$520 - 535 = 0.4$



The A.P.A. Fund, Ltd.
1904 Franklin Street, Suite 501
Oakland, Ca. 94612

July 27, 1995

① Need QMR 60 days after field work
② If P2 wells recharges slowly, do not purge before sampling.
③ Need CAP.

Ms. Eva Chu
Alameda County Health Services Agency
Department of Environmental Health
UST Local Oversight Group
80 Swan Way, Room 200
Oakland, Ca. 94621

RE: 2801 MacArthur Blvd., Oakland, Ca.
STID 23

Dear Ms. Chu:

Enclosed is the quarterly groundwater monitoring report for the above referenced site. The report presents the results from ground water sampling conducted in April 1995.

Please contact Aniko Molnar at (714) 546-0484 if you have any questions.

Sincerely,

Nicholas D. Molnar
General Partner
A.P.A. Fund, Ltd.

④ Possible SVE

Enclosure

cc: Rich Hiett, RWQCB
Raymond W. Yu (w/o enclosure)

R. William Rudolph, Jr., PE
Thomas E. Cundey, PE
Jeriann N. Alexander, PE

June 28, 1995
SCI 838.002

APA Fund Ltd.
c/o Mr. Nicholas Molnar
1904 Franklin Street, Suite 501
Oakland, California 94612

**Quarterly Groundwater Monitoring**
**Sampling Event - April 1995**
***2801 MacArthur Boulevard***
**Oakland, California**

Dear Mr. Molnar:

This letter presents quarterly groundwater monitoring results for the referenced site. Monitoring services were provided by Subsurface Consultants, Inc. (SCI) on behalf of the A.P.A. Fund Limited. Groundwater monitoring has been performed in accordance with the workplan by Streamborn dated January 31, 1992. The monitoring was required by the Alameda County Health Care Services Agency (ACHCSA), due to an underground gasoline tank release. The location of the site is shown on Plate 1.

**Groundwater Sampling**

On April 26, 1995, the groundwater monitoring event was performed. For this event wells M2 thru M6 and piezometer P2 were purged and sampled. The groundwater monitoring event consisted of (1) measuring groundwater levels in all the wells & piezometers using an electric well sounder, (2) checking for free product in the wells, (3) purging water from each well to be sampled until pH, conductivity and temperature had stabilized (approximately 3 well volumes), and (4) after the wells had recovered to at least 50 percent of their initial level, sampling the wells with new disposable bailers. Piezometer P2 recharges very slowly, hence it was purged dry and allowed to recharge for 4 hours, purged dry again and sampled when the well had recharged sufficiently to submerge the sampler. The samples were retained in containers pre-cleaned by the supplier in accordance with EPA protocol. The containers were placed in an ice filled cooler and remained iced until delivery to the analytical laboratory. Chain-of-Custody documents accompanied the samples to the laboratory. Purge water is stored on-site in 55-gallon steel drums. The groundwater level data generated to date are presented in Table 1.

## Analytical Testing

Analytical testing was performed by Curtis & Tompkins, Ltd., a laboratory certified by the State of California Department of Health Services for hazardous waste and water testing. A sample from each well was analyzed for the following:

1. Total volatile hydrocarbons, as gasoline (TVH-gas), sample preparation and analysis using EPA Methods 5030 (purge and trap) and 8015 modified (gas chromatograph coupled to a flame ionization detector), and

2. Benzene, toluene, xylenes and ethylbenzene (BTXE) sample preparation and analysis using EPA Methods 5030 and 8020 (gas chromatograph coupled to a photoionization detector).

A summary of the current and previous analytical test results are presented in Table 2. Well sampling forms, analytical test reports, and Chain-of-Custody documents are attached. All sampling events prior to May 17, 1993 were conducted by Streamborn, the previous environmental consultant.

## Conclusions

The groundwater level data indicates that the regional groundwater flow direction is toward the south at a gradient of approximately 6 to 9 percent. This groundwater flow direction and gradient generally remain consistent with previous measurements.

In general, the analytical results indicate that elevated concentrations of gasoline and BTXE remain in groundwater. The highest concentrations of gasoline/BTXE have been detected in piezometer P2 and well M2. Gasoline was not detected at concentrations above laboratory reporting limits in wells M3 or M5. No free product was measured in any of the wells. However, a sheen was observed in piezometer P2 and well M2 and a petroleum hydrocarbon odor was observed in piezometer P2 and wells M2 and M4.

In accordance with our monitoring plan, the next monitoring event is scheduled for July 1995. If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.

Marianne F. Watada

Marianne F. Watada
Project Engineer

Jeriann N. Alexander

Jeriann N. Alexander
Civil Engineer 40469 (expires 3/31/99)

MFW:JNA:sld

Attachments:
Table 1 - Groundwater Elevation Data
Table 2 - Hydrocarbon Concentrations in Groundwater
Plate 1 - Site Plan
Well Sampling Forms
Analytical Test Reports
Chain-of-Custody Records

4 copies submitted

cc: Ms. Aniko Molnar
Environmental Consultant
600 Anton Boulevard, Suite 1250
Costa Mesa, California 92626

**Table 2**
**Hydrocarbon Concentrations in Groundwater**

| Sample Location | Sample Date | TVH (ug/l) | Benzene (ug/l) | Toluene (ug/l) | Ethyl-benzene (ug/l) | Xylenes (ug/l) |
|---|---|---|---|---|---|---|
| P-1 | 1/16/92 | 6,700 | 500 | 4.4 | 80 | 40 |
| | 3/9/93 | 5,600 | 1,100 | 29 | 63 | 120 |
| P-2 | 11/6/90 | 33,000 | 4,700 | 2,100 | 380 | 630 |
| | 1/16/92 | 99,000 | 6,500 | 12,000 | 2,000 | 16,000 |
| | 3/9/93 | 70,000 | 5,900 | 11,000 | 2,100 | 12,000 |
| | 5/17/93 | 87,000 | 6,600 | 13,000 | 2,200 | 13,000 |
| | 8/17/93 | 80,000 | 5,800 | 12,000 | 2,000 | 12,000 |
| | 12/13/93 | 100,000 | 5,600 | 12,000 | 2,200 | 14,000 |
| | 3/7/94 | 77,000 | 5,100 | 11,000 | 2,000 | 12,000 |
| | 8/23/94 | 70,000 | 3,800 | 8,700 | 1,500 | 9,900 |
| | 4/27/95 | 44,000 | 3,600 | 8,500 | 1,500 | 9,300 |
| P-3 | 8/17/93 | 900 | 180 | 65 | 10 | 93 |
| M-2 | 5/7/91 | 16,000 | 1,300 | 950 | 170 | 890 |
| | 1/16/92 | 22,000 | 960 | 570 | 370 | 1,800 |
| | 3/9/93 | 27,000 | 1,100 | 970 | 490 | 1,400 |
| | 5/17/93 | 17,000 | 1,200 | 770 | 480 | 1,300 |
| | 8/17/93 | 20,000 | 1,700 | 910 | 540 | 1,400 |
| | 12/13/93 | 51,000 | 2,200 | 1,400 | 700 | 2,600 |
| | 3/7/94 | 28,000 | 1,400 | 900 | 640 | 1,800 |
| | 8/23/94 | 21,000 | 1,600 | 540 | 520 | 1,100 |
| | 4/26/95 | 14,000 | 1,200 | 510 | 490 | 870 |
| M-3 | 5/17/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 8/17/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 12/13/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 3/7/94 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 8/23/94 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 4/27/95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| M-4 | 5/17/93 | 7,500 | 1,200 | 230 | 11 | 350 |
| | 8/17/93 | 13,000 | 3,000 | 330 | 130 | 700 |
| | 12/13/93 | 11,000 | 2,700 | 190 | 90 | 360 |

**Table 2**
**Hydrocarbon Concentrations in Groundwater**

| Sample Location | Sample Date | TVH (ug/l) | Benzene (ug/l) | Toluene (ug/l) | Ethyl-benzene (ug/l) | Xylenes (ug/l) |
|---|---|---|---|---|---|---|
| | 3/7/94 | 3,800 | 980 | 33 | 49 | 140 |
| | 8/23/94 | 19,000 | 5,800 | 200 | 460 | 630 |
| | 4/27/95 | 2,300 | 510 | 40 | 69 | 120 |
| M-5 | 8/23/94 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 4/27/95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| M-6 | 10/11/94 | 3,600 | 340 | 27 | 65 | 240 |
| | 4/26/95 | 150 | 9.3 | <0.5 | 5.6 | 1.7 |

TVH = Total volatile hydrocarbons, as gasoline
ug/l = Micrograms per liter = parts per billion
<50 = Analyte not present at a concentration above the stated detection limit.

**Table 1**
**Groundwater Elevation Data**

| Well | TOC[1] Elevation (feet) | Date | Groundwater Depth (feet) | Groundwater Elevation (feet) |
|---|---|---|---|---|
| M1 | 1000 | 10/24/90 | 36.1 | 963.9 |
| | | 10/25/90 | 36.1 | 963.9 |
| | | 11/2/90 | 36.4 | 963.6 |
| | | 11/6/90 | 36.8 | 963.2 |
| | | 11/16/90 | 36.8 | 963.2 |
| | | 11/23/90 | 36.9 | 963.1 |
| | | 11/28/90 | 37.0 | 963.0 |
| | | 12/5/90 | 37.2 | 963.0 |
| | | 3/18/91 | 35.8 | 964.2 |
| | | 3/29/91 | 32.4 | 967.6 |
| | | 4/3/91 | 31.9 | 968.1 |
| | | 4/9/91 | 31.6 | 968.4 |
| | | 4/16/91 | 31.2 | 968.8 |
| | | 1/23/92 | 35.5 | 964.5 |
| | | 3/9/93 | 29.1 | 970.9 |
| | | 6/1/93 | 27.5 | 972.9 |
| | | 12/13/93 | 33.9 | 966.1 |
| | | 3/7/94 | 32.3 | 967.7 |
| | | 8/23/94 | 32.3 | 967.7 |
| | | 10/11/94 | 34.1 | 965.9 |
| | | 4/26/95 | 24.4 | 975.6 |
| M2 | 999.6 | 4/30/91 | 31.1 | 968.5 |
| | | 5/7/91 | 31.3 | 968.3 |
| | | 1/16/92 | 35.1 | 964.5 |
| | | 3/9/93 | 33.6 | 966.0 |
| | | 5/17/93 | 27.2 | 972.4 |
| | | 6/1/93 | 27.6 | 972.0 |
| | | 8/17/93 | 30.4 | 969.2 |
| | | 12/13/93 | 34.0 | 965.6 |
| | | 3/7/94 | 30.1 | 969.5 |
| | | 8/23/94 | 32.3 | 967.3 |
| | | 10/11/94 | 34.2 | 965.4 |
| | | 4/26/95 | 24.4 | 975.2 |

**Table 1**
**Groundwater Elevation Data**

| Well | TOC[1] Elevation (feet) | Date | Groundwater Depth (feet) | Groundwater Elevation (feet) |
|---|---|---|---|---|
| M3 | 992.8 | 5/17/93 | 22.2 | 970.6 |
| | | 6/1/93 | 23.3 | 969.5 |
| | | 8/17/93 | 25.0 | 967.8 |
| | | 12/13/93 | 25.8 | 967.0 |
| | | 3/7/94 | 23.1 | 969.7 |
| | | 8/23/94 | 25.8 | 967.0 |
| | | 10/11/94 | 27.4 | 965.4 |
| | | 4/26/95 | 19.6 | 973.2 |
| M4 | 999.6 | 5/17/93 | 33.8 | 965.8 |
| | | 6/1/93 | 32.5 | 965.7 |
| | | 12/13/93 | 36.8 | 962.8 |
| | | 3/7/94 | 33.0 | 966.6 |
| | | 8/23/94 | 35.4 | 964.2 |
| | | 10/11/94 | 37.1 | 962.5 |
| | | 4/26/95 | 29.8 | 969.8 |
| M5 | 992.9 | 8/23/94 | 31.8 | 961.1 |
| | | 10/11/94 | 33.6 | 959.3 |
| | | 4/26/95 | 20.5 | 972.4 |
| M6 | 997.7 | 8/23/94 | 41.2 | 956.6 |
| | | 10/11/94 | 38.2 | 959.5 |
| | | 4/26/95 | 27.8 | 969.9 |
| P1 | 999.6 | 10/24/90 | 37.9 | 961.7 |
| | | 10/25/90 | 38.0 | 961.6 |
| | | 11/2/90 | 38.4 | 961.2 |
| | | 11/6/90 | 38.7 | 960.9 |
| | | 11/16/90 | 38.3 | 961.3 |
| | | 11/23/90 | 38.1 | 961.5 |
| | | 11/28/90 | 38.3 | 961.3 |
| | | 12/5/90 | 38.2 | 961.4 |
| | | 3/18/91 | 37.8 | 961.8 |
| | | 3/29/91 | 36.9 | 962.7 |

**Table 1**
**Groundwater Elevation Data**

| Well | TOC[1] Elevation (feet) | Date | Groundwater Depth (feet) | Groundwater Elevation (feet) |
|---|---|---|---|---|
| | | 4/3/91 | 36.8 | 962.8 |
| | | 4/9/91 | 36.9 | 962.7 |
| | | 4/16/91 | 36.7 | 962.9 |
| | | 4/18/91 | 36.8 | 962.8 |
| | | 4/30/91 | 36.3 | 963.3 |
| | | 5/7/91 | 36.2 | 963.4 |
| | | 1/16/92 | 36.6 | 963.0 |
| | | 3/9/93 | 32.8 | 966.8 |
| | | 6/1/93 | 30.0 | 969.6 |
| | | 12/13/93 | 33.7 | 965.9 |
| | | 3/7/94 | 32.6 | 967.0 |
| | | 8/23/94 | 32.7 | 966.9 |
| | | 10/11/94 | 33.5 | 966.1 |
| | | 4/26/95 | 27.6 | 972.0 |
| P2 | 997.8 | 10/24/90 | 41.1 | 956.7 |
| | | 10/25/90 | 40.6 | 957.2 |
| | | 11/2/90 | 38.4 | 959.4 |
| | | 11/6/90 | 37.0 | 960.8 |
| | | 11/16/90 | 37.4 | 960.4 |
| | | 11/23/90 | 35.9 | 961.9 |
| | | 11/28/90 | 35.4 | 962.4 |
| | | 2/5/90 | 35.03 | 962.83 |
| | | 3/18/91 | 31.43 | 966.43 |
| | | 3/29/91 | 28.23 | 969.63 |
| | | 4/3/91 | 26.83 | 971.03 |
| | | 4/9/91 | 26.53 | 971.33 |
| | | 4/16/91 | 26.53 | 971.33 |
| | | 4/18/91 | 26.53 | 971.33 |
| | | 4/30/91 | 26.73 | 971.13 |
| | | 5/7/91 | 27.03 | 970.83 |
| | | 1/16/92 | 33.73 | 964.13 |
| | | 3/9/93 | 23.63 | 974.2 |
| | | 5/17/93 | 23.73 | 974.1 |
| | | 6/1/93 | 24.43 | 973.4 |

**Table 1**
**Groundwater Elevation Data**

| Well | TOC[1] Elevation (feet) | Date | Groundwater Depth (feet) | Groundwater Elevation (feet) |
|---|---|---|---|---|
| | | 8/17/93 | 28.33 | 969.5 |
| | | 12/13/93 | 31.03 | 966.8 |
| | | 3/7/94 | 25.43 | 972.4 |
| | | 8/23/94 | 30.3 | 967.5 |
| | | 10/11/94 | 32.3 | 965.5 |
| | | 4/26/95 | 19.9 | 977.9 |
| P3 | 999.1 | 3/29/91 | 24.7 | 974.4 |
| | | 4/3/91 | 25.1 | 974 |
| | | 4/9/91 | 25.9 | 973.2 |
| | | 4/16/91 | 26.2 | 972.9 |
| | | 4/18/91 | 26.2 | 972.9 |
| | | 4/30/91 | 26.8 | 972.3 |
| | | 5/7/91 | 27.4 | 971.7 |
| | | 1/23/92 | 32.5 | 966.6 |
| | | 3/9/93 | 24.8 | 974.3 |
| | | 6/4/93 | 23.9 | 975.2 |
| | | 8/17/93 | 28.5 | 970.6 |
| | | 12/13/93 | 29.3 | 969.8 |
| | | 3/7/94 | 25.0 | 974.1 |
| | | 8/23/94 | 30.1 | 969 |
| | | 10/11/94 | 32.0 | 967.1 |
| | | 4/26/95 | 20.5 | 978.6 |

1 Elevations relative to site-specific datum. Temporary Bench Mark No. 1, top of concrete at west corner of northernmost pump island. Assumed elevation = 1,000.00 feet.

MAC ARTHUR BOULEVARD

COOLIDGE AVENUE

GEORGIA STREET

FORMER GASOLINE TANKS

FORMER WASTE OIL TANK

STATION

PUMP ISLAND

PUMP ISLAND

B-1 B-2 B-3 B-4 B-5 B-6 B-7 B-8 B-9 B-10 B-11 B-12

M-1 M-2 M-3 M-4 M-5 M-6

P-1 P-2 P-3

976 977 975 974 973 972 971 970

| Date | TVH | B | T | E | X |
|---|---|---|---|---|---|
| 8/17/93 | 900 | 180 | 65 | 10 | 93 |

| Date | TVH | B | T | E | X |
|---|---|---|---|---|---|
| 11/6/90 | 33,000 | 4,700 | 2,100 | 380 | 630 |
| 1/16/92 | 99,000 | 6,500 | 12,000 | 2,000 | 16,000 |
| 3/9/93 | 70,000 | 5,900 | 11,000 | 2,100 | 12,000 |
| 5/17/93 | 87,000 | 6,600 | 13,000 | 2,200 | 13,000 |
| 8/17/93 | 80,000 | 5,800 | 12,000 | 2,000 | 12,000 |
| 12/13/93 | 100,000 | 5,800 | 12,000 | 2,200 | 14,000 |
| 3/7/94 | 77,000 | 5,100 | 11,000 | 2,000 | 12,000 |
| 8/23/94 | 70,000 | 3,800 | 8,700 | 1,500 | 9,900 |
| 04/27/95 | 44,000 | 3,800 | 8,500 | 1,500 | 9,300 |

| Date | TVH | B | T | E | X |
|---|---|---|---|---|---|
| 5/7/91 | 16,000 | 1,300 | 950 | 170 | 890 |
| 1/16/92 | 22,000 | 960 | 570 | 370 | 1,800 |
| 3/9/93 | 27,000 | 1,100 | 970 | 490 | 1,400 |
| 5/17/93 | 17,000 | 1,200 | 770 | 480 | 1,300 |
| 8/17/93 | 20,000 | 1,700 | 910 | 540 | 1,400 |
| 12/13/93 | 51,000 | 2,200 | 1,400 | 700 | 2,600 |
| 3/7/94 | 28,000 | 1,400 | 900 | 640 | 1,800 |
| 8/23/94 | 21,000 | 1,600 | 540 | 520 | 1,100 |
| 04/26/95 | 14,000 | 1,200 | 510 | 490 | 870 |

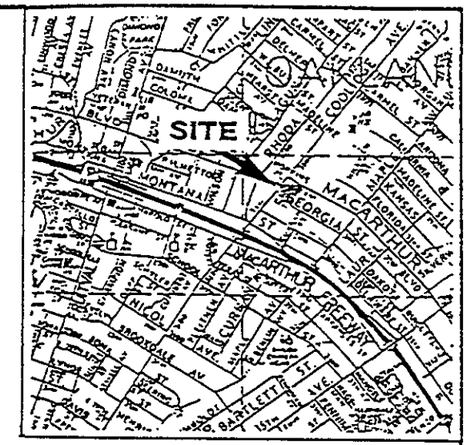
| Date | TVH | B | T | E | X |
|---|---|---|---|---|---|
| 1/16/92 | 6,700 | 500 | 4.4 | 80 | 40 |
| 3/9/93 | 5,600 | 1,100 | 29 | 63 | 120 |

| Date | TVH | B | T | E | X |
|---|---|---|---|---|---|
| 5/17/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 8/17/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 12/13/93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 3/7/94 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 8/23/94 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 04/27/95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |

| Date | TVH | B | T | E | X |
|---|---|---|---|---|---|
| 8/23/94 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |
| 04/27/95 | <50 | <0.5 | <0.5 | <0.5 | <0.5 |

| Date | TVH | B | T | E | X |
|---|---|---|---|---|---|
| 5/17/93 | 7,500 | 1,200 | 230 | 11 | 350 |
| 8/17/93 | 13,000 | 3,000 | 330 | 130 | 700 |
| 12/13/93 | 11,000 | 2,700 | 190 | 90 | 360 |
| 3/7/94 | 3,800 | 980 | 33 | 49 | 140 |
| 8/23/94 | 19,000 | 5,800 | 200 | 460 | 630 |
| 04/27/95 | 2,300 | 510 | 40 | 69 | 120 |

| Date | TVH | B | T | E | X |
|---|---|---|---|---|---|
| 10/11/94 | 3600 | 340 | 27 | 65 | 240 |
| 04/26/95 | 150 | 9.3 | <0.5 | 5.6 | 1.7 |




VICINITY MAP

- TEST BORING BY SCI
- MONITORING WELL BY SCI
- TEST BORING BY OTHERS
- MONITORING WELL BY OTHERS
- FORMER EXCAVATION
- PROPERTY BOUNDARY
- EXISTING BUILDING
- GROUNDWATER CONTOUR ELEVATIONS (FEET) (4/26/95)

N

APPROXIMATE SCALE (feet)

0 30 60

# SUMMARY OF TVH AND BTEX CONCENTRATIONS IN GROUNDWATER

Subsurface Consultants

2801 MAC ARTHUR BLVD – OAKLAND, CA

| JOB NUMBER | DATE | APPROVED |
|---|---|---|
| 838.002 | 11/7/94 | |

PLATE 6

# GROUNDWATER DEPTHS

Project Name: APA Fund

Job No.: 838.002

Measured by: DWA

| Well | Date | Time | Groundwater Depth (feet) | Comments |
|---|---|---|---|---|
| P-1 | 4/26/95 | 0925 | 27.57 | |
| P-2 | | 0853 | 19.90 | |
| P-3 | | 0945 | 20.52 | |
| M-1 | | 0841 | 24.35 | |
| M-2 | | 0847 | 24.44 | |
| M-3 | | 0828 | 19.62 | |
| M-4 | | 0935 | 29.76 | |
| M-5 | | 0905 | 20.53 | |
| M-6 | | 0915 | 27.79 | |
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# WELL SAMPLING FORM

Project Name: APA Fund  Well Number: P-2

Job No.: 838.002  Well Casing Diameter: 2 inch

Sampled By: DWA  Date: 4/27/95

TOC Elevation: _____  Weather: cloudy

Depth to Casing Bottom (below TOC) 42.50 feet

Depth to Groundwater (below TOC) 19.90 feet

Feet of Water in Well 22.60 feet

Depth to Groundwater When ~~80~~ 50% Recovered 31.20 feet

Casing Volume (feet of water x Casing DIA $^2$ x 0.0408) 3.7 gallons

Depth Measurement Method Tape & Paste / (Electronic Sounder) / Other

Free Product none

Purge Method disposable bailer

recharge rate 1" per 2 min.

## FIELD MEASUREMENTS

| Gallons Removed | pH | Temp (°c) | Conductivity (micromhos/cm) | Salinity S% | Comments |
|---|---|---|---|---|---|
| 3 | 11.13 | 20.0 | 750 | | clear/strong odor/sheen |
| 6 | 10.34 | 20.0 | 700 | | semi-clear |
| 9 | 11.26 | 20.0 | 875 | | murky |
| 12 | 11.67 | 20.0 | 1400 | | increasing turbidity |
| 13 | 12.14 | 20.5 | 2825 | | Dry @ 13 gallons purged dry twice |

Total Gallons Purged ~~12~~ gallons

Depth to Groundwater Before Sampling (below TOC) 40.00' feet

Sampling Method disposable bailer

Containers Used 3 (40 ml) _____ (liter) _____ (pint)

| Subsurface Consultants | JOB NUMBER | DATE | APPROVED | PLATE |
|---|---|---|---|---|

## WELL SAMPLING FORM

Project Name: APA Fund  Well Number: M-2

Job No.: 638.002  Well Casing Diameter: 2 inch

Sampled By: DWA  Date: 4/26/95

TOC Elevation: _____  Weather: sunny

Depth to Casing Bottom (below TOC) ~~44.50~~ 45.00 feet

Depth to Groundwater (below TOC) ~~24.35~~ 24.44 feet

Feet of Water in Well ~~20.15~~ 20.56 feet

Depth to Groundwater When ~~80~~ 50% Recovered 34.72 feet

Casing Volume (feet of water x Casing DIA $^2$ x 0.0408) 3.3 gallons

Depth Measurement Method Tape & Paste / (Electronic Sounder) / Other

Free Product none

Purge Method disposable bailer

## FIELD MEASUREMENTS

| Gallons Removed | pH | Temp (°c) | Conductivity (micromhos/cm) | Salinity S% | Comments |
|---|---|---|---|---|---|
| 2 | 6.79 | 22.5 | 1625 | | clear/strong odor |
| 4 | 6.77 | 22.0 | 1700 | | slight turbidity + sheen |
| 6 | 6.76 | 22.0 | 1775 | | increasing turbidity |
| 8 | 6.74 | 22.0 | 1775 | | slightly murky |
| 10 | 6.75 | 22.0 | 1725 | | murky/strong odor |

Total Gallons Purged 10 gallons

Depth to Groundwater Before Sampling (below TOC) 34.70' feet

Sampling Method disposable bailer

Containers Used 3 (40 ml) _____ (liter) _____ (pint)

| Subsurface Consultants | JOB NUMBER | DATE | APPROVED | PLATE |
|---|---|---|---|---|

## WELL SAMPLING FORM

Project Name: APA Fund  Well Number: M-3

Job No.: 838.002  Well Casing Diameter: 2 inch

Sampled By: DWA  Date: 4/27/95

TOC Elevation: _____  Weather: cloudy

Depth to Casing Bottom (below TOC) 39.50 feet

Depth to Groundwater (below TOC) 19.62 feet

Feet of Water in Well 19.88 feet

Depth to Groundwater When 50 ~~80~~% Recovered 29.56 feet

Casing Volume (feet of water x Casing DIA $^2$ x 0.0408) 3.3 gallons

Depth Measurement Method Tape & Paste / (Electronic Sounder) / Other

Free Product none

Purge Method disposable bailer

### FIELD MEASUREMENTS

| Gallons Removed | pH | Temp (°c) | Conductivity (micromhos/cm) | Salinity S% | Comments |
|---|---|---|---|---|---|
| 2 | 6.77 | 19.0 | 350 | | clear/no odor |
| 4 | 6.76 | 18.5 | 355 | | murky |
| 6 | 6.79 | 18.5 | 360 | | |
| 8 | 6.74 | 18.5 | 360 | | |
| 10 | 6.73 | 18.5 | 370 | | |

Total Gallons Purged 10 gallons

Depth to Groundwater Before Sampling (below TOC) 27.00' feet

Sampling Method disposable bailer

Containers Used 3 (40 ml) _____ (liter) _____ (pint)

| Subsurface Consultants | JOB NUMBER | DATE | APPROVED | PLATE |
|---|---|---|---|---|

## WELL SAMPLING FORM

Project Name: APA Fund  Well Number: M-4

Job No.: 838.002  Well Casing Diameter: 2 inch

Sampled By: DWA  Date: 4/26/95

TOC Elevation: _____  Weather: Sunny

Depth to Casing Bottom (below TOC) 45.00 feet

Depth to Groundwater (below TOC) 29.76 feet

Feet of Water in Well 15.24 feet

Depth to Groundwater When ~~80~~ 50 % Recovered 37.38 feet

Casing Volume (feet of water x Casing DIA $^2$ x 0.0408) 2.5 gallons

Depth Measurement Method Tape & Paste / (Electronic Sounder) / Other

Free Product none

Purge Method disposable bailer

## FIELD MEASUREMENTS

| Gallons Removed | pH | Temp (°c) | Conductivity (micromhos/cm) | Salinity S% | Comments |
|---|---|---|---|---|---|
| 1 | 8.79 | 22.0 | 285 | | musky/moderate odor |
| 3 | 7.51 | 22.0 | 300 | | Decreasing turbidity |
| 5 | 7.27 | 22.0 | 325 | | ↓ |
| 7 | 7.19 | 22.0 | 370 | | clear |
| 9 | 7.15 | 22.0 | 360 | | |

Total Gallons Purged ~~disposable bailer~~ 9 gallons

Depth to Groundwater Before Sampling (below TOC) 37.30' @ 7:25 a.m. on 4/27/95 feet

Sampling Method disposable bailer

Containers Used 3 (40 ml) _____ (liter) _____ (pint)

| Subsurface Consultants | JOB NUMBER | DATE | APPROVED | PLATE |
|---|---|---|---|---|

## WELL SAMPLING FORM

Project Name: APA Fund  Well Number: M-5

Job No.: 838.002  Well Casing Diameter: 2 inch

Sampled By: DWA  Date: 4/26/95

TOC Elevation: _____  Weather: sunny

Depth to Casing Bottom (below TOC) 37.50 feet

Depth to Groundwater (below TOC) 20.53 feet

Feet of Water in Well 16.97 feet

Depth to Groundwater When 50% Recovered 29.02 feet

Casing Volume (feet of water x Casing DIA $^2$ x 0.0408) 2.8 gallons

Depth Measurement Method Tape & Paste / (Electronic Sounder) / Other

Free Product none

Purge Method disposable bailer

## FIELD MEASUREMENTS

| Gallons Removed | pH | Temp (°c) | Conductivity (micromhos/cm) | Salinity S% | Comments |
|---|---|---|---|---|---|
| 2 | 6.75 | 22.5 | 1200 | | clear/no odor |
| 4 | 6.96 | 22.0 | 1350 | | |
| 6 | 6.99 | 22.0 | 1425 | | |
| 8 | 7.01 | 22.0 | 1475 | | |
| 10 | 6.99 | 22.0 | 1500 | | semi-clear/no odor |

Total Gallons Purged 10 gallons

Depth to Groundwater Before Sampling (below TOC) ~~29~~ 21.75 @ 7:00 a.m. 4/27/95 feet

Sampling Method disposable bailer

*Containers Used* 3 (40 ml) _____ (liter) _____ (pint)

| Subsurface Consultants | JOB NUMBER | DATE | APPROVED | PLATE |
|---|---|---|---|---|

## WELL SAMPLING FORM

Project Name: APA Fund  Well Number: M-6

Job No.: 838.002  Well Casing Diameter: 2 inch

Sampled By: DWA  Date: 4/26/95

TOC Elevation: _____  Weather: Sunny

Depth to Casing Bottom (below TOC) 46.50 feet

Depth to Groundwater (below TOC) 27.79 feet

Feet of Water in Well 18.71 feet

Depth to Groundwater When ~~80~~ 50% Recovered 37.15 feet

Casing Volume (feet of water x Casing DIA $^2$ x 0.0408) 3.1 gallons

Depth Measurement Method Tape & Paste / (Electronic Sounder) / Other

Free Product none

Purge Method disposable bailer

### FIELD MEASUREMENTS

| Gallons Removed | pH | Temp (°c) | Conductivity (micromhos/cm) | Salinity S% | Comments |
|---|---|---|---|---|---|
| 0 | 7.68 | 20.0 | 400 | | clear/no odor |
| 1 | 7.70 | 19.5 | 425 | | semi-clear |
| 2 | 7.73 | 19.5 | 445 | | murky |
| 3 | 7. | 19.5 | 470 | | |
| | | | | | |

Total Gallons Purged 3.5 gallons

Depth to Groundwater Before Sampling (below TOC) 34.42 feet

Sampling Method disposable bailer

Containers Used 3 (40 ml) _____ (liter) _____ (pint)

| Subsurface Consultants | JOB NUMBER | DATE | APPROVED | PLATE |
|---|---|---|---|---|

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

# ANALYTICAL REPORT

Prepared for:

Subsurface Consultants
171 12th Street
Suite 201
Oakland, CA 94608

Date: 10-MAY-95
Lab Job Number: 120834
Project ID: 838.002
Location: A.P.A. Fund

Reviewed by: _____

Reviewed by: _____

LABORATORY NUMBER: 120834
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 838.002
LOCATION: A.P.A. FUND

DATE SAMPLED: 04/26,27/95
DATE RECEIVED: 04/27/95
DATE ANALYZED: 05/06,07/95
DATE REPORTED: 05/11/95
BATCH NO.: 20390

Total Volatile Hydrocarbons with BTXE in Aqueous Solutions
TVH by California DOHS Method/LUFT Manual October 1989
BTXE by EPA 5030/8020

| LAB ID | SAMPLE ID | TVH AS GASOLINE (ug/L) | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYL BENZENE (ug/L) | TOTAL XYLENES (ug/L) |
|---|---|---|---|---|---|---|
| 120834-001 | P-2 | 44,000 | 3,600 | 8,500 | 1,500 | 9,300 |
| 120834-002 | M-2 | 14,000 | 1,200 | 510 | 490 | 870 |
| 120834-003 | M-3 | ND(50) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) |
| 120834-005 | M-5 | ND(50) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) |
| 120834-006 | M-6 | 150 | 9.3 | ND(0.5) | 5.6 | 1.7 |
| METHOD BLANK | N/A | ND(50) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) |

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QA/QC SUMMARY: MS/MSD of 120847-016

| | |
|---|---|
| RPD, % | 3 |
| RECOVERY, % | 96 |

LABORATORY NUMBER: 120834
CLIENT: SUBSURFACE CONSULTANTS
PROJECT ID: 838.002
LOCATION: A.P.A. FUND

DATE SAMPLED: 04/27/95
DATE RECEIVED: 04/27/95
DATE ANALYZED: 05/09/95
DATE REPORTED: 05/11/95
BATCH NO.: 20511

Total Volatile Hydrocarbons with BTXE in Aqueous Solutions
TVH by California DOHS Method/LUFT Manual October 1989
BTXE by EPA 5030/8020

| LAB ID | SAMPLE ID | TVH AS GASOLINE (ug/L) | BENZENE (ug/L) | TOLUENE (ug/L) | ETHYL BENZENE (ug/L) | TOTAL XYLENES (ug/L) |
|---|---|---|---|---|---|---|
| 120834-004 | M-4 | 2,300 | 510 | 40 | 69 | 120 |
| METHOD BLANK | N/A | ND(50) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) |

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QA/QC SUMMARY: MS/MSD of 120816-005

| | |
|---|---|
| RPD, % | 8 |
| RECOVERY, % | 85 |

# CHAIN OF CUSTODY FORM

120834

PAGE ____ OF ____

PROJECT NAME: APA Fund

JOB NUMBER: 838.002 — LAB: Curtis & Tompkins

PROJECT CONTACT: M. Watada — TURNAROUND: Normal

SAMPLED BY: Dennis Alexander — REQUESTED BY: M. Watada

| LABORATORY I.D. NUMBER | SCI SAMPLE NUMBER | MATRIX | | | | | | CONTAINERS | | | | | | METHOD PRESERVED | | | | | SAMPLING DATE | | | | NOTES | ANALYSIS REQUESTED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WATER | SOIL | WASTE | AIR | | | VOA | LITER | PINT | TUBE | | | HCL | $H_2SO_4$ | $HNO_3$ | ICE | NONE | MONTH | DAY | YEAR | TIME | | EXTRACTABLE/HVOC |
| -1 | P-2 | X | | | | | | 3 | | | | | | X | | | X | | 04 | 27 | 95 | 1230 | | X |
| -2 | M-2 | X | | | | | | 3 | | | | | | X | | | X | | 04 | 26 | 95 | 1300 | | X |
| -3 | M-3 | X | | | | | | 3 | | | | | | X | | | X | | 04 | 27 | 95 | 1045 | | X |
| -4 | M-4 | X | | | | | | 3 | | | | | | X | | | X | | 04 | 27 | 95 | 0725 | | X |
| -5 | M-5 | X | | | | | | 3 | | | | | | X | | | X | | 04 | 27 | 95 | 0710 | | X |
| -6 | M-6 | X | | | | | | 3 | | | | | | X | | | X | | 04 | 26 | 95 | 1100 | | X |

## CHAIN OF CUSTODY RECORD

| RELEASED BY: (Signature) | DATE / TIME | RECEIVED BY: (Signature) | DATE / TIME |
|---|---|---|---|
| Dennis Alexander | 4/27/95 1:15 p.m. | | |
| RELEASED BY: (Signature) | DATE / TIME | RECEIVED BY: (Signature) | DATE / TIME |
| | | | |
| RELEASED BY: (Signature) | DATE / TIME | RECEIVED BY: (Signature) | DATE / TIME |
| | | | |
| RELEASED BY: (Signature) | DATE / TIME | RECEIVED BY: (Signature) | DATE / TIME |
| | | Tracy Bobzin | 4/27/95 1:20 |

COMMENTS & NOTES:


Subsurface Consultants, Inc.

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