**EXXON** COMPANY, U.S.A.

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MARKETING DEPARTMENT

ENVIRONMENTAL ENGINEERING
G. D. GIBSON

SENIOR ENVIRONMENTAL ENGINEER

July 24, 1990

Exxon RAS 7-3399
2991 Hopyard Road
Pleasanton, California

Mr. Richard Hiett
San Francisco Bay Regional Water Quality Control Board
1800 Harrison Street, Suite 700
Oakland, California 94612

Dear Mr. Hiett:

Attached for your review is the Letter Progress Report on Ground-Water Monitoring at the above referenced Exxon Company, U.S.A. facility in the City of Pleasanton. This report presents the results of the monthly monitoring conducted in April and May, 1990.

These two monitoring events showed no free product, however free product was discovered in MW-9 on June 11 and weekly bailing was initiated immediately.

Please contact me at (415) 246-8768 if you have any questions or concerns about this report. Thank you.

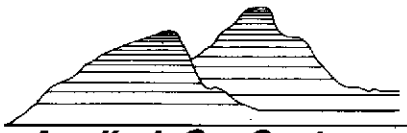
Sincerely,

Gary D. Gibson

GDG:vv
1334E
Attachment

c - w/attachment:
Mr. S. Cusenza - City of Pleasanton Public Works Department
Mr. L. Feldman - San Francisco Bay Region Water Quality Control Board
Mr. J. Killingstad - Alameda County Flood Control District Zone 7
Mr. R. Meuller - City of Pleasanton Fire Department

w/o attachment:
Mr. P. J. Brininstool
Mr. J. R. Hastings
Mr. J. K. Hunter
Mr. L. W. Lindeen
Mr. M. Thomson - Alameda County District Attorney's Office
Mr. R. C. Witham - Applied GeoSystems



**Applied GeoSystems** 43255 Mission Boulevard, Fremont, CA 94539 (415) 651-1906

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# LETTER PROGRESS REPORT GROUND-WATER MONITORING FOR APRIL AND MAY 1990

at

Exxon Station No. 7-3399
2991 Hopyard Road
Pleasanton, California

For Exxon Company U.S.A.

**Applied GeoSystems** 43255 Mission Boulevard, Fremont, CA 94539 (415) 651-1906

• FREMONT • IRVINE • HOUSTON • BOSTON • SACRAMENTO • CULVER CITY • SAN JOSE

June 1, 1990
AGS 18034-8.pr4

Mr. Gary Gibson
Exxon Company U.S.A.
P.O. Box 4032
2300 Clayton Avenue
Concord, California 94520

Subject: Letter Progress Report on Ground-Water Monitoring at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California.

Mr. Gibson:

At the request of Exxon Company, U.S.A. (Exxon), Applied GeoSystems (AGS) has implemented a ground-water monitoring and sampling program at Exxon Station No. 7-3399. The program consists of monthly measurement of ground-water levels and subjective evaluation of initial ground-water samples from each monitoring well. In addition, on a monthly basis, ground-water samples are collected for laboratory analysis from monitoring wells MW-1, MW-8 and MW-9. On a quarterly basis, ground-water samples are collected for laboratory analysis from each of the monitoring wells. This progress report covers work performed in April and May 1990, which included monthly monitoring, subjective analyses, and sampling of wells MW-1, MW-8, and MW-9.

## Site Setting and Background

The site is at the intersection of Hopyard Road and Valley Avenue in Pleasanton, California. The current site features are shown on the Generalized Site Plan (Plate P-1) and include three underground storage tanks (USTs) containing unleaded, premium unleaded, and regular leaded gasoline; a waste-oil UST; six service islands; and a station building with an automobile maintenance bay. The service station was demolished in September 1988, and new station facilities were constructed between September 1988 and February 1989. The current USTs are near the northwest corner of the property; the previous tanks were near the southeast edge of the property. Plate P-1 also shows the approximate location of the former gasoline UST pit.

Nine ground-water monitoring wells exist on the site (MW-1, MW-4, MW-5d, MW-5s, and MW-7 through MW-11). Seven of the wells monitor the shallowest aquifer (MW-1, MW-4,

MW-5s, MW-7, MW-9, MW-10, and MW-11). Wells MW-5d and MW-8 monitor the second and third aquifers, respectively. A ground-water recovery system has been operating at this site since June 1988. Ground water is currently being pumped from well MW-7, through an oil-water separator, and then discharged into the sanitary sewer under a permit from the Dublin-San Ramon Services District. The results of the last quarterly sampling in March 1990 suggest that a plume of dissolved gasoline hydrocarbons is limited to the upper aquifer in the vicinity of MW-9 in the central part of the site (AGS Report No. 18034-7, April 5, 1990).

## Field Activities

On April 18 and May 17, 1990, ground-water levels were measured and subjective analyses were performed on initial water samples from each well. In addition, during each visit, wells MW-1, MW-8, and MW-9 were purged and sampled for laboratory analyses. This work was performed in accordance with the enclosed Field Procedures. In addition, during each site visit, the recovery system was inspected and adjusted, if necessary. The flow meter was inspected and total gallons pumped and estimated pumping rates were recorded.

## Results of Ground-Water Monitoring

No free product was observed in any of the wells in April or May. A slight sheen was observed in well MW-9 during both site visits (Table 1).

A comparison of the depth-to-water data for this site suggests that water levels decreased an average of 0.06 foot between March and April, and then decreased an average of 1.1 feet between April and May. Ground-water elevations were calculated for each well screened in the upper aquifer (Table 2), and Ground-Water Elevation Maps were constructed with the data from April and May (Plates P-2 and P-3). The maps show a pumping-induced depression around well MW-7. The local ground-water flow direction is estimated to be toward the south or southeast.

## Results of Ground-Water Sampling

The ground-water samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) using Environmental Protection Agency (EPA) Method 8015 and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 602. The analyses were performed at the Applied Analytical laboratory in Fremont, California (Certificate No. 153). Copies of the Chain-of-Custody Records and laboratory reports are attached. The results of ground-water analyses are summarized in Table 3.

In the April sampling results, an increase in dissolved hydrocarbon concentrations was observed in each of the three wells, compared to the March 1990 results. The concentration of TPHg in MW-1 increased from nondetectable to just above detection levels; benzene, toluene, and xylenes, which had previously been nondetectable, were also detected at low levels in the sample from MW-1. In the sample from MW-8, toluene and xylenes concentrations increased from nondetectable to just above detection levels; the remaining hydrocarbon constituents were nondetectable. In MW-9, which contains the highest dissolved hydrocarbon concentrations, levels of TPHg and BTEX (except for toluene) increased slightly. The TPHg concentration in the sample from MW-9 contained 110 parts per million (ppm) TPHg in April 1990.

In the May sampling results, concentrations of TPHg and BTEX decreased to nondetectable levels in the sample from MW-1. Concentrations of TPHg and BTEX were also nondetectable in MW-8. The May results for MW-9 show a slight decrease in both TPHg and BTEX compared to the April results.

## Results of Recovery System Monitoring

Between March 26 and May 17, 1990, an estimated 41,090 gallons of ground water were recovered from well MW-7. During this period, ground water was pumped at an average rate of 0.5 gallons per minute. Between October 30, 1989 and May 17, 1990, approximately 130,630 gallons of water were recovered from well MW-7.

Please call if you have questions.

Sincerely,
Applied GeoSystems

JoEllen Kuszmaul
Project Geologist

Joan E. Tiernan
Registered Civil Engineer
No. 044600

Enclosures:
Cumulative Results of Subjective Analyses, Table 1
Ground-Water Elevation Data, Uppermost Aquifer, Table 2
Results of Analyses of Ground-Water Samples, Table 3
Generalized Site Plan, Plate P-1
Ground-Water Elevation Map (April 18, 1990), Plate P-2
Ground-Water Elevation Map (May 17, 1990), Plate P-3
Field Procedures
Chain of Custody Records
Laboratory Reports

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE ANALYSES
(page 1 of 8)

| Well/Boring | Date | Depth to Water (ft) | Floating Product (in) | Sheen |
|---|---|---|---|---|
| MW-1 | 4/6/88 | 36.34 | None | None |
| | 4/8/88 | 36.29 | None | None |
| | 4/19/88 | 36.36 | None | None |
| | 6/6/88 | 38.16 | None | None |
| | 6/23/88 | 38.71 | None | None |
| | 6/28/88 | 39.16 | -- | -- |
| | 7/6/88 | 39.73 | None | None |
| | 7/13/88 | 40.22 | None | None |
| | 8/12/88 | Well buried under excavated soil | | |
| | 8/26/88 | 41.90 | -- | -- |
| | 9/7/88 | 42.27 | None | None |
| | 12/7/88 | 43.94 | None | None |
| | 12/19/88 | 43.70 | None | None |
| | 2/9/89 | 42.53 | -- | -- |
| | 3/8/89 | 41.96 | None | None |
| | 4/3/89 | 41.59 | -- | -- |
| | 4/26/89 | 41.67 | -- | -- |
| | 6/30/89 | 43.79 | None | None |
| | 7/17/89 | 44.74 | None | None |
| | 7/18/89 | 44.76 | -- | -- |
| | 7/19/89 | 44.82 | -- | -- |
| | 7/20/89 | 44.85 | None | None |
| | 7/21/89 | 44.95 | -- | -- |
| | 7/26/89 | 45.42 | None | None |
| | 8/2/89 | -- | -- | -- |
| | 8/3/89 | 46.18 | -- | -- |
| | 8/17/89 | 47.12 | -- | -- |
| | 9/13/89 | 49.08 | None | None |
| | 11/28/89 | 50.21 | None | None |
| | 1/9/90 | 49.31 | None | None |
| | 1/26/90 | 49.29 | None | None |
| | 2/23/90 | 49.02# | None | None |
| | 2/23/90 | 49.02 | None | None |
| | 3/26/90 | 48.71# | None | None |
| | 3/26/90 | 48.70 | None | None |

See notes on page 8 of 8.

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE ANALYSES
(page 2 of 8)

| Well/Boring | Date | Depth to Water (ft) | Floating Product (in) | Sheen |
|---|---|---|---|---|
| MW-1 | 4/18/90 | 48.79 | None | None |
| | 5/17/90 | 49.40 | None | None |
| MW-2 | 4/2/90 | -- | 3.0 | Heavy |
| | 4/4/90 | -- | 18.0 | Heavy |
| | 4/5/88 | -- | 18.0 | Heavy |
| | 4/6/88 | 39.31 | 38.4 | Heavy |
| | 4/8/88 | --* | --* | --* |
| | 4/19/88 | 38.90 | 29.76** | Heavy |
| | 6/6/88 | 38.78 | 3.12 | Heavy |
| | 6/23/88 | 39.23 | 1.50 | Heavy |
| | 6/28/88 | 39.72 | -- | -- |
| | 7/6/88 | 40.31 | None | Slight |
| | 7/12/88 | Well destroyed due to excavation (old pit) | | |
| MW-3 | 4/6/88 | 37.19 | None | None |
| | 4/8/88 | 37.14 | None | None |
| | 4/19/88 | 37.22 | None | None |
| | 6/6/88 | 39.02 | None | None |
| | 6/23/88 | 39.58 | None | None |
| | 6/28/88 | 40.04 | -- | -- |
| | 7/6/88 | 40.60 | None | None |
| | 7/13/88 | 41.09 | None | None |
| | 8/12/88 | Well buried under excavated soil | | |
| | 8/26/88 | 42.77 | -- | -- |
| | 8/29/88 | Well destroyed due to excavation (new pit) | | |
| MW-4 | 4/8/88 | 36.41 | None | None |
| | 4/19/88 | 36.51 | None | None |
| | 6/6/88 | 38.26 | None | None |
| | 6/23/88 | 38.83 | None | None |
| | 6/28/88 | 39.28 | -- | -- |
| | 7/6/88 | 39.85 | None | None |
| | 7/13/88 | 40.31 | None | None |
| | 8/12/88 | Well buried under excavated soil | | |

See notes on page 8 of 8.

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE ANALYSES
(page 3 of 8)

| Well/Boring | Date | Depth to Water (ft) | Floating Product (in) | Sheen |
|---|---|---|---|---|
| MW-4 | 8/26/88 | 42.01 | -- | -- |
| | 9/7/88 | Not accessible due to construction | | |
| | 12/7/88 | Not accessible due to construction | | |
| | 12/19/88 | 43.83 | None | None |
| | 2/9/89 | 42.67 | -- | -- |
| | 3/8/89 | 42.11 | None | None |
| | 4/3/89 | 41.73 | -- | -- |
| | 4/26/89 | 41.79 | -- | -- |
| | 6/30/89 | 43.88 | None | None |
| | 7/17/89 | 44.85 | None | None |
| | 7/18/89 | 44.88 | -- | -- |
| | 7/19/89 | 44.92 | -- | -- |
| | 7/20/89 | 44.98 | None | None |
| | 7/21/89 | 45.04 | -- | -- |
| | 7/26/89 | 45.50 | None | None |
| | 8/2/89 | -- | -- | -- |
| | 8/3/89 | 46.28 | -- | -- |
| | 8/17/89 | 47.22 | -- | -- |
| | 9/13/89 | 49.19 | None | None |
| | 11/28/89 | 50.34 | None | None |
| | 1/9/90 | 49.47 | None | None |
| | 1/26/90 | 49.36 | None | None |
| | 2/23/90 | 49.18# | None | None |
| | 2/23/90 | 49.15 | None | None |
| | 3/26/90 | 48.84# | None | None |
| | 3/26/90 | 48.83 | None | None |
| | 4/18/90 | 48.90 | None | None |
| | 5/17/90 | 50.03 | None | None |
| B-4 | 4/2/88 | -- | None | None |
| MW-5d | 5/25/88 | 38.55 | None | None |
| | 6/6/88 | 38.90 | None | None |
| | 6/23/88 | 39.56 | None | None |
| | 6/28/88 | 40.23 | -- | -- |

See notes on page 8 of 8.

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE ANALYSES
(page 4 of 8)

| Well/Boring | Date | Depth to Water (ft) | Floating Product (in) | Sheen |
|---|---|---|---|---|
| MW-5d | 7/6/88 | 40.69 | None | None |
| | 7/13/88 | 41.22 | None | None |
| | 8/12/88 | 42.34 | -- | -- |
| | 8/26/88 | 42.60 | -- | -- |
| | 9/7/88 | 42.99 | -- | -- |
| | 12/7/88 | 44.58 | None | None |
| | 2/9/89 | Casing head damaged by construction | | |
| | 3/8/89 | Casing head cut to lower elevation | | |
| | | 42.49 | None | None |
| | 4/3/89 | 42.21 | -- | -- |
| | 4/26/89 | 42.36 | -- | -- |
| | 6/30/89 | 44.79 | None | None |
| | 7/17/89 | 45.73 | None | None |
| | 7/18/89 | 45.75 | -- | -- |
| | 7/19/89 | 44.89 | -- | -- |
| | 7/20/89 | 46.02 | None | None |
| | 7/21/89 | 46.18 | -- | -- |
| | 7/26/89 | 46.83 | None | None |
| | 8/2/89 | -- | -- | -- |
| | 8/3/89 | 47.67 | -- | -- |
| | 8/17/89 | 48.27 | -- | -- |
| | 9/13/89 | 50.60 | None | None |
| | 11/28/89 | 51.16 | None | None |
| | 1/9/90 | 50.42 | None | None |
| | 1/26/90 | 50.10 | None | None |
| | 2/23/90 | 50.08 | None | None |
| | 3/26/90 | 49.80# | None | None |
| | 3/26/90 | 49.77 | None | None |
| | 4/18/90 | 49.80 | None | None |
| | 5/17/90 | 51.32 | None | None |
| MW-5s | 5/25/88 | 38.46 | None | None |
| | 6/6/88 | 38.86 | None | None |
| | 6/23/88 | 39.52 | None | None |
| | 6/28/88 | 39.84 | -- | -- |
| | 7/6/88 | 40.45 | None | None |
| | 7/13/88 | 40.90 | None | None |

See notes on page 8 of 8.

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE ANALYSES
(page 5 of 8)

| Well/Boring | Date | Depth to Water (ft) | Floating Product (in) | Sheen |
|---|---|---|---|---|
| MW-5s | 7/22/88 | 41.30 | None | None |
| | 8/5/88 | 23.84▾ | None | None |
| | 8/12/88 | 42.21 | -- | -- |
| | 8/26/88 | 42.55 | -- | -- |
| | 9/7/88 | 42.94 | None | None |
| | 12/7/88 | 44.67 | None | None |
| | 2/9/89 | 43.19 | -- | -- |
| | 3/8/89 | Casing head cut to lower elevation | | |
| | | 42.11 | None | None |
| | 4/26/89 | 41.84 | -- | -- |
| | 6/30/89 | 43.95 | None | None |
| | 7/17/89 | 44.91 | None | None |
| | 7/18/89 | 44.93 | -- | -- |
| | 7/19/89 | 44.98 | -- | -- |
| | 7/20/89 | 45.02 | None | None |
| | 7/21/89 | 45.10 | -- | -- |
| | 7/26/89 | 45.57 | None | None |
| | 8/2/89 | -- | -- | -- |
| | 8/3/89 | 46.31 | -- | -- |
| | 8/17/89 | 47.25 | -- | -- |
| | 9/13/89 | 49.22 | None | None |
| | 11/28/89 | 50.39 | None | None |
| | 1/9/90 | 49.51 | None | None |
| | 1/26/90 | 49.40 | None | None |
| | 2/23/90 | 49.20# | None | None |
| | 2/23/90 | 49.20 | None | None |
| | 3/26/90 | 48.89# | None | None |
| | 3/26/90 | 48.88 | None | None |
| | 4/18/90 | 48.95 | None | None |
| | 5/17/90 | 50.06 | None | None |

See notes on page 8 of 8.

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE ANALYSES
(page 7 of 8)

| Well/Boring | Date | Depth to Water (ft) | Floating Product (in) | Sheen |
|---|---|---|---|---|
| MW-8 | 10/1/89 | 53.88 | None | None |
| | 11/28/89 | 53.74 | None | None |
| | 1/9/90 | 57.90 | None | None |
| | 1/26/90 | 53.57 | None | None |
| | 2/23/90 | 52.16 | None | None |
| | 3/26/90 | 52.80# | None | None |
| | 4/18/90 | 51.60 | None | None |
| | 5/17/90 | 58.21 | None | None |
| MW-9 | 10/12/89 | 50.24 | None | None |
| | 11/28/89 | 50.59 | 1.0 | Heavy |
| | 12/1/89 | 50.32 | 0.25 | Heavy |
| | 12/7/89 | 50.13 | 1.92 | Heavy |
| | 12/13/89 | 49.91 | None | Slight |
| | 12/20/89 | 49.78 | None | Slight |
| | 1/2/90 | -- | None | Slight |
| | 1/9/90 | 49.39 | None | Slight |
| | 1/26/90 | 49.30 | None | None |
| | 2/23/90 | 49.06# | None | None |
| | 2/23/90 | 49.05 | None | None |
| | 3/26/90 | 48.75# | None | None |
| | 3/26/90 | 48.73 | None | V. Slight |
| | 4/18/90 | 48.81 | None | Slight |
| | 5/17/90 | 49.96 | None | Slight |
| MW-10 | 10/12/89 | 51.93 | None | None |
| | 11/28/89 | 51.88 | None | None |
| | 12/20/89 | 51.47 | None | None |
| | 1/9/90 | 50.98 | None | None |
| | 1/26/90 | 50.87 | None | None |
| | 2/23/90 | 50.67# | None | None |
| | 2/23/90 | 50.65 | None | None |
| | 3/26/90 | 50.36# | None | None |
| | 3/26/90 | 50.35 | None | None |
| | 4/18/90 | 50.45 | None | None |

See notes on page 8 of 8.

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE ANALYSES
(page 8 of 8)

| Well/Boring | Date | Depth to Water (ft) | Floating Product (in) | Sheen |
|---|---|---|---|---|
| MW-11 | 11/10/89 | 50.64 | None | None |
| | 11/28/89 | 50.51 | None | V. Slight |
| | 12/20/89 | 51.47 | None | None |
| | 1/9/90 | 49.68 | None | None |
| | 1/26/90 | 49.55 | None | None |
| | 2/23/90 | 49.37# | None | None |
| | 2/23/90 | 49.35 | None | None |
| | 3/26/90 | 49.03# | None | None |
| | 3/26/90 | 49.03 | None | None |
| | 4/18/90 | 49.12 | None | None |
| | 5/17/90 | 50.30 | None | None |

Depth to water is in feet below top of casing.
Thickness of floating product is in inches.
-- = Not measured
* = Not measured because of installed product-skimmer pump
** = Thickness of floating product after the well was allowed to recharge for approximately 3 hours.
▾ = Anomalous water level possibly due to recharge from a perched water zone.
# = Pumping-water level.
## = Water inspected in oil-water separator tank.

TABLE 2
GROUND-WATER ELEVATION DATA
UPPERMOST AQUIFER

| Well No. | Casing Elevation | Depth to Ground Water | Ground-Water Elevation |
|---|---|---|---|
| **April 18, 1990** | | | |
| MW-1 | 321.44 | 48.79 | 272.65 |
| MW-4 | 321.56 | 48.90 | 272.66 |
| MW-5s | 321.64 | 48.95 | 272.69 |
| MW-7 | 321.27 | 57.55* | 263.72 |
| MW-9 | 321.44 | 48.81 | 272.63 |
| MW-10 | 322.99 | 50.45 | 272.54 |
| MW-11 | 321.71 | 49.12 | 272.59 |
| **May 17, 1990** | | | |
| MW-1 | 321.44 | 49.40 | 272.04 |
| MW-4 | 321.56 | 50.03 | 271.53 |
| MW-5s | 321.64 | 50.06 | 271.58 |
| MW-7 | 321.27 | 57.40* | 263.87 |
| MW-9 | 321.44 | 49.96 | 271.48 |
| MW-10 | 322.99 | 51.63 | 271.36 |
| MW-11 | 321.71 | 50.30 | 271.41 |

Elevation is in feet above mean sea level.
Depth to ground water is in feet below the top of the casing.
* = water level during pumping of well MW-7

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TABLE 3
RESULTS OF ANALYSES OF GROUND-WATER SAMPLES
(page 1 of 7)

| Date | Sample No. | Benzene (ppm) | Toluene (ppm) | Ethyl-benzene (ppm) | Total Xylenes (ppm) | TPHg (ppm) | EPA 502.2 (ppm) | EPA 524.2 (ppm) |
|---|---|---|---|---|---|---|---|---|
| **MW-1** | | | | | | | | |
| 4/2/88 | W-38-MW1 | <0.0005 | 0.0017 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/6/88 | W-40-MW1 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/13/88 | W-42-MW1 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 9/7/88 | W-43-MW1 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 3/8/89 | W-43-MW1 | 0.0016 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 6/30/89 | W-44-MW1 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/17/89 | W-45-MW1 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | 0.023 | -- | -- |
| 7/20/89 | W-45-MW1 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/26/89 | W-46-MW1 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 8/2/89 | W-46-MW1 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 9/13/89 | W-50-MW1 | 0.039 | 0.00060 | <0.00050 | 0.0051 | 0.22 | -- | -- |
| 12/20/89 | W-50-MW1 | 0.056 | 0.00072 | <0.00050 | 0.00071 | 0.22 | -- | -- |
| 1/25/90 | W-50-MW1 | 0.018 | 0.0016 | <0.00050 | 0.0018 | 0.057 | | |
| 2/27/90 | W-50-MW1 | 0.0032 | 0.0023 | <0.00050 | 0.0032 | 0.055 | | |
| 3/26/90 | W-49-MW1 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 4/18/90 | W-49-MW1 | 0.0011 | 0.0016 | <0.00050 | 0.0031 | 0.025 | -- | -- |
| 5/17/90 | W-49-MW1 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.020 | -- | -- |
| **MW-2** | (Well destroyed 7/12/88) | | | | | | | |
| 7/6/88 | W-41-MW2 | 5.7 | 18.5 | 2.9 | 21.4 | 62 | -- | -- |

See notes on page 7 of 7.

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TABLE 3
RESULTS OF ANALYSES OF GROUND-WATER SAMPLES
(page 2 of 7)

| Date | Sample No. | Benzene (ppm) | Toluene (ppm) | Ethyl-benzene (ppm) | Total Xylenes (ppm) | TPHg (ppm) | EPA 502.2 (ppm) | EPA 524.2 (ppm) |
|---|---|---|---|---|---|---|---|---|
| **MW-3** | (Well destroyed 8/29/88) | | | | | | | |
| 4/6/88 | W-39-MW3 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | 0.02 | | |
| 7/6/88 | W-41-MW3 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/13/88 | W-43-MW3 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 8/26/88 | W-44-MW3 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| **MW-4** | | | | | | | | |
| 4/11/88 | W-37-MW4 | 0.0018 | 0.0163 | 0.0006 | 0.0071 | 0.08 | -- | -- |
| 7/6/88 | W-41-MW4 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/13/88 | W-42-MW4 | <0.0005 | 0.0009 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 9/7/88 | | (Well not accessible) | | | | | | |
| 3/8/89 | W-43-MW4 | 0.0038 | 0.0010 | <0.0005 | <0.0005 | 0.44 | -- | -- |
| 6/30/89 | W-44-MW4 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | 0.10 | -- | -- |
| 7/17/89 | W-45-MW4 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | 0.39 | -- | -- |
| 7/20/89 | W-45-MW4 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | 0.20 | ND* | -- |
| 7/26/89 | W-46-MW4 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | 0.066 | -- | -- |
| 8/2/89 | W-46-MW4 | -- | -- | -- | -- | -- | -- | ND* |
| 9/13/89 | W-50-MW4 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.020 | -- | -- |
| 12/20/89 | W-50-MW-4 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.020 | -- | -- |
| 3/26/90 | W-49-MW-4 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.020 | -- | -- |

See notes on page 7 of 7.

TABLE 1
CUMULATIVE RESULTS OF SUBJECTIVE ANALYSES
(page 6 of 8)

| Well/Boring | Date | Depth to Water (ft) | Floating Product (in) | Sheen |
|---|---|---|---|---|
| MW-6 | 5/11/88 | 37.71 | None | None |
| | 6/6/88 | 38.70 | None | None |
| | 6/23/88 | 39.23 | None | None |
| | 6/28/88 | 39.74 | None | None |
| | 7/13/88 | 40.78 | None | None |
| | 8/5/88 | 41.72 | None | None |
| | 8/12/88 | 42.14 | -- | -- |
| | 8/17/88 | Well buried under excavated soil | | |
| | 8/26/88 | 42.51 | -- | -- |
| | 9/7/88 | 42.85 | None | None |
| | 10/24/88 | Well destroyed for station construction | | |
| MW-7 | 7/13/88 | 40.50 | None | None |
| | 7/22/88 | 41.85# | None## | None## |
| | 8/5/88 | 41.45# | None## | None## |
| | 8/12/88 | 42.69 | -- | -- |
| | 9/7/88 | 42.60 | -- | -- |
| | 12/7/88 | Not accessible | | |
| | 1/17/89 | 43.20 | -- | -- |
| | 2/9/89 | Not accessible, pump equipment in well | | |
| | 10/12/89 | 49.93 | None | None |
| | 11/28/89 | 57.61# | -- | -- |
| | 1/9/90 | 57.57# | -- | -- |
| | 1/26/90 | 57.54# | None | None |
| | 1/26/90 | 49.08 | None | None |
| | 2/23/90 | 55.26# | None | None |
| | 2/23/90 | 48.93 | None | None |
| | 3/26/90 | 57.52# | None | None |
| | 3/26/90 | 48.60 | None | None |
| | 4/18/90 | 57.55# | None | None |
| | 5/17/90 | 57.40# | None | None |

See notes on page 8 of 8.

June 1, 1990
AGS 18034-8

Applied GeoSystems

TABLE 3
RESULTS OF ANALYSES OF GROUND-WATER SAMPLES
(page 3 of 7)

| Date | Sample No. | Benzene (ppm) | Toluene (ppm) | Ethyl-benzene (ppm) | Total Xylenes (ppm) | TPHg (ppm) | EPA 502.2 (ppm) | EPA 524.2 (ppm) |
|---|---|---|---|---|---|---|---|---|
| **MW-5d** | | | | | | | | |
| 5/25/88 | W-9-MW5a | <0.0005 | 0.0031 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/6/88 | W-41-MW5d | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | - |
| 7/13/88 | W-43-MW5d | <0.0005 | <0.0005 | <0.0005 | <0.0005 | 0.04 | -- | -- |
| 3/8/89 | W-43-MW5d | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 6/30/80 | W-45-MW5d | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/17/89 | W-46-MW5d | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/20/89 | W-47-MW5d | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/26/89 | W-47-MW5d | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 8/2/89 | W-48-MW5d | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 9/13/89 | W-51-MW5d | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 12/20/89 | W-51-MW5d | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 3/26/90 | W-50-MW5d | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| **MW-5s** | | | | | | | | |
| 5/25/88 | W-41-MW5b | <0.0005 | 0.0009 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/6/88 | W-41-MW5s | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/13/88 | W-44-MW5s | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/22/88 | W-42-MW5s | 0.0009 | 0.0041 | 0.0013 | 0.0087 | 0.05 | -- | -- |
| 8/5/88 | W-25-MW5s | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |

See notes on page 7 of 7.

Applied GeoSystems

TABLE 3
RESULTS OF ANALYSES OF GROUND-WATER SAMPLES
(page 4 of 7)

| Date | Sample No. | Benzene (ppm) | Toluene (ppm) | Ethyl-benzene (ppm) | Total Xylenes (ppm) | TPHg (ppm) | EPA 502.2 (ppm) | EPA 524.2 (ppm) |
|---|---|---|---|---|---|---|---|---|
| **MW-5s** (continued) | | | | | | | | |
| 9/7/88 | W-43-MW5s | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 3/8/89 | W-43-MW5s | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.02 | -- | -- |
| 6/30/89 | W-45-Mw5s | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/17/89 | W-46-MW5s | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/20/89 | W-46-MW5s | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 7/26/89 | W-46-MW5s | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 8/2/89 | W-47-MW5s | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 9/13/89 | W-50-MW5s | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.020 | -- | -- |
| 12/20/89 | W-50-MW5s | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.020 | -- | -- |
| 3/26/90 | W-49-MW5s | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.020 | -- | -- |
| **MW-6:** (Well destroyed 10/24/88) | | | | | | | | |
| 5/17/88 | W-40-MW6 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.02 | -- | -- |
| 6/28/88 | W-38-MW6 | 0.0318 | 0.0075 | 0.0054 | 0.0067 | 0.44 | -- | -- |
| 7/13/88 | W-42-MW6 | 0.1623 | 0.0077 | 0.0225 | 0.0141 | 0.29 | -- | -- |
| 8/5/88 | W-42-MW6 | 0.2450 | 0.0052 | 0.0471 | 0.0237 | 1.18 | -- | -- |
| 9/7/88 | W-43-MW6 | 0.474 | 0.016 | 0.262 | 0.136 | 2.92 | -- | -- |

See notes on page 7 of 7.

TABLE 3
RESULTS OF ANALYSES OF GROUND-WATER SAMPLES
(page 5 of 7)

| Date | Sample No. | Benzene (ppm) | Toluene (ppm) | Ethyl-benzene (ppm) | Total Xylenes (ppm) | TPHg (ppm) | EPA 502.2 (ppm) | EPA 524.2 (ppm) |
|---|---|---|---|---|---|---|---|---|
| **MW-7 (recovery well)** | | | | | | | | |
| 7/13/88 | W-34-MW7 | 0.86 | 1.91 | 0.71 | 4.42 | 16.7 | -- | -- |
| 7/22/88 | W-50-MW7 | 0.136 | 0.085 | 0.005 | 0.058 | 0.46 | -- | -- |
| 8/5/88 | W-45-MW7 | 0.0733 | 0.0528 | 0.0023 | 0.0281 | 0.27 | -- | -- |
| 2/9/89 | W-50-MW7 | 0.600 | 0.688 | 0.010 | 0.448 | 6.7 | -- | -- |
| 6/30/89 | W-Pump-MW7 | 0.18 | 0.050 | 0.013 | 0.040 | 1.1 | -- | -- |
| 8/2/89 | W-TAP-MW7 | 0.0016 | <0.0005 | <0.0005 | 0.00060 | 0.031 | -- | -- |
| 9/13/89 | W-Influent | <0.00050 | 0.0026 | <0.00050 | 0.012 | 0.087 | -- | -- |
| 12/20/89 | W-TAP-MW7 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.020 | -- | -- |
| **Well No. 7** | | | | | | | | |
| 7/20/89 | Well 7 | -- | -- | -- | -- | -- | ND* | -- |
| 8/2/89 | W-TAP-CW7 | -- | -- | -- | -- | -- | -- | ND* |
| 3/26/90 | W-TAP-MW7 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.020 | -- | -- |

See notes on page 7 of 7.

TABLE 3
RESULTS OF ANALYSES OF GROUND-WATER SAMPLES
(page 6 of 7)

| Date | Sample No. | Benzene (ppm) | Toluene (ppm) | Ethyl-benzene (ppm) | Total Xylenes (ppm) | TPHg (ppm) | EPA 502.2 (ppm) | EPA 524.2 (ppm) |
|---|---|---|---|---|---|---|---|---|
| **MW-8** | | | | | | | | |
| 10/3/89 | W-53-MW8 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.020 | -- | -- |
| 12/20/89 | W-52-MW8 | <0.00050 | <0.00050 | <0.00050 | 0.00061 | <0.020 | -- | -- |
| 1/31/90 | W-55-MW8 | <0.00050 | <0.00050 | <0.00050 | 0.00087 | <0.020 | -- | -- |
| 2/9/90 | W-52-MW8 | <0.00050 | <0.00050 | <0.00050 | 0.0011 | <0.020 | -- | -- |
| | (Blank) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.020 | -- | -- |
| 3/26/90 | W-55-MW8 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.020 | -- | -- |
| | (Blank) | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.020 | -- | -- |
| 4/18/90 | W-52-MW8 | <0.00050 | 0.00058 | <0.00050 | 0.0011 | <0.020 | -- | -- |
| 5/17/90 | W-60-MW8 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.020 | -- | -- |
| **MW-9** | | | | | | | | |
| 10/13/89 | W-50-MW9 | 1.0 | 9.2 | 3.0 | 13 | 89 | -- | -- |
| 12/20/89 | W-50-MW9 | 6.3 | 31 | 9.5 | 55 | 190 | -- | -- |
| 1/25/90 | W-50-MW9 | 2.4 | 9.4 | 2.7 | 15 | 77 | -- | -- |
| 2/27/90 | W-50-MW9 | 1.2 | 7.1 | 2.3 | 14 | 97 | -- | -- |
| 3/26/90 | W-49-MW9 | 1.8 | 7.7 | 2.0 | 11 | 89 | -- | -- |
| 4/18/90 | W-49-MW9 | 2.0 | 7.5 | 2.5 | 16 | 110 | -- | -- |
| 5/17/90 | W-50-MW9 | 1.5 | 5.7 | 2.3 | 14 | 81 | -- | -- |

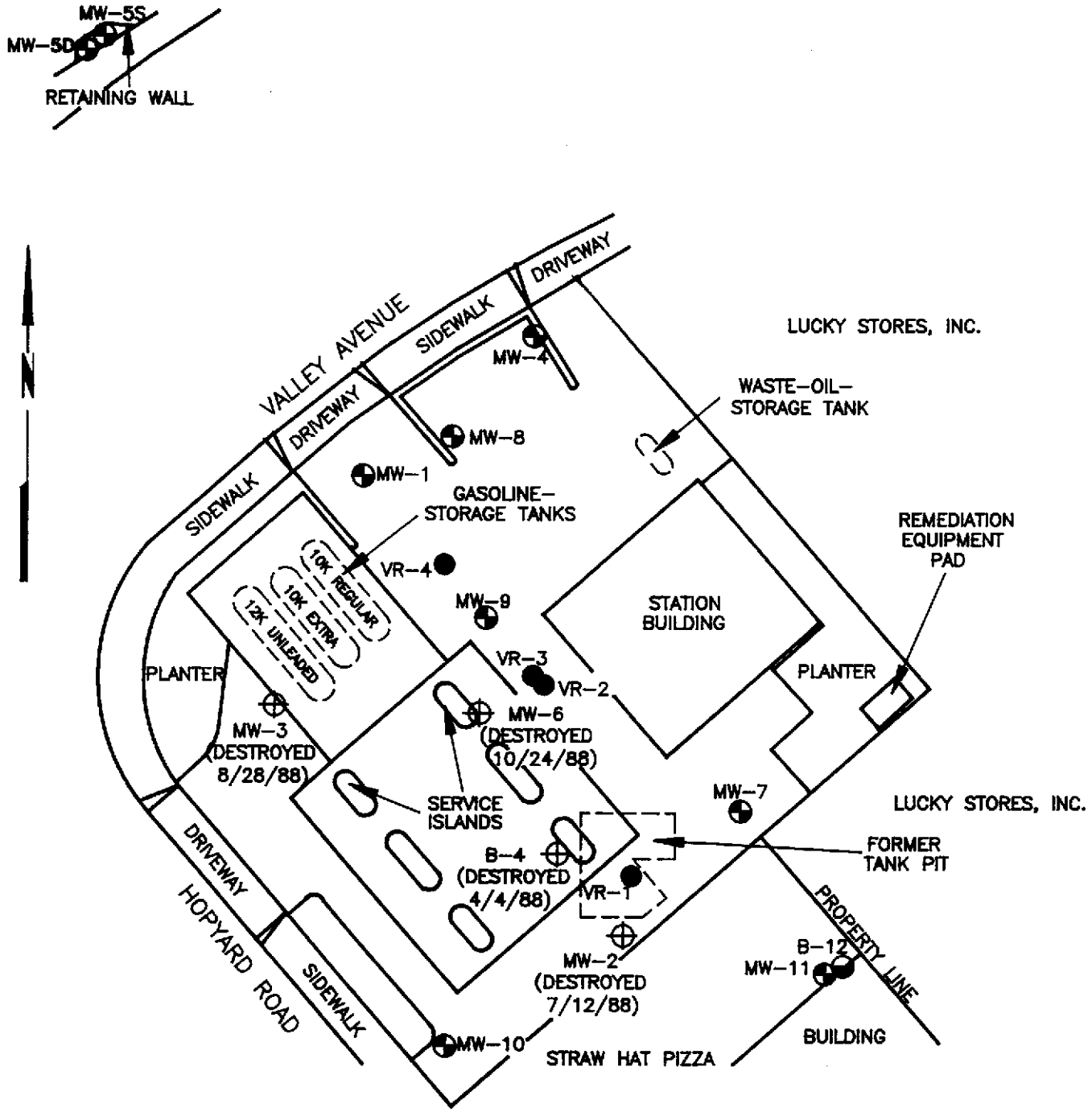
See notes on page 7 of 7.

Applied GeoSystems

TABLE 3
RESULTS OF ANALYSES OF GROUND-WATER SAMPLES
(page 7 of 7)

| Date | Sample No. | Benzene (ppm) | Toluene (ppm) | Ethyl-benzene (ppm) | Total Xylenes (ppm) | TPHg (ppm) | EPA 502.2 (ppm) | EPA 524.2 (ppm) |
|---|---|---|---|---|---|---|---|---|
| **MW-10** | | | | | | | | |
| 10/12/89 | W-52-MW10 | <0.00050 | <0.00050 | <0.00050 | 0.0015 | 0.020 | -- | -- |
| 12/20/89 | W-52-MW10 | <0.00050 | <0.00050 | <0.00050 | 0.0018 | <0.020 | -- | -- |
| 3/26/90 | W-51-MW10 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.020 | -- | -- |
| **MW-11** | | | | | | | | |
| 11/16/89 | W-51-MW11 | 0.0041 | 0.0094 | 0.00074 | 0.020 | 0.15 | -- | -- |
| 12/20/89 | W-50-MW11 | 0.0072 | 0.0075 | 0.0029 | 0.013 | 0.15 | -- | -- |
| 3/26/90 | W-50-MW11 | <0.00050 | <0.00050 | <0.00050 | 0.0027 | 0.032 | -- | -- |

Results in milligrams per liter (mg/l) = parts per million (ppm)
TPH = total petroleum hydrocarbons by Environmental Protection Agency Method 8015
EPA 502.2 = Environmental Protection Agency Method 502.2 (volatile organic compounds)
EPA 524.2 = Environmental Protection Agency Method 524.2 (volatile organic compounds)
< = Less than the method detection limits of the laboratory
-- = Not analyzed or not applicable
ND = Nondetectable or below the method detection limit(s) of the laboratory
* = Nondetectable concentrations for 58 volatile organic compounds
Well No. 7 = City of Pleasanton Municipal Well No. 7
Sample designation: W-50-MW11
- W = water
- 50 = depth of sample to the nearest foot (for well MW-7, sample collected from a sample port at the surface)
- MW11 = monitoring well number




MW-7 = Monitoring well
VR-1 = Vapor recovery well
B-12 = Soil boring
MW-6 = Former well or boring

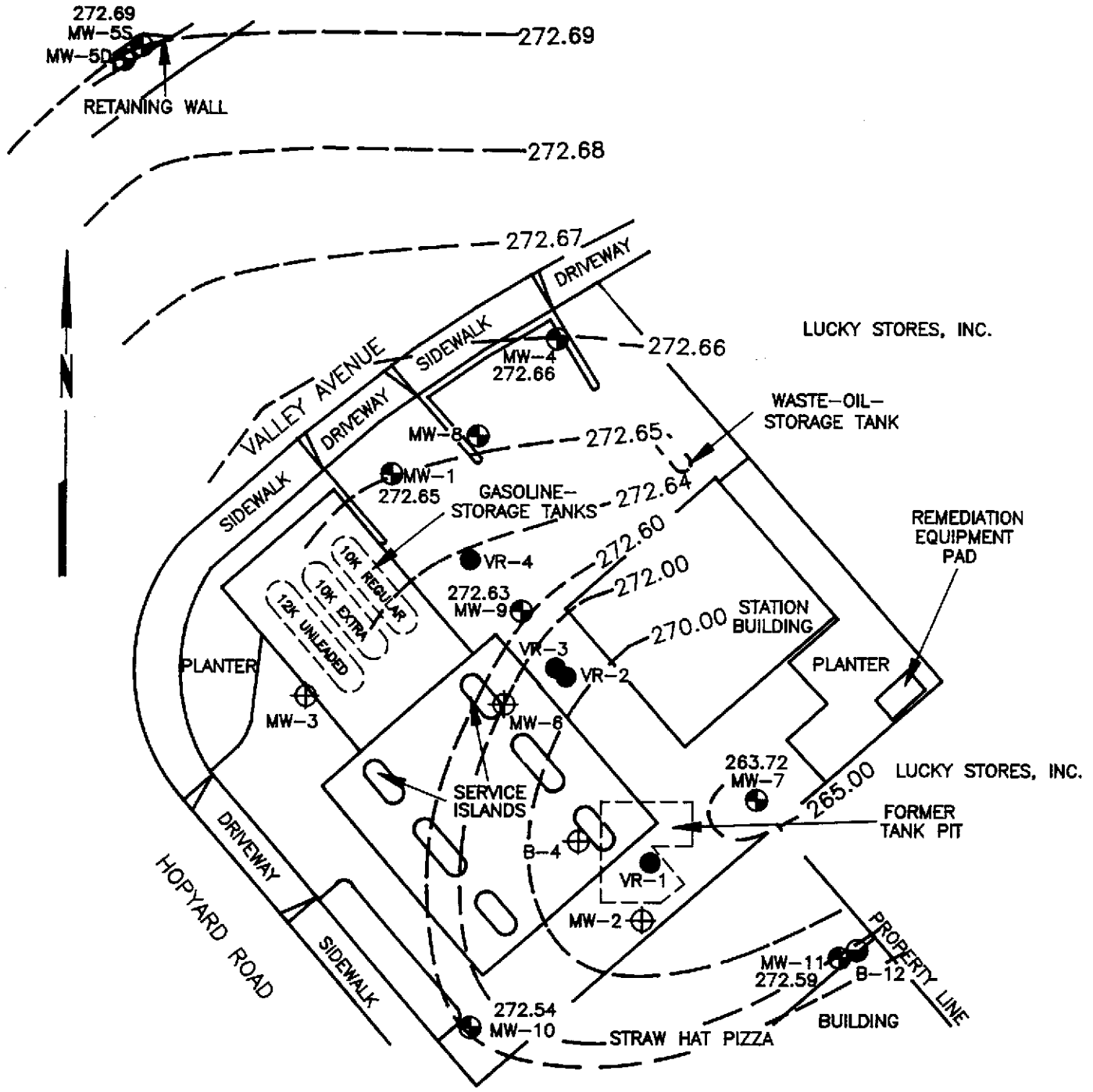
Approximate Scale
40 20 0 40 80
feet

Applied GeoSystems

PROJECT NO. 18034-8

**GENERALIZED SITE PLAN**
**Exxon Station No. 7-3399**
**2991 Hopyard Road**
**Pleasanton, California**

**PLATE**
**P - 1**




272.69 = Line of equal elevation of ground water in feet above mean sea level

MW-7 = Monitoring well

VR-1 = Vapor recovery well

B-12 = Soil boring

MW-6 = Former well or boring

Approximate Scale

40 20 0 40 80

feet

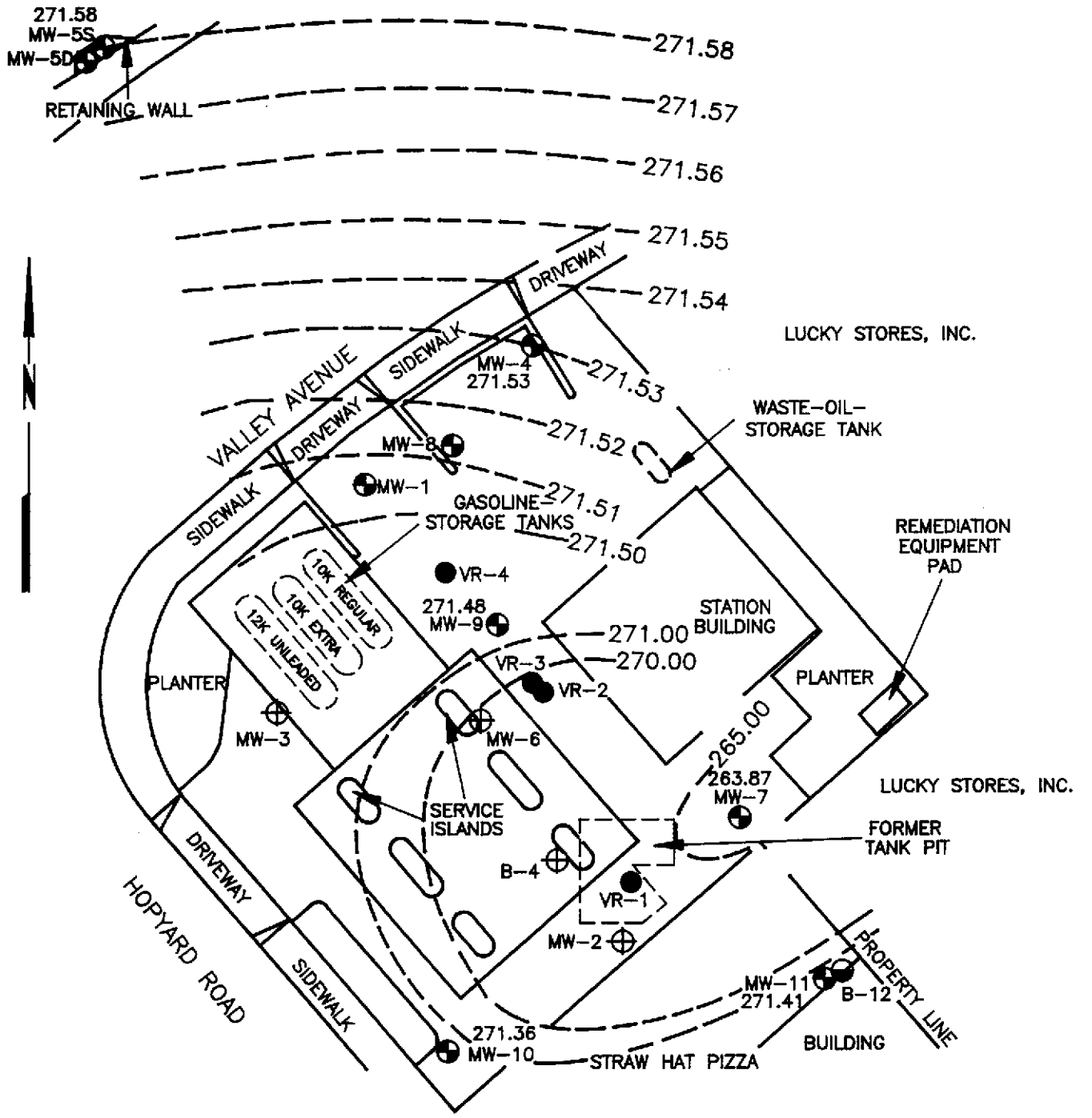
Applied GeoSystems

**PROJECT NO. 18034-6**

**GROUND-WATER ELEVATION MAP DURING PUMPING OF MW-7**
**April 18, 1990**
**Exxon Station No. 7-3399**
**2991 Hopyard Road**
**Pleasanton, California**

**PLATE**

**P - 2**




271.58 = Line of equal elevation of ground water in feet above mean sea level

MW-7 = Monitoring well

VR-1 = Vapor recovery well

B-12 = Soil boring

MW-6 = Former well or boring

Approximate Scale

40 20 0 40 80

feet

Applied GeoSystems

PROJECT NO. 18034-8

**GROUND-WATER ELEVATION MAP DURING PUMPING OF MW-7**
**May 17, 1990**
**Exxon Station No. 7-3399**
**2991 Hopyard Road**
**Pleasanton, California**

**PLATE**

**P - 3**

## FIELD PROCEDURES

### Subjective Evaluation of Ground-Water Samples

Before water samples were collected for subjective evaluation, the depth to static water level was measured to the nearest 0.01 foot with a Solinst electronic water-level indicator. The ground-water samples were then collected from each well by gently lowering approximately half the length of a Teflon bailer past the air-water interface. The bailer was washed with Alconox (a commercial biodegradable detergent) and rinsed with deionized water before each use. The samples were retrieved and examined for evidence of floating product and sheen.

### Ground-Water Sampling for Laboratory Analyses

Each well was purged of approximately 3 well volumes of water. A water sample was collected from each well after the well had recharged to more than 80 percent of the static level. A Teflon bailer that had been washed with Alconox and rinsed with deionized water was used to collect the samples. Half the length of the bailer was lowered past the air-water interface to retrieve the water sample. The bailer was retrieved and the water samples slowly decanted into laboratory-cleaned, 40-milliliter, volatile organic analysis glass sample vials with Teflon-lined caps were used. Hydrochloric acid was added to the samples as a preservative. The sample vials were promptly capped, labeled, and placed in iced storage for transport to a State-certified analytical laboratory for testing. Chain-of-custody protocol was observed throughout handling of the samples.

Purged water was temporarily stored onsite in 17E 55-gallon liquid-waste drums approved for this purpose by the Department of Transportation. The purged water was discharged through the oil-water separator and into the sanitary sewer.

Applied GeoSystems

# CHAIN-OF-CUSTODY RECORD

| PROJ. NO. | PROJECT NAME |
|---|---|
| 18034-8 | Exxon; Hayward Mt. Pleasanton |
| P.O. NO. | SAMPLERS (Signature): Russell Bak, Jim Koellen |

| DATE MM/DD/YY | TIME | | No. of Containers | TPHgasoline (8015) | BTEX (602/8020) | TPHdiesel (8015) | | | | | | Preserved? | REMARKS | LABORATORY I.D. NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3-26-90 | 4:40 | W - 50 - MW4 | 4 | ✓ | ✓ | | | | | | | HCl ice | | |
| | 5:30 | W - 49 - MW9 | 4 | ✓ | ✓ | | | | | | | | | |
| | 6:00 | W - 19 - VR4 | 4 | ✓ | ✓ | | | | | | | | | |
| | 6:00 | W - 24 - VR3 | 4 | ✓ | ✓ | | | | | | | | | |
| | 1:45 | W - 55 - MW8 | 4 | ✓ | ✓ | | | | | | | | | |
| | 2:55 | W - 49 - MW4 | 4 | ✓ | ✓ | | | | | | | | | |
| | 4:15 | W - 51 - MW10 | 4 | ✓ | ✓ | | | | | | | | | |
| | 4:00 | W - 50 - MW 5D | 4 | ✓ | ✓ | | | | | | | | | |
| | 9:10 | W - 49 - MW 5S | 4 | ✓ | ✓ | | | | | | | | | |
| | 6:15 | W - separator - MW7 | 4 | ✓ | ✓ | | | | | | | | | |
| | 12:45 | W - Blank - MW8 | 4 | ✓ | ✓ | | | | | | | | | Analysis blank if detectable concentrations found in MW8 |
| | 5:00 | W - 49 - MW1 | 4 | ✓ | ✓ | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

| RELINQUISHED BY (Signature): | DATE / TIME | RECEIVED BY (Signature): |
|---|---|---|
| Russell Bak | 3-27-90 8:10 | |
| RELINQUISHED BY (Signature): | DATE / TIME | RECEIVED BY (Signature): |
| | | |
| RELINQUISHED BY (Signature): | DATE / TIME | RECEIVED FOR LABORATORY BY (Signature): |
| | | 3-27-90 08:30AM |

**Laboratory:** Applied GeoSystems

**Turn Around:** 2 weeks

SEND RESULTS TO:

**Applied GeoSystems**
43255 Mission Boulevard
Fremont, California 95826
(415) 651-1906

**Proj. Mgr.:** Lodgie Wickham

**Applied GeoSystems** 43255 Mission Blvd. Suite B Fremont, CA 94539 (415) 651-1906

# ANALYSIS REPORT

1020lab.frm

Attention: Mr. Rodger Witham
Applied GeoSystems
43255 Mission Boulevard
Fremont, CA 94539
Project: AGS 18034-8

Date Sampled: 03-26-90
Date Received: 03-27-90
BTEX Analyzed: 03-30-90
TPHg Analyzed: 03-30-90
TPHd Analyzed: NR
Matrix: Water

| | Benzene | Toluene | Ethyl-benzene | Total Xylenes | TPHg | TPHd |
|---|---|---|---|---|---|---|
| | ppb | ppb | ppb | ppb | ppb | ppb |
| Detection Limit: | 0.50 | 0.50 | 0.50 | 0.50 | 20 | 100 |
| SAMPLE Laboratory Identification | | | | | | |
| W-49-MW4 W1003282 | ND | ND | ND | ND | ND | NR |
| W-SEPARATE-MW7 W1003283 | ND | ND | ND | 0.67 | ND | NR |
| W-55-MW8 W1003284 | ND | ND | ND | ND | ND | NR |
| W-BLANK-MW8 W1003285 | ND | ND | ND | ND | ND | NR |
| W-51-MW10 W1003287 | ND | ND | ND | ND | ND | NR |

ppb = parts per billion = µg/L = micrograms per liter.
ND = Not detected. Compound(s) may be present at concentrations below the detection limit.
NR = Analysis not requested.

**ANALYTICAL PROCEDURES**

**BTEX**-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020/602, which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID) and a flame-ionization detector (FID) in series.

**TPHg**--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are measured by extraction using EPA Method 5030, followed by analysis using modified EPA Method 8015, which utilizes a GC equipped with an FID.

**TPHd**--Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550 for soils and EPA Method 3510 for water, followed by modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Laboratory Representative

04-03-90
Date Reported

Applied GeoSystems 43255 Mission Blvd. Suite B Fremont, CA 94539 (415) 651-1906

# ANALYSIS REPORT

1020lab.frm

Attention: Mr. Rodger Witham
Applied GeoSystems
43255 Mission Boulevard
Fremont, CA 94539
Project: AGS 18034-8

Date Sampled: 03-26-90
Date Received: 03-27-90
BTEX Analyzed: 03-30-90
TPHg Analyzed: 03-30-90
TPHd Analyzed: NR
Matrix: Water

| | Benzene | Toluene | Ethyl-benzene | Total Xylenes | TPHg | TPHd |
|---|---|---|---|---|---|---|
| | ppb | ppb | ppb | ppb | ppb | ppb |
| Detection Limit: | 0.50 | 0.50 | 0.50 | 0.50 | 20 | 100 |
| SAMPLE Laboratory Identification | | | | | | |
| W-50-MW11 W1003288 | ND | ND | ND | 2.7 | 32 | NR |

ppb = parts per billion = µg/L = micrograms per liter.
ND = Not detected. Compound(s) may be present at concentrations below the detection limit.
NR = Analysis not requested.

**ANALYTICAL PROCEDURES**

**BTEX**-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020/602, which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID) and a flame-ionization detector (FID) in series.

**TPHg**--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are measured by extraction using EPA Method 5030, followed by analysis using modified EPA Method 8015, which utilizes a GC equipped with an FID.

**TPHd**--Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550 for soils and EPA Method 3510 for water, followed by modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Laboratory Representative

04-03-90
Date Reported

APPLIED GEOSYSTEMS IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 153)

Applied GeoSystems 43255 Mission Blvd. Suite B Fremont, CA 94539 (415) 651-1906

# ANALYSIS REPORT

1020lab.frm

Attention: Mr. Rodger Witham
Applied GeoSystems
43255 Mission Boulevard
Fremont, CA 94539
Project: AGS 18034-8

Date Sampled: 03-26-90
Date Received: 03-27-90
BTEX Analyzed: 03-30-90
TPHg Analyzed: 03-30-90
TPHd Analyzed: NR
Matrix: Water

| | Benzene | Toluene | Ethyl-benzene | Total Xylenes | TPHg | TPHd |
|---|---|---|---|---|---|---|
| | ppb | ppb | ppb | ppb | ppb | ppb |
| Detection Limit: | 0.50 | 0.50 | 0.50 | 0.50 | 20 | 100 |
| SAMPLE Laboratory Identification | | | | | | |
| W-24-VR3 W1003277 | 35 | 4.9 | ND | 0.83 | 230 | NR |
| W-19-VR4 W1003278 | ND | ND | 0.60 | 0.96 | 190 | NR |
| W-49-5S W1003279 | ND | ND | ND | ND | ND | NR |
| W-50-5D W1003280 | ND | ND | ND | ND | ND | NR |
| W-49-MW1 W1003281 | ND | ND | ND | ND | ND | NR |

ppb = parts per billion = µg/L = micrograms per liter.
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NR = Analysis not requested.

**ANALYTICAL PROCEDURES**

**BTEX**– Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020/602, which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID) and a flame-ionization detector (FID) in series.

**TPHg**–Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are measured by extraction using EPA Method 5030, followed by analysis using modified EPA Method 8015, which utilizes a GC equipped with an FID.

**TPHd**–Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550 for soils and EPA Method 3510 for water, followed by modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Laboratory Representative

04-03-90
Date Reported

APPLIED GEOSYSTEMS IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 153)

Applied GeoSystems 43255 Mission Blvd. Suite B Fremont, CA 94539 (415) 651-1906

# ANALYSIS REPORT

1020lab.frm

Attention: Mr. Rodger Witham
Applied GeoSystems
43255 Mission Boulevard
Fremont, CA 94539
Project: AGS 18034-8

Date Sampled: 03-26-90
Date Received: 03-27-90
BTEX Analyzed: 03-30-90
TPHg Analyzed: 03-30-90
TPHd Analyzed: NR
Matrix: Water

| | Benzene | Toluene | Ethyl-benzene | Total Xylenes | TPHg | TPHd |
|---|---|---|---|---|---|---|
| | ppb | ppb | ppb | ppb | ppb | ppb |
| Detection Limit: | 50 | 50 | 50 | 50 | 2000 | 100 |
| SAMPLE Laboratory Identification | | | | | | |
| W-49-MW9 W1003286 | 1800 | 7700 | 2000 | 11000 | 89000 | NR |

ppb = parts per billion = µg/L = micrograms per liter.
ND = Not detected. Compound(s) may be present at concentrations below the detection limit.
NR = Analysis not requested.

**ANALYTICAL PROCEDURES**

**BTEX**– Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020/602, which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID) and a flame-ionization detector (FID) in series.

**TPHg**–Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are measured by extraction using EPA Method 5030, followed by analysis using modified EPA Method 8015, which utilizes a GC equipped with an FID.

**TPHd**–Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550 for soils and EPA Method 3510 for water, followed by modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Laboratory Representative

04-03-90
Date Reported

APPLIED GEOSYSTEMS IS CERTIFIED BY THE STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES AS A HAZARDOUS WASTE TESTING LABORATORY
(Certification No. 153)

Applied GeoSystems

# CHAIN-OF-CUSTODY RECORD

| PROJ. NO. | PROJECT NAME |
|---|---|
| 18034-8 | Exxon: Hopyard Rd Pleasanton |
| P.O. NO. | SAMPLERS (Signature) |
| | Russell J. Bake |

| DATE (MM/DD/YY) | TIME | | No. of Containers | TPHgasoline (8015) | BTEX (602/8020) | TPHdiesel (8015) | | | | | | Preserved? | REMARKS | LABORATORY I.D. NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ANALYSIS | | | | | | | | | | |
| 4-18-90 | 1:30 | W-49-MW9 | 4 | / | / | | | | | | | HCl + ice | | |
| | 5:30 | W-50-MW8 | 4 | / | / | | | | | | | | | |
| | 6:30 | W-49-MW1 | 4 | / | / | | | | | | | | | |

| RELINQUISHED BY (Signature): | DATE / TIME | RECEIVED BY (Signature): |
|---|---|---|
| Russell Bake | 4/18/90 8:10 | |
| RELINQUISHED BY (Signature): | DATE / TIME | RECEIVED BY (Signature): |
| | | |
| RELINQUISHED BY (Signature): | DATE / TIME | RECEIVED FOR LABORATORY BY (Signature): |
| | 4/19/90 1400 | Karen Kurtz |

Laboratory: Applied GeoSystems

Turn Around: 2 weeks

SEND RESULTS TO:
**Applied GeoSystems**
43255 Mission Boulevard
Fremont, California 95826

(415) 651-1906

Proj. Mgr.: Rodger Witham

# APPLIED ANALYTICAL

***Environmental Laboratories***

3459 Edison Way
Fremont, CA 94538
(415) 623-0775


## ANALYSIS REPORT

1020lab.frm

| | | | |
|---|---|---|---|
| Attention: | Mr. Rodger Witham | Date Sampled: | 04-18-90 |
| | Applied GeoSystems | Date Received: | 04-19-90 |
| | 43255 Mission Boulevard | BTEX Analyzed: | 04-25-90 |
| | Fremont, CA 94539 | TPHg Analyzed: | 04-25-90 |
| Project: | AGS 18034-8 | TPHd Analyzed: | NR |
| | | Matrix: | Water |

| | Benzene | Toluene | Ethyl-benzene | Total Xylenes | TPHg | TPHd |
|---|---|---|---|---|---|---|
| | ppb | ppb | ppb | ppb | ppb | ppb |
| Detection Limit: | 0.50 | 0.50 | 0.50 | 0.50 | 20 | 100 |
| SAMPLE<br>Laboratory Identification | | | | | | |
| W-49-MW1<br>W1004177 | 1.1 | 1.6 | ND | 3.1 | 25 | NR |
| W-52-MW8<br>W1004178 | ND | 0.58 | ND | 1.1 | ND | NR |

ppb = parts per billion = µg/L = micrograms per liter.
ND = Not detected. Compound(s) may be present at concentrations below the detection limit.
NR = Analysis not requested.

**ANALYTICAL PROCEDURES**

**BTEX**-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020/602, which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID) and a flame-ionization detector (FID) in series.

**TPHg**--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are measured by extraction using EPA Method 5030, followed by analysis using modified EPA Method 8015, which utilizes a GC equipped with an FID.

**TPHd**--Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550 for soils and EPA Method 3510 for water, followed by modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Laboratory Representative

04-27-90
Date Reported

# APPLIED ANALYTICAL

***Environmental Laboratories***

3459 Edison Way
Fremont, CA 94538
(415) 623-0775


## ANALYSIS REPORT

1020lab.frm

| | | | |
|---|---|---|---|
| Attention: | Mr. Rodger Witham | Date Sampled: | 04-18-90 |
| | Applied GeoSystems | Date Received: | 04-19-90 |
| | 43255 Mission Boulevard | BTEX Analyzed: | 04-25-90 |
| | Fremont, CA 94539 | TPHg Analyzed: | 04-25-90 |
| Project: | AGS 18034-8 | TPHd Analyzed: | NR |
| | | Matrix: | Water |

| | Benzene | Toluene | Ethyl-benzene | Total Xylenes | TPHg | TPHd |
|---|---|---|---|---|---|---|
| | ppb | ppb | ppb | ppb | ppb | ppb |
| Detection Limit: | 50 | 50 | 50 | 50 | 2000 | 100 |
| SAMPLE Laboratory Identification | | | | | | |
| W-49-MW9 W1004179 | 2000 | 7500 | 2500 | 16000 | 110000 | NR |

ppb = parts per billion = µg/L = micrograms per liter.
ND = Not detected. Compound(s) may be present at concentrations below the detection limit.
NR = Analysis not requested.

**ANALYTICAL PROCEDURES**

**BTEX**-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020/602, which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID) and a flame-ionization detector (FID) in series.

**TPHg**--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are measured by extraction using EPA Method 5030, followed by analysis using modified EPA Method 8015, which utilizes a GC equipped with an FID.

**TPHd**--Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550 for soils and EPA Method 3510 for water, followed by modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Laboratory Representative

04-27-90
Date Reported

Applied GeoSystems

# CHAIN-OF-CUSTODY RECORD

| FIELD NO. | PROJECT NAME | SAMPLERS (Signature) |
|---|---|---|
| 180349 | Exxon - Pleasanton | |

| DATE MM/DD/YY | TIME | | No. of Containers | TPHgasoline (8015) | BTEX (602/8020) | TPHdiesel (8015) | Preserved? | REMARKS | LABORATORY I.D. NUMBER |
|---|---|---|---|---|---|---|---|---|---|
| 5-17-90 | | * W-Blank-MW8 | 4 | — | — | | Acetic | | |
| | | W-60-MW8 | 4 | — | — | | | | |
| | | W-50-MW1 | 4 | — | — | | | | |
| | | W-50-MW9 | 4 | — | — | | | | |
| | | *ONLY Analyse Blanks from MW-8 if MW-8 is NOT ND !! | | | | | | | |

| RELINQUISHED BY (Signature) | DATE / TIME | RECEIVED BY (Signature) |
|---|---|---|
| | 5-17-90 3:45 PM | |
| RELINQUISHED BY (Signature) | DATE / TIME | RECEIVED BY (Signature) |
| | | |
| RELINQUISHED BY (Signature) | DATE / TIME | RECEIVED FOR LABORATORY BY (Signature) |
| | | 5-18-90 0800 AM |

Laboratory: Applied GeoSystems

Turn Around: 2 weeks

SEND RESULTS TO:
**Applied GeoSystems**
43255 Mission Boulevard
Fremont, California 95826

(415) 651 1906

Proj. Mgr.: Robyn Witham

# APPLIED ANALYTICAL

***Environmental Laboratories***

3459 Edison Way
Fremont, CA 94538
(415) 623-0775


## ANALYSIS REPORT

1020lab.frm

| | | | |
|---|---|---|---|
| Attention: | Mr. Rodger Witham | Date Sampled: | 05-17-90 |
| | Applied GeoSystems | Date Received: | 05-18-90 |
| | 43255 Mission Boulevard | BTEX Analyzed: | 05-21-90 |
| | Fremont, CA 94539 | TPHg Analyzed: | 05-21-90 |
| Project: | AGS 18034-9 | TPHd Analyzed: | NR |
| | | Matrix: | Water |

| | Benzene | Toluene | Ethyl-benzene | Total Xylenes | TPHg | TPHd |
|---|---|---|---|---|---|---|
| | ppb | ppb | ppb | ppb | ppb | ppb |
| Detection Limit: | 0.50 | 0.50 | 0.50 | 0.50 | 20 | 100 |
| SAMPLE Laboratory Identification | | | | | | |
| W-50-MW1 W1005163 | ND | ND | ND | ND | ND | NR |
| W-60-MW8 W1005164 | ND | ND | ND | ND | ND | NR |

ppb = parts per billion = µg/L = micrograms per liter.
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NR = Analysis not requested.

**ANALYTICAL PROCEDURES**

BTEX– Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020/602, which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID) and a flame-ionization detector (FID) in series.

TPHg–Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are measured by extraction using EPA Method 5030, followed by analysis using modified EPA Method 8015, which utilizes a GC equipped with an FID.

TPHd–Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550 for soils and EPA Method 3510 for water, followed by modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Laboratory Representative

05-24-90
Date Reported

# APPLIED ANALYTICAL

***Environmental Laboratories***

3459 Edison Way
Fremont, CA 94538
(415) 623-0775


## ANALYSIS REPORT

1020lab.frm

| | | | |
|---|---|---|---|
| Attention: | Mr. Rodger Witham | Date Sampled: | 05-17-90 |
| | Applied GeoSystems | Date Received: | 05-18-90 |
| | 43255 Mission Boulevard | BTEX Analyzed: | 05-21-90 |
| | Fremont, CA 94539 | TPHg Analyzed: | 05-21-90 |
| Project: | AGS 18034-9 | TPHd Analyzed: | NR |
| | | Matrix: | Water |

| | Benzene | Toluene | Ethyl-benzene | Total Xylenes | TPHg | TPHd |
|---|---|---|---|---|---|---|
| | ppb | ppb | ppb | ppb | ppb | ppb |
| Detection Limit: | 50 | 50 | 50 | 50 | 2000 | 100 |
| SAMPLE Laboratory Identification | | | | | | |
| W-50-MW9 W1005165 | 1500 | 5700 | 2300 | 14000 | 81000 | NR |

ppb = parts per billion = µg/L = micrograms per liter.
ND = Not detected. Compound(s) may be present at concentrations below the detection limit.
NR = Analysis not requested.

**ANALYTICAL PROCEDURES**

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are measured by extraction using EPA Method 5030 followed by analysis using EPA Method 8020/602, which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID) and a flame-ionization detector (FID) in series.

TPHg--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are measured by extraction using EPA Method 5030, followed by analysis using modified EPA Method 8015, which utilizes a GC equipped with an FID.

TPHd--Total petroleum hydrocarbons as diesel (high boiling points) are measured by extraction using EPA Method 3550 for soils and EPA Method 3510 for water, followed by modified EPA Method 8015 with direct sample injection into a GC equipped with an FID.

Laboratory Representative

05-24-90
Date Reported