. (NET), Santa Rosa, California, and were received on September 18, 1991

*Quality Assurance / Quality Control*:

- A travel blank was submitted for analysis.
- An equipment blank was not necessary because a bailer is dedicated to well MW-1.

Water sample collection records and chain-of-custody forms are included in Attachments A and B, respectively.

Ground Water Elevation

The water depth was measured in well MW-1 on September 17, 1991. The ground water elevation decreased 2.7 ft from the previous quarter. Water depth measurements and ground water elevations are presented in Table 1.

Chemical Analyses

*The Ground Water Samples were Analyzed for*:

- TPH-G by modified EPA Method 8015,
- TPH-D by modified EPA Method 8015,
- BETX by EPA Method 602, and
- HVOCs by EPA Method 601.

The laboratory analyzed the samples on September 22 and 23, 1991. The results are presented in Table 2 and the analytic reports are included in Attachment B.

*Discussion of Analytic Results of Ground Water for this Quarter*:

- Samples contained PCE above the DHS MCL for drinking water.
- TPH-G and xylene concentrations decreased from the previous quarter.
- No benzene, ethylbenzene or toluene have been detected for five consecutive quarters.

Workplan for Additional Wells

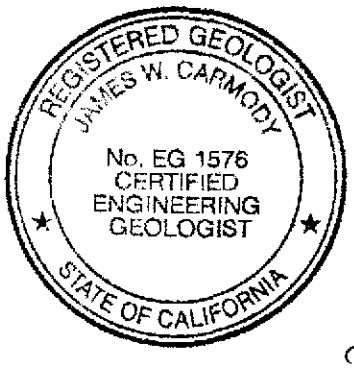
On September 23, 1991, WA submitted a well installation workplan to the ACDEH. The objectives of the proposed subsurface investigation were to determine the sources and horizontal extent of hydrocarbons and other compounds in soil and ground water, and to determine the ground water gradient and flow direction. The investigation will include installing two additional ground water monitoring wells and collecting and analyzing soil and ground water samples. Pending approval of the workplan by the ACDEH, WA expects to begin drilling by late October 1991 and will submit the results of the investigation to the ACDEH within 45 days after completion of the field activities.

## ANTICIPATED WORK FOR FOURTH QUARTER 1991

During the fourth quarter 1991, on behalf of Shell Oil, WA plans to:

- Continue quarterly sampling of ground water monitoring well MW-1,
- Install two additional ground water monitoring wells as outlined in WA's September 23, 1991 workplan, and
- Prepare a quarterly status report presenting all data generated during the previous quarter including the results of the subsurface investigation and the water sampling and analytic results.

We trust that this submittal satisfies your requirements. Please call if you have any questions.




Sincerely,
Weiss Associates

Thomas Fojut
Staff Geologist

for Joseph P. Theisen, C.E.G.
Senior Project Hydrogeologist

TF/JPT:fcr

E:\ALL\SHELL\400\423QMOC1.WP

Attachments: Figures
Tables
A - Water Sample Collection Records
B - Analytic Report and Chain-of-Custody Form

cc: Kurt Miller, Shell Oil Company, P.O. Box 5278, Concord, California 94520-9998
Lester Feldman, Regional Water Quality Control Board - San Francisco Bay, 2101 Webster Street, Suite 500, Oakland, California 94612

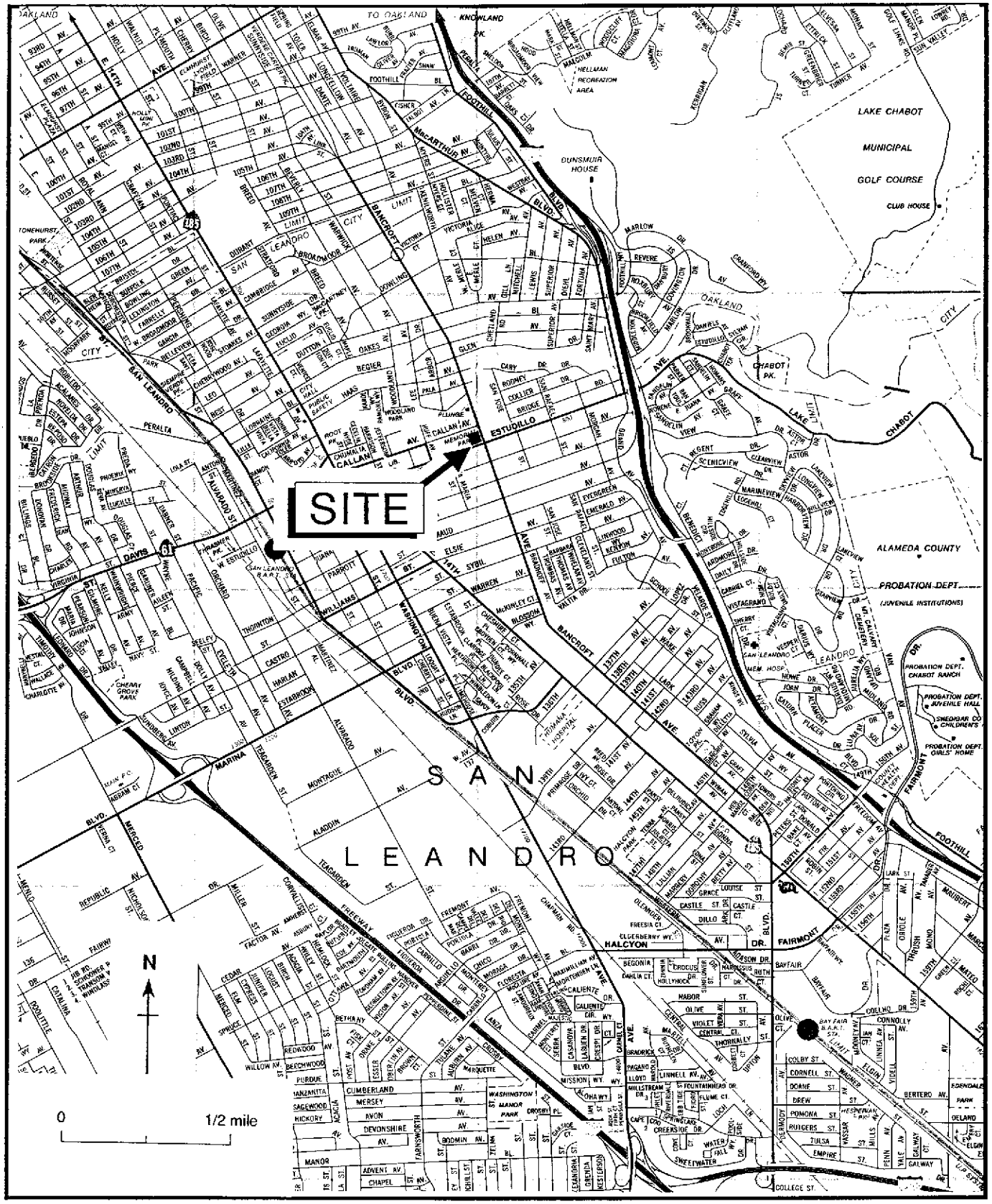



Figure 1. Site Location Map - Shell Service Station WIC #204-6852-0703, 1285 Bancroft Avenue, San Leandro, California

3/16/90

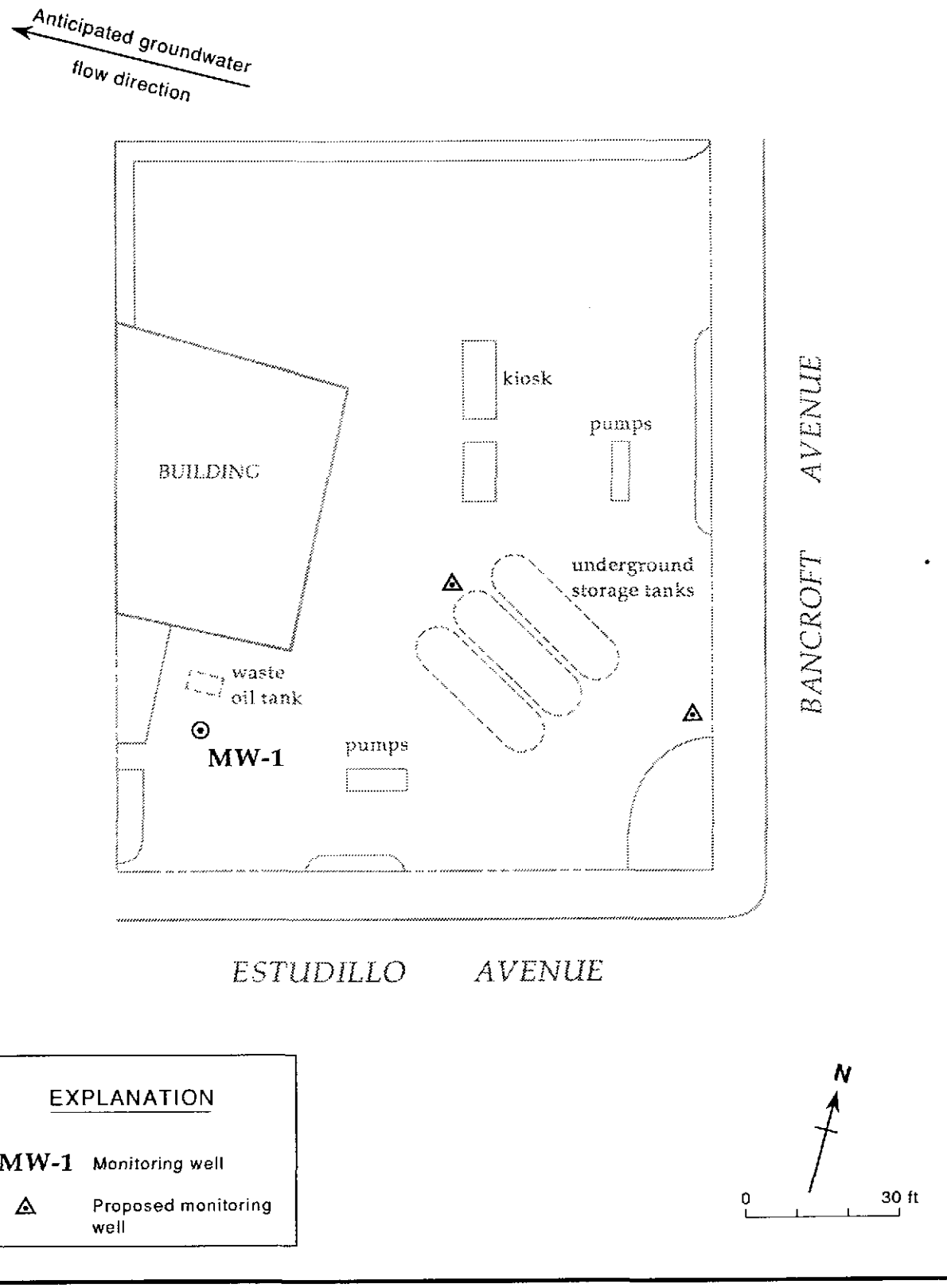



Figure 2. Proposed and Existing Monitoring Well Locations - Shell Service Station WIC #204-6852-0703, 1285 Bancroft Avenue, San Leandro, California

10/14/91

TABLE 1. Ground Water Elevations, Shell Service Station WIC #204-6852-0703, 1285 Bancroft Avenue, San Leandro, California

| Well ID | Date | Top-of-Casing Elevation (ft above msl) | Depth to Water (ft) | Ground Water Elevation (ft above msl) |
|---|---|---|---|---|
| MW-1 | 03/13/90 | 66.29 | 42.65 | 23.64 |
| | 06/12/90 | | 43.14 | 23.15 |
| | 09/13/90 | | 44.71 | 21.58 |
| | 12/18/90 | | 45.23 | 21.06 |
| | 03/07/91 | | 43.32 | 22.97 |
| | 06/07/91 | | 42.18 | 24.11 |
| | 09/17/91 | | 44.85 | 21.44 |

TABLE 2. Analytic Results for Ground Water - Shell Service Station WIC #204-6852-0703, 1285 Bancroft Avenue, San Leandro, California

| Well ID | Date Sampled | Depth to Water (ft) | TPH-G | TPH-D[a] | B | E | T | X | TOG | PCE | CHLOR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | <---------- | | | | mg/ℓ (ppm) | | | | ----------> |
| MW-1 | 03/08/90 | 42.65 | 0.51 | 1.3 | <0.0005 | 0.0015 | 0.0011 | 0.0087 | <10 | 0.035 | 0.0063 |
| | 06/12/90 | 43.14 | 0.39 | 0.34 | <0.0005 | 0.0023 | <0.0005 | 0.0055 | <10 | 0.0019 | 0.063 |
| | 09/13/90 | 44.71 | 0.10 | 0.16 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <10 | 0.026 | 0.0090 |
| | 12/18/90 | 45.23 | 0.48 | <0.05 | <0.0005 | <0.0005 | <0.0005 | 0.0035 | <10 | <0.0004 | 0.0053 |
| | 03/07/91 | 43.32 | 0.08 | 0.06 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | --- | 0.023 | 0.0037 |
| | 06/07/91 | 42.18 | 0.31 | <0.05 | <0.0005 | <0.0005 | <0.0005 | 0.0021 | --- | 0.021 | 0.0066 |
| | **09/17/91** | **44.85** | **0.05[b]** | **0.16[c]** | **<0.0005** | **<0.0005** | **<0.0005** | **<0.0005** | **---** | **0.023** | **0.0074** |
| Trip Blank | 03/08/90 | | <0.05 | --- | <0.0005 | <0.0005 | <0.0005 | <0.0005 | --- | --- | --- |
| | 06/12/90 | | <0.05 | --- | <0.0005 | <0.0005 | <0.0005 | <0.0005 | --- | --- | --- |
| | 12/18/90 | | <0.05 | --- | <0.0005 | <0.0005 | <0.0005 | <0.0005 | --- | --- | --- |
| | 03/07/91 | | <0.05 | --- | <0.0005 | <0.0005 | <0.0005 | <0.0005 | --- | --- | --- |
| | 06/07/91 | | <0.05 | --- | <0.0005 | <0.0005 | <0.0005 | <0.0005 | --- | --- | --- |
| | **09/17/91** | | **<0.05** | **---** | **<0.0005** | **<0.0005** | **<0.0005** | **<0.0005** | **---** | **---** | **---** |
| Bailer Blank | 03/08/90 | | <0.05 | --- | <0.0005 | <0.0005 | <0.0005 | <0.0005 | --- | --- | --- |
| DHS MCLs | | | NE | NE | 0.001 | 0.680 | 0.10[d] | 1.750 | NE | 0.005 | NE |

Abbreviations:

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 602
E = Ethylbenzene by EPA Method 602
T = Toluene by EPA Method 602
X = Xylenes by EPA Method 602
TOG = Total non-polar oil and grease by American Public Health Association Standard Methods 503A&E
PCE = Tetrachloroethene by EPA Method 601
CHLOR = Chloroform by EPA Method 601
--- = Not analyzed
<n = Not detected at detection limit of n ppm
DHS MCLs = California Department of Health Services Maximum Contaminant Levels
NE = Not established

Analytical Laboratory:

National Environmental Testing Pacific, Inc., Santa Rosa, California

Notes:

a = Samples analyzed for total petroleum hydrocarbons as motor oil (TPH-M) as part of the TPH-D analysis. No TPH-M has been detected to date above detection limit of 0.5 ppm.
b = Result due to a non-gasoline hydrocarbon compound.
c = Result due to a non-diesel hydrocarbon compound.
d = DHS recommended action level for drinking water; MCL not established

WEISS ASSOCIATES

WATER SAMPLING DATA

Well Name MW-1 Date 9/17/91 Time of Sampling 14:20

Job Name Shell San Leandro II Job Number 51-423-01 Initials BDB

Sample Point Description M (M = Monitoring Well)

Location Southeast corner of Site

WELL DATA: Depth to Water 44.35 ft (static, pumping) Depth to Product — ft.

Product Thickness — Well Depth — ft (spec) Well Depth 58.76 ft(sounded) Well Diameter 4 in

Initial Height of Water in Casing 14.41 ft. = volume 9.21 gal.

4 Casing Volumes to be Evacuated. Total to be evacuated 36.85 gal.

EVACUATION METHOD: Pump # and type — Hose # and type —

Bailer# and type 3"x3" PVC Dedicated yes (Y/N)

Other used auto bailer

Evacuation Time: Stop 14:15 — —

Start 13:30 — —

Total Evacation Time 45 min.

Total Evacuated Prior to Sampling 40.0 gal.

Evacuation Rate 0.89 gal. per minute

Depth to Water during Evacuation — ft. — time

Depth to Water at Sampling 44.86 ft. 14:20 time

Evacuated Dry? NO After — gal. Time —

80% Recovery = —

% Recovery at Sample Time — Time —

Formulas/Conversions

r = well radius in ft.

h = ht of water col in ft.

vol. in cyl. = $\pi r^2 h$

7.48 gal/ft$^3$

$V_2$" casing = 0.163 gal/ft

$V_3$" casing = 0.367 gal/ft

$V_4$" casing = 0.653 gal/ft

$V_{4.5}$" casing = 0.826 gal/ft

$V_6$" casing = 1.47 gal/ft

V8 casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number —

Calibration: — 4.0 — 7.0 — 10.0

| Measured: | SC/µmhos | pH | T°C | Time | Volume Evacuated (gal.) |
|---|---|---|---|---|---|
| | | | N/A | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SAMPLE: Color Greyish-Tan Odor None

Description of matter in sample: Silty suspended Sediment

Sampling Method: Sampled from port on dedicated PVC bailer

Sample Port: Rate — gpm Totalizer — gal.

Time —

| # of Cont. | Sample ID | Cont. Type[1] | Vol[2] | Fil[3] | Ref[4] | Preservative (specify) | Analytic Method | Turn[5] | LAB |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 091-01 | W/cv | 40ml | NO | yes | None | EPA 8015/602 | N | NET |
| 3 | 091-01 | W/cv | 40ml | NO | yes | None | EPA 601 | N | NET |
| 2 | 091-01 | W/bottle | 1l | NO | / | None | EPA 8015 | N | NET |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

1 Sample Type Codes: W = Water, S = Soil, Describe Other
Container Type Codes: V = VOA/Teflon Septa, P = Plastic, C or B = Clear/Brown Glass, Describe Other
Cap Codes: PT = Plastic, Teflon lined;
2 = Volume per container; 3 = Filtered (Y/N); 4 = Refrigerated (Y/N)
5 Turnaround [N = Normal, W = 1 week, R = 24 hour, HOLD (spell)]

ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:

* Distilled Water MLL EAP 08/14/93
/A 08:12

WEISS ASSOCIATES

WATER SAMPLING DATA

Well Name Trip Blanks Date 9/17/91 Time of Sampling 08:30

Job Name San Leandro II Job Number 81-423-01 Initials BDB

Sample Point Description _____ (M = Monitoring Well)

Location _____

WELL DATA: Depth to Water _____ ft (static, pumping) Depth to Product _____ ft.

Product Thickness _____ Well Depth ____ ft (spec) Well Depth _____ ft(sounded) Well Diameter ____ in

Initial Height of Water in Casing _____ ft. = volume _____ gal.

_____ Casing Volumes to be Evacuated. Total to be evacuated _____ gal.

EVACUATION METHOD: Pump # and type _____ Hose # and type _____

Bailer# and type _____ Dedicated _____ (Y/N)

Other _____

Evacuation Time: Stop _____ _____ _____

Start _____ _____ _____

Total Evacation Time _____

Total Evacuated Prior to Sampling _____ gal.

Evacuation Rate _____ gal. per minute

Depth to Water during Evacuation _____ ft _____ time

Depth to Water at Sampling _____ ft. _____ time

Evacuated Dry? _____ After _____ gal. Time _____

80% Recovery = _____

% Recovery at Sample Time _____ Time _____

Formulas/Conversions

r = well radius in ft.

h = ht of water col in ft.

vol. in cyl. = $\pi r^2 h$

7.48 gal/ft$^3$

$V_2$" casing = 0.163 gal/ft

$V_3$" casing = 0.367 gal/ft

$V_4$" casing = 0.653 gal/ft

$V_{4.5}$" casing = 0.826 gal/ft

$V_6$" casing = 1.47 gal/ft

V8 casing = 2.61 gal/ft

CHEMICAL DATA: Meter Brand/Number _____

Calibration: _____ 4.0 _____ 7.0 _____ 10.0

| Measured: | SC/µmhos | pH | T°C | Time | Volume Evacuated (gal.) |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SAMPLE: Color ~~Clear~~ BDB 9/17 clear Odor None

Description of matter in sample: None

Sampling Method: Distilled water

Sample Port: Rate ___ gpm Totalizer ___ gal.

Time ___

| # of Cont. | Sample ID | Cont. Type[1] | Vol[2] | Fil[3] | Ref[4] | Preservative (specify) | Analytic Method | Turn[5] | LAB |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 09I-21 | W/cV | 40ml | No | yes | None | EPA 8015/602 | N | NET |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

1 Sample Type Codes: W = Water, S = Soil, Describe Other
Container Type Codes: V = VOA/Teflon Septa, P = Plastic, C or B = Clear/Brown Glass, Describe Other
Cap Codes: PT = Plastic, Teflon lined;
2 = Volume per container; 3 = Filtered (Y/N); 4 = Refrigerated (Y/N)
5 Turnaround [N = Normal, W = 1 week, R = 24 hour, HOLD (spell)]

ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:

ATTACHMENT B

ANALYTIC REPORT AND CHAIN-OF-CUSTODY FORM

NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Tom Fojut
Weiss Associates
5500 Shellmound St.
Emeryville, CA 94608

Date: 09-26-91
NET Client Acct. No: 18.09
NET Pacific Log No: 9887
Received: 09-19-91 0800

Client Reference Information

SHELL, 1285 Bancroft Ave., San Leandro, Proj:81-423-01

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Jules Skamarack
Laboratory Manager

Enclosure(s)

Ref: SHELL, 1285 Bancroft Ave., San Leandro, Proj:81-423-01

SAMPLE DESCRIPTION: 091-01 09-17-91
LAB Job No: (-97846 )

| Parameter | Method | Reporting Limit | Results | Units |
|---|---|---|---|---|
| METHOD 601 | | | | |
| DATE ANALYZED | | | 09-23-91 | |
| DILUTION FACTOR* | | | 1 | |
| Bromodichloromethane | | 0.4 | ND | ug/L |
| Bromoform | | 0.4 | ND | ug/L |
| Bromomethane | | 0.4 | ND | ug/L |
| Carbon tetrachloride | | 0.4 | ND | ug/L |
| Chlorobenzene | | 0.4 | ND | ug/L |
| Chloroethane | | 0.4 | ND | ug/L |
| 2-Chloroethylvinyl ether | | 1.0 | ND | ug/L |
| Chloroform | | 0.4 | 7.4 | ug/L |
| Chloromethane | | 0.4 | ND | ug/L |
| Dibromochloromethane | | 0.4 | ND | ug/L |
| 1,2-Dichlorobenzene | | 0.4 | ND | ug/L |
| 1,3-Dichlorobenzene | | 0.4 | ND | ug/L |
| 1,4-Dichlorobenzene | | 0.4 | ND | ug/L |
| Dichlorodifluoromethane | | 0.4 | ND | ug/L |
| 1,1-Dichloroethane | | 0.4 | ND | ug/L |
| 1,2-Dichloroethane | | 0.4 | ND | ug/L |
| 1,1-Dichloroethene | | 0.4 | ND | ug/L |
| trans-1,2-Dichloroethene | | 0.4 | ND | ug/L |
| 1,2-Dichloropropane | | 0.4 | ND | ug/L |
| cis-1,3-Dichloropropene | | 0.4 | ND | ug/L |
| trans-1,3-Dichloropropene | | 0.4 | ND | ug/L |
| Methylene Chloride | | 10 | ND | ug/L |
| 1,1,2,2-Tetrachloroethane | | 0.4 | ND | ug/L |
| Tetrachloroethene | | 0.4 | 23 | ug/L |
| 1,1,1-Trichloroethane | | 0.4 | ND | ug/L |
| 1,1,2-Trichloroethane | | 0.4 | ND | ug/L |
| Trichloroethene | | 0.4 | ND | ug/L |
| Trichlorofluoromethane | | 0.4 | ND | ug/L |
| Vinyl chloride | | 2.0 | ND | ug/L |

Ref: SHELL, 1285 Bancroft Ave., San Leandro, Proj:81-423-01

SAMPLE DESCRIPTION: 091-01 09-17-91
LAB Job No: (-97846 )

| Parameter | Method | Reporting Limit | Results | Units |
|---|---|---|---|---|
| PETROLEUM HYDROCARBONS | | | -- | |
| VOLATILE (WATER) | | | -- | |
| DILUTION FACTOR * | | | 1 | |
| DATE ANALYZED | | | 09-22-91 | |
| METHOD GC FID/5030 | | | -- | |
| as Gasoline | | 0.05 | 0.05 * | mg/L |
| METHOD 602 | | | -- | |
| DILUTION FACTOR * | | | 1 | |
| DATE ANALYZED | | | 09-22-91 | |
| Benzene | | 0.5 | ND | ug/L |
| Ethylbenzene | | 0.5 | ND | ug/L |
| Toluene | | 0.5 | ND | ug/L |
| Xylenes, total | | 0.5 | ND | ug/L |
| PETROLEUM HYDROCARBONS | | | -- | |
| EXTRACTABLE (WATER) | | | -- | |
| DILUTION FACTOR * | | | 1 | |
| DATE EXTRACTED | | | 09-22-91 | |
| DATE ANALYZED | | | 09-23-91 | |
| METHOD GC FID/3510 | | | -- | |
| as Diesel | | 0.05 | 0.16 ** | mg/L |
| as Motor Oil | | 0.5 | ND | mg/L |

* NOTE: Petroleum hydrocarbon as gasoline result is due to a petroleum hydrocarbon that is heavier than gasoline.

** NOTE: Petroleum hydrocarbon as diesel result is due to a petroleum hydrocarbon that is lighter than diesel.

NET Pacific, Inc

Client Acct: 18.09 Date: 09-26-91
Client Name: Weiss Associates Page: 4
NET Log No: 9887

Ref: SHELL, 1285 Bancroft Ave, San Leandro, Proj: 81-423-01

SAMPLE DESCRIPTION: 091-21 09-17-91
LAB Job No: (-97847 )

| Parameter | Method | Reporting Limit | Results | Units |
|---|---|---|---|---|
| PETROLEUM HYDROCARBONS | | | -- | |
| VOLATILE (WATER) | | | -- | |
| DILUTION FACTOR * | | | 1 | |
| DATE ANALYZED | | | 09-22-91 | |
| METHOD GC FID/5030 | | | -- | |
| as Gasoline | | 0.05 | ND | mg/L |
| METHOD 602 | | | -- | |
| DILUTION FACTOR * | | | 1 | |
| DATE ANALYZED | | | 09-22-91 | |
| Benzene | | 0.5 | ND | ug/L |
| Ethylbenzene | | 0.5 | ND | ug/L |
| Toluene | | 0.5 | ND | ug/L |
| Xylenes, total | | 0.5 | ND | ug/L |

Ref: SHELL, 1285 Bancroft Ave., San Leandro, Proj:81-423-01

QUALITY CONTROL DATA

| Parameter | Reporting Limits | Units | Cal Verf Stand % Recovery | Blank Data | Spike % Recovery | Duplicate Spike % Recovery | RPD |
|---|---|---|---|---|---|---|---|
| Diesel | 0.05 | mg/L | 97 | ND | 91 | 92 | 1.1 |
| Motor Oil | 0.5 | mg/L | 119 | ND | N/A | N/A | N/A |

QUALITY CONTROL DATA

| Parameter | Reporting Limits | Units | Cal Verf Stand % Recovery | Blank Data | Spike % Recovery | Duplicate Spike % Recovery | RPD |
|---|---|---|---|---|---|---|---|
| Gasoline | 0.05 | mg/L | 109 | ND | 113 | 116 | 2.5 |
| Benzene | 0.5 | ug/L | 88 | ND | 107 | 107 | < 1 |
| Toluene | 0.5 | ug/L | 88 | ND | 105 | 105 | < 1 |

COMMENT: Blank Results were ND on other analytes tested.

QUALITY CONTROL DATA

| Parameter | Reporting Limits | Units | Cal Verf Stand % Recovery | Blank Data | Spike % Recovery | Duplicate Spike % Recovery | RPD |
|---|---|---|---|---|---|---|---|
| Chlorobenzene | 0.4 | ug/L | 120 | ND | 112 | 110 | 2.3 |
| 1,1-DCE | 0.4 | ug/L | 126 | ND | 118 | 119 | 1.3 |
| TCE | 0.4 | ug/L | 100 | ND | 84 | 84 | < 1 |

COMMENT: Blank Results were ND on other analytes tested.

NET Pacific, Inc

# KEY TO ABBREVIATIONS and METHOD REFERENCES

| | | |
|---|---|---|
| < | : | Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit. |
| * | : | Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values). |
| ICVS | : | Initial Calibration Verification Standard (External Standard). |
| mean | : | Average; sum of measurements divided by number of measurements. |
| mg/Kg (ppm) | : | Concentration in units of milligrams of analyte per kilogram of sample, (parts per million). |
| mg/L | : | Concentration in units of milligrams of analyte per liter of sample. |
| mL/L/hr | : | Milliliters per liter per hour. |
| MPN/100 mL | : | Most probable number of bacteria per one hundred milliliters of sample. |
| N/A | : | Not applicable. |
| NA | : | Not analyzed. |
| ND | : | Not detected; the analyte concentration is less than applicable listed reporting limit. |
| NTU | : | Nephelometric turbidity units. |
| RPD | : | Relative percent difference, 100 [Value 1 - Value 2]/mean value. |
| SNA | : | Standard not available. |
| ug/Kg (ppb) | : | Concentration in units of micrograms of analyte per kilogram of sample, (parts per billion). |
| ug/L | : | Concentration in units of micrograms of analyte per liter of sample. |
| umhos/cm | : | Micromhos per centimeter. |

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

9887

WEISS ASSOCIATES
5500 Shellmound St., Emeryville, CA 94608
Phone: 415-547-5420 FAX: 415-547-5043

Shell Service Station Address:
1285 BANCROFT AV
SAN LEANDRO, CA

Shell Contact: KURT MILLER
WIC #: 204-6852-0703
~~AFE #:~~ EXP 5461

Please send analytic results and a copy of the signed chain of custody form to:
TOM FOJUT

Project ID: 81-423-01

CHAIN-OF-CUSTODY RECORD AND ANALYTIC INSTRUCTIONS

Lab Personnel:
1) Specify analytic method and detection limit in report.
2) Notify us if there are any anomalous peaks on GC or other scans.
3) ANY QUESTIONS/CLARIFICATIONS: CALL US.

Sampled by: Bruce Beale

Laboratory Name: NET Pacific

| No. of Containers | Sample ID | Container Type | Sample Date | Vol[2] | Fil[3] | Ref[4] | Preservative (specify) | Analyze for | Analytic Method | Turn[5] | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 091-01 | W/cV | 9/17/91 | 40ml | No | yes | None | BOB 9/17 ~~EPA~~ TPH-G/BETX | EPA 8015/602 | N | |
| " | " | W/cV | 9/17/91 | 40ml | No | yes | None | HVOCs | EPA 601 | N | |
| " | " | W/BG-Py | 9/17/91 | 1l | No | yes | None | TPH-D | EPA 8015 | N | |
| 3 | 091-21 | W/cV | 9/17/91 | 40ml | No | yes | None | TPH-G/BETX | EPA 8015/602 | N | |

CUSTODY SEALED 9/18/91 @ 1900 [redacted]

1 Bruce Beale, 9/17/91 15:30
Released by (Signature), Date

1 Weiss Associates
Affiliation

2 [redacted] 9/18/91 9:10
Received by (Signature), Date

2 Weiss
Affiliation

3 [redacted] 9/18/91 16:03
Released by (Signature), Date

3 Weiss
Affiliation

4 [redacted] 9/18/91 16:08
Shipping Carrier, Method, Date

4 NET
Affiliation

5 [redacted] 9/18/91
Released by (Signature), Date

5 NET
Affiliation

6 [redacted] 9/19/91
Received by Lab Personnel, Date

6 NET Pacific 0800
Affiliation, Telephone

x yes
Seal Intact?

1 Sample Type Codes: W = Water, S = Soil, Describe Other; Container Type Codes: V = VOA/Teflon Septa, P = Plastic, C or B - Clear/Brown Glass, Describe Other;
Cap Codes: PT = Plastic, Teflon Lined 2 = Volume per container; 3 = Filtered (Y/N); 4 = Refrigerated (Y/N)
5 Turnaround [N = Normal, W = 1 Week, R = 24 Hour, HOLD (write out)]

ADDITIONAL COMMENTS, CONDITIONS, PROBLEMS:
Stored overnight 9/17/91 → 9/18/91 in a locked secure place

F:\ALL\ADMIN\FORMS\COCSHELL.WP2

revised 11/15/91

WEISS ASSOCIATES
Geologic and Environmental Services
Fax: 415-547-5043 Phone: 415-547-5420
5500 Shellmound Street, Emeryville, CA 94608

**September 23, 1991**

Mr. Scott O. Seery
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re: Shell Service Station
WIC #204-6852-0703
**1285 Bancroft Avenue**
**San Leandro, CA 94577**
WA Job #81-423-01

Dear Mr. Seery:

As you requested in your August 22, 1991 letter to Jack Brastad of Shell Oil, outlined below is Weiss Associates' (WA) proposed Scope of Work (SOW) for a subsurface investigation at the subject Shell Service Station (Figure 1). WA is submitting this SOW on behalf of Shell Oil. The objective of the work is to determine the sources and horizontal extent of hydrocarbons and other compounds detected in soil and ground water, and to determine the ground water gradient and flow direction. Presented below is a an outline of our proposed SOW.

PROPOSED SCOPE OF WORK

Our proposed SOW for the investigation is to:

1) Prepare a site safety plan based upon the site history, previous work and analytic results for soil and ground water samples collected at the site. The safety plan will identify potential site hazards and specify procedures to protect site workers and the public,

2) Obtain well construction permits from Alameda County Flood Control and Water Conservation District (Zone 7) to drill two on-site soil borings. Based on the documented regional ground water flow direction toward the west,[1] the location

[1] Alameda County Flood Control and Water Conservation District, 1988, Geohydrology and Groundwater - Quality Overview, East Bay Plain Area, Alameda County, California, 205(J) Report, 83 pp. and 6 appendices.

of site structures and the location of the former waste oil tank excavation, we will drill one soil boring down-gradient and a second boring up-gradient of the former underground storage tanks (USTs) and pumps at the proposed locations shown on Figure 1. Soil samples for subsurface hydrogeologic description will be collected and submitted to a Shell-approved state-certified laboratory under chain-of-custody for analysis of:

- Total petroleum hydrocarbons as gasoline (TPH-G) by modified EPA Method 8015,
- Aromatic hydrocarbons including benzene, ethylbenzene, toluene and xylenes (BETX) by EPA Method 8020,
- Halogenated volatile organic compounds (HVOCs) by EPA Method 8010, and

The soil sample just above the water table in each boring will also be analyzed for:

- TPH as Diesel (TPH-D) by modified EPA Method 8015.

Based on the results of these analyses, we may analyze the samples for additional compounds as per California Regional Water Quality Control Board (WQCB) guidelines.[2]

3) Complete the borings as 4-inch-diameter ground water monitoring wells,

4) Develop the wells, collect water samples, and analyze the samples for:

- TPH-G and D by modified EPA Method 8015,
- BETX by EPA Method 8020, and
- HVOCs by EPA Method 8010.

The results of the above analyses will determine whether analysis for additional compounds is necessary for future samplings.

5) Survey the top-of-casing elevations of all the wells relative to mean sea level and verify the ground water gradient beneath the site. Water table elevation data will then be tabulated and a ground water elevation contour map will be prepared,

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[2] North Coast, San Francisco Bay and Central Valley Regional Water Quality Control boards, June 2, 1988 (revised November 9, 1989), Regional Board Staff Recommendations for Initial Evaluation and Investigation of Underground Tanks, 18 pp.

6) Arrange for disposal of the drill cuttings and well purge water. Drill cuttings will be stockpiled onsite on and covered by plastic sheeting pending analytic results for the composite samples. Based on the analytic results, the soil will be transported to an appropriate facility for disposal by a licensed waste hauler, and will be properly tracked and documented. Ground water removed from the well will be temporarily stored onsite in 55-gallon drums pending analytic results,

7) Report the analytic results and construction details for all wells in a subsurface investigation report once the extent of dissolved hydrocarbons in soil and ground water is adequately defined. The report will include historic ground water elevation and quality data as well as boring logs for all site wells.

SCHEDULE

We expect to begin drilling at this site by the end of October 1991. Well development and initial water sampling will be scheduled for the week following drilling. A report presenting the results of the investigation will be submitted within 45 days after completion of the field activities.

Please call Kurt Miller of Shell Oil (415-685-3853) or Joe Theisen if you have questions about our proposed SOW. We trust that this work plan meets your needs.

Sincerely,
Weiss Associates


Mariette Shin
Staff Geologist

Joseph P. Theisen
Senior Project Hydrogeologist

MMS/JPT:fcr

E:\ALL\SHELL\423WPSE1.WP

cc: Mr. Kurt Miller, Shell Oil, P.O. Box 5278, Concord, CA 94524

Lester Feldman, California Regional Water Quality Control Board - San Francisco Bay Region, 1800 Harrison Street, Oakland, California 94612

WEISS ASSOCIATES
Geologic and Environmental Services
Fax: 415-547-5043 Phone: 415-547-5420
5500 Shellmound Street, Emeryville, CA 94608

# TRANSMITTAL LETTER

FROM: Mariette Shin DATE: September 23, 1991

TO: Mr. Scott O. Seery
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

VIA: __X__ First Class Mail
_____ Fax _____ pages
_____ UPS (Surface)
_____ Federal Express
_____ Courier

SUBJECT: Shell Service Station WIC #204-6852-0703 JOB: 81-423-01
[redacted]
San Leandro, CA 94577

AS:
_____ We discussed on the telephone on _____
__X__ You requested by letter on August 22, 1991
_____ We believe you may be interested
_____ Is required

WE ARE SENDING:
__X__ Enclosed
_____ Under Separate Cover Via _____

1. A workplan outlining proposed additional work for the above-referenced site

FOR:
_____ Your information
__X__ Your use
__X__ Your review & comments
_____ Return to you

PLEASE:
__X__ Keep this material
_____ Return by _____
_____ Acknowledge receipt

MESSAGE: Please call if you have any questions.

A:\TRANS