KLEINFELDER

29 August 1990
File: 10-1682-03/39

Mr. Dennis Hunt
District Manager
Industrial Asphalt
P.O. Box 636
Pleasanton, CA 94566

**SUBJECT: Quarterly Report (April 1990 - June 1990), Industrial Asphalt, Pleasanton, California**

Dear Mr. Hunt:

Kleinfelder, Inc., is pleased to submit this quarterly report for the second quarter of 1990 (April through June 1990) for the Industrial Asphalt site in Pleasanton, California (Plate 1). Quarterly progress reports were requested by the Alameda County Department of Health Services in their letter to you, dated 13 November 1989.

## INTRODUCTION

Thirteen monitoring wells and one observation well have been installed onsite in order to identify the extent of the contaminant plume (Plate 2). All wells have been monitored for depth to water and product thickness on a monthly basis since their installation. Collected ground water samples have been analyzed for the target compounds including total petroleum hydrocarbons (TPH) as diesel/waste oil and polychlorinated biphenyls (PCBs). Additionally, each well was sampled and analyzed once for benzene, toluene, xylenes and ethybenzene (BTXE).

Water samples were collected from site monitoring wells MW-3, MW-4, MW-5, MW-6, MW-7, MW-8 and MW-10 on the monthly basis during the second quarter of 1990 (April, May and June). Monitoring well MW-2 had insufficient volume of well water to obtain a representative sample in June 1990; therefore it was not sampled during the June sampling round. Well MW-9 was not sampled in May 1990. On the sampling days in that month, this well was inaccessible for sampling. Monitoring wells MW-14, MW-15 and MW-16 were installed in June 1990 and, therefore, were sampled only once during the second quarter of 1990. The other two wells (MW-1 and MW-11) were dry on the sampling days during the second quarter of 1990.

## WATER LEVEL MONITORING DATA

Ground water level hydrographs for monitoring/observation wells MW-1 through MW-11 and MW-14 through MW-16 are shown on Plates 3 through 16. These plates also show free product thickness levels over time.

As indicated by the hydrographs, ground water table elevation at the site rose in the second quarter of 1990. However, ground water table elevations declined in June 1990 in wells MW-5 and MW-7 and at the pond. Both monitoring wells are located in the eastern portion of the



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project site. Considering ground water table fluctuations in the site wells, it is likely that ground water levels in the area are affected by water pumping (discharging) in gravel pits or by nearby high yield irrigation/industrial water wells.

During the second quarter of 1990, sheen was observed in well MW-1, MW-2, MW-3 and MW-8. These data appear to indicate that free product thickness in some onsite monitoring wells increases with the rising ground water table elevation.

Analytical data are presented in Table 1 and graphically on Plates 3 through 16. Complete analytical laboratory reports along with chain of custody records are available from our project files.

Detectable levels of PCBs have been found in the ground water samples collected from monitoring wells MW-2, MW-3 and MW-8. However, detected concentrations were relatively low (less than 2.6 ug/l with the exception of 10 ug/l in MW-3 in June 1990)).

Analyses on the water samples collected from wells MW-2, MW-3 and MW-8 during the April 1990 sampling round (1 May 1990) revealed the presence of dissolved hydrocarbons as diesel/waste oil in ground water at these sampling locations. Additionally, TPH as diesel/waste oil was detected in water samples collected from MW-2, MW-3, MW-4, MW-5, MW-7, and MW-8 in May 1990 (29 May 1990). Chemical analyses performed on samples obtained from the site wells in June 1990 indicate the presence of TPH as diesel in monitoring well MW-3, MW-5, MW-8, MW-9 and MW-15.

Ground water surface contour maps developed from the data obtained during the second quarter of 1990 indicate that ground water flow was generally toward the north-northeast which is consistent with the previous data. However, the ground water gradient appears to increase to about 3% in April and May 1990 and to about 6% in June 1990. The surface water elevation in the gravel pit located north of the site was approximately 5 to 10 feet higher that the elevation of the ground water surface beneath the site. This may create a natural hydraulic barrier for the movement of free product or dissolved hydrocarbons, assuming the pit is not sealed off.

In summary, it appears that leaked heavy hydrocarbons are trapped in the soils above ground water table in certain areas of the project site (predominantly in the vicinity of wells MW-1, MW-2, MW-3 and MW-8). The rising water collects trapped chemicals and results in higher concentrations of these target compounds in the sampled water.

## RI ACTIVITIES

A dual tube percussion drill rig arrived at the Industrial Asphalt site on 21 May 1990 to drill ten soil borings (SB-1 through SB-10) and to drill/install three new monitoring wells (MW-14, MW-15 and MW-16). During drilling, soil samples were obtained from appropriate depths. The samples were analyses for TPH-diesel/waste oil and PCBs. The new wells were incorporated into the bi-monthly sampling program and sampled for the first time in June 1990.

An extraction well was installed in July 1990 using an air rotary casing hammer drill rig. Subsequently, the well was developed and is planned to be sampled during the August 1990 sampling round. A pumping test on this well is scheduled for the first week of September 1990. A new (updated) project schedule will be attached to our August 1990 bi-monthly report.

The data collected on a bi-monthly basis during the second half of 1990 will be summarized in a semi-annual report scheduled to be issued in January 1991. The August 1990 bi-monthly report will be submitted in September 1990.



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## LIMITATIONS

This report was prepared in general accordance with the accepted standard of practice which exists in Northern California at the time the investigation was performed. It should be recognized that definition and evaluation of environmental conditions is a difficult and inexact art. Judgements leading to conclusions and recommendations are generally made with an incomplete knowledge of the conditions present. More extensive studies, including additional environmental investigations, can tend to reduce the inherent uncertainties associated with such studies. If the Client wishes to reduce the uncertainty beyond the level associated with this study, Kleinfelder should be notified for additional consultation.

Our firm has prepared this report for the Client's exclusive use for this particular project and in accordance with generally accepted engineering practices within the area at the time of our investigation. No other representations, expressed or implied, and no warranty or guarantee is included or intended.

If you have any questions regarding this report or require additional information, please contact the undersigned.

Sincerely,

**KLEINFELDER, INC.**

Krzysztof (Krys) S. Jesionek,
Project Manager

Lloyd C. Venburg, R.G.
Project Supervisor


KSJ:LCV:cd

cc: Dwight Beavers - Industrial Asphalt
Gil Wistar - Alameda County Department of Environmental Services
Rico Duazo - California Regional Water Quality Control Board
Jerry Killingstad - Alameda County Flood Control and Water Conservation District

TABLE 1
MONITORING PARAMETERS
INDUSTRIAL ASPHALT

| Well | Date | Depth to Water[1] (ft) | Ground Water Elevation[2] (ft) | Product Thickness (ft) | TPH as Diesel (mg/l) | TPH as Waste Oil (mg/l) | PCBs (µg/l) |
|---|---|---|---|---|---|---|---|
| MW-1 | 06-11-87 | 75.0 | 304.41 | NE | NT | NT | NT |
| | 07-09-87 | 75.9 | 303.51 | <0.1 | NT | NT | NT |
| | 08-06-87 | 79.1 | 300.31 | 3.2 | 350 | NT | 5.7 |
| | 09-29-87 | 79.3 | 300.11 | 1.84 | 510[3] | NT | 22[3] |
| | 10-30-87 | 78.23 | 301.18 | 0.95 | 780[3] | NT | 22[3] |
| | 11-30-87 | 77.68 | 301.73 | 1.10 | 1800[3] | NT | 56[3] |
| | 12-21-87 | 79.53 | 299.88 | 2.52 | 55 | NT | 1 |
| | 01-25-88 | 77.88 | 301.53 | 1.63 | 96 | NT | ND |
| | 02-25-88 | 79.46 | 299.95 | 2.49 | 120 | NT | ND |
| | 03-18-88 | 81.61 | 297.80 | 2.93 | 3.6 | NT | ND |
| | 04-27-88 | 81.10 | 298.31 | 2.26 | 23 | NT | ND |
| | 05-20-88 | 82.97 | 296.44 | 2.29 | NT[6] | NT[6] | NT[6] |
| | 06-22-88 | 83.48 | 295.93 | 0.93 | NT | NT | NT |
| | 07-26-88 | 85.78 | 293.63 | 0.99 | NT | NT | NT |
| | 08-11-88[5] | 84.55 | 294.86 | 0.05 | NT | NT | NT |
| | 08-15-88[5] | 87.90 | 291.51 | 0.05 | NT | NT | NT |
| | 08-26-88 | 84.80 | 294.61 | 0.05 | NT | NT | NT |
| | 10-04-88 | 84.84 | 294.57 | 0.11 | NT | NT | NT |
| | 10-28-88 | 84.94 | 294.47 | 0.04 | NT | NT | NT |
| | 12-22-88 | 84.92 | 294.49 | TRACE | NT | NT | NT |
| | 01-26-89 | DRY | NA | NE | NT | NT | NT |
| | 03-02-89 | 84.74 | 294.67 | NE | NT | NT | NT |
| | 04-07-89 | DRY | NA | NE | NT | NT | NT |
| | 05-08-89 | DRY | NA | NE | NT | NT | NT |
| | 06-01-89 | DRY | NA | NE | NT | NT | NT |
| | 07-05-89 | DRY | NA | NE | NT | NT | NT |
| | 08-15-89 | DRY | NA | NE | NT | NT | NT |
| | 09-25-89 | 68.56 | 310.85 | 0.04 | 130 | 37 | 1.6 |
| | 10-17-89 | DRY | NA | NE | NT | NT | NT |
| | 11-28-89 | DRY | NA | NE | NT | NT | NT |
| | 12-27-89 | DRY | NA | NE | NT | NT | NT |
| | 01-22-90 | DRY | NA | NE | NT | NT | NT |
| | 02-21-90 | DRY | NA | NE | NT | NT | NT |
| | 03-21-90 | DRY | NA | NE | NT | NT | NT |
| | 05-01-90 | 86.92 | 292.49 | SHEEN | NT | NT | NT |
| | 05-29-90 | 86.33 | 293.08 | SHEEN | NT | NT | NT |
| | 06-28-90 | 86.25 | 293.15 | SHEEN | NT | NT | NT |

TABLE 1 (continued)
MONITORING PARAMETERS
INDUSTRIAL ASPHALT

| Well | Date | Depth to Water[1] (ft) | Ground Water Elevation[2] (ft) | Product Thickness (ft) | TPH as Diesel (mg/l) | TPH as Waste Oil (mg/l) | PCBs (µg/l) |
|---|---|---|---|---|---|---|---|
| MW-2 | 08-06-87 | NE | NA | 14.0 | NT | NT | NT |
| | 09-29-87 | NE | NA | 12.05 | NT | NT | NT |
| | 10-30-87 | 82.67 | 297.04 | 5.34 | 1100[3] | NT | 14[3] |
| | 11-30-87 | 84.12 | 295.68 | 7.79 | 1100[3] | NT | 33[3] |
| | 12-21-87 | 84.28 | 295.52 | 7.31 | 27 | NT | 2 |
| | 01-25-88 | 84.26 | 295.54 | 8.07 | 150 | NT | ND |
| | 02-25-88 | 84.21 | 295.59 | 7.28 | 15 | NT | ND |
| | 03-18-88 | 86.18 | 293.62 | 7.56 | 3.6 | NT | ND |
| | 04-27-88 | 85.57 | 294.23 | 5.64 | 6.1 | NT | ND |
| | 05-20-88 | 88.48 | 291.32 | 6.93 | NT[6] | NT[6] | NT[6] |
| | 06-22-88 | 87.30 | 292.50 | 4.52 | NT | NT | NT |
| | 07-26-88 | NE | NA | 5.02[4] | NT | NT | NT |
| | 08-11-88[5] | 88.70 | 291.10 | 1.40 | NT | NT | NT |
| | 08-15-88[5] | 88.05 | 291.75 | 0.35 | NT | NT | NT |
| | 08-26-88 | 88.35 | 291.45 | 0.10 | NT | NT | NT |
| | 10-04-88 | 89.46 | 290.34 | 0.03 | NT | NT | NT |
| | 11-28-88 | NE | NA | NE | NT | NT | NT |
| | 12-22-88 | 89.10 | 290.70 | NE | NT | NT | NT |
| | 01-26-89 | 87.83 | 291.97 | SHEEN | NT | NT | NT |
| | 03-02-89 | 87.55 | 292.25 | 0.02 | NT | NT | NT |
| | 04-07-89 | 86.68 | 293.12 | 0.01 | NT | NT | NT |
| | 05-08-89 | DRY | NA | NE | NT | NT | NT |
| | 06-01-89 | DRY | NA | NE | NT | NT | NT |
| | 07-05-89 | DRY | NA | NE | NT | NT | NT |
| | 08-15-89 | DRY | NA | NE | NT | NT | NT |
| | 09-25-89 | 71.39 | 308.41 | SHEEN | 100 | 43 | 3.5 |
| | 10-17-89 | DRY | NA | NE | NT | NT | NT |
| | 11-28-89 | DRY | NA | NE | NT | NT | NT |
| | 12-27-89 | DRY | NA | NE | NT | NT | NT |
| | 01-22-90 | DRY | NA | NE | NT | NT | NT |
| | 02-21-90 | DRY | NA | NE | NT | NT | NT |
| | 03-21-90 | DRY | NA | NE | NT | NT | NT |
| | 05-01-90 | 86.52 | 293.28 | SHEEN | 300 | 150 | 2.6 |
| | 05-29-90 | 85.98 | 293.82 | SHEEN | 65 | 29 | 0.6 |
| | 06-28-90 | 85.35 | 294.45 | SHEEN | NT | NT | NT |

TABLE 1 (continued)
MONITORING PARAMETERS
INDUSTRIAL ASPHALT

| Well | Date | Depth to Water[1] (ft) | Ground Water Elevation[2] (ft) | Product Thickness (ft) | TPH as Diesel (mg/l) | TPH as Waste Oil (mg/l) | PCBs (µg/l) |
|---|---|---|---|---|---|---|---|
| MW-3 | 08-06-87 | 75.00 | 303.54 | NE | 0.6 | NT | ND |
| | 09-29-87 | 78.77 | 299.77 | 1.84 | 7.6 | NT | 2.7 |
| | 10-30-87 | 78.44 | 300.10 | 2.11 | 1100[3] | NT | 24[3] |
| | 11-30-87 | 77.76 | 300.78 | 2.22 | 340[3] | NT | 62[3] |
| | 12-21-87 | 77.88 | 300.66 | 1.68 | 46 | NT | 2 |
| | 01-25-88 | 76.88 | 301.66 | 1.21 | 27 | NT | ND |
| | 02-25-88 | 77.80 | 300.74 | 1.60 | 6 | NT | ND |
| | 03-18-88 | 80.50 | 298.04 | 2.59 | 3.8 | NT | ND |
| | 04-27-88 | 79.40 | 299.14 | 1.32 | 4.5 | NT | ND |
| | 05-20-88 | 81.48 | 297.06 | 1.73 | 14 | NT | 4.7 |
| | 06-22-88 | 82.14 | 296.40 | 0.53 | 44 | NT | 4.3 |
| | 07-26-88 | 84.36 | 294.18 | 0.54 | NT[6] | NT[6] | NT[6] |
| | 08-11-88[5] | 86.45 | 292.09 | 0.50 | NT | NT | NT |
| | 08-15-88[5] | 86.74 | 291.80 | 0.44 | NT | NT | NT |
| | 08-26-88 | 87.18 | 291.36 | 0.28 | NT | NT | NT |
| | 10-04-88 | 88.72 | 289.82 | 0.30 | NT | NT | NT |
| | 10-28-88 | 89.49 | 289.05 | 0.29 | NT | NT | NT |
| | 12-22-88 | 84.74 | 293.80 | 0.02 | NT | NT | NT |
| | 01-26-89 | 86.57 | 291.97 | SHEEN | NT | NT | NT |
| | 03-02-89 | 86.26 | 292.28 | 0.02 | NT | NT | NT |
| | 04-07-89 | 85.31 | 293.23 | SHEEN | NT | NT | NT |
| | 05-08-89 | 88.35 | 290.19 | SHEEN | NT | NT | NT |
| | 06-01-89 | 89.67 | 288.87 | SHEEN | NT | NT | NT |
| | 07-05-89 | 89.52 | 289.02 | SHEEN | NT | NT | NT |
| | 08-15-89 | DRY | NA | NE | NT | NT | NT |
| | 09-25-89 | 70.30 | 307.24 | SHEEN | 120 | 58 | 3.6 |
| | 10-17-89 | DRY | NA | NE | NT | NT | NT |
| | 11-28-89 | DRY | NA | NE | NT | NT | NT |
| | 12-27-89 | DRY | NA | NE | NT | NT | NT |
| | 01-22-90 | DRY | NA | NE | NT | NT | NT |
| | 02-21-90 | DRY | NA | NE | NT | NT | NT |
| | 03-21-90 | DRY | NA | NE | NT | NT | NT |
| | 05-01-90 | 84.15 | 294.39 | SHEEN | 63 | 42 | 0.9 |
| | 05-29-90 | 83.59 | 294.95 | SHEEN | 13 | 6.1 | ND |
| | 06-28-90 | 82.78 | 295.76 | SHEEN | 520 | 330 | 10 |

TABLE 1 (continued)
MONITORING PARAMETERS
INDUSTRIAL ASPHALT

| Well | Date | Depth to Water[1] (ft) | Ground Water Elevation[2] (ft) | Product Thickness (ft) | TPH as Diesel (mg/l) | TPH as Waste Oil (mg/l) | PCBs (µg/l) |
|---|---|---|---|---|---|---|---|
| MW-4 | 04-08-88 | 76.59 | 299.67 | NE | ND | NT | ND |
| | 04-27-88 | 75.96 | 300.30 | NE | NT | NT | NT |
| | 05-20-88 | 77.71 | 298.55 | NE | ND | NT | NT |
| | 06-22-88 | 79.41 | 296.85 | NE | ND | NT | ND |
| | 07-26-88 | 81.74 | 294.52 | NE | ND | NT | ND |
| | 08-11-88[5] | 83.80 | 292.46 | NE | NT | NT | NT |
| | 08-15-88[5] | 84.06 | 292.20 | NE | NT | NT | NT |
| | 08-26-88 | 84.62 | 291.64 | NE | ND | NT | ND |
| | 10-04-88 | 86.16 | 290.10 | NE | ND | NT | ND |
| | 10-28-88 | 87.02 | 289.24 | NE | 0.46 | NT | ND |
| | 12-22-88 | 85.42 | 290.84 | NE | 0.6 | NT | ND |
| | 01-26-89 | 84.20 | 292.06 | NE | ND | NT | ND |
| | 03-02-89 | 84.06 | 292.20 | NE | ND | ND | ND |
| | 04-07-89 | 83.22 | 293.04 | NE | ND | ND | ND |
| | 05-08-89 | 86.18 | 290.08 | NE | NT | NT | NT |
| | 06-01-89 | 87.78 | 288.48 | NE | ND | ND | ND |
| | 07-05-89 | 89.86 | 286.40 | NE | ND | ND | ND |
| | 08-15-89 | 90.68 | 285.58 | NE | ND | ND | ND |
| | 09-25-89 | 69.68 | 306.58 | NE | 2.7 | ND | ND |
| | 10-17-89 | 89.69 | 286.57 | NE | ND | 0.7 | ND |
| | 11-28-89 | 92.01 | 284.25 | NE | ND | ND | ND |
| | 12-27-89 | 93.50 | 282.76 | NE | ND | ND | ND |
| | 01-22-90 | 91.54 | 284.72 | NE | ND | ND | ND |
| | 02-21-90 | 88.04 | 288.22 | NE | ND | ND | ND |
| | 03-21-90 | 89.02 | 287.24 | NE | ND | ND | ND |
| | 05-01-90 | 82.68 | 293.58 | NE | ND | ND | ND |
| | 05-29-90 | 82.17 | 294.09 | NE | ND | 0.4 | ND |
| | 06-28-90 | 81.65 | 294.61 | NE | ND | ND | ND |

TABLE 1 (continued)
MONITORING PARAMETERS
INDUSTRIAL ASPHALT

| Well | Date | Depth to Water[1] (ft) | Ground Water Elevation[2] (ft) | Product Thickness (ft) | TPH as Diesel (mg/l) | TPH as Waste Oil (mg/l) | PCBs (µg/l) |
|---|---|---|---|---|---|---|---|
| MW-5 | 04-08-88 | 86.76 | 295.79 | NE | ND | NT | ND |
| | 04-27-88 | 82.34 | 300.21 | NE | NT | NT | NT |
| | 05-20-88 | 84.38 | 298.17 | NE | ND | NT | ND |
| | 07-26-88 | 88.84 | 293.71 | NE | ND | NT | ND |
| | 08-11-88[5] | 91.70 | 290.85 | NE | NT | NT | NT |
| | 08-15-88[5] | 91.94 | 290.61 | NE | NT | NT | NT |
| | 08-26-88 | 92.88 | 289.67 | NE | ND | NT | ND |
| | 10-04-88 | 95.65 | 286.90 | NE | ND | NT | ND |
| | 10-28-88 | 97.32 | 285.23 | NE | ND | NT | ND |
| | 12-22-88 | 90.64 | 291.91 | NE | ND | NT | ND |
| | 01-26-89 | 91.29 | 291.26 | NE | ND | NT | ND |
| | 03-02-89 | 88.58 | 293.97 | NE | ND | ND | ND |
| | 04-07-89 | 87.95 | 294.60 | NE | ND | ND | ND |
| | 05-08-89 | 91.56 | 290.99 | NE | NT | NT | NT |
| | 06-01-89 | 94.85 | 287.70 | NE | ND | ND | ND |
| | 07-05-89 | 96.91 | 285.64 | NE | ND | ND | ND |
| | 08-15-89 | 98.93 | 283.62 | NE | ND | ND | ND |
| | 09-25-89 | 66.51 | 316.04 | NE | 0.7[7] | ND | ND |
| | 10-17-89 | 98.83 | 283.72 | NE | ND | ND | ND |
| | 11-28-89 | 98.09 | 284.46 | NE | ND | ND | ND |
| | 12-27-89 | 98.09 | 284.46 | NE | ND | ND | ND |
| | 12-27-89 | >100 | <282.55 | NE | ND | ND | ND |
| | 01-21-90 | 101.97 | 280.58 | NE | ND | ND | ND |
| | 02-21-90 | 86.53 | 296.02 | NE | ND | ND | ND |
| | 03-21-90 | 99.34 | 283.21 | NE | ND | ND | ND |
| | 05-01-90 | 99.21 | 283.34 | NE | ND | ND | ND |
| | 05-29-90 | 93.70 | 288.85 | NE | ND | 0.2 | ND |
| | 06-28-90 | 106.05 | 276.50 | NE | 0.1 | ND | ND |

TABLE 1 (continued)
MONITORING PARAMETERS
INDUSTRIAL ASPHALT

| Well | Date | Depth to Water[1] (ft) | Ground Water Elevation[2] (ft) | Product Thickness (ft) | TPH as Diesel (mg/l) | TPH as Waste Oil (mg/l) | PCBs (µg/l) |
|---|---|---|---|---|---|---|---|
| MW-6 | 06-22-88 | 82.11 | 297.04 | NE | 17 | NT | ND |
| | 07-01-88 | 82.38 | 296.77 | SHEEN | ND | NT | ND |
| | 07-26-88 | 84.37 | 294.78 | SHEEN | ND | NT | ND |
| | 08-11-88[5] | 86.46 | 292.69 | SHEEN | NT | NT | NT |
| | 08-15-88[5] | 86.78 | 292.37 | SHEEN | NT | NT | NT |
| | 08-26-88 | 87.35 | 291.80 | SHEEN | ND | NT | ND |
| | 10-04-88 | 88.90 | 290.25 | NE | ND | NT | ND |
| | 10-28-88 | 89.72 | 289.43 | NE | ND | NT | ND |
| | 12-22-88 | 87.94 | 291.21 | NE | 9.3 | NT | ND |
| | 01-26-89 | 86.95 | 292.20 | NE | ND | NT | ND |
| | 03-02-89 | 85.91 | 293.24 | NE | ND | ND | ND |
| | 04-07-89 | 85.57 | 293.58 | NE | ND | ND | ND |
| | 05-08-89 | 88.60 | 290.55 | NE | NT | NT | NT |
| | 06-01-89 | 90.30 | 288.85 | NE | ND | ND | ND |
| | 07-05-89 | 92.35 | 286.80 | NE | ND | ND | ND |
| | 08-15-89 | 93.28 | 285.87 | NE | ND | ND | ND |
| | 09-25-89 | 70.24 | 308.91 | NE | ND | 0.6 | ND |
| | 10-17-89 | 91.98 | 287.17 | NE | ND | ND | ND |
| | 11-28-89 | 94.22 | 284.93 | NE | ND | ND | ND |
| | 12-27-89 | 95.90 | 283.25 | NE | ND | ND | ND |
| | 01-22-90 | 94.00 | 285.15 | NE | ND | ND | ND |
| | 02-21-90 | 88.99 | 290.16 | NE | 0.5 | ND | ND |
| | 03-21-90 | 91.13 | 288.02 | NE | ND | ND | ND |
| | 05-01-90 | 84.42 | 294.73 | NE | ND | ND | ND |
| | 05-29-90 | 83.84 | 295.31 | NE | ND | ND | ND |
| | 06-28-90 | 83.05 | 296.10 | NE | ND | ND | ND |

TABLE 1 (continued)
MONITORING PARAMETERS
INDUSTRIAL ASPHALT

| Well | Date | Depth to Water[1] (ft) | Ground Water Elevation[2] (ft) | Product Thickness (ft) | TPH as Diesel (mg/l) | TPH as Waste Oil (mg/l) | PCBs (µg/l) |
|---|---|---|---|---|---|---|---|
| MW-7 | 06-22-88 | 82.20 | 296.74 | NE | 140 | NT | ND |
| | 07-01-88 | 82.60 | 296.34 | SHEEN | 17 | NT | ND |
| | 07-26-88 | 84.65 | 294.29 | SHEEN | ND | NT | ND |
| | 08-11-88[5] | 86.94 | 292.00 | SHEEN | NT | NT | NT |
| | 08-15-88[5] | 87.27 | 291.67 | NE | NT | NT | NT |
| | 08-26-88 | 88.02 | 290.92 | SHEEN | ND | NT | ND |
| | 10-04-88 | 84.80 | 294.14 | NE | ND | NT | ND |
| | 10-28-88 | 90.76 | 288.18 | NE | 1.4 | NT | ND |
| | 12-22-88 | 88.05 | 290.89 | NE | 1.0 | NT | ND |
| | 01-26-89 | 87.21 | 291.73 | NE | ND | NT | ND |
| | 03-02-89 | 86.49 | 292.45 | NE | 22 | 9 | ND |
| | 04-07-89 | 84.97 | 293.97 | NE | 4 | ND | ND |
| | 05-08-89 | 88.39 | 290.55 | NE | NT | NT | NT |
| | 06-01-89 | 91.56 | 287.38 | NE | ND | ND | ND |
| | 07-05-89 | 92.75 | 286.19 | NE | 1.6 | ND | ND |
| | 08-15-89 | 94.28 | 284.66 | NE | 0.5 | ND | ND |
| | 09-25-89 | 67.40 | 311.54 | SHEEN | 2 | 0.9 | ND |
| | 10-17-89 | 93.40 | 285.54 | NE | 1.2 | ND | ND |
| | 11-28-89 | 94.90 | 284.04 | NE | 0.6 | ND | ND |
| | 12-27-89 | 98.42 | 280.52 | NE | ND | ND | ND |
| | 01-22-90 | 96.32 | 282.62 | NE | ND | ND | ND |
| | 02-21-90 | 85.40 | 293.54 | NE | 4.7 | 2.3 | ND |
| | 03-21-90 | 93.23 | 285.71 | NE | 0.1 | ND | ND |
| | 05-01-90 | 88.32 | 290.62 | NE | ND | ND | ND |
| | 05-29-90 | 83.90 | 295.04 | NE | 1.1 | 0.4 | ND |
| | 06-28-90 | 86.84 | 292.10 | NE | ND | ND | ND |

TABLE 1 (continued)
MONITORING PARAMETERS
INDUSTRIAL ASPHALT

| Well | Date | Depth to Water[1] (ft) | Ground Water Elevation[2] (ft) | Product Thickness (ft) | TPH as Diesel (mg/l) | TPH as Waste Oil (mg/l) | PCBs (µg/l) |
|---|---|---|---|---|---|---|---|
| MW-8 | 06-22-88 | 81.70 | 296.86 | NE | NT | NT | NT |
| | 07-01-88 | 82.00 | 296.56 | SHEEN | ND | NT | ND |
| | 07-26-88 | 86.19 | 292.37 | 2.44 | 87 | NT | ND |
| | 08-11-88[5] | 87.22 | 291.34 | 1.27 | NT | NT | NT |
| | 08-15-88[5] | 87.02 | 291.54 | 2.12 | NT | NT | NT |
| | 08-26-88 | 87.40 | 291.16 | 0.75 | ND | NT | 1.2 |
| | 10-04-88 | 88.93 | 289.63 | 0.43 | NT[6] | NT | NT[6] |
| | 10-28-88 | 89.71 | 288.85 | 0.37 | NT | NT | NT |
| | 12-22-88 | 87.70 | 290.86 | 0.13 | NT | NT | NT |
| | 01-26-89 | 86.52 | 292.04 | SHEEN | NT | NT | NT |
| | 03-02-89 | 86.30 | 292.26 | 0.01 | NT | NT | NT |
| | 04-07-89 | 86.41 | 292.15 | 0.01 | NT | NT | NT |
| | 05-08-89 | 88.45 | 290.11 | 0.01 | NT | NT | NT |
| | 06-01-89 | 90.29 | 288.27 | 0.02 | 81 | ND | 5 |
| | 07-05-89 | 92.22 | 286.34 | 0.03 | 8.8 | 4.2 | ND |
| | 08-15-89 | 93.08 | 285.48 | SHEEN | 12 | 6 | 0.9 |
| | 09-25-89 | 84.18[8] | 294.38[8] | SHEEN | 3.3 | 2 | ND |
| | 10-17-90 | 92.04 | 286.52 | SHEEN | 17 | 6.7 | 0.7 |
| | 11-28-89 | 94.40 | 284.16 | NE | ND | ND | ND |
| | 12-27-89 | 95.97 | 282.59 | NE | 0.4 | ND | ND |
| | 01-22-90 | 94.03 | 284.53 | NE | 6.6 | 6.1 | 0.6 |
| | 02-21-90 | 89.92 | 288.64 | SHEEN | 130 | ND | 6.3 |
| | 03-21-90 | 91.35 | 287.21 | NE | ND | ND | ND |
| | 05-01-90 | 84.96 | 293.60 | SHEEN | 0.39 | 0.2 | ND |
| | 05-29-90 | 84.38 | 294.18 | SHEEN | 31 | 20 | 1.6 |
| | 06-28-90 | 83.77 | 294.79 | NE | 0.06 | ND | ND |

TABLE 1 (continued)
MONITORING PARAMETERS
INDUSTRIAL ASPHALT

| Well | Date | Depth to Water[1] (ft) | Ground Water Elevation[2] (ft) | Product Thickness (ft) | TPH as Diesel (mg/l) | TPH as Waste Oil (mg/l) | PCBs (µg/l) |
|---|---|---|---|---|---|---|---|
| MW-9 | 08-15-89 | 92.95 | 284.45 | NE | ND | ND | ND |
| | 09-25-89 | 64.12 | 313.28 | SHEEN | 0.3[7] | ND | ND |
| | 10-17-89 | 92.72 | 284.68 | NE | NT | NT | NT |
| | 11-28-89 | NC | NA | NT | NT | NT | NT |
| | 12-27-89 | 97.17 | 280.23 | NE | ND | ND | ND |
| | 01-22-90 | NC | NA | NA | NT | NT | NT |
| | 02-21-90 | NC | NA | NA | NT | NT | NT |
| | 03-21-90 | 92.95 | 284.45 | NE | ND | ND | ND |
| | 05-01-90 | 89.75 | 287.65 | NE | ND | ND | ND |
| | 05-29-90 | NC | NA | NA | NT | NT | NT |
| | 06-28-90 | 90.65 | 286.75 | NE | 0.6 | ND | ND |

TABLE 1 (continued)
MONITORING PARAMETERS
INDUSTRIAL ASPHALT

| Well | Date | Depth to Water[(1)] (ft) | Ground Water Elevation[(2)] (ft) | Product Thickness (ft) | TPH as Diesel (mg/l) | TPH as Waste Oil (mg/l) | PCBs (µg/l) |
|---|---|---|---|---|---|---|---|
| MW-10 | 08-15-89 | 92.40 | 285.64 | NE | ND | ND | ND |
| | 09-25-89 | 70.62 | 307.42 | NE | ND | ND | ND |
| | 10-17-89 | 91.14 | 286.90 | NE | ND | ND | ND |
| | 11-28-89 | 93.35 | 284.69 | NE | ND | ND | ND |
| | 12-27-89 | 94.70 | 283.34 | NE | ND | ND | ND |
| | 01-22-90 | 92.86 | 285.18 | NE | ND | ND | ND |
| | 02-21-90 | 89.30 | 288.74 | NE | 0.5 | ND | ND |
| | 03-21-90 | 90.36 | 287.68 | NE | ND | ND | ND |
| | 05-01-90 | 83.82 | 294.22 | NE | ND | ND | ND |
| | 05-29-90 | 83.31 | 294.73 | NE | ND | 0.2 | ND |
| | 06-28-90 | 82.62 | 295.42 | NE | ND | ND | ND |
| MW-11 | 08-15-89 | DRY | NA | NE | NT | NT | NT |
| | 09-25-89 | 71.35 | 307.67 | SHEEN | 5.8 | ND | ND |
| | 10-17-89 | DRY | NA | NE | NT | NT | NT |
| | 11-28-89 | DRY | NA | NE | NT | NT | NT |
| | 12-27-89 | DRY | NA | NE | NT | NT | NT |
| | 01-22-90 | DRY | NA | NE | NT | NT | NT |
| | 02-21-90 | DRY | NA | NE | NT | NT | NT |
| | 03-21-90 | DRY | NA | NE | NT | NT | NT |
| | 05-01-90 | DRY | NA | NE | NT | NT | NT |
| | 05-29-90 | DRY | NA | NE | NT | NT | NT |
| | 06-28-90 | DRY | NA | NE | NT | NT | NT |
| MW-14 | 06-28-90 | NC | NA | NE | ND | ND | ND |
| MW-15 | 06-28-90 | 86.62 | 291.50 | NE | 0.4 | ND | ND |
| MW-16 | 06-28-90 | 83.65 | 296.00 | NE | ND | ND | ND |

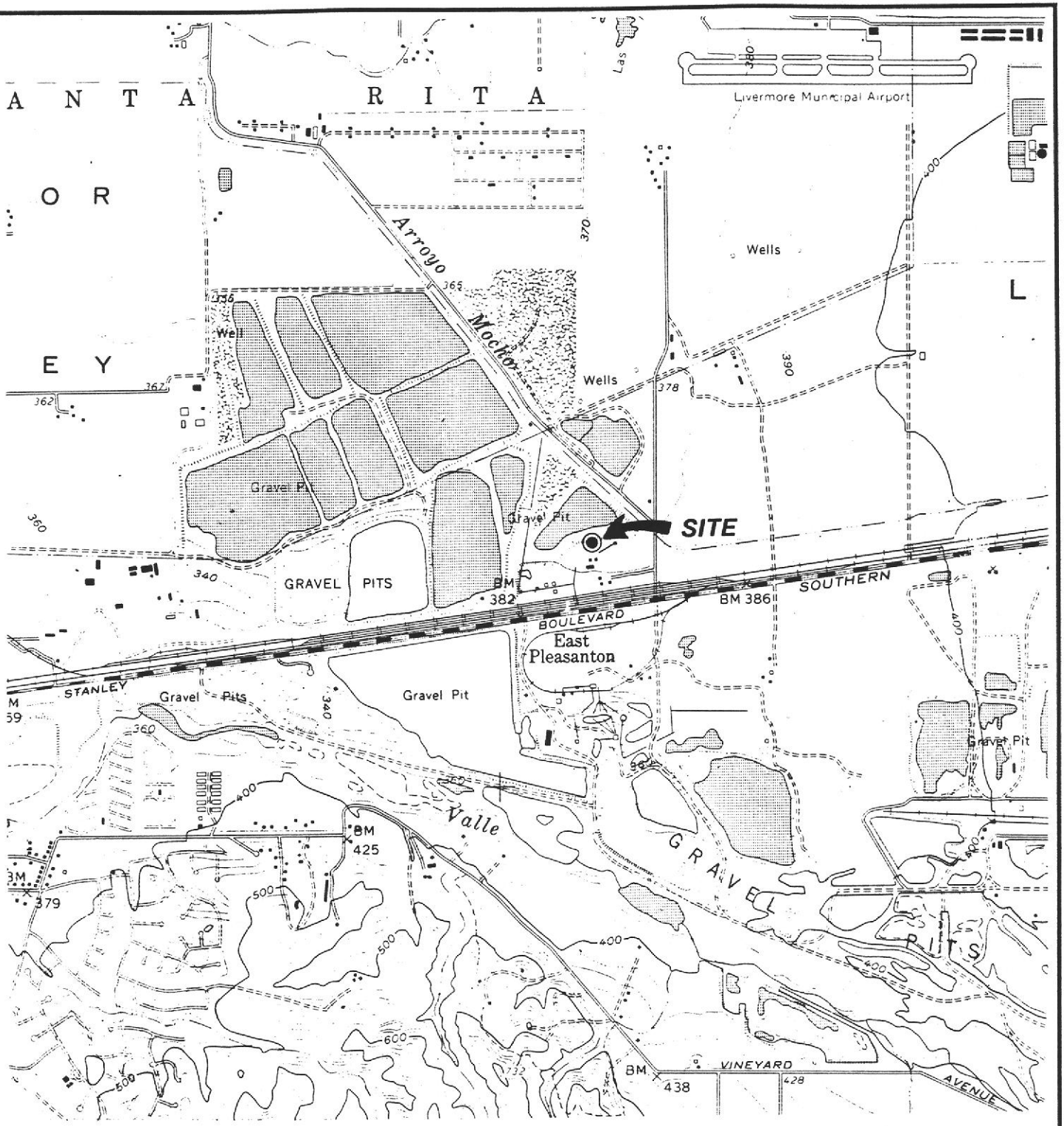
TABLE 1 (continued)
MONITORING PARAMETERS
INDUSTRIAL ASPHALT

| Well | Date | Depth to Water[(1)] (ft) | Ground Water Elevation[(2)] (ft) | Product Thickness (ft) | TPH as Diesel (mg/l) | TPH as Waste Oil (mg/l) | PCBs (µg/l) |
|---|---|---|---|---|---|---|---|
| SG | 09-25-89 | 1.10[(9)] | 301.10[(10)] | NA | NA | NA | NA |
| | 10-17-89 | 0.40[(9)] | 300.40[(10)] | NA | NA | NA | NA |
| | 11-28-89 | 1.50[(9)] | 301.50[(10)] | NA | NA | NA | NA |
| | 12-27-89 | 1.60[(9)] | 310.60[(10)] | NA | NA | NA | NA |
| | 01-22-90 | 0.65[(9)] | 300.65[(10)] | NA | NA | NA | NA |
| | 02-21-90 | 0.11[(9)] | 300.11[(10)] | NA | NA | NA | NA |
| | 03-21-90 | -2.87[(9)] | 297.13[(10)] | NA | NA | NA | NA |
| | 05-01-90 | 1.30 | 301.30 | NA | NA | NA | NA |
| | 05-29-90 | 0.48 | 300.48 | NA | NA | NA | NA |
| | 06-28-90 | -2.80 | 297.20 | NA | NA | NA | NA |

NOTES:

(1) Below top of casing
(2) Feet Above Mean Sea level (USGS Datum)
(3) These samples may have been contaminated; analytical results may therefore be suspect.
(4) Minimum thickness of product based on no water encountered within total depth of well.
(5) Pre- and post- well skimming demonstration; approximately two gallons of product skimmed from wells MW-2 and MW-8 on 08-11-88
(6) Sampling of ground water in wells MW-1, MW-2, MW-3, and MW-8 terminated due to the presence of free product in these wells
(7) "Weathered diesel" (includes higher molecular weight hydrocarbons that those typically contained in a diesel fuel)
(8) Measurement taken on September 18, 1989
(9) Reading on the staff gauge
(10) Surface water elevation in the pit (USGS Datum)

TPH Total Petroleum Hydrocarbons
PCBs Polychlorinated Biphenyls (as Aroclor 1260)
NE Not Encountered
ND Not Detected at or above laboratory detection limits
NA Not Applicable
SG Staff Gauge
NC Not Accessible

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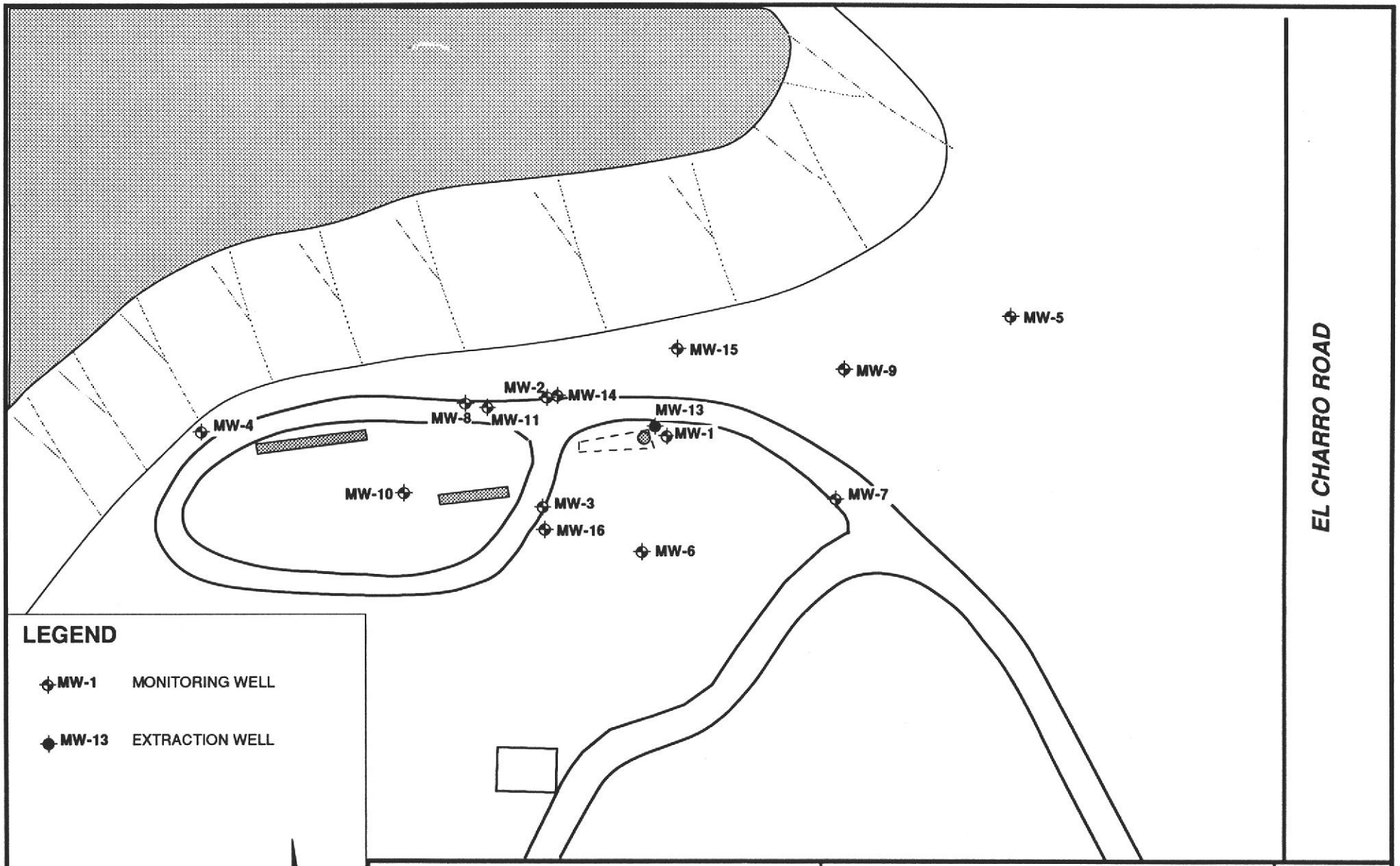
PROJECT NO. 10-1682-03

**SITE LOCATION MAP**

INDUSTRIAL ASPHALT
PLEASANTON, CALIFORNIA

PLATE
1




## LEGEND

MW-1 MONITORING WELL

MW-13 EXTRACTION WELL

0 150

Approximate Scale (feet)

N

**BASE MAP SOURCE:**
Wells surveyed by Associated Professions Inc., April 7, 1990.
Site details from 1987 photo (No. HAP-753), Pacific Aerial Surveys.

KLEINFELDER

DRAFTED BY: L. Sue DATE: 9-5-90

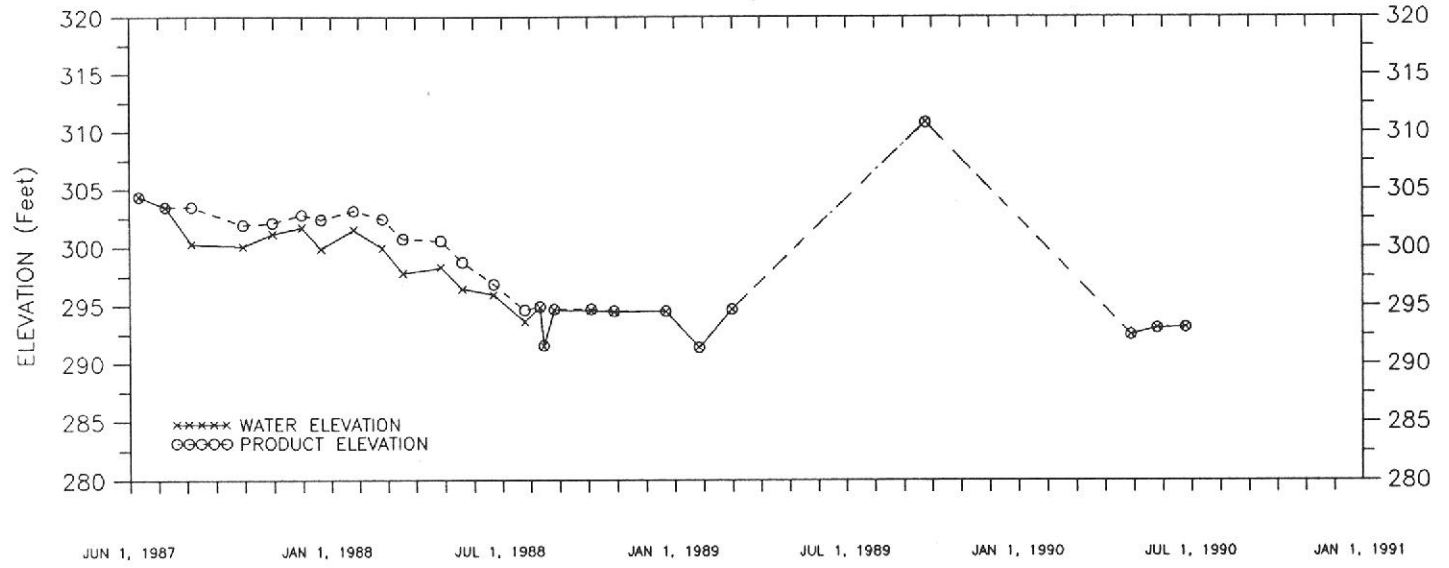
CHECKED BY: K. Jesionek DATE: 9-5-90

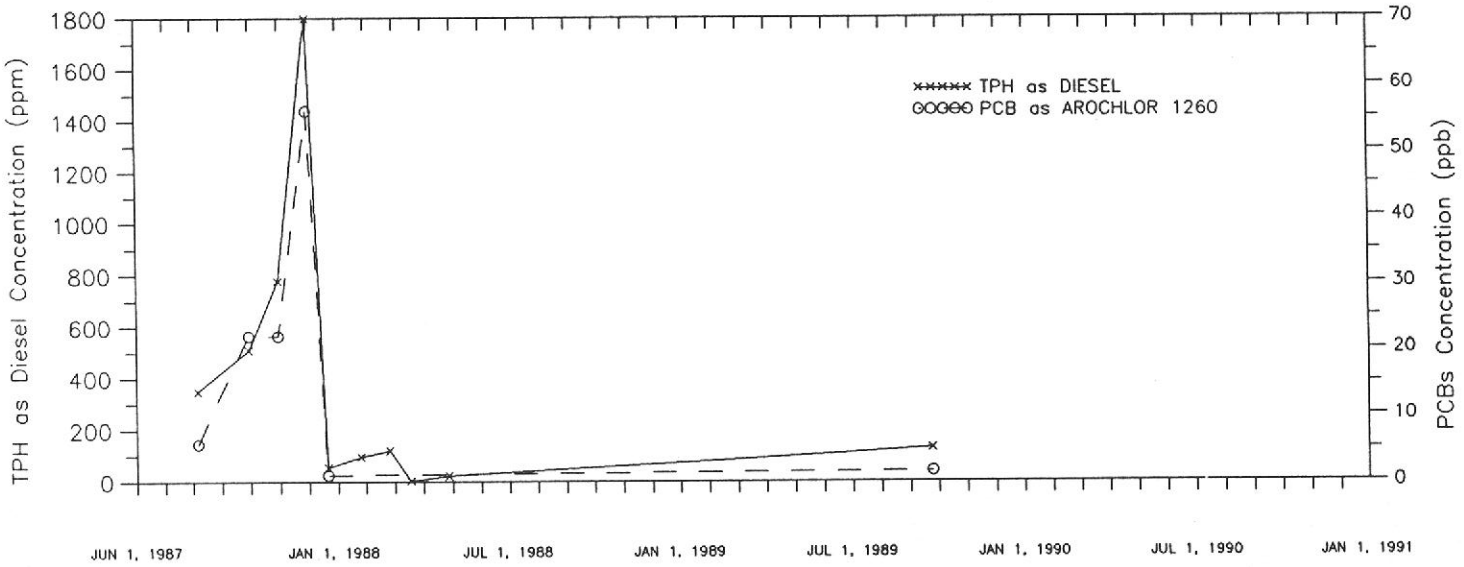
# MONITORING WELL LOCATION MAP

INDUSTRIAL ASPHALT
PLEASANTON, CALIFORNIA

PROJECT NO. 10-1682-03

PLATE 2

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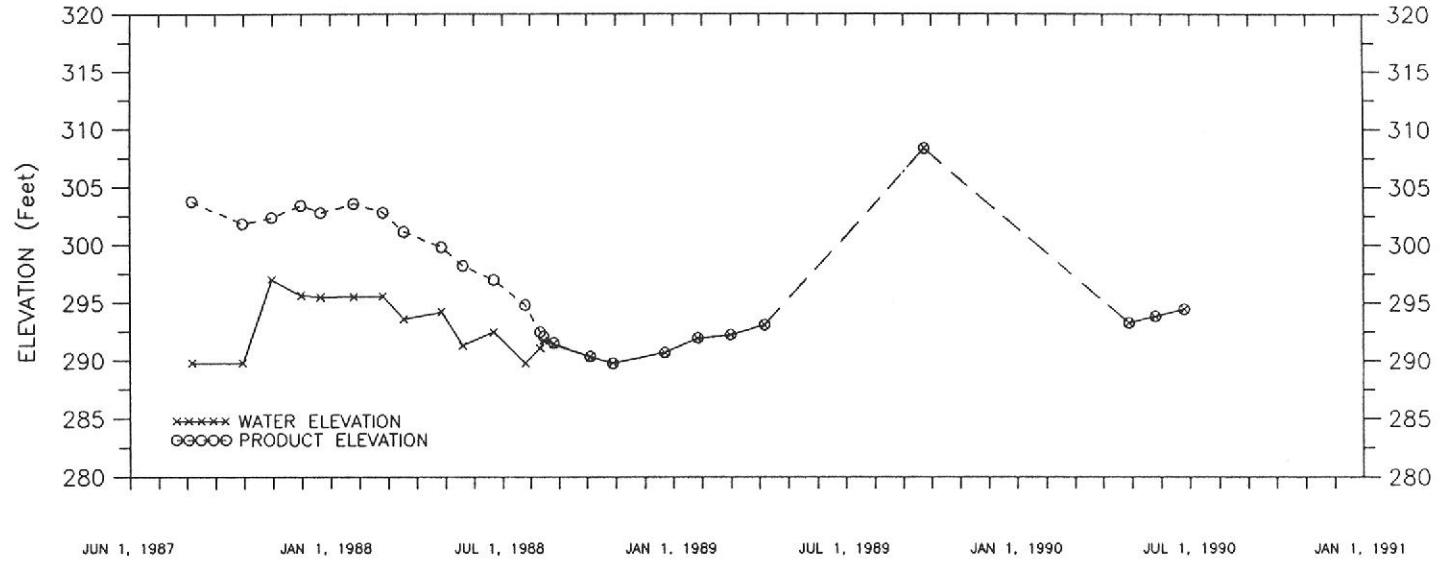
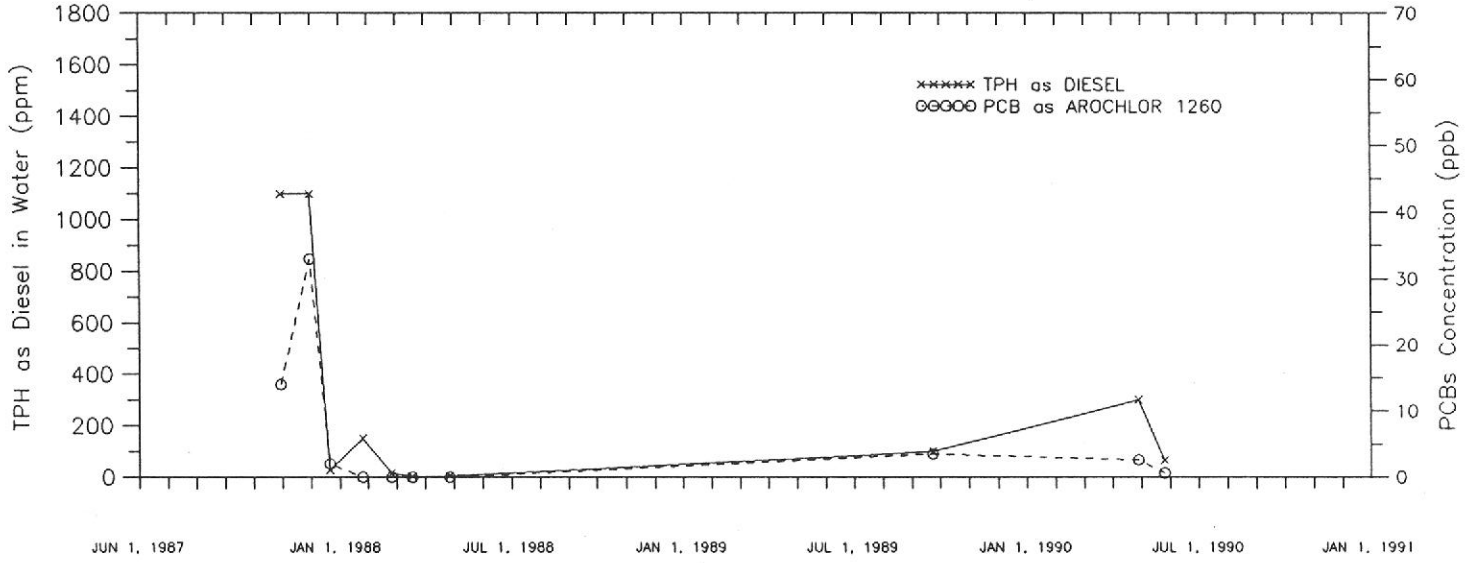
PROJECT NO. 10-1682-03/39 8/90

**MONITORING DATA FOR WELL MW-1**

INDUSTRIAL ASPHALT, INC.
PLEASANTON, CALIFORNIA

PLATE
3

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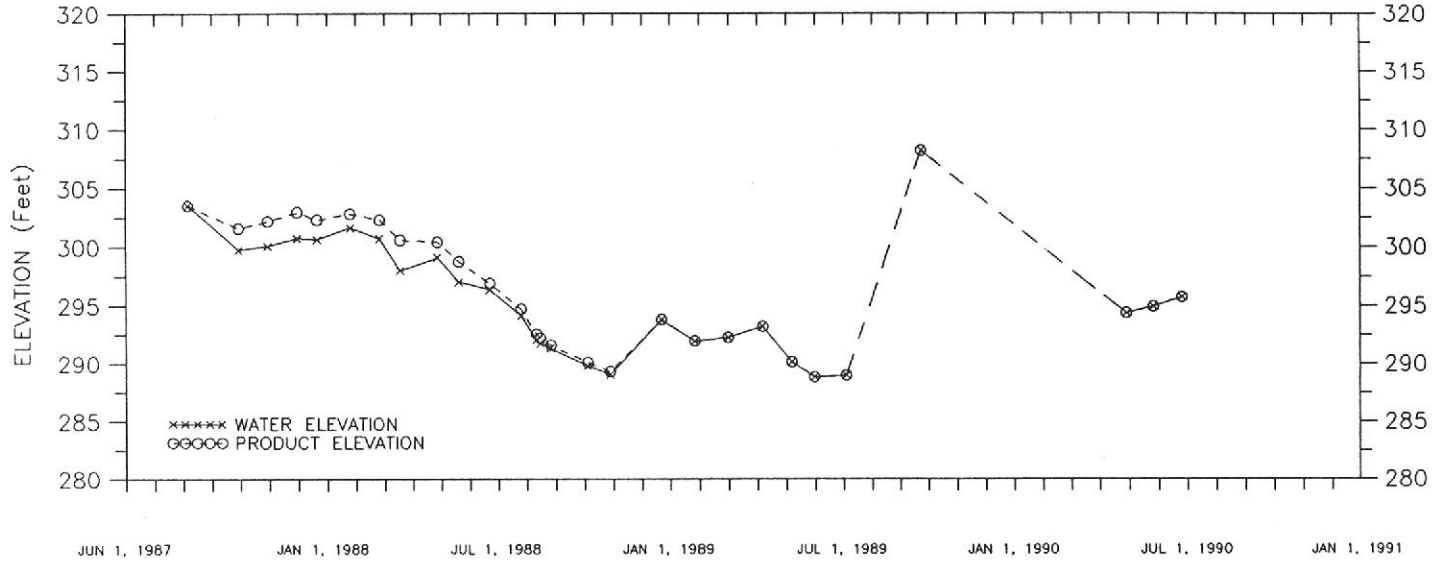
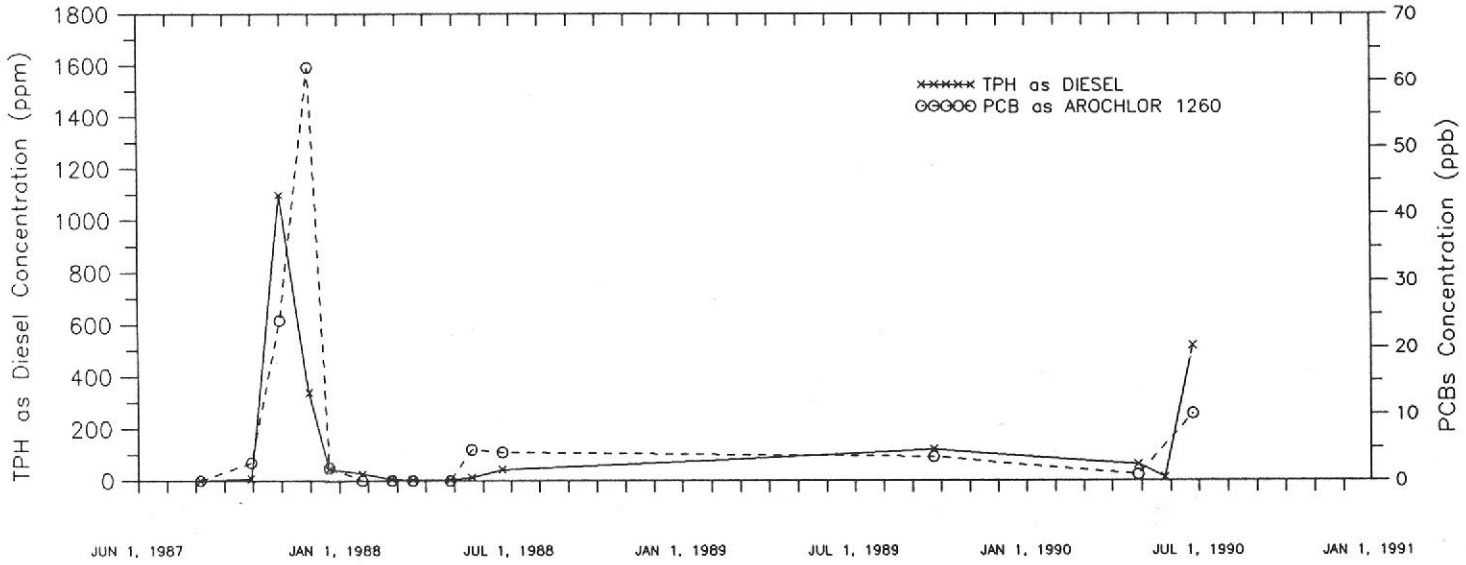
PROJECT NO. 10-1682-03/39 8/90

**MONITORING DATA FOR WELL MW-2**

INDUSTRIAL ASPHALT, INC.
PLEASANTON, CALIFORNIA

PLATE
4

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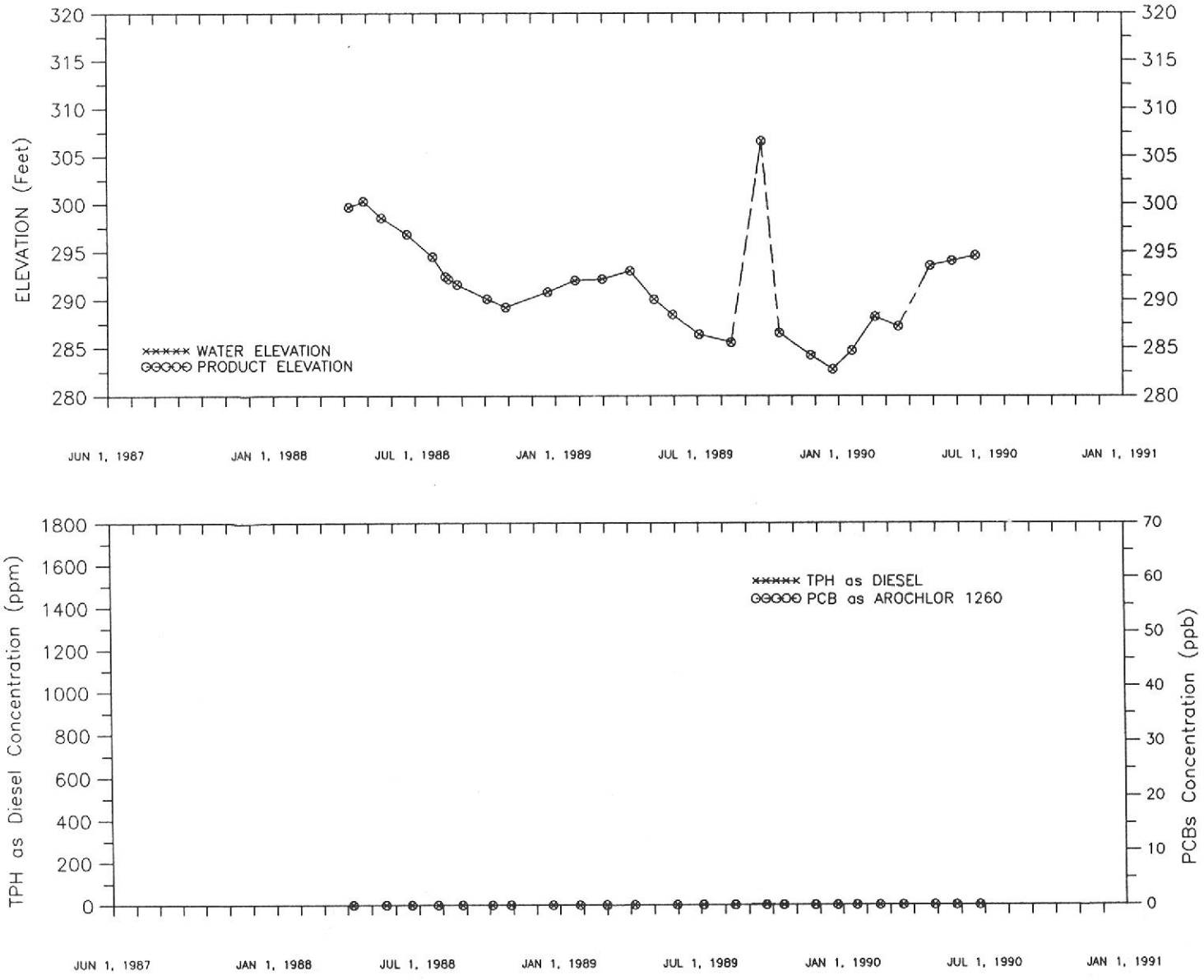
PROJECT NO. 10-1682-03/39 8/90

**MONITORING DATA FOR WELL MW-3**

INDUSTRIAL ASPHALT, INC.
PLEASANTON, CALIFORNIA

PLATE 5

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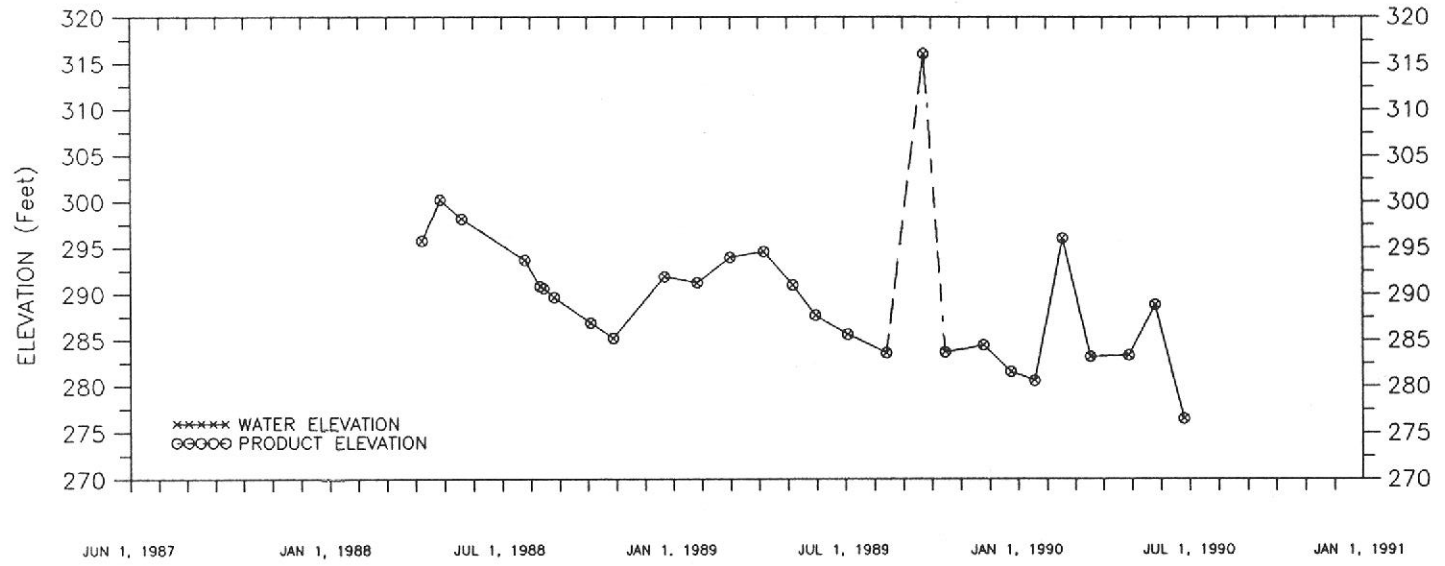
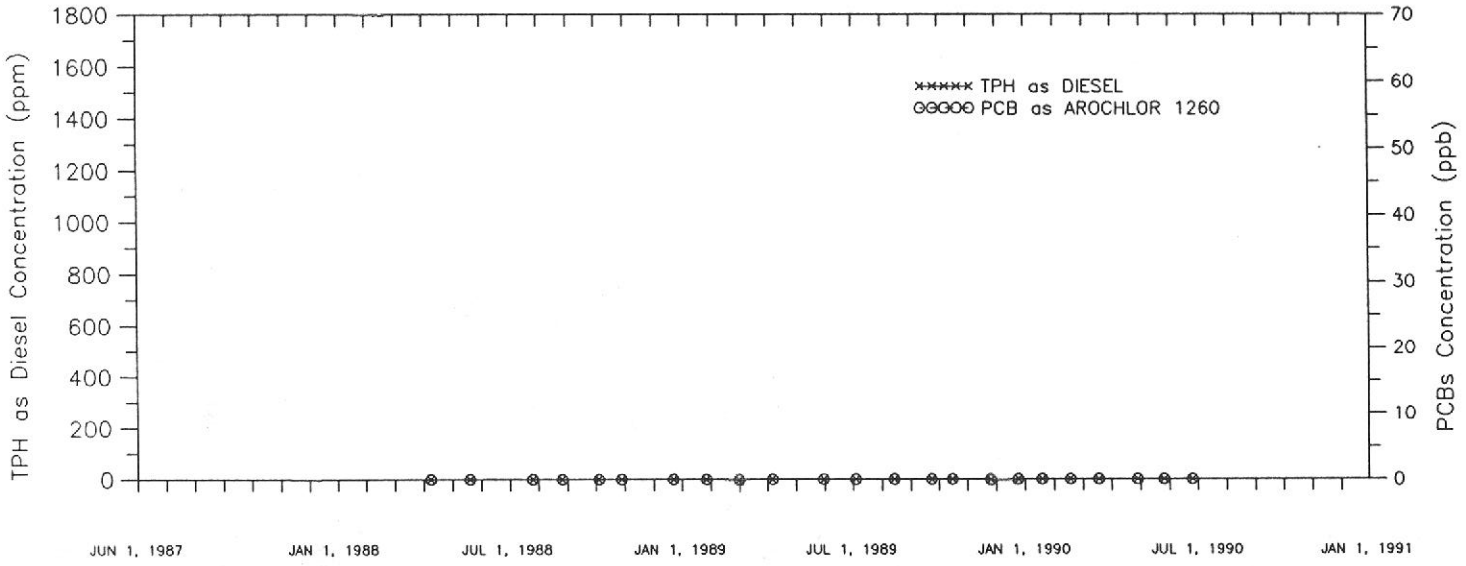
PROJECT NO. 10-1682-03/39 8/90

**MONITORING DATA FOR WELL MW-4**

INDUSTRIAL ASPHALT, INC.
PLEASANTON, CALIFORNIA

PLATE 6

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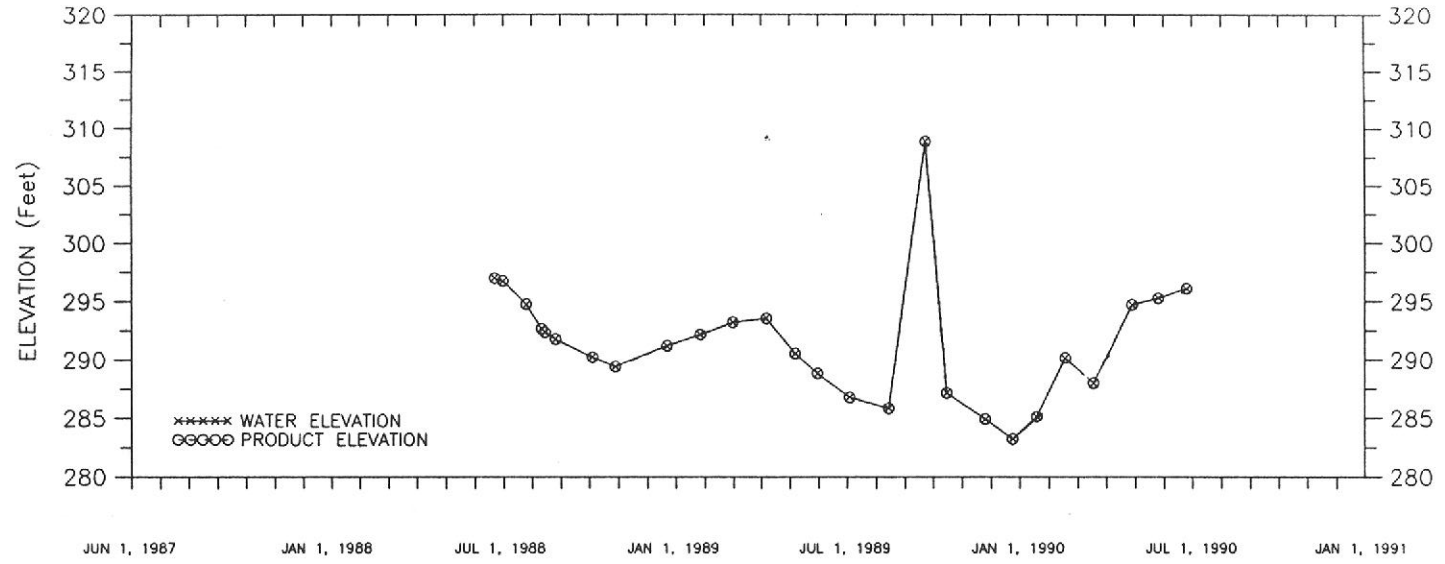
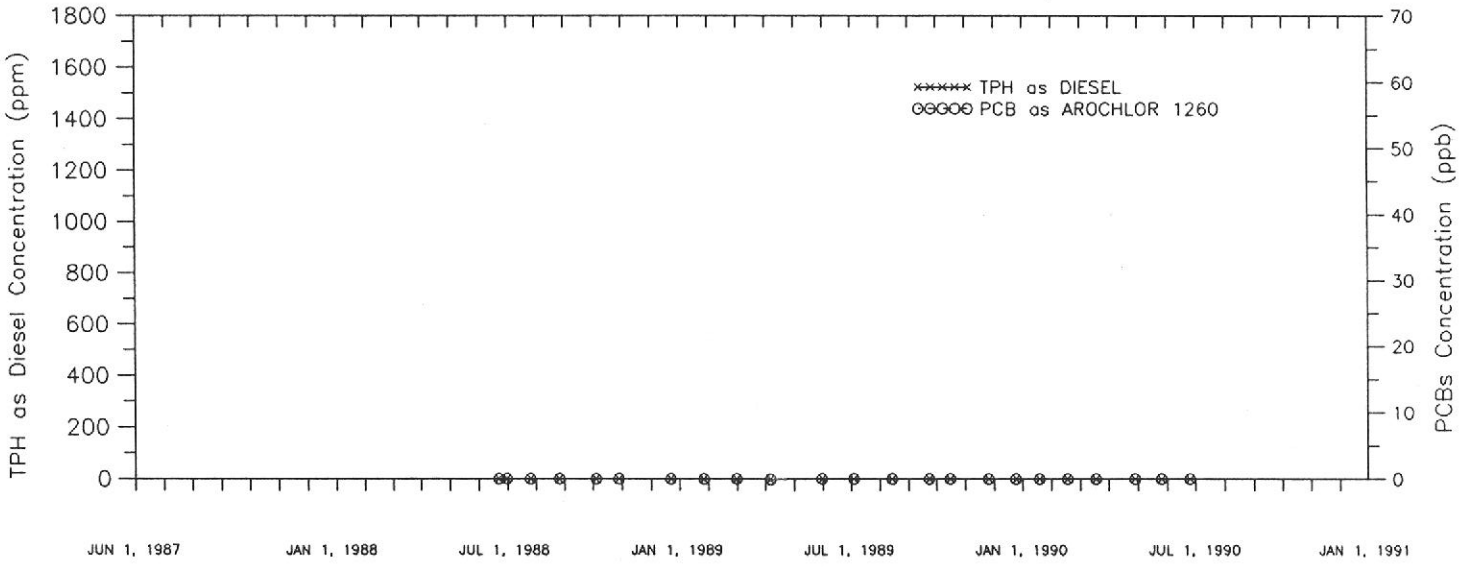
PROJECT NO. 10-1682-03/39 8/90

**MONITORING DATA FOR WELL MW-5**

INDUSTRIAL ASPHALT, INC.
PLEASANTON, CALIFORNIA

PLATE 7

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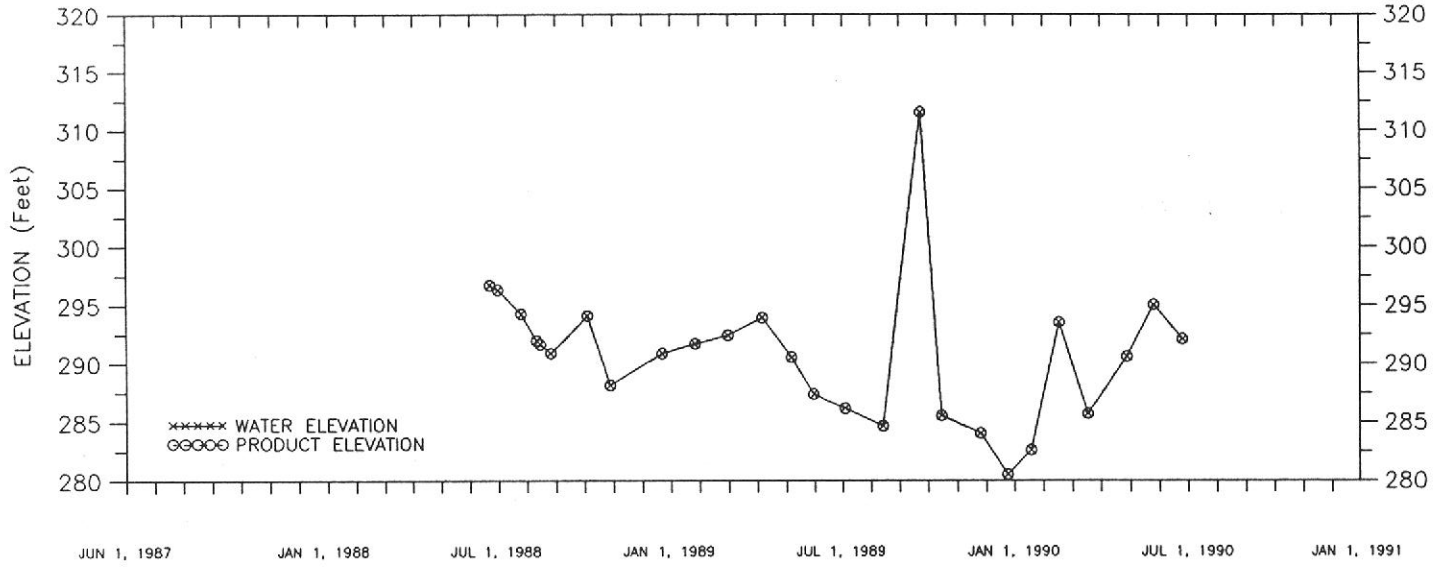
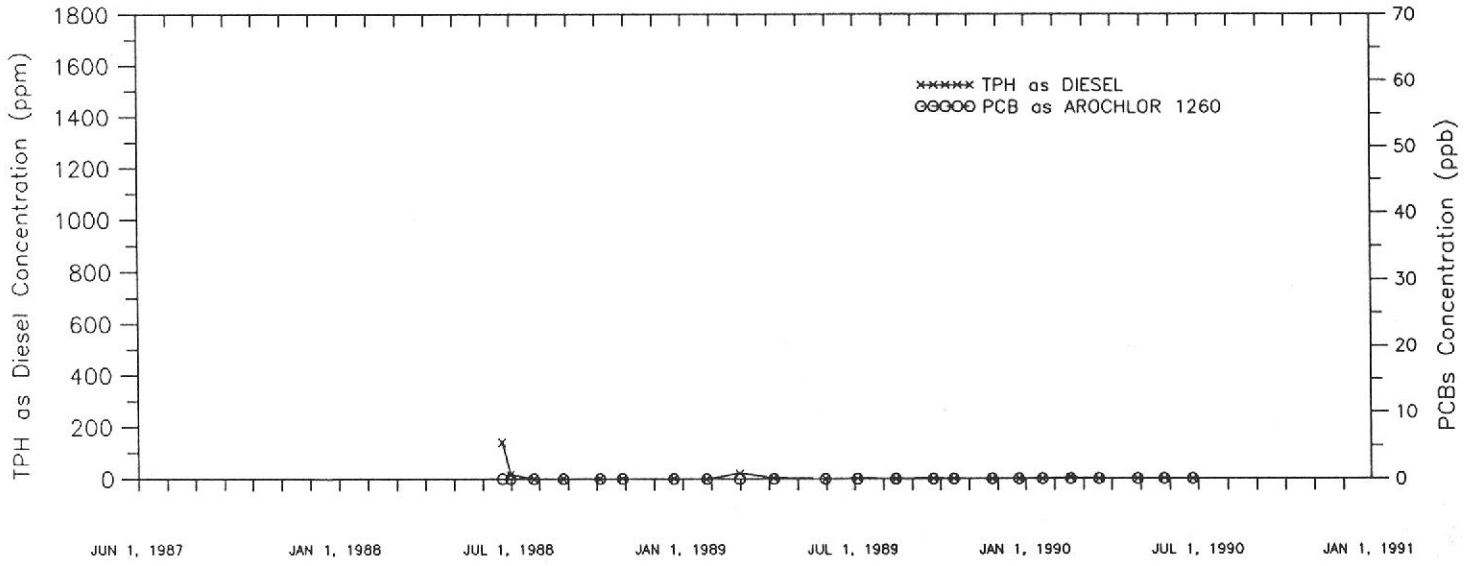
PROJECT NO. 10-1682-03/39 8/90

**MONITORING DATA FOR WELL MW-6**

INDUSTRIAL ASPHALT, INC.
PLEASANTON, CALIFORNIA

PLATE
8

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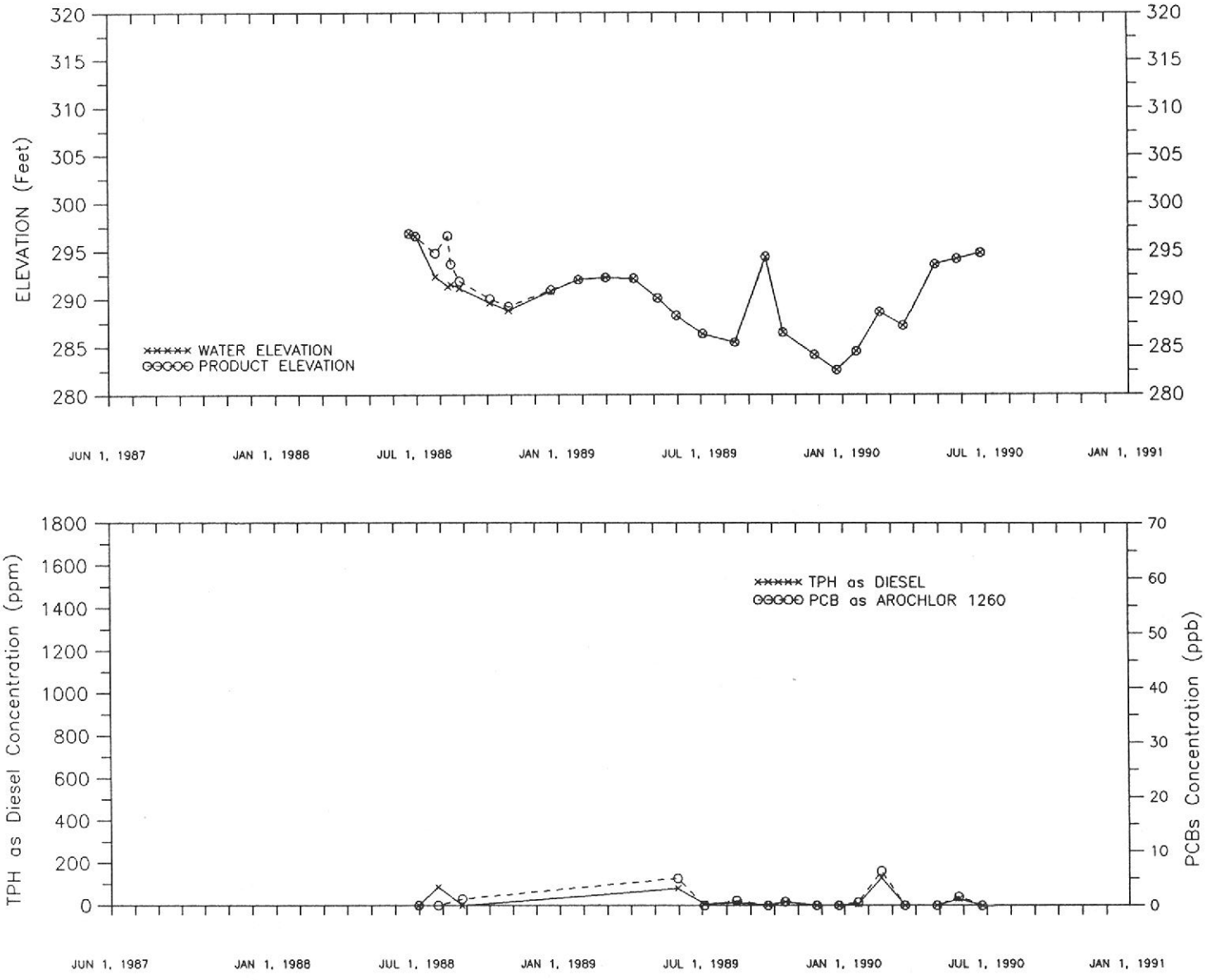
PROJECT NO. 10-1682-03/39 8/90

**MONITORING DATA FOR WELL MW-7**

INDUSTRIAL ASPHALT, INC.
PLEASANTON, CALIFORNIA

PLATE
9

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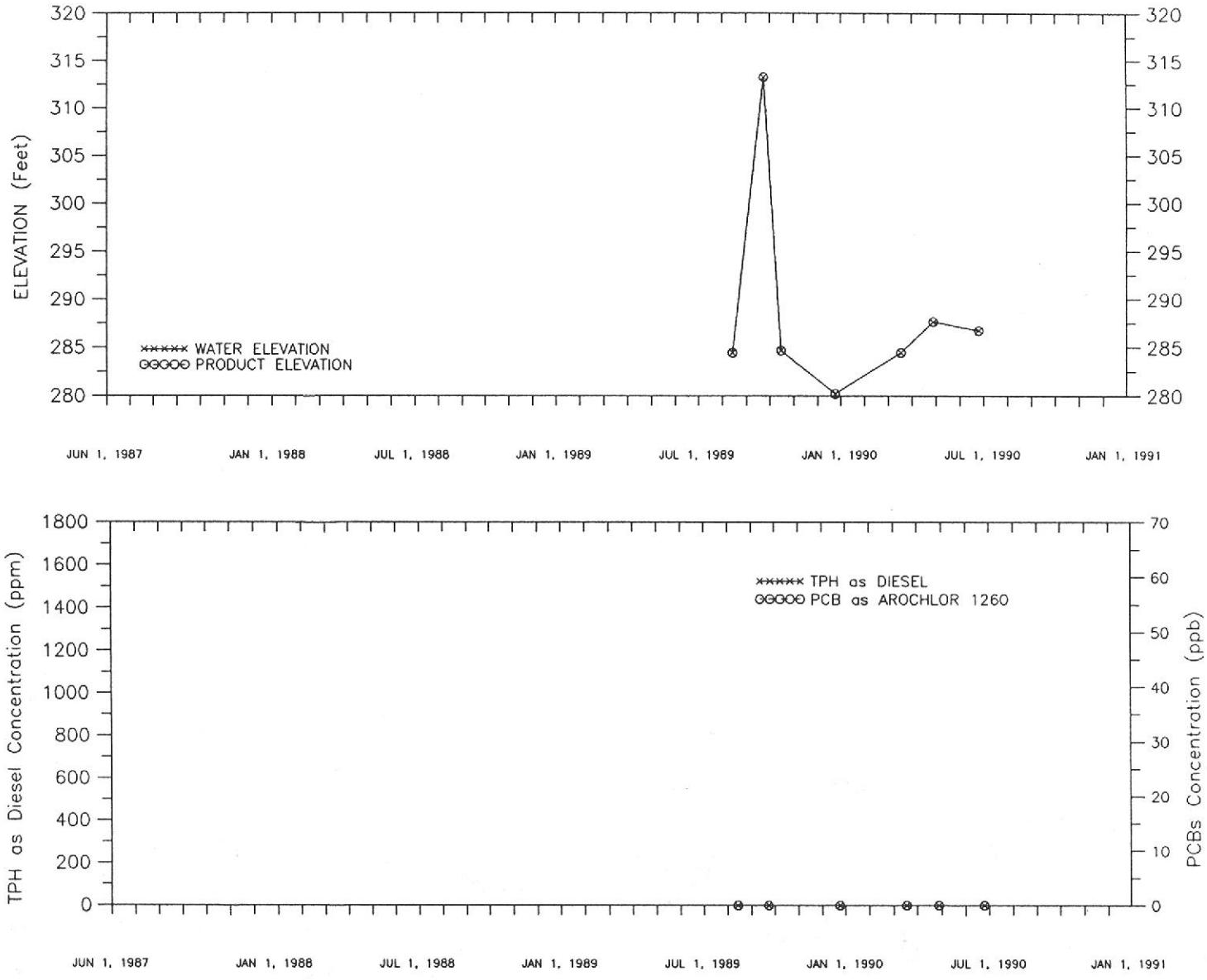
PROJECT NO. 10-1682-03/39 8/90

**MONITORING DATA FOR WELL MW-8**

INDUSTRIAL ASPHALT, INC.
PLEASANTON, CALIFORNIA

PLATE
10

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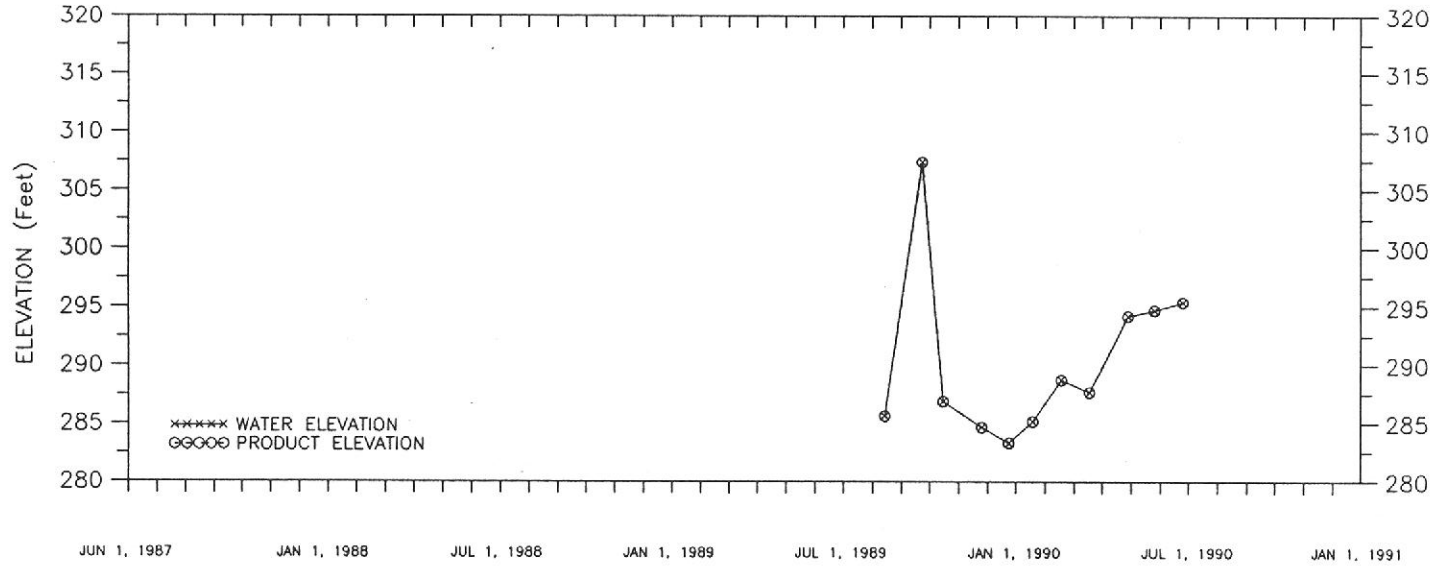
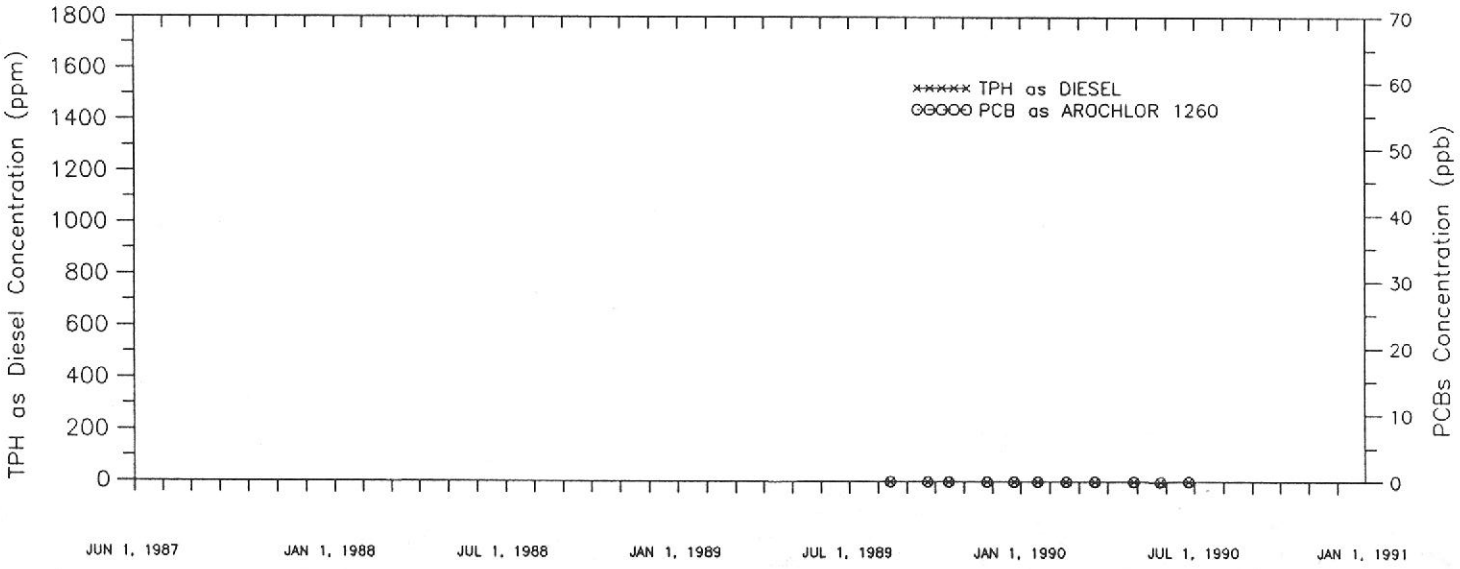
PROJECT NO. 10-1682-03/39 8/90

**MONITORING DATA FOR WELL MW-9**

INDUSTRIAL ASPHALT, INC.
PLEASANTON, CALIFORNIA

PLATE
11

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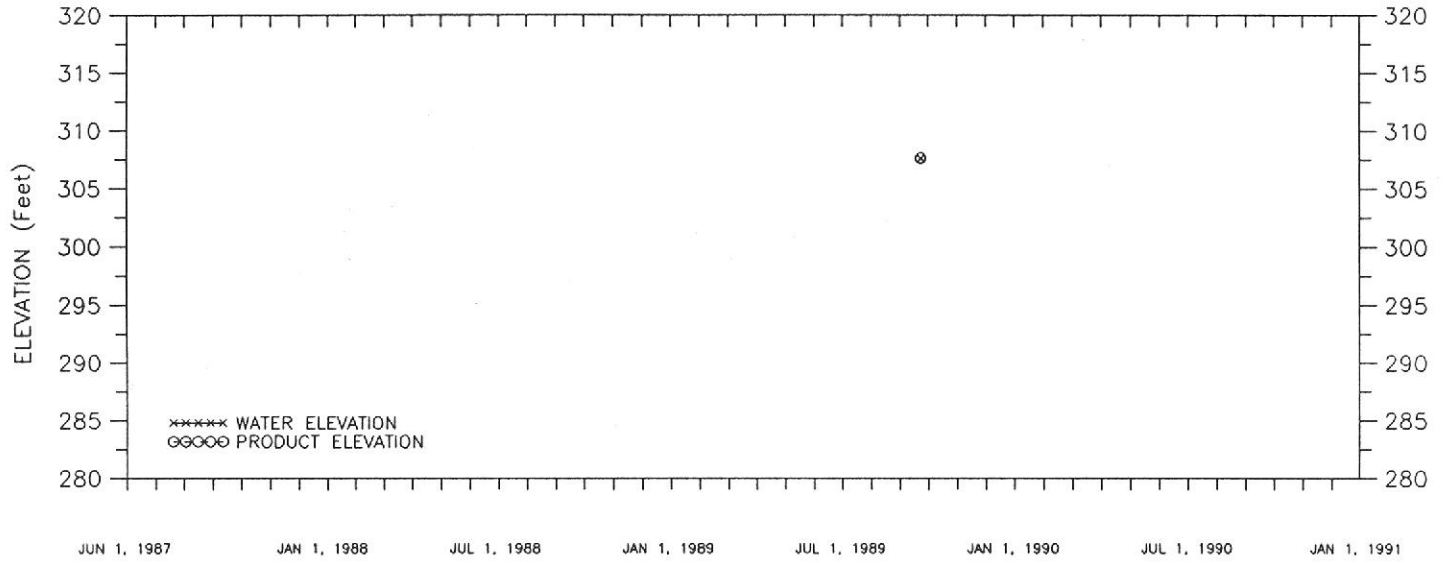
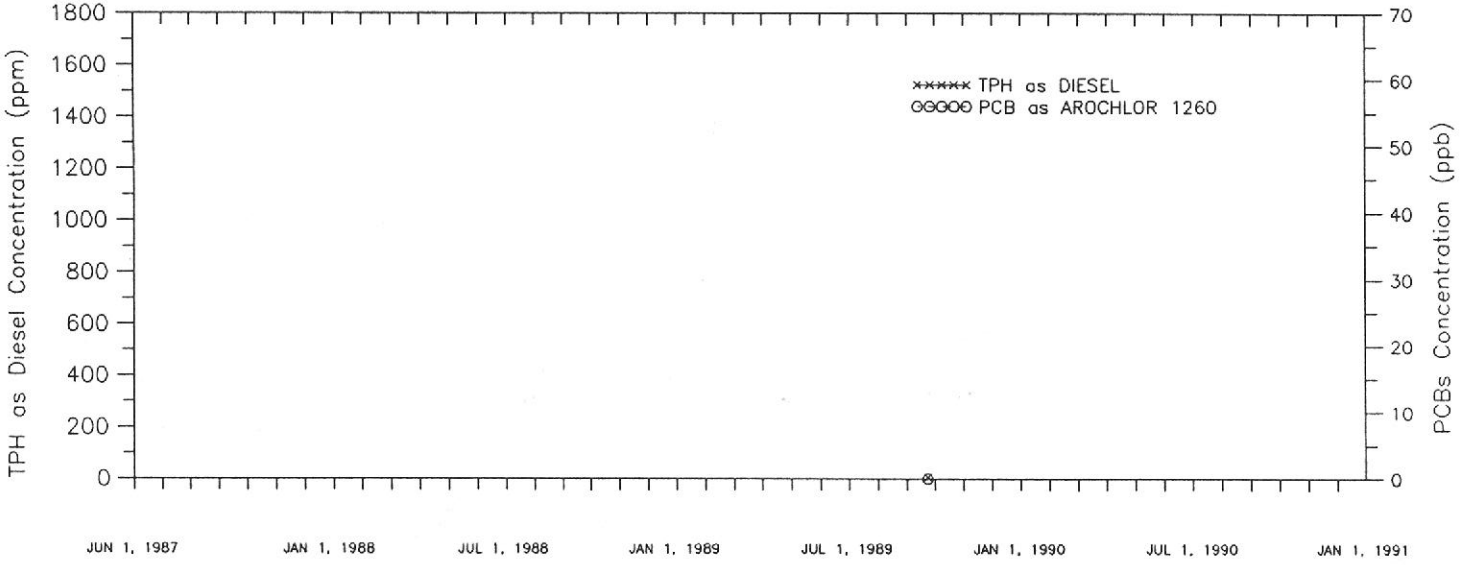
PROJECT NO. 10-1682-03/39 8/90

**MONITORING DATA FOR WELL MW-10**

INDUSTRIAL ASPHALT, INC.
PLEASANTON, CALIFORNIA

PLATE
12

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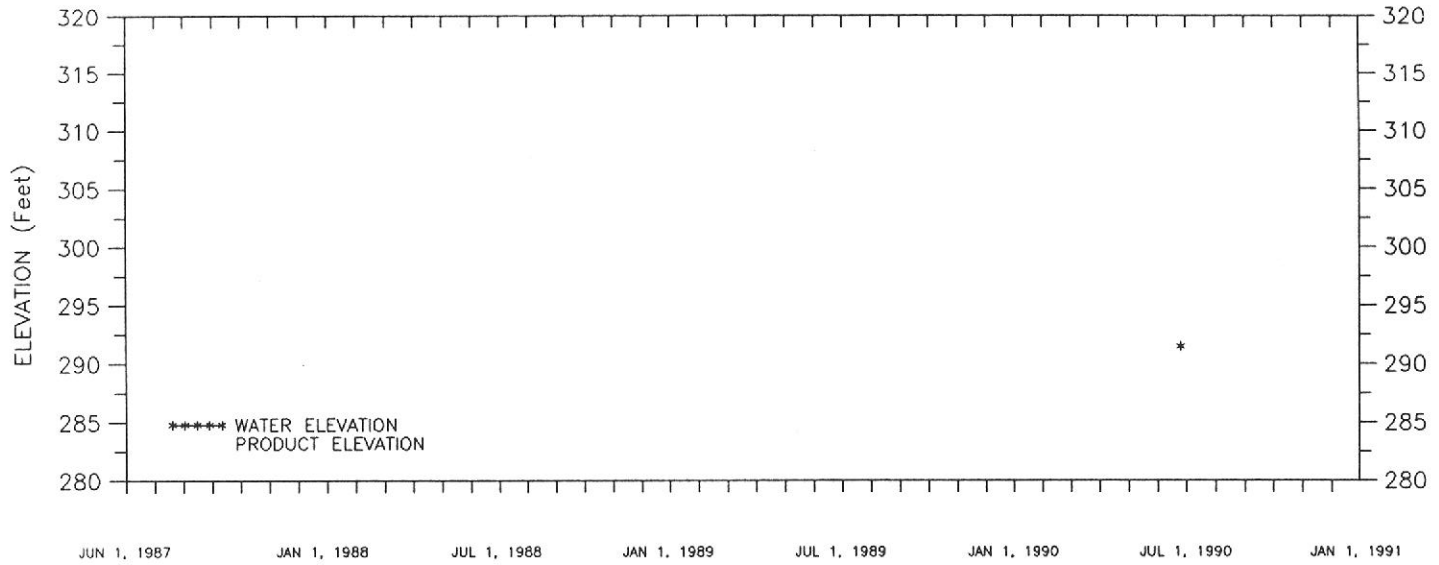
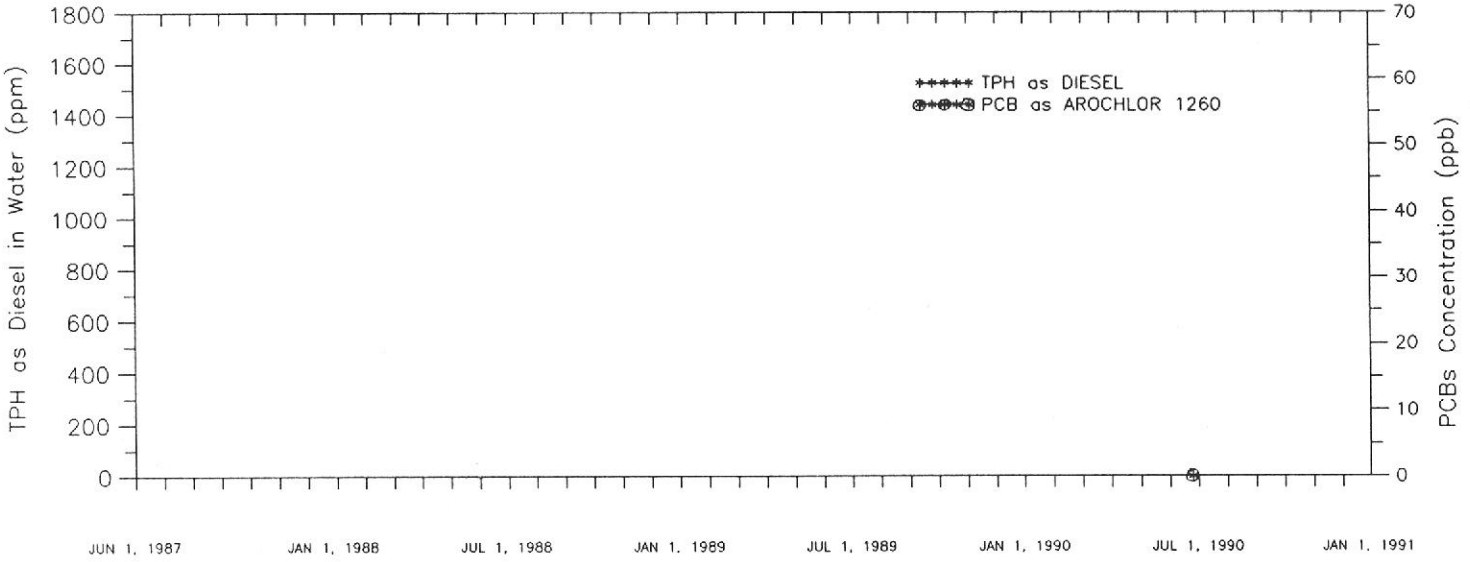
PROJECT NO. 10-1682-03/39 8/90

**MONITORING DATA FOR WELL MW-11**

INDUSTRIAL ASPHALT, INC.
PLEASANTON, CALIFORNIA

PLATE
13

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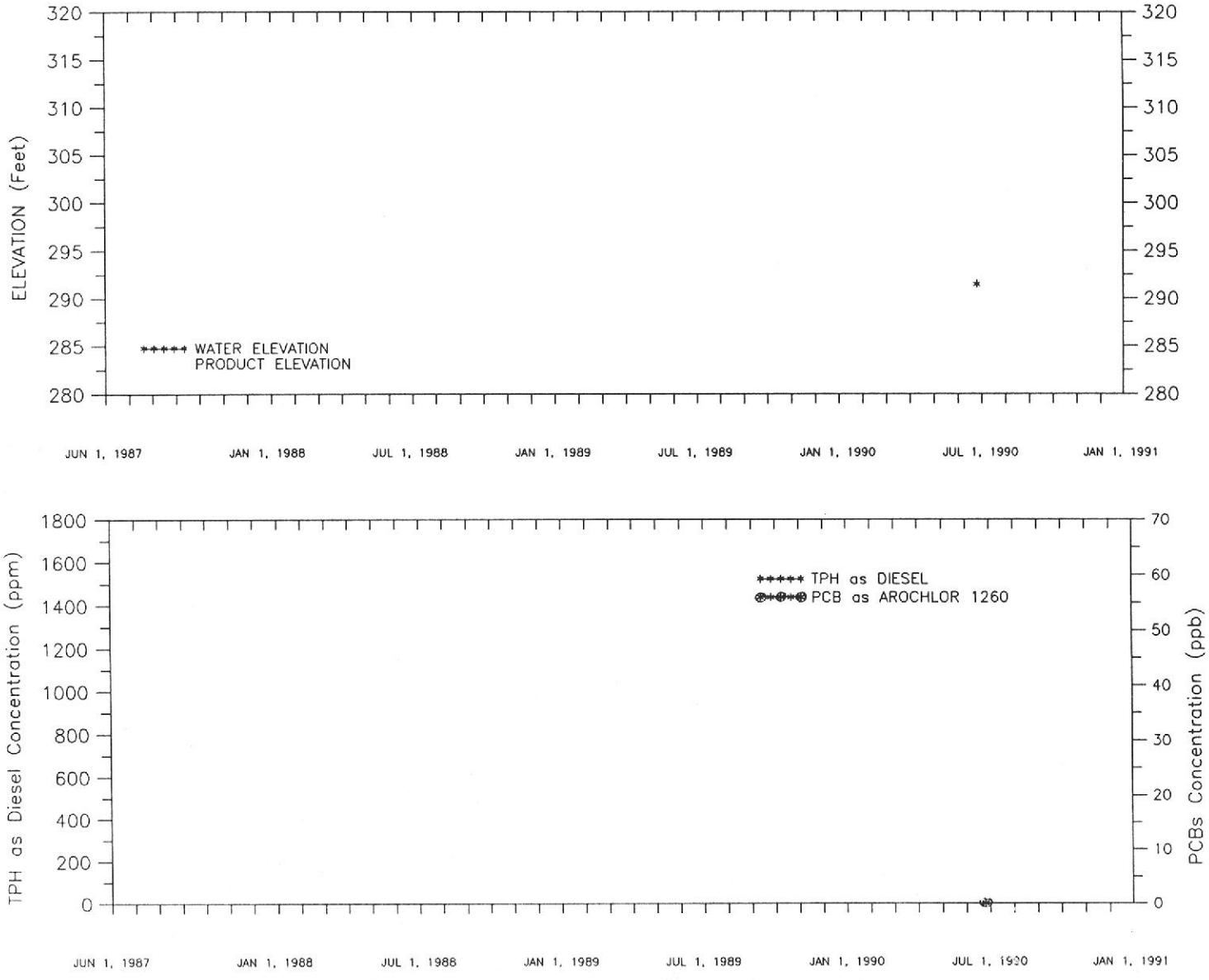
PROJECT NO. 10-1682-03/39 8/90

**MONITORING DATA FOR WELL MW-14**

INDUSTRIAL ASPHALT, INC.
PLEASANTON, CALIFORNIA

PLATE
14

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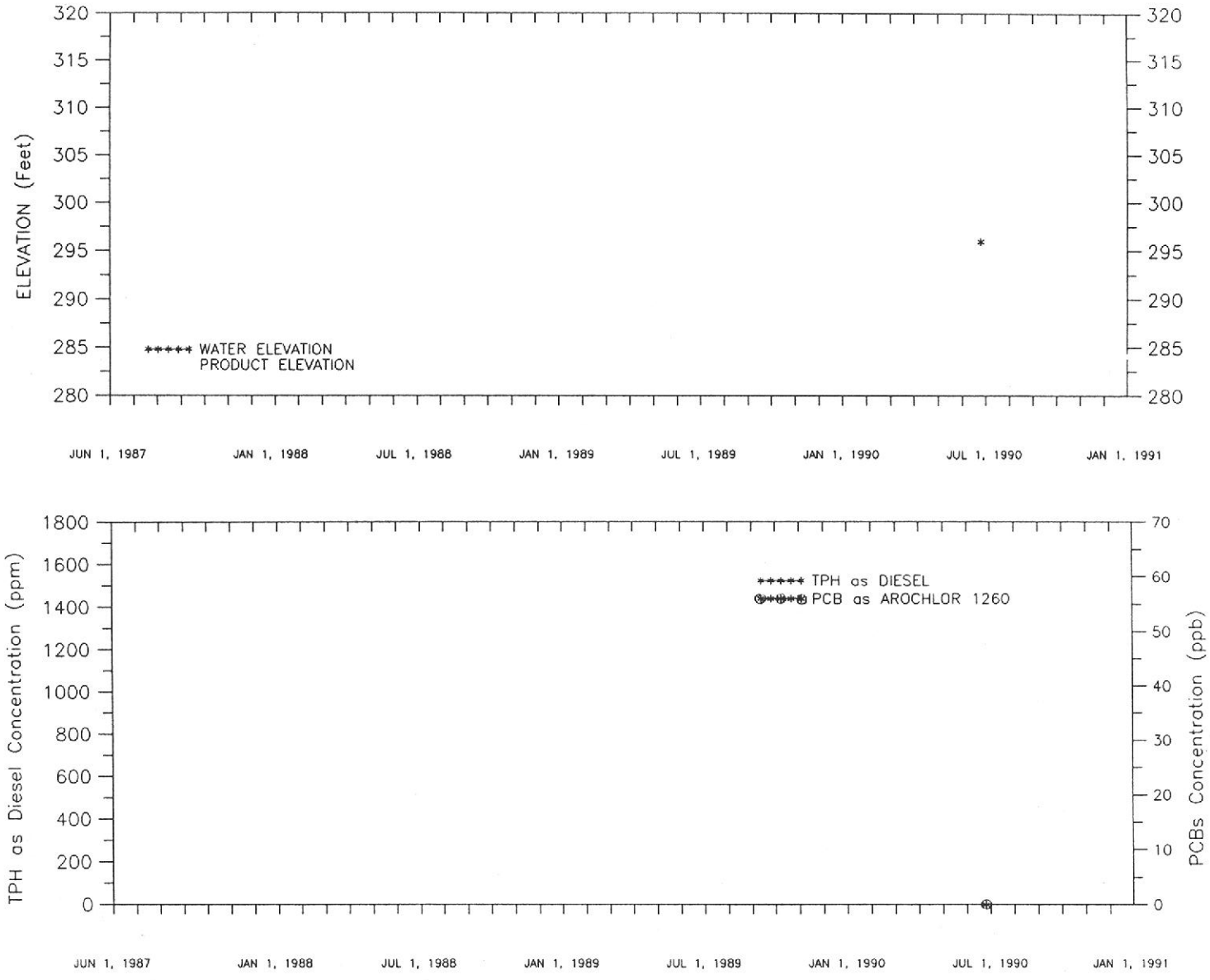
PROJECT NO. 10-1682-03/39 8/90

**MONITORING DATA FOR WELL MW-15**

INDUSTRIAL ASPHALT, INC.
PLEASANTON, CALIFORNIA

PLATE
15

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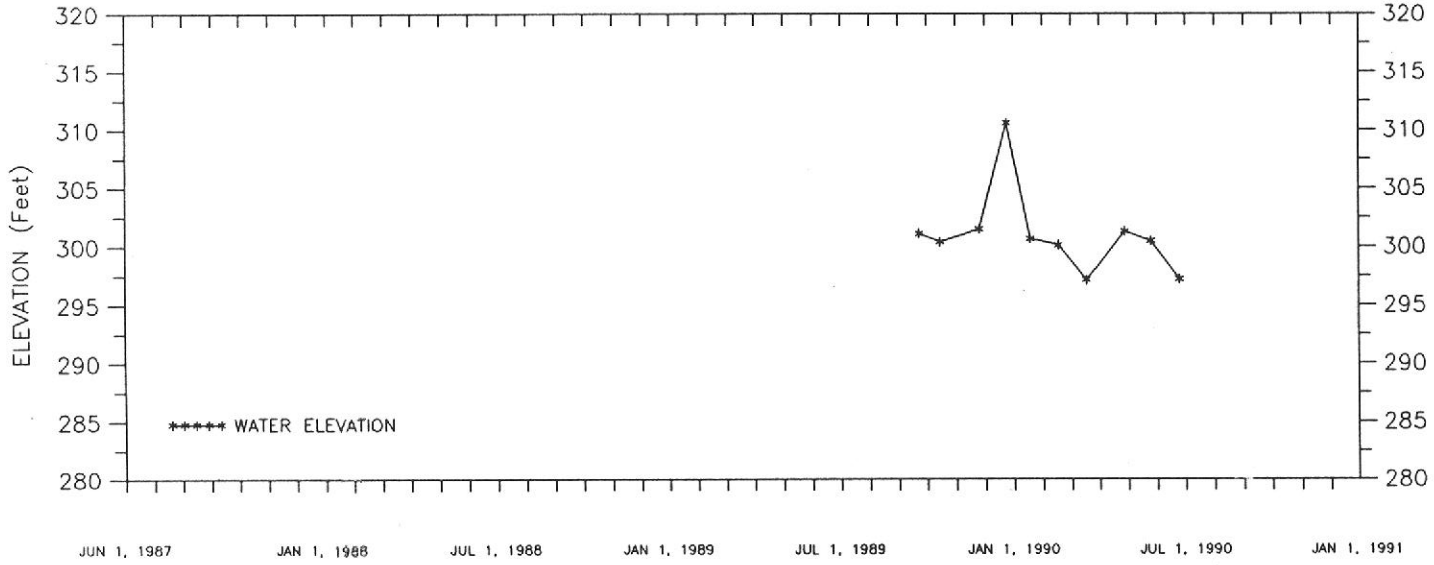
PROJECT NO. 10-1682-03/39 8/90

**MONITORING DATA FOR WELL MW-16**

INDUSTRIAL ASPHALT, INC.
PLEASANTON, CALIFORNIA

PLATE
16

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PROJECT NO. 10-1682-03/39 8/90

**MONITORING DATA FOR STAGE GAGE**

INDUSTRIAL ASPHALT, INC.
PLEASANTON, CALIFORNIA

PLATE
17