

January 16, 1992
SCI 537.004

Mr. Ignacio Dayrit
City of Emeryville
2200 Powell Street, 12th Floor
Emeryville, California 94608

September and December 1991 Monitoring Results
Groundwater Monitoring Wells
4300 San Pablo Avenue
Emeryville, California

Dear Mr. Dayrit:

This letter records results of the September and December 1991 groundwater monitoring well sampling and analytical testing events at the referenced site. A description of groundwater monitoring well installation and the results of the previous sampling and analytical testing events were presented in correspondence dated July 13, 1990 and January 8, 1991. According to the Work Plan dated June 19, 1991, all 6 wells at the site are to be measured for groundwater depth, and 4 of the wells (MW-1, MW-4, MW-5 and MW-6) are to be sampled on a quarterly basis.

Prior to sampling, the depth to groundwater in each of the 6 wells was measured with a well sounder. A summary of groundwater depths and elevations is presented on Table 1. The approximate groundwater contours for the December 24, 1991 reading are shown on the Site Plan, Plate 1.

After measuring the groundwater levels, Wells MW-1, MW-4, MW-5 and MW-6 were purged by removing at least four well volumes of water using precleaned Teflon bailers. The purged water was placed in drums and left on site for later disposal. Groundwater samples were obtained from each of the four wells after purging. The water was placed in the appropriate pre-cleaned containers, put in an iced cooler, and refrigerated until delivery to the analytical laboratory. The samples were accompanied by Chain-of-Custody Records, copies of which are attached.

Analytical testing was performed by Curtis and Tompkins, Ltd., a California Department of Health Services (DHS) certified analytical

■ Subsurface Consultants, Inc.

Mr. Ignacio Dayrit
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laboratory for the tests performed. The analytical tests included:

1. Total Volatile Hydrocarbons TVH (as gasoline) - sample preparation and analysis using EPA Methods 5030 (purge and trap) and 8015 modified (gas chromatograph coupled to a flame ionization detector),
2. Benzene, toluene, xylenes and ethylbenzene (BTXE) - sample preparation and analysis using EPA Methods 5030 and 8020 (gas chromatograph coupled to a photo-ionization detector), and
3. Total Extractable Hydrocarbons TEH (as gasoline and diesel) - sample preparation and analysis using EPA Methods 3550 (sonication extraction) and 8015 modified (gas chromatograph coupled to a flame ionization detector).

Copies of the analytical test reports are attached. The results of the analytical tests are presented in Table 2.

The results show that gasoline and diesel range hydrocarbons exist in groundwater at the site. The absence of contamination at Well MW-6, down gradient from the site, indicates that the extent of groundwater contamination is limited to areas on and just down gradient of the site. The detection of gasoline using the total extractable hydrocarbon test, at greater concentrations than with the total volatile hydrocarbon test suggests that the contamination is from old and weathered gasoline.

If you have questions regarding the analytical test results to date, please call.

Yours very truly,

Subsurface Consultants, Inc.



William K. Wikander

Geotechnical Engineer 892 (expires 12/31/92)

WKW:RWR:vb

2 copies submitted

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Attachments: Tables 1 and 2
Site Plan
Chain-of-Custody Records
Analytical Test Report

cc: Ms. Susan L. Hugo (1)
Alameda County Health Care Services Agency
80 Swan Way, Room 200
Oakland, California 94621

Mr. Lester Feldman (1)
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

Table 1. Summary of Groundwater Data

| <u>Well</u> | <u>Date</u> | <u>TOC Elevation¹ (ft)</u> | <u>Groundwater Depth (ft)</u> | <u>Groundwater Elevation² (ft)</u> |
|-------------|-------------|---|---------------------------------------|---|
| MW-1 | 06/06/90 | 101.13 | 5.33 | 95.80 |
| | 06/11/90 | | 5.52 | 95.61 |
| | 06/18/90 | | 5.50 | 95.63 |
| | 06/22/90 | | 6.18 | 94.95 |
| | 06/29/90 | | 6.50 | 92.63 |
| | 10/30/90 | | 9.10 | 92.03 |
| | 12/11/90 | | 7.18 | 93.95 |
| | 12/26/90 | | 7.90 | 93.23 |
| | 01/02/91 | | 8.27 | 92.86 |
| | 07/10/91 | | 8.00 | 93.13 |
| | 09/13/91 | | 9.16 | 91.17 |
| | 12/24/91 | | 7.29 | 93.84 |
| | MW-2 | | 06/06/90 | 101.49 |
| 06/11/90 | | 6.98 | 94.51 | |
| 06/18/90 | | 7.04 | 94.45 | |
| 06/22/90 | | 7.60 | 93.89 | |
| 06/29/90 | | 9.96 | 91.53 | |
| 10/30/90 | | 10.66 | 90.83 | |
| 12/11/90 | | 9.88 | 91.61 | |
| 12/26/90 | | 9.19 | 92.30 | |
| 01/02/91 | | 9.65 | 91.84 | |
| 07/10/91 | | 9.40 | 92.09 | |
| 09/13/91 | | -- | -- | |
| 12/24/91 | 9.19 | 92.30 | | |
| MW-3 | 06/06/90 | 100.20 | 6.22 | 93.98 |
| | 06/11/90 | | 6.50 | 93.70 |
| | 06/18/90 | | 6.49 | 93.71 |
| | 06/22/90 | | 7.11 | 93.09 |
| | 06/29/90 | | 9.34 | 90.86 |
| | 10/30/90 | | 10.11 | 90.09 |
| | 12/11/90 | | 9.36 | 90.84 |
| | 12/26/90 | | 9.00 | 91.20 |
| | 01/02/91 | | 9.28 | 90.92 |
| | 07/10/91 | | 8.94 | 91.26 |
| | 09/13/91 | | 9.93 | 90.27 |
| | 12/24/91 | | 9.02 | 91.18 |

Mr. Ignacio Dayrit
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| <u>Well</u> | <u>Date</u> | <u>TOC Elevation¹ (ft)</u> | <u>Groundwater Depth (ft)</u> | <u>Groundwater Elevation² (ft)</u> |
|-------------|-------------|---|---------------------------------------|---|
| MW-4 | 12/26/90 | 100.25 | 6.93 | 93.32 |
| | 01/02/91 | | 7.31 | 92.94 |
| | 07/10/91 | | 7.12 | 93.13 |
| | 09/13/91 | | 8.53 | 91.72 |
| | 12/24/91 | | 6.70 | 93.55 |
| MW-5 | 12/26/90 | 99.54 | 7.74 | 91.80 |
| | 01/02/91 | | 7.95 | 91.59 |
| | 07/10/91 | | 6.48 | 93.06 |
| | 09/16/91 | | 7.07 | 92.47 |
| | 12/24/91 | | 9.65 | 89.89 |
| MW-6 | 12/26/90 | 99.26 | 9.20 | 90.06 |
| | 01/02/91 | | 9.40 | 89.86 |
| | 07/10/91 | | 8.66 | 90.60 |
| | 09/13/91 | | 9.95 | 89.31 |
| | 12/24/91 | | 9.61 | 89.65 |

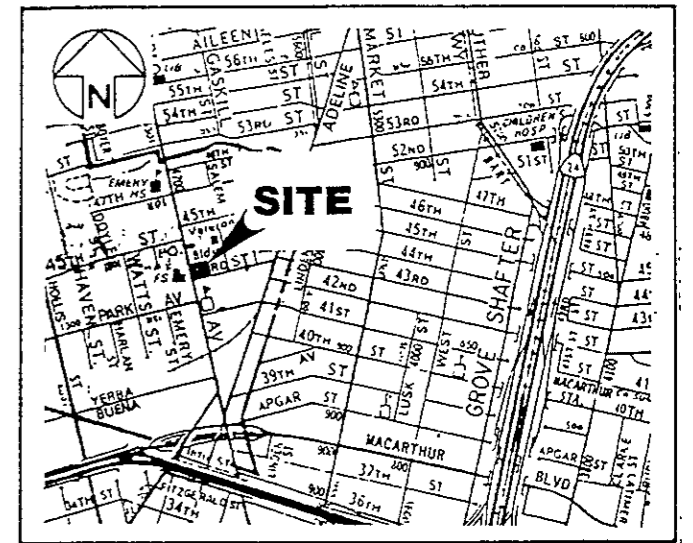
¹ Elevation reference: Top of curb at fire hydrant on 43rd Street
 (see Site Plan) assumed at elevation 100.00 feet.

² Measured below top of casing (TOC)

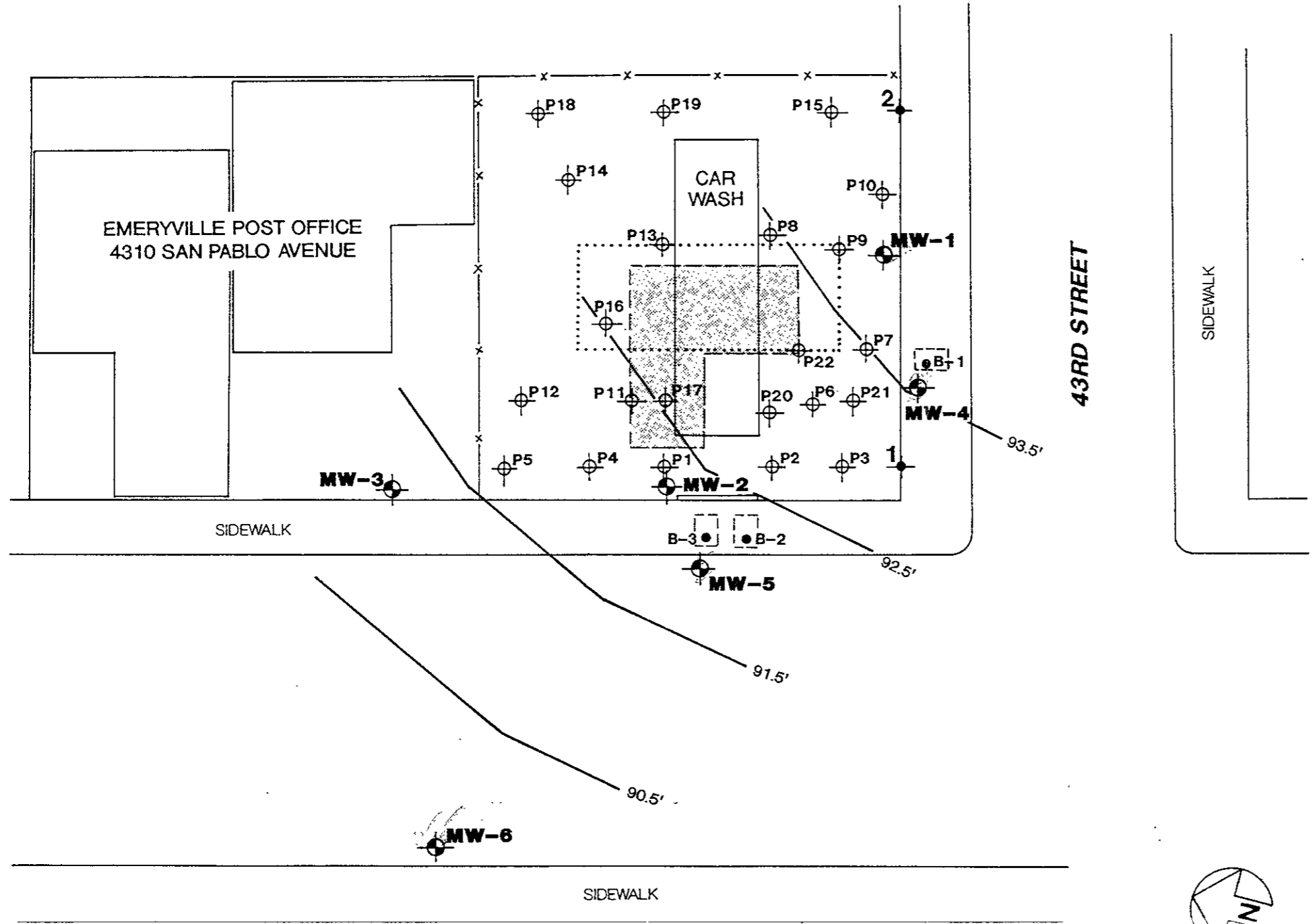
Table 2. Analytical Test Results

| Sample | Sample Date | TVH ³ (ug/L) | TEH ¹ | | Purgeable Aromatics ² | | | |
|--------|-------------|----------------------------|-----------------------------|---------------------------|----------------------------------|-------------|-------------|-------------------|
| | | | Gasoline Range (mg/L) | Diesel Range (mg/L) | B (ug/L) | T (ug/L) | X (ug/L) | E (ug/L) |
| MW-1 | 06/11/90 | 0.94 ⁵ | -- ⁴ | 1.90 | 5.3 | 1.8 | 1.9 | 1.8 |
| MW-1 | 12/11/90 | 0.26 ⁵ | -- | -- | 0.5 | 0.8 | 0.7 | <0.5 ⁵ |
| MW-1 | 09/13/91 | 0.33 | -- | 0.38 | <0.5 | 1.8 | 2.2 | 0.5 ⁵ |
| MW-1 | 12/24/91 | 0.15 | 0.19 | 0.41 ⁵ | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-2 | 06/11/90 | 1.80 | -- | 2.80 | <0.5 | <0.5 | <0.5 | 0.5 |
| MW-2 | 12/11/90 | 1.60 | -- | -- | 3.0 | 2.5 | 3.8 | 2.1 |
| MW-3 | 06/11/90 | <0.05 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 0.5 |
| MW-3 | 12/11/90 | <0.05 | -- | -- | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-4 | 12/10/90 | 0.30 | -- | -- | <0.5 | 1.1 | 1.3 | 0.6 |
| MW-4 | 09/13/90 | <0.05 | -- | 0.18 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-4 | 12/24/91 | <0.05 | 0.29 | 0.065 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-5 | 12/10/90 | 0.420 ⁵ | -- | -- | <0.5 | <0.5 | 2.8 | 1.5 |
| MW-5 | 09/16/91 | 1.20 | -- | 0.20 | 0.6 | 3.3 | 5.1 | 2.3 |
| MW-5 | 12/24/91 | 0.66 | 0.73 | 0.82 | <0.5 | 1.0 | 3.2 | 1.5 |
| MW-6 | 12/11/90 | <0.05 | -- | -- | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-6 | 09/13/91 | <0.05 | -- | 0.11 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-6 | 12/24/91 | <0.05 | <0.05 | <0.05 | <0.5 | <0.5 | <0.5 | <0.5 |

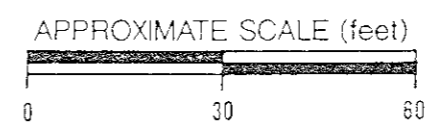
1 Total Extractable Hydrocarbons as Diesel (EPA 8015 modified)
 2 Benzene, toluene, total xylenes and ethylbenzene (EPA 8020)
 3 Total Volatile Hydrocarbons as Gasoline (EPA 8015 modified)
 4 Test not requested
 5 Less than detection limit shown



VICINITY MAP



| | |
|--|--|
| | MONITORING WELL |
| | PROBE |
| | TEST BORING |
| | APPROXIMATE FORMER TANK LOCATION |
| | FORMER FUEL STATION PRIOR TO 1950 (APPROXIMATE LOCATION) |
| | FORMER FUEL STATION AFTER 1959 (APPROXIMATE LOCATION) |
| | GROUNDWATER CONTOUR |



| | | |
|---|----------|----------|
| ESTIMATED GROUNDWATER CONTOURS 12/24/91 | | |
| EMERYVILLE SENIOR HOUSING | | PLATE |
| JOB NUMBER | DATE | APPROVED |
| 537.004 | 12/26/91 | 1 |

Subsurface Consultants

EMERYVILLE FIRE STATION #1

RETAIL BUILDING

EMERYVILLE POST OFFICE
4310 SAN PABLO AVENUE

CAR WASH

43RD STREET

SIDEWALK

SIDEWALK

SIDEWALK



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 12/30/91

DATE REPORTED: 01/09/92


LABORATORY NUMBER: 106148

CLIENT: SUBSURFACE CONSULTANTS

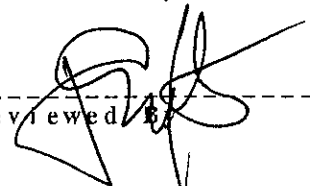
PROJECT ID: 537.004

LOCATION: 4300 SAN PABLO AVENUE

RESULTS: SEE ATTACHED



Reviewed By



Reviewed By

Berkeley

Wilmington

Los Angeles

LABORATORY NUMBER: 106148
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 537.004
 LOCATION: 4300 SAN PABLO AVENUE

DATE RECEIVED: 12/30/91
 DATE ANALYZED: 01/04/92
 DATE REPORTED: 01/09/92

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) |
|----------|-----------|------------------------------|-------------------|-------------------|----------------------------|----------------------------|
| 106148-1 | MW-1 | 150 | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) |
| 106148-2 | MW-4 | ND(50) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) |
| 106148-3 | MW-5 | 660 | ND(0.5) | 1.0 | 1.5 | 3.2 |
| 106148-4 | MW-6 | 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

| | |
|-------------|----|
| RPD, % | <1 |
| RECOVERY, % | 93 |

LABORATORY NUMBER: 106148
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 537.004
 LOCATION: 4300 SAN PABLO AVENUE

DATE RECEIVED: 12/30/91
 DATE EXTRACTED: 01/03/92
 DATE ANALYZED: 01/07/92
 DATE REPORTED: 01/09/92

Extractable Petroleum Hydrocarbons in Aqueous Solutions
 California DOHS Method
 LUFT Manual October 1989

| LAB ID | CLIENT ID | GASOLINE RANGE (ug/L) | KEROSENE RANGE (ug/L) | DIESEL RANGE (ug/L) | REPORTING LIMIT* (ug/L) |
|----------|-----------|--------------------------|--------------------------|------------------------|----------------------------|
| 106148-1 | MW-1 | 190 | ND | 410 | 50 |
| 106148-2 | MW-4 | 290 | ND | 65 | 50 |
| 106148-3 | MW-5 | 730 | ND | 820 | 50 |
| 106148-4 | MW-6 | ND | ND | ND | 50 |

ND = Not detected at or above reporting limit.

*Reporting limit applies to all analytes.

QA/QC SUMMARY

| | |
|-------------|-----|
| RPD, % | 27 |
| RECOVERY, % | 109 |



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 09/16/91

DATE REPORTED: 09/19/91

LABORATORY NUMBER: 105173

CLIENT: SUBSURFACE CONSULTANTS

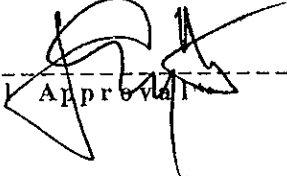
PROJECT ID: 537.004

LOCATION: 4300 SAN PABLO AVENUE

RESULTS: SEE ATTACHED



QA/QC Approval



Final Approval

LABORATORY NUMBER: 105173
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 537.004
 LOCATION: 4300 SAN PABLO

DATE RECEIVED: 09/16/91
 DATE ANALYZED: 09/16/91
 DATE REPORTED: 09/19/91

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) |
|----------|-----------|------------------------------|-------------------|-------------------|----------------------------|----------------------------|
| 105173-1 | MW-5 | 1,200 | 0.6 | 3.3 | 2.3 | 5.1 |

QA/QC SUMMARY

| | |
|-------------|----|
| RPD, % | 3 |
| RECOVERY, % | 99 |

LABORATORY NUMBER: 105173
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 537.004
 LOCATION: 4300 SAN PABLO AVENUE

DATE RECEIVED: 09/16/91
 DATE EXTRACTED: 09/16/91
 DATE ANALYZED: 09/18/91
 DATE REPORTED: 09/19/91

Extractable Petroleum Hydrocarbons in Aqueous Solutions
 California DOHS Method
 LUFT Manual October 1989

| LAB ID | CLIENT ID | KEROSENE RANGE (ug/L) | DIESEL RANGE (ug/L) | REPORTING LIMIT* (ug/L) |
|----------|-----------|-----------------------------|---------------------------|-------------------------------|
| 105173-1 | MW-5 | ND | 200 | 50 |

ND = Not detected at or above reporting limit.

*Reporting limit applies to all analytes.

QA/QC SUMMARY

| | |
|-------------|----|
| RPD, % | <1 |
| RECOVERY, % | 85 |



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 09/13/91

DATE REPORTED: 09/19/91

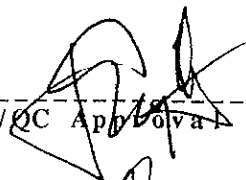

LABORATORY NUMBER: 105166

CLIENT: SUBSURFACE CONSULTANTS

PROJECT ID: 537.004

LOCATION: 4300 SAN PABLO AVENUE

RESULTS: SEE ATTACHED

QA/QC Approval 
Final Approval 

LABORATORY NUMBER: 105166
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 537.004
 LOCATION: 4300 SAN PABLO AVENUE

DATE RECEIVED: 09/13/91
 DATE ANALYZED: 09/16/91
 DATE REPORTED: 09/19/91

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) |
|----------|-----------|------------------------------|-------------------|-------------------|----------------------------|----------------------------|
| 105166-1 | MW-1 | 330 | ND(0.5) | 1.8 | 0.5 | 2.2 |
| 105166-2 | MW-4 | ND(50) | ND(0.5) | ND(0.5) | ND(0.5) | ND(0.5) |
| 105166-3 | MW-6 | 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

| | |
|-------------|----|
| RPD, % | 3 |
| RECOVERY, % | 99 |

LABORATORY NUMBER: 105166
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 537.004
 LOCATION: 4300 SAN PABLO AVENUE

DATE RECEIVED: 09/13/91
 DATE EXTRACTED: 09/16/91
 DATE ANALYZED: 09/17-18/91
 DATE REPORTED: 09/19/91

Extractable Petroleum Hydrocarbons in Aqueous Solutions
 California DOHS Method
 LUFT Manual October 1989

| LAB ID | CLIENT ID | KEROSENE RANGE (ug/L) | DIESEL RANGE (ug/L) | REPORTING LIMIT* (ug/L) |
|----------|-----------|-----------------------------|---------------------------|-------------------------------|
| 105166-1 | MW-1 | ND | 380 | 50 |
| 105166-2 | MW-4 | ND | 180 | 50 |
| 105166-3 | MW-6 | ND | 110 | 50 |

ND = Not detected at or above reporting limit.

*Reporting limit applies to all analytes.

QA/QC SUMMARY

```

=====
RPD, %                                <1
RECOVERY, %                            85
=====
  
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CHAIN OF CUSTODY FORM

PROJECT NAME: 4300 SAN PABLO AVENUE
JOB NUMBER: SCI 537.004 LAB: CUZZIS & TOMIFKINS
PROJECT CONTACT: BILL WIKANDER TURNAROUND: STANDARD
ORDERED BY: DENNIS ALEXANDER REQUESTED BY: BILL WIKANDER

| ANALYSIS REQUESTED | | | | |
|--------------------|--|--|--|--|
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| LABORATORY I.D. NUMBER | SCI SAMPLE NUMBER | MATRIX | | | | CONTAINERS | | | | METHOD PRESERVED | | | | | SAMPLING DATE | | | | NOTES |
|------------------------|-------------------|--------|------|-------|-----|------------|-------|------|------|------------------|-------|------|-----|------|---------------|-----|------|------|-------|
| | | WATER | SOIL | WASTE | AIR | VOA | LITER | PINT | TUBE | HCL | H2SO4 | HNO3 | ICE | NONE | MONTH | DAY | YEAR | TIME | |
| 106148-1 | MW-1 | ✓ | | | | 2 | 1 | | | | | ✓ | | 1 | 2 | 24 | 9 1 | | ✓ |
| -2 | MW-4 | ✓ | | | | 2 | 1 | | | | | ✓ | | 1 | 2 | 24 | 9 1 | | ✓ |
| -3 | MW-5 | ✓ | | | | 2 | 1 | | | | | ✓ | | 1 | 2 | 24 | 9 1 | | ✓ |
| -4 | MW-6 | ✓ | | | | 2 | 1 | | | | | ✓ | | 1 | 2 | 24 | 9 1 | | ✓ |
| | | | | | | | | | | | | | | | | | | | |

COMMENTS & NOTES:
1/9/92 Maryanne requested TET1 to show Casohie Range

| CHAIN OF CUSTODY RECORD | | | |
|--|-----------|--|-------------------------------|
| RELEASED BY: (Signature) <i>Jay B...</i> | DATE/TIME | RECEIVED BY: (Signature) <i>Namaj...</i> | DATE/TIME <i>12/3/91 9:15</i> |
| RELEASED BY: (Signature) | DATE/TIME | RECEIVED BY: (Signature) | DATE/TIME |
| RELEASED BY: (Signature) | DATE/TIME | RECEIVED BY: (Signature) | DATE/TIME |

Subsurface Consultants, Inc.
171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607
(510) 268-0461 • FAX: 510-268-0137

Log in # 105173

CHAIN OF CUSTODY FORM

PROJECT NAME: 4300 San Pablo
JOB NUMBER: 537.004 LAB: Curtis & Tompkins
PROJECT CONTACT: Sean Carson TURNAROUND: Normal
SAMPLED BY: Charles Pearson REQUESTED BY: Sean Carson

Table with 12 columns for ANALYSIS REQUESTED. The first two columns contain handwritten 'TUV/IT EX' and 'TET'. The remaining columns are empty.

Main data table with columns for LABORATORY ID. NUMBER, SCI SAMPLE NUMBER, MATRIX (WATER, SOIL, WASTE, AIR), CONTAINERS (VOA, LITER, PINT, TUBE), METHOD PRESERVED (HCL, H2SO4, HNO3, ICE, NONE), SAMPLING DATE (MONTH, DAY, YEAR, TIME), and NOTES. Row 1 contains handwritten data: NW-5, X, 3, 1, X, 09, 16, 2009, 30.

COMMENTS & NOTES:

CHAIN OF CUSTODY RECORD table with 4 rows and 4 columns: RELEASED BY: (Signature), DATE/TIME, RECEIVED BY: (Signature), DATE/TIME. Row 1 contains handwritten signatures and dates: Charles Pearson 9/16/21 10:00 AM, Pamela Deak 9/16/21 10:00 AM.

Subsurface Consultants, Inc.
171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607
(510) 268-0461 • FAX: 510-268-0137

