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April 25, 2005
Job No. 1301.01

Mr. Leland Smith
Pipeline Excavators
P.O. Box 1755
Sebastopol, California 95473-1755

**Subject:** **1st Quarter 2005 Monitoring Report**
**Pipeline Excavators, 5715 Sebastopol Road, Sebastopol, California**
**SCDHS-EHD Site #00001115; NCRWQCB Site #1TSO641**

Dear Mr. Smith:

This report presents the results of the 1st Quarter 2005 groundwater monitoring and sampling event performed at the subject site. The site is approximately located as shown on the attached Site Location Map, Plate 1. This work was performed in accordance with recommendations from Mr. Dale Radford of the Sonoma County Department of Health Services Environmental Health Division (SCDHS-EHD).

## Monitoring and Domestic Well Sampling

On March 31, 2005, groundwater samples were collected from monitoring wells MW-1, MW-2, MW-4 through MW-7, and domestic wells DW-6100 and DW-6140. The approximate well locations and general site features are shown on the attached Site Plan/Groundwater Elevation Contour Map, Plate 2. Prior to sampling, static water levels were measured and each monitoring well was checked for the presence of free product using an oil/water interface probe. No free product was reported during this monitoring event. To produce representative groundwater samples, the monitoring wells were then purged of approximately three well casing volumes using a submersible pump. In addition, the indicator parameters such as the temperature, pH, and conductivity were measured during purging and recorded on the attached Groundwater Field Sampling Forms, Appendix A. The water level in each monitoring well was then allowed to sufficiently recover prior to sampling. Groundwater samples were collected using a new disposable bailer for each well and transferred into the appropriate containers supplied by the laboratory. The domestic well at 6100 Sebastopol Road (DW-6100) was sampled through the hose bib located on top of the well casing. Water was allowed to run for approximately five minutes before samples were obtained. The domestic well located at 6140 Sebastopol Road (DW-6140) is currently non-operational and the pump was removed to allow sample collection with a disposable bailer. Groundwater removed from the monitoring wells during purging and rinse water is stored onsite in 55-gallon DOT-approved drums labeled with non-hazardous waste designations, pending disposal. The groundwater samples collected were labeled, stored on ice, and then transported under chain-of-custody documentation to Alpha Analytical Laboratories, Inc. of Ukiah, California for chemical analysis.

## Water Level Measurements

Monitoring well top-of-casing (TOC) elevations, depths-to-groundwater, the calculated water level elevations, and the calculated groundwater flow direction and gradient for the March 31, 2005 sampling event are presented on Table 1. Elevations are expressed in feet relative to mean sea level (msl), depths are expressed in feet, and the gradient is expressed in feet per foot. Historical groundwater flow directions and gradient data is presented in Appendix B.

**Table 1: Groundwater Flow Direction and Gradient**

| Sample Date | Monitoring Well ID | TOC Elevation ( feet - msl ) | Water Level Depth ( feet ) | Water Level Elevation ( feet -msl ) | Groundwater Flow Direction/Gradient (i) |
|---|---|---|---|---|---|
| 03/31/05 | MW-1 | 70.83 | 1.27 | 69.56 | Southwesterly i = 0.008 |
| | MW-2 | 70.95 | 1.35 | 69.60 | |
| | MW-3 | ----removed---- | | | |
| | MW-4 | 74.05 | 4.00 | 70.05 | |
| | MW-5 | 74.14 | 3.95 | 70.19 | |
| | MW-6 | 70.16 | 1.05 | 69.11 | |
| | MW-7 | 70.35 | 2.15 | 68.20 | |

Groundwater elevation contours based on wells MW-1, MW-2, and MW-4 through MW-7 for the March 31, 2005 sampling event are shown on Plate 2.

## Laboratory Chemical Analysis

Groundwater samples collected from the monitoring and domestic wells were analyzed for total petroleum hydrocarbons (TPH) as gasoline (g) and TPH as diesel (d) using Environmental Protection Agency (EPA) Test Methods 8260 and 8015, respectively. The volatile organic compounds: benzene, toluene, ethyl benzene, and total xylenes (BTEX), the additional oxygenated fuel additives, including methyl tert- butyl ether (MtBE), and the lead scavengers were analyzed using EPA Test Method 8260B. The laboratory chemical results are presented on page 3, Table 2. TPH-g, TPH-d, BTEX, and MtBE results are expressed in units of micrograms per liter (µg/L). The laboratory analytical reports and chain-of-custody documentation are attached in Appendix C. Historical groundwater analytical results are presented in Appendix D. Time vs. Concentration Graphs that plot concentrations of TPH-g, TPH-d, benzene, and MtBE over time for MW-1 and MtBE concentrations over time for MW-2, and MW-4 through MW-7 are presented as Appendix E.

**Table 2: Groundwater Analytical Results**

| Sample Date | Sample ID | TPH- g | TPH- d | B | T | E | X | MtBE |
|---|---|---|---|---|---|---|---|---|
| | | µg/L | | | | | | |
| 03/31/05 | MW-1*** | **2,300** | **860*** | <6.0 | <6.0 | <10 | <10 | **89** |
| | MW-2 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **34** |
| | MW-3 | ----removed---- | | | | | | |
| | MW-4 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **8.2** |
| | MW-5*** | <1,000 | <50 | <6.0 | <6.0 | <10 | <10 | <10 |
| | MW-6 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **8.8** |
| | MW-7 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **32**[+] |
| | DW-6100 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | <0.50 |
| | DW-6140 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **0.58** |

< = Less than the laboratory test method detection limit.
+ = 1,2-Dichloroethane detected at 5.0 µg/L.
* = Results in the diesel organics range are primarily due to overlap from a gasoline range product.
** = Elevated detection limit to account for matrix interference.
*** = The reporting limits are elevated due to sample foaming.

## Discussion

During this sampling event, TPH-g was detected in the sample collected from MW-1 at a concentration of 2,300 µg/L. TPH-d was detected in the sample collected from MW-1 at a concentration of 860 µg/L. However, the laboratory reported that the results in the diesel range are primarily due to overlap from a gasoline range product. MtBE was detected in monitoring wells MW-1, MW-2, MW-4, MW-6, MW-7, and domestic well DW-6140 with a maximum concentration detected in the samples collected from MW-1 at a concentration of 89 µg/L. 1,2-dichloroethane (a lead scavenger) was detected in the samples collected from MW-7 at a concentration of 5.0 µg/L. The samples collected from DW-6100 are below the reported laboratory detection limits for the analyses requested.

The March 2005 sampling event represents the second consecutive sampling event performed at the site relative to the October 2004 remedial excavation activities. The groundwater contaminant concentrations detected during this sampling event are relatively consistent with historical contaminant trends. Groundwater contaminant concentrations detected in wells MW-1, MW-2, MW-6, and MW-7 historically increase with high groundwater levels whereas groundwater contaminant concentrations detected in wells MW-4 and MW-5 typically decrease with high groundwater levels. High groundwater levels are historically seen between the months of December and April.

We will continue our quarterly monitoring program for at least two more quarters to complete one hydrogeologic cycle subsequent to the October 2004 remedial excavation activities. Our next sampling event is scheduled for June 2005.

We appreciate the opportunity to be of service to you and trust that this provides the information you require at this time. If you have any questions or require any additional information, please feel free to contact us at (707) 575-8622 or www.transtechconsultants.com.

Sincerely,
TRANS TECH CONSULTANTS

Brian R. Hasik
Staff Geologist

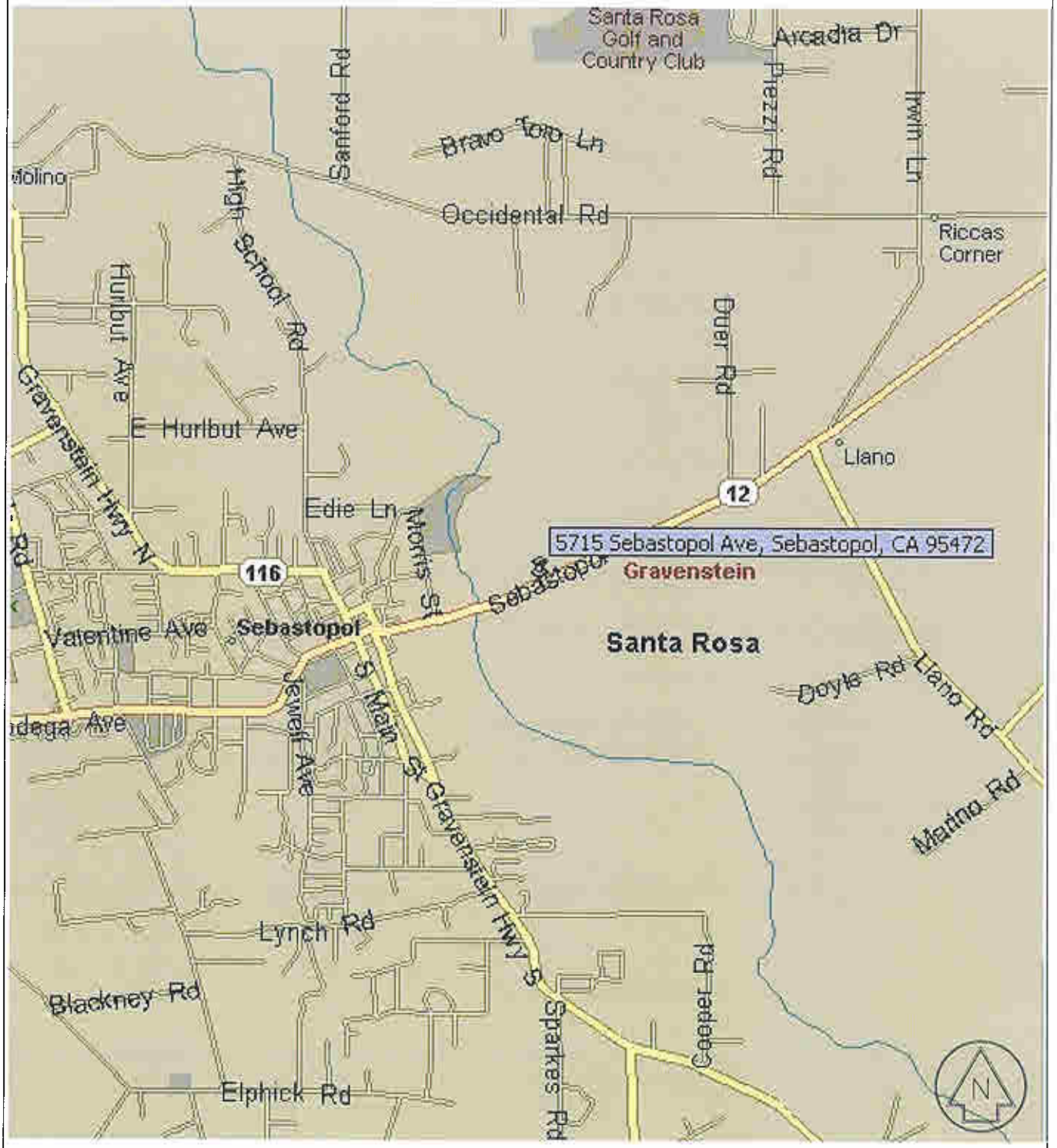
REGISTERED GEOLOGIST
LEE S. HURVITZ
No 7573
Exp. 05/31/05
GEOLOGIST
STATE OF CALIFORNIA

Lee S. Hurvitz, PG 7573
Professional Geologist

QMR_1301_01_042505

Attachments:

- Plate 1, Site Location Map
- Plate 2, Site Plan/Groundwater Elevation Contour Map
- Appendix A, Groundwater Field Sampling Forms
- Appendix B, Historical Groundwater Elevation and Gradient Data
- Appendix C, Alpha Analytical Laboratory Report dated April 11, 2005
- Appendix D, Historical Groundwater Analytical Results
- Appendix E, Time vs. Concentration Graphs for MW-1, MW-2, MW-4 through MW-7
- Distribution List

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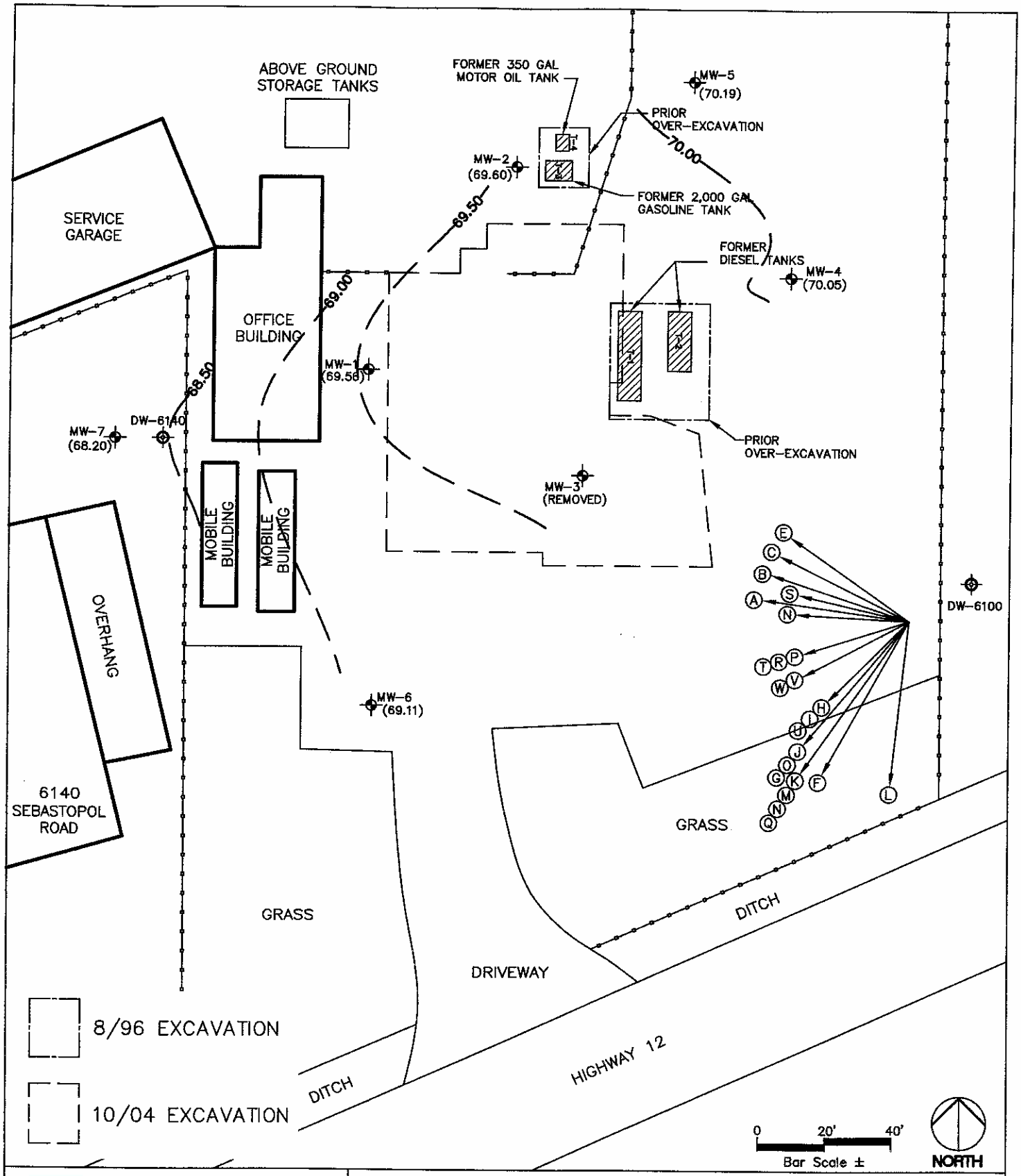
930 SHILOH RD., BLDG 44, SUITE J
WINDSOR, CA 95492
PHONE: 707-575-8622 FAX: 707-837-7334

# SITE LOCATION MAP

PIPELINE EXCAVATORS
5715 SEBASTOPOL ROAD
SEBASTOPOL, CALIFORNIA

PLATE: 1

| DRAWN BY: | DWG NAME: | APPR. BY: | JOB NUMBER: | W.O. NUMBER: | REVISIONS: | DATE: |
|---|---|---|---|---|---|---|
| PSC | 1301.01 SLM | BCW | 1301.01 | A-228 | | 12/23/03 |

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930 SHILOH RD., BLDG 44, SUITE J
WINDSOR, CA 95492
PHONE: 707-575-8622 FAX: 707-837-7334

SITE PLAN/GROUNDWATER ELEVATION CONTOUR MAP FOR 3/31/05

PIPELINE EXCAVATORS
5715 SEBASTOPOL ROAD
SEBASTOPOL, CALIFORNIA

PLATE: 2

SHEET: 1 OF 2

| DRAWN BY: | DWG NAME: | APPR. BY: | JOB NUMBER: | W.O. NUMBER: | REVISIONS: | DATE: |
|---|---|---|---|---|---|---|
| PSC | 1301.01 GWFP | BRH | 1301.01 | A-740 | | 4/19/05 |

## GROUNDWATER FLOW LEGEND

Estimated Groundwater Flow Direction → (A)

Gradient Contour (Interval = 0.5 ft) — — — — —

| Identifier Tag | Date | Est. Flow Direction | Gradient Slope |
|---|---|---|---|
| (A) | 6/06/01 | N82°E | I=0.023 |
| (B) | 7/23/01 | N73°E | I=0.013 |
| (C) | 8/29/01 | N65°E | I=0.01 |
| (D) | 9/13/01 | NA | NA |
| (E) | 10/24/01 | N58°E | I=0.01 |
| (F) | 12/13/01 | S30°W | I=0.002 |
| (G) | 1/23/01 | S40°W | I=0.004 |
| (H) | 2/21/02 | S45°W | I=0.006 |
| (I) | 3/13/02 | S45°W | I=0.006 |
| (J) | 4/24/02 | S40°W | I=0.005 |
| (K) | 5/20/02 | S35°W | I=0.007 |
| (L) | 7/16/02 | SOUTHERLY | I=0.008 |
| (M) | 9/06/02 | S35°W | I=0.005 |
| (N) | 12/18/02 | W/SW | I=VARIES |
| (O) | 3/19/03 | SOUTHWEST | I=0.01 |
| (P) | 7/09/03 | WESTERLY | I=0.004 |
| (Q) | 9/16/03 | W/SW | I=VARIES |
| (R) | 12/02/03 | WESTERLY | I=0.03 |
| (S) | 3/31/04 | SW/NW | I=0.02 |
| (T) | 6/08/04 | SOUTHWESTERLY | I=0.014 |
| (U) | 9/07/04 | S45°W | I=0.005 |
| (V) | 12/09/04 | SOUTHWESTERLY | I=0.007 |
| (W) | 3/31/05 | SOUTHWESTERLY | I=0.008 |

| Identifier Tag | Date | Est. Flow Direction | Gradient Slope |
|---|---|---|---|
| | | | |

MW-1 [XX.XX] Monitoring Well Location Groundwater Elevation

NOTE: Ground water elevations are in feet above mean sea level (National Geodetic Vertical Datum, 1929).

Domestic Well

Excavation Limits

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930 SHILOH RD., BLDG 44, SUITE J
WINDSOR, CA 95492
PHONE: 707-575-8622 FAX: 707-837-7334

SITE PLAN/GROUNDWATER ELEVATION CONTOUR MAP FOR 3/31/05

PIPELINE EXCAVATORS
5715 SEBASTOPOL ROAD
SEBASTOPOL, CALIFORNIA

PLATE: 2

| DRAWN BY: | DWG NAME: | APPR. BY: | JOB NUMBER: | W.O. NUMBER: | REVISIONS: | DATE: |
|---|---|---|---|---|---|---|
| PSC | 1301.01 GWFP | BRH | 1301.01 | A-745 | | 4/25/05 |

SHEET: 2 OF 2

# APPENDIX A

# GROUNDWATER FIELD SAMPLING FORM

## WELL INFORMATION

| | | |
|---|---|---|
| **Project Number/Name:** 1301.01 Pipeline Excavators | | **Well Number:** MW-1 |
| **Project Location:** 5715 Sebastopol Road Sebastopol, California | **Casing Diameter:** 2" | **Well Depth from TOC (BP):** 8.15 **Well Depth from TOC (AP):** |
| **Date:** March 31, 2005 | **Top of Screen:** | **Initial Well Depth:** |
| **Sampled by (print and sign):** Brian Hasik | **Product Thickness in inches:** Ø | |
| | **Water Level from TOC:** 1.29 | **Time:** 8:32 |
| **Notes:** HC ODOR | **Water Level pre-purge:** 1.27 | **Time:** 10:47 |
| | **Well Type:** ☑ Monitor ☐ Extraction ☐ Other: | |
| | **Well EL (TOC):** | **Well Mat:** PVC |

## WEATHER

**Wind:** Yes / No **Rain:** Yes / No **Clouds:** Yes / No **Fog:** Yes / No **Sun:** Yes / No **Precipitation in last 5 days:** Yes / No

## VOLUME OF WATER TO BE REMOVER BEFORE SAMPLING

(_____ - _____) X (_____)2 X 0.0408 = 1.10 gallons in one well volume
TD WL Dia. Inches

3.30 gallons in 3 well volumes (Approx. 0.6 gal/ft) 5 total gallons purged

## FIELD MEASUREMENTS DURING PURGING

Stable Field Parameters Required Prior to Sample Collection <10% pH and EC change, <0.2°C temp. change

| Time | Gallons | pH | TEMP °C | ORP | DO mg/L | EC mS / µS | Turbidity H/M/L |
|---|---|---|---|---|---|---|---|
| 10:50 | 1 | 6.52 | 18.3 | 12 | | 2293 | L |
| 10:51 | 2 | 6.51 | 17.6 | -22 | | 2344 | L |
| 10:52 | 3 | 6.56 | 17.5 | -40 | | 2392 | L |
| 10:53 | 4 | 6.57 | 17.4 | -43 | | 2409 | L |
| 10:54 | 5 | 6.50 | 17.6 | -57 | | 2526 | L |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Minimum of 5 gallons or 0.6 gal/ft. Of water in casing - whichever is greater and field parameters must be stable.

**Water Level Before Sampling:** 1.40 **Time:** 11:50

**Appearance of Sample:**

**Bailer:** Disposable **Pump:** 12V Submersible (1-2 gpm)

**DECON. METHOD:** TSP or Liquinox (phosphate free) Wash / Double Rinse

**NUMBER OF DRUMS GENERATED:** Water: 3 Soil: Ø Other: Ø

# GROUNDWATER FIELD SAMPLING FORM

## WELL INFORMATION

| | | |
|---|---|---|
| **Project Number/Name:** 1301.01 Pipeline Excavators | | **Well Number:** MW-2 |
| **Project Location:** 5715 Sebastopol Road Sebastopol, California | **Casing Diameter:** 2" | **Well Depth from TOC (BP):** **Well Depth from TOC (AP):** 8.70 |
| **Date:** March 31, 2005 | **Top of Screen:** | **Initial Well Depth:** |
| **Sampled by (print and sign):** Brian Hasik | **Product Thickness in inches:** X | |
| | **Water Level from TOC:** 1.36 | **Time:** 9:23 |
| **Notes:** | **Water Level pre-purge:** 1.35 | **Time:** 9:54 |
| | **Well Type:** ☒ Monitor ☐ Extraction ☐ Other: | |
| | **Well EL (TOC):** | **Well Mat:** PVC |

## WEATHER

| | | | |
|---|---|---|---|
| **Wind:** Yes / No **Rain:** Yes / No | **Clouds:** Yes / No **Fog:** Yes / No | **Sun:** Yes / No | **Precipitation in last 5 days:** Yes / No |

## VOLUME OF WATER TO BE REMOVER BEFORE SAMPLING

(_____ - _____) X (_____)2 X 0.0408 = 1.08 gallons in one well volume
TD WL Dia. Inches

3.24 gallons in 3 well volumes (Approx. 0.6 gal/ft) 5 total gallons purged

## FIELD MEASUREMENTS DURING PURGING

Stable Field Parameters Required Prior to Sample Collection <10% pH and EC change, <0.2°C temp. change

| Time | Gallons | pH | TEMP °C | ORP | DO mg/L | EC mS / µS | Turbidity H/M/L |
|---|---|---|---|---|---|---|---|
| 9:56 | 1 | 6.70 | 17.3 | 93 | | 2686 | L |
| 9:57 | 2 | 6.76 | 17.3 | 84 | | 2679 | L |
| 9:58 | 3 | 6.75 | 17.3 | 81 | | 2680 | L |
| 9:59 | 4 | 6.75 | 17.3 | 76 | | 2683 | L |
| 10:00 | 5 | 6.76 | 17.4 | 73 | | 2683 | L |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Minimum of 5 gallons or 0.6 gal/ft. Of water in casing - whichever is greater and field parameters must be stable.

**Water Level Before Sampling:** 1.41 **Time:** 11:10

**Appearance of Sample:**

**Bailer:** Disposable **Pump:** 12V Submersible (1-2 gpm)

**DECON. METHOD:** TSP or Liquinox (phosphate free) Wash / Double Rinse

**NUMBER OF DRUMS GENERATED:** **Water:** 3 **Soil:** 0 **Other:** 0

# GROUNDWATER FIELD SAMPLING FORM

## WELL INFORMATION

| | | |
|---|---|---|
| **Project Number/Name:** 1301.01 Pipeline Excavators | | **Well Number:** MW-4 |
| **Project Location:** 5715 Sebastopol Road Sebastopol, California | **Casing Diameter:** 2" | **Well Depth from TOC (BP):** **Well Depth from TOC (AP):** 10.40 |
| **Date:** March 31, 2005 | **Top of Screen:** | **Initial Well Depth:** |
| **Sampled by (print and sign):** Brian Hasik BH | **Product Thickness in inches:** Ø | |
| | **Water Level from TOC:** 4.00 | **Time:** 9:30 |
| **Notes:** | **Water Level pre-purge:** 4.00 | **Time:** 10:35 |
| | **Well Type:** ☑ Monitor ☐ Extraction ☐ Other: | |
| | **Well EL (TOC):** | **Well Mat:** PVC |

## WEATHER

| | | | |
|---|---|---|---|
| **Wind:** Yes / No **Rain:** Yes / No | **Clouds:** Yes / No **Fog:** Yes / No | **Sun:** Yes / No | **Precipitation in last 5 days:** Yes / No |

## VOLUME OF WATER TO BE REMOVER BEFORE SAMPLING

(_____ - _____) X (_____)2 X 0.0408 = 1.05 gallons in one well volume
TD WL Dia. Inches

3.07 gallons in 3 well volumes (Approx. 0.6 gal/ft) 5 total gallons purged

## FIELD MEASUREMENTS DURING PURGING

Stable Field Parameters Required Prior to Sample Collection <10% pH and EC change, <0.2°C temp. change

| Time | Gallons | pH | TEMP °C | ORP | DO mg/L | EC mS / µS | Turbidity H/M/L |
|---|---|---|---|---|---|---|---|
| 10:36 | 1 | 6.66 | 17.3 | 103 | | 1472 | L |
| 10:37 | 2 | 6.61 | 17.3 | 107 | | 1495 | L |
| 10:38 | 3 | 6.61 | 17.3 | 97 | | 1510 | L |
| 10:39 | 4 | 6.61 | 17.2 | 93 | | 1508 | L |
| 10:40 | 5 | 6.61 | 17.3 | 86 | | 1519 | L |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Minimum of 5 gallons or 0.6 gal/ft. Of water in casing - whichever is greater and field parameters must be stable.

**Water Level Before Sampling:** 4.05 **Time:** 11:40

**Appearance of Sample:**

**Bailer:** Disposable **Pump:** 12V Submersible (1-2 gpm)

**DECON. METHOD:** TSP or Liquinox (phosphate free) Wash / Double Rinse

**NUMBER OF DRUMS GENERATED:** **Water:** 3 **Soil:** Ø **Other:** Ø

# GROUNDWATER FIELD SAMPLING FORM

## WELL INFORMATION

| | | |
|---|---|---|
| **Project Number/Name:** 1301.01 Pipeline Excavators | | **Well Number:** MW-5 |
| **Project Location:** 5715 Sebastopol Road Sebastopol, California | **Casing Diameter:** 2" | **Well Depth from TOC (BP):** 9.60 **Well Depth from TOC (AP):** |
| **Date:** March 31, 2005 | **Top of Screen:** | **Initial Well Depth:** |
| **Sampled by (print and sign):** Brian Hasik BH | **Product Thickness in inches:** Ø | |
| | **Water Level from TOC:** 3.95 | **Time:** 9.28 |
| **Notes:** Soil in well resulting in shallow well depth V. silty water, rec re-develop | **Water Level pre-purge:** 3.95 | **Time:** 10:26 |
| | **Well Type:** ☒ Monitor ☐ Extraction ☐ Other: | |
| | **Well EL (TOC):** | **Well Mat:** PVC |

## WEATHER

| | | | |
|---|---|---|---|
| **Wind:** Yes / No **Rain:** Yes / No | **Clouds:** Yes / No **Fog:** Yes / No | **Sun:** Yes / No | **Precipitation in last 5 days:** Yes / No |

## VOLUME OF WATER TO BE REMOVER BEFORE SAMPLING

(_____ - _____) X (_____)2 X 0.0408 = .904 gallons in one well volume
TD WL Dia. Inches

2.71 gallons in 3 well volumes (Approx. 0.6 gal/ft) 3 total gallons purged

## FIELD MEASUREMENTS DURING PURGING

Stable Field Parameters Required Prior to Sample Collection <10% pH and EC change, <0.2°C temp. change

| Time | Gallons | pH | TEMP °C | ORP | DO mg/L | EC mS / µS | Turbidity H/M/L |
|---|---|---|---|---|---|---|---|
| 10:30 | 1 | 6.87 | 17.9 | 106 | | 2249 | M |
| 10:31 | 2 | 6.83 | 17.2 | 107 | | 2157 | L |
| 10:32 | 3 | 6.84 | 17.3 | 99 | | 1907 | L |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Minimum of 5 gallons or 0.6 gal/ft. Of water in casing - whichever is greater and field parameters must be stable.

**Water Level Before Sampling:** 4.10 **Time:** 11:30

**Appearance of Sample:**

**Bailer:** Disposable **Pump:** 12V Submersible (1-2 gpm)

**DECON. METHOD:** TSP or Liquinox (phosphate free) Wash / Double Rinse

**NUMBER OF DRUMS GENERATED:** Water: 3 Soil: Ø Other: Ø

Drum OK

# GROUNDWATER FIELD SAMPLING FORM

## WELL INFORMATION

| | | |
|---|---|---|
| **Project Number/Name:** 1301.01 Pipeline Excavators | | **Well Number:** MW-6 |
| **Project Location:** 5715 Sebastopol Road Sebastopol, California | **Casing Diameter:** 2" | **Well Depth from TOC (BP):** 9.10 **Well Depth from TOC (AP):** |
| **Date:** March 31, 2005 | **Top of Screen:** | **Initial Well Depth:** |
| **Sampled by (print and sign):** Brian Hasik BEH | **Product Thickness in inches:** 0 | |
| | **Water Level from TOC:** 1.06 | **Time:** 9:21 |
| **Notes:** | **Water Level pre-purge:** 1.05 | **Time:** 9:38 |
| | **Well Type:** ☑ Monitor ☐ Extraction ☐ Other: | |
| | **Well EL (TOC):** | **Well Mat:** PVC |

## WEATHER

| | | | |
|---|---|---|---|
| **Wind:** Yes / No **Rain:** Yes / No | **Clouds:** Yes / No **Fog:** Yes / No | **Sun:** Yes / No | **Precipitation in last 5 days:** Yes / No |

## VOLUME OF WATER TO BE REMOVER BEFORE SAMPLING

(_____ - _____) X (_____)2 X 0.0408 = 1.29 gallons in one well volume
TD WL Dia. Inches

3.86 gallons in 3 well volumes (Approx. 0.6 gal/ft) 5 total gallons purged

## FIELD MEASUREMENTS DURING PURGING

Stable Field Parameters Required Prior to Sample Collection <10% pH and EC change, <0.2°C temp. change

| Time | Gallons | pH | TEMP °C | ORP | DO mg/L | EC mS / µS | Turbidity H/M/L |
|---|---|---|---|---|---|---|---|
| 9:43 | 1 | 6.47 | 18.0 | 233 | | 1729 | L |
| 9:44 | 2 | 6.45 | 18.0 | 143 | | 1665 | L |
| 9:45 | 3 | 6.45 | 18.0 | 121 | | 1619 | L |
| 9:46 | 4 | 6.45 | 18.0 | 105 | | 1625 | L |
| 9:47 | 5 | 6.45 | 18.0 | 99 | | 1590 | L |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Minimum of 5 gallons or 0.6 gal/ft. Of water in casing - whichever is greater and field parameters must be stable.

**Water Level Before Sampling:** 1.08 **Time:** 11:00

**Appearance of Sample:**

**Bailer:** Disposable **Pump:** 12V Submersible (1-2 gpm)

**DECON. METHOD:** TSP or Liquinox (phosphate free) Wash / Double Rinse

**NUMBER OF DRUMS GENERATED:** Water: 3 Soil: 0 Other: 0

# GROUNDWATER FIELD SAMPLING FORM

## WELL INFORMATION

| | | |
|---|---|---|
| **Project Number/Name:** 1301.01 Pipeline Excavators | | **Well Number:** MW-7 |
| **Project Location:** 5715 Sebastopol Road Sebastopol, California | **Casing Diameter:** 2" | **Well Depth from TOC (BP):** 9.90 **Well Depth from TOC (AP):** |
| **Date:** March 31, 2005 | **Top of Screen:** | **Initial Well Depth:** |
| **Sampled by (print and sign):** Brian Hasik BH | **Product Thickness in inches:** 0 | |
| | **Water Level from TOC:** 2.24 | **Time:** 9:24 |
| **Notes:** going dry around 4g dry @ 4.75 | **Water Level pre-purge:** 2.15 | **Time:** 10:08 |
| | **Well Type:** ☑ Monitor ☐ Extraction ☐ Other: | |
| | **Well EL (TOC):** | **Well Mat:** PVC |

## WEATHER

**Wind:** Yes / No **Clouds:** Yes / No **Sun:** Yes / No **Precipitation in last 5 days:** Yes / No
**Rain:** Yes / No **Fog:** Yes / No

## VOLUME OF WATER TO BE REMOVER BEFORE SAMPLING

(_____ - _____) X (_____)2 X 0.0408 = 1.24 gallons in one well volume
TD WL Dia. Inches

3.72 gallons in 3 well volumes (Approx. 0.6 gal/ft) 4.75± total gallons purged

## FIELD MEASUREMENTS DURING PURGING

Stable Field Parameters Required Prior to Sample Collection <10% pH and EC change, <0.2°C temp. change

| Time | Gallons | pH | TEMP °C | ORP | DO mg/L | EC mS / µS | Turbidity H/M/L |
|---|---|---|---|---|---|---|---|
| 10:10 | 1 | 6.40 | 16.6 | 95 | | 1782 | L |
| 10:11 | 2 | 6.33 | 16.5 | 101 | | 1744 | L |
| 10:12 | 3 | 6.33 | 16.5 | 105 | | 1793 | L |
| 10:13 | 4 | 6.31 | 16.7 | 109 | | 1852 | L |
| 10:13 | 5 | 6.35 | 16.9 | 105 | | 2108 | L |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Minimum of 5 gallons or 0.6 gal/ft. Of water in casing - whichever is greater and field parameters must be stable.

**Water Level Before Sampling:** 2.32 **Time:** 11:20

**Appearance of Sample:**

**Bailer:** Disposable **Pump:** 12V Submersible (1-2 gpm)

**DECON. METHOD:** TSP or Liquinox (phosphate free) Wash / Double Rinse

**NUMBER OF DRUMS GENERATED:** Water: 3 Soil: 0 Other: 0

# APPENDIX B

## Appendix B: Historical Groundwater Elevation and Gradient Data
## Pipeline Excavators

| Sample Date | Monitoring Well ID | TOC Elevation ( feet - msl ) | Water Level Depth ( feet ) | Water Level Elevation ( feet -msl ) | Groundwater Flow Direction/Gradient (i) |
|---|---|---|---|---|---|
| 06/06/01 | MW-1 | 68.71 | 3.03 | 65.68 | N 82° E i = 0.023 |
| | MW-2 | 68.15 | 3.06 | 65.09 | |
| | MW-3 | 68.92 | 3.85 | 65.07 | |
| 07/23/01 | MW-1 | 68.71 | 4.22 | 64.49 | N73°E i = 0.013 |
| | MW-2 | 68.15 | 4.35 | 63.80 | |
| | MW-3 | 68.92 | 5.12 | 63.80 | |
| 08/29/01 | MW-1 | 68.71 | 5.03 | 63.68 | N65°E i = 0.01 |
| | MW-2 | 68.15 | 5.06 | 63.09 | |
| | MW-3 | 68.92 | 5.72 | 63.20 | |
| 09/13/01 | MW-1 | 68.71 | 5.21 | 63.50 | NA |
| | MW-2 | 68.15 | NA | NA | |
| | MW-3 | 68.92 | 5.90 | 63.02 | |
| 10/24/01 | MW-1 | 68.71 | 5.55 | 63.16 | N58°E i = 0.01 |
| | MW-2 | 68.15 | 5.61 | 62.54 | |
| | MW-3 | 68.92 | 6.16 | 62.76 | |
| 12/13/01 | MW-1 | 68.81 | 2.76 | 66.05 | S30°W i = 0.002 |
| | MW-2 | 68.93 | 2.54 | 66.39 | |
| | MW-3 | 69.31 | 3.18 | 66.13 | |
| 1/23/01 | MW-1 | 68.81 | 2.24 | 66.57 | S40°W i = 0.004 |
| | MW-2 | 68.93 | 2.22 | 66.71 | |
| | MW-3 | 69.31 | 2.76 | 66.55 | |

**Appendix B: continued**

| Sample Date | Monitoring Well ID | TOC Elevation ( feet - msl ) | Water Level Depth ( feet ) | Water Level Elevation ( feet -msl ) | Groundwater Flow Direction/Gradient (i) |
|---|---|---|---|---|---|
| 2/21/02 | MW-1 | 68.81 | 1.24 | 67.57 | S45°W i = 0.006 |
| | MW-2 | 68.93 | 1.16 | 67.77 | |
| | MW-3 | 69.31 | 1.75 | 67.56 | |
| | MW-4 | 72.04 | 4.09 | 67.95 | |
| | MW-5 | 72.14 | 3.95 | 68.19 | |
| | MW-6 | 68.16 | 1.05 | 67.11 | |
| | MW-7 | 68.37 | 2.13 | 66.24 | |
| 03/13/02 | MW-1 | 68.81 | 1.13 | 67.68 | S45°W i = 0.006 |
| | MW-2 | 68.93 | 1.18 | 67.75 | |
| | MW-3 | 69.31 | 1.62 | 67.69 | |
| | MW-4 | 72.04 | 4.03 | 68.01 | |
| | MW-5 | 72.14 | 3.93 | 68.21 | |
| | MW-6 | 68.16 | 0.96 | 67.20 | |
| | MW-7 | 68.37 | 2.14 | 66.23 | |
| 04/24/02 | MW-1 | 68.81 | 2.43 | 66.38 | S40°W i = 0.005 |
| | MW-2 | 68.93 | 2.46 | 66.47 | |
| | MW-3 | 69.31 | 3.09 | 66.22 | |
| | MW-4 | 72.04 | 5.73 | 66.31 | |
| | MW-5 | 72.14 | 5.50 | 66.64 | |
| | MW-6 | 68.16 | 2.31 | 65.85 | |
| | MW-7 | 68.37 | 2.92 | 65.40 | |

**Appendix B: continued**

| Sample Date | Monitoring Well ID | TOC Elevation ( feet - msl ) | Water Level Depth ( feet ) | Water Level Elevation ( feet -msl ) | Groundwater Flow Direction/Gradient (i) |
|---|---|---|---|---|---|
| 05/20/02 | MW-1 | 68.81 | 2.71 | 66.10 | S35°W i = 0.007 |
| | MW-2 | 68.93 | 3.61 | 65.32 | |
| | MW-3 | 69.31 | 3.41 | 65.90 | |
| | MW-4 | 72.04 | 6.05 | 65.99 | |
| | MW-5 | 72.14 | 5.82 | 66.32 | |
| | MW-6 | 68.16 | 2.69 | 65.47 | |
| | MW-7 | 68.37 | 3.34 | 65.03 | |
| 07/16/02 | MW-1 | 68.81 | 3.65 | 65.16 | Southerly i = 0.007 |
| | MW-2 | 68.93 | 3.67 | 65.26 | |
| | MW-3 | 69.31 | 4.42 | 64.89 | |
| | MW-4 | 72.04 | 7.11 | 64.93 | |
| | MW-5 | 72.14 | 6.86 | 65.28 | |
| | MW-6 | 68.16 | 3.72 | 64.44 | |
| | MW-7 | 68.37 | 4.34 | 64.03 | |
| 09/06/02 | MW-1 | 68.81 | 4.36 | 64.45 | S35°W i = 0.005 |
| | MW-2 | 68.93 | 4.45 | 64.48 | |
| | MW-3 | 69.31 | 4.98 | 64.33 | |
| | MW-4 | 72.04 | 7.78 | 64.26 | |
| | MW-5 | 72.14 | 7.60 | 64.54 | |
| | MW-6 | 68.16 | 3.97 | 64.19 | |
| | MW-7 | 68.37 | 5.52 | 62.85 | |

**Appendix B: continued**

| Sample Date | Monitoring Well ID | TOC Elevation ( feet - msl ) | Water Level Depth ( feet ) | Water Level Elevation ( feet -msl ) | Groundwater Flow Direction/Gradient (i) |
|---|---|---|---|---|---|
| 12/18/02 | MW-1 | 68.81 | 2.78 | 66.03 | West / Southwest i = varies |
| | MW-2 | 68.93 | 2.56 | 66.37 | |
| | MW-3 | 69.31 | 3.13 | 66.18 | |
| | MW-4 | 72.04 | 5.31 | 66.73 | |
| | MW-5 | 72.14 | 5.24 | 66.90 | |
| | MW-6 | 68.16 | 2.11 | 66.05 | |
| | MW-7 | 68.37 | 4.18 | 64.19 | |
| 03/19/03 | MW-1 | 68.81 | 1.14 | 67.67 | Southwest i = 0.01 |
| | MW-2 | 68.93 | 1.16 | 67.77 | |
| | MW-3 | 69.31 | 1.69 | 67.62 | |
| | MW-4 | 72.04 | 4.11 | 67.93 | |
| | MW-5 | 72.14 | 3.97 | 68.17 | |
| | MW-6 | 68.16 | 1.06 | 67.10 | |
| | MW-7 | 68.37 | 2.02 | 66.35 | |

**Appendix B: continued**

| Sample Date | Monitoring Well ID | TOC Elevation ( feet - msl ) | Water Level Depth ( feet ) | Water Level Elevation ( feet -msl ) | Groundwater Flow Direction/Gradient (i) |
|---|---|---|---|---|---|
| 07/09/03 | MW-1 | 68.81 | 3.23 | 65.58 | Westerly i = 0.004 |
| | MW-2 | 68.93 | 3.24 | 65.69 | |
| | MW-3 | 69.31 | 4.03 | 65.28 | |
| | MW-4 | 72.04 | 6.71 | 65.33 | |
| | MW-5 | 72.14 | 6.45 | 65.69 | |
| | MW-6 | 68.16 | 3.15 | 65.01 | |
| | MW-7 | 68.37 | 3.77 | 64.60 | |
| 09/16/03 | MW-1 | 68.81 | 4.24 | 64.57 | West/Southwest i = varies |
| | MW-2 | 68.93 | 4.43 | 64.50 | |
| | MW-3 | 69.31 | 5.02 | 64.29 | |
| | MW-4 | 72.04 | 7.76 | 64.28 | |
| | MW-5 | 72.14 | 7.52 | 64.62 | |
| | MW-6 | 68.16 | 4.16 | 64.00 | |
| | MW-7 | 68.37 | 5.13 | 63.24 | |
| 12/02/03 | MW-1 | 68.81 | 3.61 | 65.20 | Westerly i = 0.04 |
| | MW-2 | 68.93 | 3.40 | 65.53 | |
| | MW-3 | 69.31 | 4.12 | 65.19 | |
| | MW-4 | 72.04 | 6.42 | 65.62 | |
| | MW-5 | 72.14 | 6.25 | 65.89 | |
| | MW-6 | 68.16 | 3.01 | 65.15 | |
| | MW-7 | 68.37 | 5.06 | 63.31 | |

## Appendix B: continued

| Sample Date | Monitoring Well ID | TOC Elevation ( feet - msl ) | Water Level Depth ( feet ) | Water Level Elevation ( feet -msl ) | Groundwater Flow Direction/Gradient, i (feet/foot) |
|---|---|---|---|---|---|
| 3/31/04* | MW-1 | 70.83 | 1.40 | 69.43 | Southwest to Northwest i = 0.02 |
| | MW-2 | 70.95 | 1.47 | 69.48 | |
| | MW-3 | 71.32 | 2.00 | 69.32 | |
| | MW-4 | 74.05 | 4.49 | 69.56 | |
| | MW-5 | 74.14 | 4.30 | 69.84 | |
| | MW-6 | 70.16 | 0.45 | 69.71 | |
| | MW-7 | 70.35 | 2.24 | 68.11 | |
| * = wells were re-surveyed on February 24, 2004 | | | | | |
| 6/08/04 | MW-1 | 70.83 | 3.50 | 67.33 | Southwesterly i = 0.014 |
| | MW-2 | 70.95 | 3.53 | 67.42 | |
| | MW-3 | 71.32 | 4.28 | 67.04 | |
| | MW-4 | 74.05 | 7.03 | 67.02 | |
| | MW-5 | 74.14 | 6.75 | 67.39 | |
| | MW-6 | 70.16 | 3.40 | 66.76 | |
| | MW-7 | 70.35 | 4.13 | 66.22 | |
| 9/07/04 | MW-1 | 70.83 | 5.22 | 65.61 | S45°W i = 0.005 |
| | MW-2 | 70.95 | 5.32 | 65.63 | |
| | MW-3 | 71.32 | 5.96 | 65.36 | |
| | MW-4 | 74.05 | 8.71 | 65.34 | |
| | MW-5 | 74.14 | 8.55 | 65.59 | |
| | MW-6 | 70.16 | 5.01 | 65.15 | |
| | MW-7 | 70.35 | 6.22 | 65.13 | |

**Appendix B: continued**

| Sample Date | Monitoring Well ID | TOC Elevation ( feet - msl ) | Water Level Depth ( feet ) | Water Level Elevation ( feet -msl ) | Groundwater Flow Direction/Gradient, i (feet/foot) |
|---|---|---|---|---|---|
| 12/09/04 | MW-1 | 70.83 | 4.20 | 66.63 | Southwesterly i = 0.007 |
| | MW-2 | 70.95 | 3.77 | 67.18 | |
| | MW-3 | ----removed---- | | | |
| | MW-4 | 74.05 | 6.54 | 67.51 | |
| | MW-5 | 74.14 | NA | NA | |
| | MW-6 | 70.16 | 3.60 | 66.56 | |
| | MW-7 | 70.35 | NA | NA | |
| 03/31/05 | MW-1 | 70.83 | 1.27 | 69.56 | Southwesterly i = 0.008 |
| | MW-2 | 70.95 | 1.35 | 69.60 | |
| | MW-3 | ----removed---- | | | |
| | MW-4 | 74.05 | 4.00 | 70.05 | |
| | MW-5 | 74.14 | 3.95 | 70.19 | |
| | MW-6 | 70.16 | 1.05 | 69.11 | |
| | MW-7 | 70.35 | 2.15 | 68.20 | |

# APPENDIX C

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

11 April 2005

Trans Tech Consultants
Attn: Bill Wiggins
930 Shiloh Rd., Bldg.44, Suite J
Windsor, CA 95492
RE: Leland Smith/Pipeline Excavators
Work Order: A504003

Enclosed are the results of analyses for samples received by the laboratory on 03/31/05 17:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nena M. Burgess For Sheri L. Speaks
Project Manager

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

# CHEMICAL EXAMINATION REPORT



Trans Tech Consultants
930 Shiloh Rd., Bldg.44, Suite J
Windsor, CA 95492
Attn: Bill Wiggins

Report Date: 04/11/05 15:57
Project No: 1301.01
Project ID: Leland Smith/Pipeline Excavators

| Order Number | Receipt Date/Time | Client Code | Client PO/Reference |
|---|---|---|---|
| A504003 | 03/31/2005 17:10 | TRANSTEC | |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| MW-1 | A504003-01 | Water | 03/31/05 11:50 | 03/31/05 17:10 |
| MW-2 | A504003-02 | Water | 03/31/05 11:10 | 03/31/05 17:10 |
| MW-4 | A504003-03 | Water | 03/31/05 11:40 | 03/31/05 17:10 |
| MW-5 | A504003-04 | Water | 03/31/05 11:30 | 03/31/05 17:10 |
| MW-6 | A504003-05 | Water | 03/31/05 11:00 | 03/31/05 17:10 |
| MW-7 | A504003-06 | Water | 03/31/05 11:20 | 03/31/05 17:10 |
| DW-6100 | A504003-07 | Water | 03/31/05 08:40 | 03/31/05 17:10 |
| DW-6140 | A504003-08 | Water | 03/31/05 08:50 | 03/31/05 17:10 |

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Nena M. Burgess For Sheri L. Speaks
Project Manager

4/11/2005

Alpha Analytical Laboratories Inc.
208 Mason St, Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

# CHEMICAL EXAMINATION REPORT



Trans Tech Consultants
930 Shiloh Rd., Bldg.44, Suite J
Windsor, CA 95492
Attn: Bill Wiggins

Report Date: 04/11/05 15:57
Project No: 1301.01
Project ID: Leland Smith/Pipeline Excavators

| Order Number | Receipt Date/Time | Client Code | Client PO/Reference |
|---|---|---|---|
| A504003 | 03/31/2005 17:10 | TRANSTEC | |

## Alpha Analytical Laboratories, Inc.

| | METHOD | BATCH | PREPARED | ANALYZED | DILUTION | RESULT | | PQL | NOTE |
|---|---|---|---|---|---|---|---|---|---|
| **MW-1 (A504003-01)** | | | **Sample Type: Water** | | | **Sampled: 03/31/05 11:50** | | | |
| **TPH by EPA/LUFT GC/GCMS Methods** | | | | | | | | | |
| **TPH as Diesel** | 8015DRO | AD50614 | 04/06/05 | 04/06/05 | 1 | **860 ug/l** | | **50** | D-08 |
| **TPH as Gasoline** | 8260GRO | AD51103 | 04/08/05 | 04/09/05 | 20 | **2300 "** | | **1000** | |
| *Surrogate: 1,4-Bromofluorobenzene* | *8015DRO* | *AD50614* | *04/06/05* | *04/06/05* | | *77.4 %* | *20-152* | | |
| *Surrogate: Toluene-d8* | *8260GRO* | *AD51103* | *04/08/05* | *04/09/05* | | *111 %* | *70-129* | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | **R-04** |
| Benzene | EPA 8260B | AD51105 | " | 04/09/05 | 20 | ND ug/l | | 6.0 | |
| Toluene | " | " | " | " | " | ND " | | 6.0 | |
| Ethylbenzene | " | " | " | " | " | ND " | | 10 | |
| Xylenes (total) | " | " | " | " | " | ND " | | 10 | |
| **Methyl tert-butyl ether** | " | " | " | " | " | **89 "** | | **10** | |
| Di-isopropyl ether | " | " | " | " | " | ND " | | 10 | |
| Ethyl tert-butyl ether | " | " | " | " | " | ND " | | 10 | |
| Tert-amyl methyl ether | " | " | " | " | " | ND " | | 10 | |
| Tert-butyl alcohol | " | " | " | " | " | ND " | | 200 | |
| 1,2-Dichloroethane | " | " | " | " | " | ND " | | 10 | |
| Chlorobenzene | " | " | " | " | " | ND " | | 10 | |
| 1,3-Dichlorobenzene | " | " | " | " | " | ND " | | 10 | |
| 1,4-Dichlorobenzene | " | " | " | " | " | ND " | | 10 | |
| 1,2-Dichlorobenzene | " | " | " | " | " | ND " | | 10 | |
| 1,2-Dibromoethane (EDB) | " | " | " | " | " | ND " | | 10 | |
| *Surrogate: Bromofluorobenzene* | *"* | *"* | *"* | *"* | | *104 %* | *45-147* | | |
| *Surrogate: Dibromofluoromethane* | *"* | *"* | *"* | *"* | | *96.4 %* | *85-129* | | |
| *Surrogate: Toluene-d8* | *"* | *"* | *"* | *"* | | *111 %* | *74-137* | | |
| **MW-2 (A504003-02)** | | | **Sample Type: Water** | | | **Sampled: 03/31/05 11:10** | | | |
| **TPH by EPA/LUFT GC/GCMS Methods** | | | | | | | | | |
| TPH as Diesel | 8015DRO | AD50614 | 04/06/05 | 04/07/05 | 1 | ND ug/l | | 50 | |
| TPH as Gasoline | 8260GRO | AD51103 | 04/08/05 | 04/09/05 | " | ND " | | 50 | |
| *Surrogate: 1,4-Bromofluorobenzene* | *8015DRO* | *AD50614* | *04/06/05* | *04/07/05* | | *71.0 %* | *20-152* | | |
| *Surrogate: Toluene-d8* | *8260GRO* | *AD51103* | *04/08/05* | *04/09/05* | | *114 %* | *70-129* | | |

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Nena M. Burgess For Sheri L. Speaks
Project Manager

4/11/2005

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone (707) 468-0401 • Fax (707) 468-5267

# CHEMICAL EXAMINATION REPORT



Trans Tech Consultants
930 Shiloh Rd., Bldg.44, Suite J
Windsor, CA 95492
Attn: Bill Wiggins

Report Date: 04/11/05 15:57
Project No: 1301.01
Project ID: Leland Smith/Pipeline Excavators

| Order Number | Receipt Date/Time | Client Code | Client PO/Reference |
|---|---|---|---|
| A504003 | 03/31/2005 17:10 | TRANSTEC | |

## Alpha Analytical Laboratories, Inc.

| | METHOD | BATCH | PREPARED | ANALYZED | DILUTION | RESULT | PQL | NOTE |
|---|---|---|---|---|---|---|---|---|
| **MW-2 (A504003-02)** | | | **Sample Type: Water** | | | **Sampled: 03/31/05 11:10** | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | |
| Benzene | EPA 8260B | AD51105 | " | 04/09/05 | 1 | ND ug/l | 0.30 | |
| Toluene | " | " | " | " | " | ND " | 0.30 | |
| Ethylbenzene | " | " | " | " | " | ND " | 0.50 | |
| Xylenes (total) | " | " | " | " | " | ND " | 0.50 | |
| **Methyl tert-butyl ether** | " | " | " | " | " | **34 "** | **0.50** | |
| Di-isopropyl ether | " | " | " | " | " | ND " | 0.50 | |
| Ethyl tert-butyl ether | " | " | " | " | " | ND " | 0.50 | |
| Tert-amyl methyl ether | " | " | " | " | " | ND " | 0.50 | |
| Tert-butyl alcohol | " | " | " | " | " | ND " | 10 | |
| 1,2-Dichloroethane | " | " | " | " | " | ND " | 0.50 | |
| Chlorobenzene | " | " | " | " | " | ND " | 0.50 | |
| 1,3-Dichlorobenzene | " | " | " | " | " | ND " | 0.50 | |
| 1,4-Dichlorobenzene | " | " | " | " | " | ND " | 0.50 | |
| 1,2-Dichlorobenzene | " | " | " | " | " | ND " | 0.50 | |
| 1,2-Dibromoethane (EDB) | " | " | " | " | " | ND " | 0.50 | |
| *Surrogate: Bromofluorobenzene* | *"* | *"* | *"* | *"* | | *104 %* | *45-147* | |
| *Surrogate: Dibromofluoromethane* | *"* | *"* | *"* | *"* | | *96.0 %* | *85-129* | |
| *Surrogate: Toluene-d8* | *"* | *"* | *"* | *"* | | *114 %* | *74-137* | |
| **MW-4 (A504003-03)** | | | **Sample Type: Water** | | | **Sampled: 03/31/05 11:40** | | |
| **TPH by EPA/LUFT GC/GCMS Methods** | | | | | | | | |
| TPH as Diesel | 8015DRO | AD50614 | 04/06/05 | 04/07/05 | 1 | ND ug/l | 50 | |
| TPH as Gasoline | 8260GRO | AD51103 | 04/08/05 | 04/09/05 | " | ND " | 50 | |
| *Surrogate: 1,4-Bromofluorobenzene* | *8015DRO* | *AD50614* | *04/06/05* | *04/07/05* | | *77.7 %* | *20-152* | |
| *Surrogate: Toluene-d8* | *8260GRO* | *AD51103* | *04/08/05* | *04/09/05* | | *112 %* | *70-129* | |

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Nena M. Burgess For Sheri L. Speaks
Project Manager

4/11/2005

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

# CHEMICAL EXAMINATION REPORT



Trans Tech Consultants
930 Shiloh Rd., Bldg.44, Suite J
Windsor, CA 95492
Attn: Bill Wiggins

Report Date: 04/11/05 15:57
Project No: 1301.01
Project ID: Leland Smith/Pipeline Excavators

| Order Number | Receipt Date/Time | Client Code | Client PO/Reference |
|---|---|---|---|
| A504003 | 03/31/2005 17:10 | TRANSTEC | |

## Alpha Analytical Laboratories, Inc.

| | METHOD | BATCH | PREPARED | ANALYZED | DILUTION | RESULT | | PQL | NOTE |
|---|---|---|---|---|---|---|---|---|---|
| **MW-4 (A504003-03)** | | | **Sample Type: Water** | | | **Sampled: 03/31/05 11:40** | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Benzene | EPA 8260B | AD51105 | " | 04/09/05 | 1 | ND ug/l | | 0.30 | |
| Toluene | " | " | " | " | " | ND " | | 0.30 | |
| Ethylbenzene | " | " | " | " | " | ND " | | 0.50 | |
| Xylenes (total) | " | " | " | " | " | ND " | | 0.50 | |
| **Methyl tert-butyl ether** | " | " | " | " | " | **8.2 "** | | **0.50** | |
| Di-isopropyl ether | " | " | " | " | " | ND " | | 0.50 | |
| Ethyl tert-butyl ether | " | " | " | " | " | ND " | | 0.50 | |
| Tert-amyl methyl ether | " | " | " | " | " | ND " | | 0.50 | |
| Tert-butyl alcohol | " | " | " | " | " | ND " | | 10 | |
| 1,2-Dichloroethane | " | " | " | " | " | ND " | | 0.50 | |
| Chlorobenzene | " | " | " | " | " | ND " | | 0.50 | |
| 1,3-Dichlorobenzene | " | " | " | " | " | ND " | | 0.50 | |
| 1,4-Dichlorobenzene | " | " | " | " | " | ND " | | 0.50 | |
| 1,2-Dichlorobenzene | " | " | " | " | " | ND " | | 0.50 | |
| 1,2-Dibromoethane (EDB) | " | " | " | " | " | ND " | | 0.50 | |
| *Surrogate: Bromofluorobenzene* | " | " | " | " | | *104 %* | *45-147* | | |
| *Surrogate: Dibromofluoromethane* | " | " | " | " | | *102 %* | *85-129* | | |
| *Surrogate: Toluene-d8* | " | " | " | " | | *112 %* | *74-137* | | |
| **MW-5 (A504003-04)** | | | **Sample Type: Water** | | | **Sampled: 03/31/05 11:30** | | | |
| **TPH by EPA/LUFT GC/GCMS Methods** | | | | | | | | | |
| TPH as Diesel | 8015DRO | AD50614 | 04/06/05 | 04/07/05 | 1 | ND ug/l | | 50 | |
| TPH as Gasoline | 8260GRO | AD51103 | 04/08/05 | 04/09/05 | 20 | ND " | | 1000 | R-04 |
| *Surrogate: 1,4-Bromofluorobenzene* | *8015DRO* | *AD50614* | *04/06/05* | *04/07/05* | | *72.4 %* | *20-152* | | |
| *Surrogate: Toluene-d8* | *8260GRO* | *AD51103* | *04/08/05* | *04/09/05* | | *111 %* | *70-129* | | |

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Nena M. Burgess For Sheri L. Speaks
Project Manager

4/11/2005

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

# CHEMICAL EXAMINATION REPORT



Trans Tech Consultants
930 Shiloh Rd., Bldg.44, Suite J
Windsor, CA 95492
Attn: Bill Wiggins

Report Date: 04/11/05 15:57
Project No: 1301.01
Project ID: Leland Smith/Pipeline Excavators

| Order Number | Receipt Date/Time | Client Code | Client PO/Reference |
|---|---|---|---|
| A504003 | 03/31/2005 17:10 | TRANSTEC | |

## Alpha Analytical Laboratories, Inc.

| | METHOD | BATCH | PREPARED | ANALYZED | DILUTION | RESULT | | PQL | NOTE |
|---|---|---|---|---|---|---|---|---|---|
| **MW-5 (A504003-04)** | | | **Sample Type: Water** | | | **Sampled: 03/31/05 11:30** | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | **R-04** |
| Benzene | EPA 8260B | AD51105 | " | 04/09/05 | 20 | ND ug/l | | 6.0 | |
| Toluene | " | " | " | " | " | ND " | | 6.0 | |
| Ethylbenzene | " | " | " | " | " | ND " | | 10 | |
| Xylenes (total) | " | " | " | " | " | ND " | | 10 | |
| Methyl tert-butyl ether | " | " | " | " | " | ND " | | 10 | |
| Di-isopropyl ether | " | " | " | " | " | ND " | | 10 | |
| Ethyl tert-butyl ether | " | " | " | " | " | ND " | | 10 | |
| Tert-amyl methyl ether | " | " | " | " | " | ND " | | 10 | |
| Tert-butyl alcohol | " | " | " | " | " | ND " | | 200 | |
| 1,2-Dichloroethane | " | " | " | " | " | ND " | | 10 | |
| Chlorobenzene | " | " | " | " | " | ND " | | 10 | |
| 1,3-Dichlorobenzene | " | " | " | " | " | ND " | | 10 | |
| 1,4-Dichlorobenzene | " | " | " | " | " | ND " | | 10 | |
| 1,2-Dichlorobenzene | " | " | " | " | " | ND " | | 10 | |
| 1,2-Dibromoethane (EDB) | " | " | " | " | " | ND " | | 10 | |
| *Surrogate: Bromofluorobenzene* | " | " | " | " | | *101 %* | *45-147* | | |
| *Surrogate: Dibromofluoromethane* | " | " | " | " | | *99.2 %* | *85-129* | | |
| *Surrogate: Toluene-d8* | " | " | " | " | | *111 %* | *74-137* | | |
| **MW-6 (A504003-05)** | | | **Sample Type: Water** | | | **Sampled: 03/31/05 11:00** | | | |
| **TPH by EPA/LUFT GC/GCMS Methods** | | | | | | | | | |
| TPH as Diesel | 8015DRO | AD50614 | 04/06/05 | 04/07/05 | 1 | ND ug/l | | 50 | |
| TPH as Gasoline | 8260GRO | AD51103 | 04/08/05 | 04/09/05 | " | ND " | | 50 | |
| *Surrogate: 1,4-Bromofluorobenzene* | *8015DRO* | *AD50614* | *04/06/05* | *04/07/05* | | *79.8 %* | *20-152* | | |
| *Surrogate: Toluene-d8* | *8260GRO* | *AD51103* | *04/08/05* | *04/09/05* | | *113 %* | *70-129* | | |

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Project Manager

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208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

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## Alpha Analytical Laboratories, Inc.

| | METHOD | BATCH | PREPARED | ANALYZED | DILUTION | RESULT | PQL | NOTE |
|---|---|---|---|---|---|---|---|---|
| **MW-6 (A504003-05)** | | | **Sample Type: Water** | | | **Sampled: 03/31/05 11:00** | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | |
| Benzene | EPA 8260B | AD51105 | " | 04/09/05 | 1 | ND ug/l | 0.30 | |
| Toluene | " | " | " | " | " | ND " | 0.30 | |
| Ethylbenzene | " | " | " | " | " | ND " | 0.50 | |
| Xylenes (total) | " | " | " | " | " | ND " | 0.50 | |
| **Methyl tert-butyl ether** | " | " | " | " | " | **8.8 "** | **0.50** | |
| Di-isopropyl ether | " | " | " | " | " | ND " | 0.50 | |
| Ethyl tert-butyl ether | " | " | " | " | " | ND " | 0.50 | |
| Tert-amyl methyl ether | " | " | " | " | " | ND " | 0.50 | |
| Tert-butyl alcohol | " | " | " | " | " | ND " | 10 | |
| 1,2-Dichloroethane | " | " | " | " | " | ND " | 0.50 | |
| Chlorobenzene | " | " | " | " | " | ND " | 0.50 | |
| 1,3-Dichlorobenzene | " | " | " | " | " | ND " | 0.50 | |
| 1,4-Dichlorobenzene | " | " | " | " | " | ND " | 0.50 | |
| 1,2-Dichlorobenzene | " | " | " | " | " | ND " | 0.50 | |
| 1,2-Dibromoethane (EDB) | " | " | " | " | " | ND " | 0.50 | |
| *Surrogate: Bromofluorobenzene* | " | " | " | " | | *105 %* | *45-147* | |
| *Surrogate: Dibromofluoromethane* | " | " | " | " | | *98.4 %* | *85-129* | |
| *Surrogate: Toluene-d8* | " | " | " | " | | *113 %* | *74-137* | |
| **MW-7 (A504003-06)** | | | **Sample Type: Water** | | | **Sampled: 03/31/05 11:20** | | |
| **TPH by EPA/LUFT GC/GCMS Methods** | | | | | | | | |
| TPH as Diesel | 8015DRO | AD50614 | 04/06/05 | 04/07/05 | 1 | ND ug/l | 50 | |
| TPH as Gasoline | 8260GRO | AD51103 | 04/08/05 | 04/09/05 | " | ND " | 50 | |
| *Surrogate: 1,4-Bromofluorobenzene* | *8015DRO* | *AD50614* | *04/06/05* | *04/07/05* | | *83.6 %* | *20-152* | |
| *Surrogate: Toluene-d8* | *8260GRO* | *AD51103* | *04/08/05* | *04/09/05* | | *112 %* | *70-129* | |

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Project Manager

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Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

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## Alpha Analytical Laboratories, Inc.

| | METHOD | BATCH | PREPARED | ANALYZED | DILUTION | RESULT | | PQL | NOTE |
|---|---|---|---|---|---|---|---|---|---|
| **MW-7 (A504003-06)** | | | **Sample Type: Water** | | | **Sampled: 03/31/05 11:20** | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Benzene | EPA 8260B | AD51105 | " | 04/09/05 | 1 | ND ug/l | | 0.30 | |
| Toluene | " | " | " | " | " | ND " | | 0.30 | |
| Ethylbenzene | " | " | " | " | " | ND " | | 0.50 | |
| Xylenes (total) | " | " | " | " | " | ND " | | 0.50 | |
| **Methyl tert-butyl ether** | " | " | " | " | " | **32 "** | | **0.50** | |
| Di-isopropyl ether | " | " | " | " | " | ND " | | 0.50 | |
| Ethyl tert-butyl ether | " | " | " | " | " | ND " | | 0.50 | |
| Tert-amyl methyl ether | " | " | " | " | " | ND " | | 0.50 | |
| Tert-butyl alcohol | " | " | " | " | " | ND " | | 10 | |
| **1,2-Dichloroethane** | " | " | " | " | " | **5.0 "** | | **0.50** | |
| Chlorobenzene | " | " | " | " | " | ND " | | 0.50 | |
| 1,3-Dichlorobenzene | " | " | " | " | " | ND " | | 0.50 | |
| 1,4-Dichlorobenzene | " | " | " | " | " | ND " | | 0.50 | |
| 1,2-Dichlorobenzene | " | " | " | " | " | ND " | | 0.50 | |
| 1,2-Dibromoethane (EDB) | " | " | " | " | " | ND " | | 0.50 | |
| *Surrogate: Bromofluorobenzene* | " | " | " | " | | *102 %* | *45-147* | | |
| *Surrogate: Dibromofluoromethane* | " | " | " | " | | *99.6 %* | *85-129* | | |
| *Surrogate: Toluene-d8* | " | " | " | " | | *112 %* | *74-137* | | |
| **DW-6100 (A504003-07)** | | | **Sample Type: Water** | | | **Sampled: 03/31/05 08:40** | | | |
| **TPH by EPA/LUFT GC/GCMS Methods** | | | | | | | | | |
| TPH as Diesel | 8015DRO | AD50614 | 04/06/05 | 04/07/05 | 1 | ND ug/l | | 50 | |
| TPH as Gasoline | 8260GRO | AD51103 | 04/08/05 | 04/09/05 | " | ND " | | 50 | |
| *Surrogate: 1,4-Bromofluorobenzene* | *8015DRO* | *AD50614* | *04/06/05* | *04/07/05* | | *83.9 %* | *20-152* | | |
| *Surrogate: Toluene-d8* | *8260GRO* | *AD51103* | *04/08/05* | *04/09/05* | | *112 %* | *70-129* | | |

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Project Manager

4/11/2005

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

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## Alpha Analytical Laboratories, Inc.

| | METHOD | BATCH | PREPARED | ANALYZED | DILUTION | RESULT | | PQL | NOTE |
|---|---|---|---|---|---|---|---|---|---|
| **DW-6100 (A504003-07)** | | | **Sample Type: Water** | | | **Sampled: 03/31/05 08:40** | | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | | |
| Benzene | EPA 8260B | AD51105 | " | 04/09/05 | 1 | ND ug/l | | 0.30 | |
| Toluene | " | " | " | " | " | ND " | | 0.30 | |
| Ethylbenzene | " | " | " | " | " | ND " | | 0.50 | |
| Xylenes (total) | " | " | " | " | " | ND " | | 0.50 | |
| Methyl tert-butyl ether | " | " | " | " | " | ND " | | 0.50 | |
| Di-isopropyl ether | " | " | " | " | " | ND " | | 0.50 | |
| Ethyl tert-butyl ether | " | " | " | " | " | ND " | | 0.50 | |
| Tert-amyl methyl ether | " | " | " | " | " | ND " | | 0.50 | |
| Tert-butyl alcohol | " | " | " | " | " | ND " | | 10 | |
| 1,2-Dichloroethane | " | " | " | " | " | ND " | | 0.50 | |
| Chlorobenzene | " | " | " | " | " | ND " | | 0.50 | |
| 1,3-Dichlorobenzene | " | " | " | " | " | ND " | | 0.50 | |
| 1,4-Dichlorobenzene | " | " | " | " | " | ND " | | 0.50 | |
| 1,2-Dichlorobenzene | " | " | " | " | " | ND " | | 0.50 | |
| 1,2-Dibromoethane (EDB) | " | " | " | " | " | ND " | | 0.50 | |
| *Surrogate: Bromofluorobenzene* | " | " | " | " | | *103 %* | *45-147* | | |
| *Surrogate: Dibromofluoromethane* | " | " | " | " | | *101 %* | *85-129* | | |
| *Surrogate: Toluene-d8* | " | " | " | " | | *112 %* | *74-137* | | |
| **DW-6140 (A504003-08)** | | | **Sample Type: Water** | | | **Sampled: 03/31/05 08:50** | | | |
| **TPH by EPA/LUFT GC/GCMS Methods** | | | | | | | | | |
| TPH as Diesel | 8015DRO | AD50614 | 04/06/05 | 04/07/05 | 1 | ND ug/l | | 50 | |
| TPH as Gasoline | 8260GRO | AD51103 | 04/08/05 | 04/09/05 | " | ND " | | 50 | |
| *Surrogate: 1,4-Bromofluorobenzene* | *8015DRO* | *AD50614* | *04/06/05* | *04/07/05* | | *83.4 %* | *20-152* | | |
| *Surrogate: Toluene-d8* | *8260GRO* | *AD51103* | *04/08/05* | *04/09/05* | | *122 %* | *70-129* | | |

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4/11/2005

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e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

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## Alpha Analytical Laboratories, Inc.

| | METHOD | BATCH | PREPARED | ANALYZED | DILUTION | RESULT | PQL | NOTE |
|---|---|---|---|---|---|---|---|---|
| **DW-6140 (A504003-08)** | | | **Sample Type: Water** | | | **Sampled: 03/31/05 08:50** | | |
| **Volatile Organic Compounds by EPA Method 8260B** | | | | | | | | |
| Benzene | EPA 8260B | AD51105 | " | 04/09/05 | 1 | ND ug/l | 0.30 | |
| Toluene | " | " | " | " | " | ND " | 0.30 | |
| Ethylbenzene | " | " | " | " | " | ND " | 0.50 | |
| Xylenes (total) | " | " | " | " | " | ND " | 0.50 | |
| **Methyl tert-butyl ether** | " | " | " | " | " | **0.58** " | **0.50** | |
| Di-isopropyl ether | " | " | " | " | " | ND " | 0.50 | |
| Ethyl tert-butyl ether | " | " | " | " | " | ND " | 0.50 | |
| Tert-amyl methyl ether | " | " | " | " | " | ND " | 0.50 | |
| Tert-butyl alcohol | " | " | " | " | " | ND " | 10 | |
| 1,2-Dichloroethane | " | " | " | " | " | ND " | 0.50 | |
| Chlorobenzene | " | " | " | " | " | ND " | 0.50 | |
| 1,3-Dichlorobenzene | " | " | " | " | " | ND " | 0.50 | |
| 1,4-Dichlorobenzene | " | " | " | " | " | ND " | 0.50 | |
| 1,2-Dichlorobenzene | " | " | " | " | " | ND " | 0.50 | |
| 1,2-Dibromoethane (EDB) | " | " | " | " | " | ND " | 0.50 | |
| *Surrogate: Bromofluorobenzene* | " | " | " | " | | *110 %* | *45-147* | |
| *Surrogate: Dibromofluoromethane* | " | " | " | " | | *113 %* | *85-129* | |
| *Surrogate: Toluene-d8* | " | " | " | " | | *122 %* | *74-137* | |

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## TPH by EPA/LUFT GC/GCMS Methods - Quality Control

| Analyte(s) | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch AD50614 - EPA 3510B Water** | | | | | | | | | | |
| **Blank (AD50614-BLK1)** | | | | Prepared & Analyzed: 04/06/05 | | | | | | |
| TPH as Diesel | ND | 50 | ug/l | | | | | | | |
| *Surrogate: 1,4-Bromofluorobenzene* | *402* | | " | *579* | | *69.4* | *20-152* | | | |
| **LCS (AD50614-BS1)** | | | | Prepared & Analyzed: 04/06/05 | | | | | | |
| TPH as Diesel | 2130 | 50 | ug/l | 1960 | | 109 | 52-136 | | | |
| *Surrogate: 1,4-Bromofluorobenzene* | *477* | | " | *579* | | *82.4* | *20-152* | | | |
| **Matrix Spike (AD50614-MS1)** | | **Source: A503852-04** | | Prepared & Analyzed: 04/06/05 | | | | | | |
| TPH as Diesel | 2210 | 50 | ug/l | 1960 | ND | 113 | 61-129 | | | |
| *Surrogate: 1,4-Bromofluorobenzene* | *469* | | " | *579* | | *81.0* | *20-152* | | | |
| **Matrix Spike Dup (AD50614-MSD1)** | | **Source: A503852-04** | | Prepared & Analyzed: 04/06/05 | | | | | | |
| TPH as Diesel | 2180 | 50 | ug/l | 1960 | ND | 111 | 61-129 | 1.37 | 25 | |
| *Surrogate: 1,4-Bromofluorobenzene* | *507* | | " | *579* | | *87.6* | *20-152* | | | |
| **Batch AD51103 - EPA 5030 Water GCMS** | | | | | | | | | | |
| **Blank (AD51103-BLK1)** | | | | Prepared & Analyzed: 04/08/05 | | | | | | |
| TPH as Gasoline | ND | 50 | ug/l | | | | | | | |
| *Surrogate: Toluene-d8* | *28.7* | | " | *25.0* | | *115* | *70-129* | | | |
| **LCS (AD51103-BS1)** | | | | Prepared & Analyzed: 04/08/05 | | | | | | |
| TPH as Gasoline | 170 | 50 | ug/l | 200 | | 85.0 | 65-137 | | | |
| *Surrogate: Toluene-d8* | *28.6* | | " | *25.0* | | *114* | *70-129* | | | |
| **LCS Dup (AD51103-BSD1)** | | | | Prepared & Analyzed: 04/08/05 | | | | | | |
| TPH as Gasoline | 164 | 50 | ug/l | 200 | | 82.0 | 65-137 | 3.59 | 20 | |

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e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

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## TPH by EPA/LUFT GC/GCMS Methods - Quality Control

| Analyte(s) | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch AD51103 - EPA 5030 Water GCMS** | | | | | | | | | | |
| **LCS Dup (AD51103-BSD1)** | | | | Prepared & Analyzed: 04/08/05 | | | | | | |
| *Surrogate: Toluene-d8* | *28.3* | | " | *25.0* | | *113* | *70-129* | | | |
| **Matrix Spike (AD51103-MS1)** | | **Source: A504018-02** | | Prepared & Analyzed: 04/08/05 | | | | | | |
| TPH as Gasoline | 186 | 50 | ug/l | 200 | ND | 88.0 | 65-137 | | | |
| *Surrogate: Toluene-d8* | *28.3* | | " | *25.0* | | *113* | *70-129* | | | |

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| Order Number | Receipt Date/Time | Client Code | Client PO/Reference |
|---|---|---|---|
| A504003 | 03/31/2005 17:10 | TRANSTEC | |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

| Analyte(s) | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch AD51105 - EPA 5030 Water GCMS** | | | | | | | | | | |
| **Blank (AD51105-BLK1)** | | | | Prepared & Analyzed: 04/08/05 | | | | | | |
| Benzene | ND | 0.30 | ug/l | | | | | | | |
| Toluene | ND | 0.30 | " | | | | | | | |
| Ethylbenzene | ND | 0.50 | " | | | | | | | |
| Xylenes (total) | ND | 0.50 | " | | | | | | | |
| Methyl tert-butyl ether | ND | 0.50 | " | | | | | | | |
| Di-isopropyl ether | ND | 0.50 | " | | | | | | | |
| Ethyl tert-butyl ether | ND | 0.50 | " | | | | | | | |
| Tert-amyl methyl ether | ND | 0.50 | " | | | | | | | |
| Tert-butyl alcohol | ND | 10 | " | | | | | | | |
| 1,2-Dichloroethane | ND | 0.50 | " | | | | | | | |
| Chlorobenzene | ND | 0.50 | " | | | | | | | |
| 1,3-Dichlorobenzene | ND | 0.50 | " | | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.50 | " | | | | | | | |
| 1,2-Dichlorobenzene | ND | 0.50 | " | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | 0.50 | " | | | | | | | |
| *Surrogate: Bromofluorobenzene* | *26.3* | | " | *25.0* | | *105* | *45-147* | | | |
| *Surrogate: Dibromofluoromethane* | *25.1* | | " | *25.0* | | *100* | *85-129* | | | |
| *Surrogate: Toluene-d8* | *28.7* | | " | *25.0* | | *115* | *74-137* | | | |
| **LCS (AD51105-BS1)** | | | | Prepared & Analyzed: 04/08/05 | | | | | | |
| Benzene | 10.1 | 0.30 | ug/l | 10.0 | | 101 | 79-116 | | | |
| Toluene | 10.9 | 0.30 | " | 10.0 | | 109 | 83-120 | | | |
| Ethylbenzene | 11.1 | 0.50 | " | 10.0 | | 111 | 81-119 | | | |
| Xylenes (total) | 33.0 | 0.50 | " | 30.0 | | 110 | 79-121 | | | |
| Methyl tert-butyl ether | 8.81 | 0.50 | " | 10.0 | | 88.1 | 73-127 | | | |
| Di-isopropyl ether | 11.1 | 0.50 | " | 10.1 | | 110 | 69-96 | | | QL-03 |
| Ethyl tert-butyl ether | 10.5 | 0.50 | " | 10.2 | | 103 | 76-117 | | | |

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Nena M. Burgess For Sheri L. Speaks
Project Manager

4/11/2005

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

# CHEMICAL EXAMINATION REPORT



Trans Tech Consultants
930 Shiloh Rd., Bldg.44, Suite J
Windsor, CA 95492
Attn: Bill Wiggins

Report Date: 04/11/05 15:57
Project No: 1301.01
Project ID: Leland Smith/Pipeline Excavators

| Order Number | Receipt Date/Time | Client Code | Client PO/Reference |
|---|---|---|---|
| A504003 | 03/31/2005 17:10 | TRANSTEC | |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

| Analyte(s) | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch AD51105 - EPA 5030 Water GCMS** | | | | | | | | | | |
| **LCS (AD51105-BS1)** | | | | Prepared & Analyzed: 04/08/05 | | | | | | |
| Tert-amyl methyl ether | 9.10 | 0.50 | " | 10.3 | | 88.3 | 80-122 | | | |
| Tert-butyl alcohol | 168 | 10 | " | 196 | | 85.7 | 53-132 | | | |
| 1,2-Dichloroethane | 9.38 | 0.50 | " | 10.0 | | 93.8 | 78-115 | | | |
| Chlorobenzene | 10.2 | 0.50 | " | 10.0 | | 102 | 82-112 | | | |
| 1,3-Dichlorobenzene | 10.3 | 0.50 | " | 10.0 | | 103 | 82-117 | | | |
| 1,4-Dichlorobenzene | 10.1 | 0.50 | " | 10.0 | | 101 | 85-113 | | | |
| 1,2-Dichlorobenzene | 9.96 | 0.50 | " | 10.0 | | 99.6 | 83-113 | | | |
| 1,2-Dibromoethane (EDB) | 9.87 | 0.50 | " | 10.0 | | 98.7 | 84-117 | | | |
| *Surrogate: Bromofluorobenzene* | *26.0* | | " | *25.0* | | *104* | *45-147* | | | |
| *Surrogate: Dibromofluoromethane* | *22.0* | | " | *25.0* | | *88.0* | *85-129* | | | |
| *Surrogate: Toluene-d8* | *25.0* | | " | *25.0* | | *100* | *74-137* | | | |
| **LCS Dup (AD51105-BSD1)** | | | | Prepared & Analyzed: 04/08/05 | | | | | | |
| Benzene | 9.94 | 0.30 | ug/l | 10.0 | | 99.4 | 79-116 | 1.60 | 25 | |
| Toluene | 11.0 | 0.30 | " | 10.0 | | 110 | 83-120 | 0.913 | 25 | |
| Ethylbenzene | 11.1 | 0.50 | " | 10.0 | | 111 | 81-119 | 0.00 | 25 | |
| Xylenes (total) | 32.9 | 0.50 | " | 30.0 | | 110 | 79-121 | 0.303 | 25 | |
| Methyl tert-butyl ether | 9.18 | 0.50 | " | 10.0 | | 91.8 | 73-127 | 4.11 | 25 | |
| Di-isopropyl ether | 11.1 | 0.50 | " | 10.1 | | 110 | 69-96 | 0.00 | 25 | QL-03 |
| Ethyl tert-butyl ether | 10.8 | 0.50 | " | 10.2 | | 106 | 76-117 | 2.82 | 25 | |
| Tert-amyl methyl ether | 9.45 | 0.50 | " | 10.3 | | 91.7 | 80-122 | 3.77 | 25 | |
| Tert-butyl alcohol | 181 | 10 | " | 196 | | 92.3 | 53-132 | 7.45 | 25 | |
| 1,2-Dichloroethane | 9.65 | 0.50 | " | 10.0 | | 96.5 | 78-115 | 2.84 | 25 | |
| Chlorobenzene | 10.2 | 0.50 | " | 10.0 | | 102 | 82-112 | 0.00 | 25 | |
| 1,3-Dichlorobenzene | 10.2 | 0.50 | " | 10.0 | | 102 | 82-117 | 0.976 | 25 | |
| 1,4-Dichlorobenzene | 10.0 | 0.50 | " | 10.0 | | 100 | 85-113 | 0.995 | 25 | |
| 1,2-Dichlorobenzene | 9.99 | 0.50 | " | 10.0 | | 99.9 | 83-113 | 0.301 | 25 | |

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Nena M. Burgess For Sheri L. Speaks
Project Manager

4/11/2005

Alpha Analytical Laboratories Inc.
208 Mason St. Ukiah, California 95482
e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

# CHEMICAL EXAMINATION REPORT



Trans Tech Consultants
930 Shiloh Rd., Bldg.44, Suite J
Windsor, CA 95492
Attn: Bill Wiggins

Report Date: 04/11/05 15:57
Project No: 1301.01
Project ID: Leland Smith/Pipeline Excavators

| Order Number | Receipt Date/Time | Client Code | Client PO/Reference |
|---|---|---|---|
| A504003 | 03/31/2005 17:10 | TRANSTEC | |

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

| Analyte(s) | Result | PQL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch AD51105 - EPA 5030 Water GCMS** | | | | | | | | | | |
| **LCS Dup (AD51105-BSD1)** | | | | Prepared & Analyzed: 04/08/05 | | | | | | |
| 1,2-Dibromoethane (EDB) | 10.3 | 0.50 | " | 10.0 | | 103 | 84-117 | 4.26 | 25 | |
| *Surrogate: Bromofluorobenzene* | *25.9* | | " | *25.0* | | *104* | *45-147* | | | |
| *Surrogate: Dibromofluoromethane* | *22.0* | | " | *25.0* | | *88.0* | *85-129* | | | |
| *Surrogate: Toluene-d8* | *25.1* | | " | *25.0* | | *100* | *74-137* | | | |
| **Matrix Spike (AD51105-MS1)** | | **Source: A504018-01** | | Prepared & Analyzed: 04/08/05 | | | | | | |
| Benzene | 4.74 | 0.30 | ug/l | 10.0 | ND | 47.4 | 63-144 | | | QM-05 |
| Toluene | 4.87 | 0.30 | " | 10.0 | ND | 48.7 | 65-145 | | | QM-05 |
| Ethylbenzene | 4.39 | 0.50 | " | 10.0 | ND | 43.9 | 57-155 | | | QM-05 |
| Xylenes (total) | 12.7 | 0.50 | " | 30.0 | ND | 42.3 | 59-149 | | | QM-05 |
| Methyl tert-butyl ether | 3.64 | 0.50 | " | 10.0 | ND | 36.4 | 62-156 | | | QM-05 |
| Di-isopropyl ether | 4.15 | 0.50 | " | 10.1 | ND | 41.1 | 58-115 | | | QM-05 |
| Ethyl tert-butyl ether | 3.97 | 0.50 | " | 10.2 | ND | 38.9 | 57-147 | | | QM-05 |
| Tert-amyl methyl ether | 3.57 | 0.50 | " | 10.3 | ND | 34.7 | 53-153 | | | QM-05 |
| Tert-butyl alcohol | 67.9 | 10 | " | 196 | ND | 34.6 | 41-147 | | | QM-05 |
| 1,2-Dichloroethane | 4.75 | 0.50 | " | 10.0 | ND | 47.5 | 61-134 | | | QM-05 |
| Chlorobenzene | 4.61 | 0.50 | " | 10.0 | ND | 46.1 | 62-139 | | | QM-05 |
| 1,3-Dichlorobenzene | 4.07 | 0.50 | " | 10.0 | ND | 40.7 | 59-140 | | | QM-05 |
| 1,4-Dichlorobenzene | 4.16 | 0.50 | " | 10.0 | ND | 41.6 | 62-136 | | | QM-05 |
| 1,2-Dichlorobenzene | 4.02 | 0.50 | " | 10.0 | ND | 40.2 | 62-137 | | | QM-05 |
| 1,2-Dibromoethane (EDB) | 4.71 | 0.50 | " | 10.0 | ND | 47.1 | 58-140 | | | QM-05 |
| *Surrogate: Bromofluorobenzene* | *26.8* | | " | *25.0* | | *107* | *45-147* | | | |
| *Surrogate: Dibromofluoromethane* | *23.8* | | " | *25.0* | | *95.2* | *85-129* | | | |
| *Surrogate: Toluene-d8* | *27.0* | | " | *25.0* | | *108* | *74-137* | | | |

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Nena M. Burgess For Sheri L. Speaks
Project Manager

4/11/2005

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e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

# CHEMICAL EXAMINATION REPORT



Trans Tech Consultants
930 Shiloh Rd., Bldg.44, Suite J
Windsor, CA 95492
Attn: Bill Wiggins

Report Date: 04/11/05 15:57
Project No: 1301.01
Project ID: Leland Smith/Pipeline Excavators

| Order Number | Receipt Date/Time | Client Code | Client PO/Reference |
|---|---|---|---|
| A504003 | 03/31/2005 17:10 | TRANSTEC | |

**Notes and Definitions**

R-04 The Reporting Limits for this analysis are elevated due to sample foaming.

QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.

QL-03 Although the LCS/LCSD recovery for this analyte is outside of in-house developed control limits, it is within the EPA recommended range of 70-130%.

D-08 Results in the diesel organics range are primarily due to overlap from a gasoline range product.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

PQL Practical Quantitation Limit

# WORK ORDER
# CHAIN OF CUSTODY RECORD

Alpha

Alpha Analytical Laboratories Inc. • 208 Mason Street, Ukiah, CA 95482 • (707) 468-0401 • FAX (707) 468-5267

DATE 3/31/05 PAGE 1 OF 1

| | |
|---|---|
| CLIENT'S NAME: Leland Smith | PROJECT MANAGER: Bill Wiggins |
| STREET ADDRESS / CITY / STATE / ZIP | PHONE NUMBER |
| PROJECT NAME: Pipeline Excavators | FAX NUMBER |
| CONTRACT/PURCHASE ORDER/QUOTE NUMBER: 1301.01 | SITE CONTACT |
| SIGNATURE OF PERSON AUTHORIZING WORK UNDER TERMS STATED ON REVERSE SIDE OF THIS FORM: [signature] | SAMPLED BY: Brian Hasik |

ANALYSES: TPH-gas; TPH-diesel; BTEX 5 oxy; Pb 13 CAN

SAMPLE CONDITION ON RECEIPT:

COLD/ICED? _____

BUBBLES OR AIR SPACE? _____

WERE SAMPLES PRESERVED? _____

| SAMPLE NUMBER/IDENTIFICATION | DATE | TIME | LAB SAMPLE NUMBER | SAMPLE TYPE: LIQ | AIR | SOLID | COMP | GRAB | NO. OF CONTS. | TPH-gas | TPH-diesel | BTEX 5 oxy | Pb 13 CAN | EXPLAIN IRREGULARITIES BELOW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | 3/31 | 11:50 | AS04003-01 | X | | | | X | 5 | X | X | X | X | |
| MW-2 | | 11:10 | 2 | X | | | | X | 5 | X | X | X | X | |
| MW-4 | | 11:40 | 3 | X | | | | X | 5 | X | X | X | X | |
| MW-5 | | 11:30 | 4 | X | | | | X | 5 | X | X | X | X | |
| MW-6 | | 11:00 | 5 | X | | | | X | 5 | X | X | X | X | |
| MW-7 | | 11:20 | 6 | X | | | | X | 5 | X | X | X | X | |
| DW-6100 | | 8:40 | 7 | X | | | | X | 5 | X | X | X | X | |
| DW-6140 | | 8:50 | 8 | X | | | | X | 5 | X | X | X | X | |

Do you need Geo Tracker?

☒ Yes ☐ No

Global ID #

T0609700457

| | | | |
|---|---|---|---|
| RELINQUISHED BY: (SIGNATURE) [signature] | RECEIVED BY: (SIGNATURE) [signature] | DATE 3/31/05 | TIME 1415 |
| RELINQUISHED BY: (SIGNATURE) [signature] 1710 | RECEIVED BY: (SIGNATURE) [signature] | DATE 3/31/05 | TIME 17:10 |
| RELINQUISHED BY: (SIGNATURE) | RECEIVED FOR LABORATORY BY: | SAMPLE CONTROL OFFICER | |
| METHOD OF SHIPMENT | AUTHORIZED BY: | | |
| SPECIAL INSTRUCTIONS | | | |
| DRIVING TIME | SITE TIME | TOTAL TIME | |

TURN AROUND TIME REQUESTED: Standard

SAMPLE DESPOSITION:

1. STORAGE TIME REQUESTED _____ DAYS (SAMPLES WILL BE STORED FOR 30 DAYS WITHOUT ADDITIONAL CHARGES: THEREAFTER STORAGE CHARGES WILL BE BILLED AT THE PUBLISHED RATES.)
2. SAMPLE TO BE RETURNED TO CLIENT? ☐ YES ☐ NO

HAZARDOUS MATERIALS ARE THE PROPERTY OF THE CLIENT. THE CLIENT IS RESPONSIBLE FOR PROPER DISPOSAL OF HAZARDOUS WASTES. CLIENTS NOT PICKING UP HAZARDOUS WASTES MAY BE ASSESSED AN APPROPRIATE FEE.

# APPENDIX D

## Appendix D: Historical Groundwater Analytical Results

| Sample Date | Sample ID | TPH-gasoline | TPH-diesel | TPH-motor oil | B | T | E | X | MtBE |
|---|---|---|---|---|---|---|---|---|---|
| | | µg/L | | | | | | | |
| 09/18/00 | MW-1 | **4,500** | **2,200*** | NA | <5.0 | <5.0 | <5.0 | <15 | **230** |
| | MW-2 | <50 | <50 | NA | <0.5 | <0.5 | <0.5 | <1.5 | **26** |
| | MW-3 | **69,000** | **35,000*** | NA | **8,400** | **20,000** | **1,500** | **6,500** | **500** |
| 06/06/01 | MW-1 | **1,800** | **360*** | NA | <1.0 | <1.0 | **7.4** | <1.0 | **180** |
| | MW-2 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **43** |
| | MW-3 | **73,000** | **2,300*** | NA | **12,000** | **34,000** | **1,900** | **8,600** | **480** |
| | DW-6100 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| 06/07/01 | DW-6140 | <50 | <50 | NA | <1.0 | <5.0 | <5.0 | <5.0 | **52** |
| 09/13/01 | MW-1 | **2,000** | **610*** | NA | <2.0 | <2.0 | **3.9** | **2.9** | **96** |
| | MW-2 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **10** |
| | MW-3 | **55,000** | **2,400*** | NA | **8,300** | **18,000** | **1,000** | **3,800** | **1,100** |
| | DW-6100 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| | DW-6140 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **22** |
| 12/13/01 | MW-1 | **3,700** | **1,600*** | NA | **59** | **120** | **31** | **59** | **130** |
| | MW-2 | **120** | **<50** | NA | **9.3** | **33** | **3.1** | **13** | **14** |
| | MW-3 | **71,000** | **2,500*** | NA | **11,000** | **19,000** | **1,400** | **6,000** | **260** |
| | DW-6100 | <50 | <50 | NA | <0.5 | <0.5 | <0.5 | <1.5 | <1.0 |
| | DW-6140 | <50 | <50 | NA | <0.5 | <0.5 | <0.5 | <1.5 | **15** |

* = Higher boiling point constituents of gasoline are present.

## Appendix D: continued

| Sample Date | Sample ID | TPH-gasoline | TPH-diesel | TPH-motor oil | B | T | E | X | MtBE |
|---|---|---|---|---|---|---|---|---|---|
| | | µg/L | | | | | | | |
| 02/21/02 | MW-1 | **3,700** | **1,300*** | <100 | **8.5** | **38** | **16** | **13** | **200** |
| | MW-2 | **69** | <50 | <100 | **2.4** | **14** | **1.1** | **5.1** | **29** |
| | MW-3 | **130,000** | **2,300*** | <1,000 | **9,200** | **21,000** | **1,800** | **6,900** | **430** |
| | MW-4 | <50 | <50 | <100 | <0.30 | <0.30 | <0.50 | <0.50 | **5.0** |
| | MW-5 | <50 | <50 | <100 | <0.30 | <0.30 | <0.50 | <0.50 | **45** |
| | MW-6 | **140** | **63** | <100 | <0.30 | **3.0** | <0.50 | <0.50 | **120**** |
| | MW-7 | <50 | <50 | <100 | **1.2** | **7.6** | **0.70** | **3.5** | **2.9***** |
| 05/20/02 | MW-1 | **3,300** | **1,200*** | NA | <30 | <30 | <50 | <50 | **210** |
| | MW-2 | <50 | <50 | NA | <0.30 | <0.30 | <0.50 | <0.50 | **21** |
| | MW-3 | **150,000** | **4,800*** | NA | **9,500** | **27,000** | **1,900** | **7,900** | **370***** |
| | MW-4 | <50 | **54** | NA | <0.30 | <0.30 | <0.50 | <0.50 | **4.0** |
| | MW-5 | <50 | <50 | NA | <0.30 | <0.30 | <0.50 | <0.50 | **68** |
| | MW-6 | **84** | **55** | NA | <0.30 | <0.30 | <0.50 | <0.50 | **49** |
| | MW-7 | <50 | <50 | NA | <0.30 | <0.30 | <0.50 | <0.50 | **37***** |
| | DW-6140 | <50 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **18** |
| 09/06/02 | DW-6100 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| 09/06/02 | MW-1 | **3,500** | **1,000*** | NA | <2.0 | <2.0 | **2.9** | <2.0 | **130** |
| | MW-2 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **16** |
| | MW-3 | **85,000** | **6,600*** | **NA** | **8,500** | **21,000** | **1,500** | **6,400** | **340** |
| | MW-4 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **34** |
| | MW-5 | 65 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **65** |
| | MW-6 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **11** |
| | MW-7 | <50 | <50 | **NA** | **1.5** | **4.3** | <1.0 | **4.3** | **5.7** |

* = Higher boiling point constituents of gasoline are present.
** = Additional oxygenated fuel additives detected (see laboratory reports).
*** = 1,2-Dichloroethane (a lead scaveger) detected (see laboratory reports).

## Appendix D: continued

| Sample Date | Sample ID | TPH-gasoline | TPH-diesel | TPH-motor oil | B | T | E | X | MtBE |
|---|---|---|---|---|---|---|---|---|---|
| | | µg/L | | | | | | | |
| 12/18/02 | MW-1 | **3,500** | **970*** | NA | <2.0 | <2.0 | <2.0 | <2.0 | **150** |
| | MW-2 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **23** |
| | MW-3 | **69,000** | **6,500*** | NA | **11,000** | **17,000** | **1,100** | **4,700** | **310** |
| | MW-4 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **34** |
| | MW-5 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **56** |
| | MW-6 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **10** |
| | MW-7 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **6.8**** |
| | DW-6100 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| 03/19/03 | MW-1 | **3,400** | **1,700*** | NA | <2.0 | <2.0 | **3.5** | <2.0 | **180** |
| | MW-2 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **21** |
| | MW-3 | **59,000** | **12,000*** | NA | **10,000** | **19,000** | **1,400** | **5,500** | **450** |
| | MW-4 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **5.1** |
| | MW-5 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **23** |
| | MW-6 | **61** | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **19** |
| | MW-7 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **12**** |
| | DW-6140 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| 03/20/03 | DW-6100 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |

* = Higher boiling point constituents of gasoline are present.
** = 1,2-Dichloroethane (a lead scaveger) detected (see laboratory reports).

**Appendix D: continued**

| Sample Date | Sample ID | TPH-gasoline | TPH-diesel | TPH-motor oil | B | T | E | X | MtBE |
|---|---|---|---|---|---|---|---|---|---|
| | | µg/L | | | | | | | |
| 07/09/03 | MW-1 | **1,900** | **1,000*** | NA | <2.0 | <2.0 | <2.0 | <2.0 | **99** |
| | MW-2 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **17** |
| | MW-3 | **49,000** | **12,000*** | NA | **9,300** | **23,000** | **1,400** | **6,100** | **230**** |
| | MW-4 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **3.7** |
| | MW-5 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **22** |
| | MW-6 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **9.4** |
| | MW-7 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **10**** |
| | DW-6140 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **4.0** |
| 07/25/03 | DW-6100 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| 09/18/03 | MW-1 | **2,200** | **1,100*** | NA | <2.0 | <2.0 | <2.0 | <2.0 | **140** |
| | MW-2 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **14** |
| | MW-3 | **55,000** | **6,800*** | NA | **9,400** | **22,000** | **1,500** | **6,400** | **270**** |
| | MW-4 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **17** |
| | MW-5 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **31** |
| | MW-6 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **4.8** |
| | MW-7 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **4.1**** |
| | DW-6140 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | **17** |
| | DW-6100 | <50 | <50 | NA | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |

* = Higher boiling point constituents of gasoline are present.
** = 1,2-Dichloroethane (a lead scaveger) detected (see laboratory reports).

## Appendix D: continued

| Sample Date | Sample ID | TPH-gasoline | TPH-diesel | B | T | E | X | MtBE |
|---|---|---|---|---|---|---|---|---|
| | | µg/L | | | | | | |
| 12/02/03 | MW-1 | **2,000** | **800*** | <2.0 | <2.0 | <2.0 | <2.0 | **130** |
| | MW-2 | <50 | <50 | <1.0 | <1.0 | <1.0 | <1.0 | **12** |
| | MW-3 | **75,000** | **6,100*** | **8,100** | **15,000** | **1,500** | **6,500** | **300**** |
| | MW-4 | <50 | <50 | <1.0 | <1.0 | <1.0 | <1.0 | **30** |
| | MW-5 | <50 | <50 | <1.0 | <1.0 | <1.0 | <1.0 | **28** |
| | MW-6 | <50 | <50 | <1.0 | <1.0 | <1.0 | <1.0 | **4.5** |
| | MW-7 | <50 | <50 | <1.0 | <1.0 | <1.0 | <1.0 | **3.5***** |
| | DW-6140 | <50 | <50 | <1.0 | <1.0 | <1.0 | <1.0 | **4.8** |
| | DW-6100 | <50 | <50 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| 3/31/04 | MW-1 | **3,600** | **890** | <6.0 | <6.0 | <10 | <10 | **140** |
| | MW-2 | <50 | <50 | <1.5 | <1.5 | <2.5 | <2.5 | **19** |
| | MW-3 | **68,000** | **7,400** | **8,600** | **19,000** | **3000** | **11,000** | **390** |
| | MW-4 | <50 | <50 | <0.6 | **0.68** | <1.0 | <1.0 | **2.6** |
| | MW-5 | <50 | <50 | <0.6 | <0.6 | <1.0 | <1.0 | **19** |
| | MW-6 | <50 | **54** | **0.96** | **3.5** | <1.0 | <1.0 | **16** |
| | MW-7 | <50 | <50 | <0.3 | <0.3 | <0.5 | <0.5 | **9.8** |
| | DW-6140 | <50 | <50 | <0.3 | <0.3 | <0.5 | <0.5 | **0.53** |
| | DW-6100 | <50 | <50 | <0.3 | <0.3 | <0.5 | <0.5 | <0.5 |

< = Less than the laboratory test method detection limit.
* = Higher boiling components of gasoline are present in the early boiling range for diesel.
** = 1,2-Dichloroethane was detected at **130**µg/L.
*** = 1,2-Dichloroethane was detected at **5.9** µg/L.

## Appendix D: continued

| Sample Date | Sample ID | TPH- g | TPH- d | B | T | E | X | MtBE |
|---|---|---|---|---|---|---|---|---|
| | | µg/L | | | | | | |
| 6/08/04 | MW-1 | **1,700** | **570** | <3.0 | <3.0 | <5.0 | <5.0 | **110** |
| | MW-2 | <50 | <50 | <0.60 | <0.60 | <1.0 | <1.0 | **13** |
| | MW-3 | **160,000** | **5,800** | **10,000** | **22,000** | **1,400** | **6,500** | <500** |
| | MW-4 | <50 | <50 | <1.5 | <1.5 | <2.5 | <2.5 | **11** |
| | MW-5 | <50 | <50 | <1.5 | <1.5 | <2.5 | <2.5 | **20** |
| | MW-6 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **7.4** |
| | MW-7 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **5.4** |
| | DW-6140 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **7.9** |
| | DW-6100 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | <0.50 |

< = Less than the laboratory test method detection limit.
** = Elevated detection limit to account for matrix interference.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 9/07/04 | MW-1 | **2,300** | **370*** | <3.0 | <3.0 | <5.0 | <5.0 | **100** |
| | MW-2 | <50 | <50 | <0.60 | <0.60 | <1.0 | <1.0 | **8.6** |
| | MW-3 | **140,000** | **5,300*** | **13,000** | **28,000** | **1,800** | **7,300** | **320** |
| | MW-4 | <50 | **89** | <0.30 | <0.30 | <0.50 | <0.50 | **220** |
| | MW-5 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **19** |
| | MW-6 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **2.6** |
| | MW-7 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **8.4 +** |
| | DW-6140 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **7.1** |
| | DW-6100 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | <0.50 |

< = Less than the laboratory test method detection limit.
+ = 1,2-Dichloroethane (a lead scavenger) was detected at 3.5 µg/L.
* = Results in the diesel organics range are primarily due to overlap from a gasoline range product.
** = Elevated detection limit to account for matrix interference.

## Appendix D: continued

| Sample Date | Sample ID | TPH- g | TPH- d | B | T | E | X | MtBE |
|---|---|---|---|---|---|---|---|---|
| | | µg/L | | | | | | |
| 12/09/04 | MW-1** | **2,000** | **220*** | <1.5 | <1.5 | <2.5 | <2.5 | **86** |
| | MW-2 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **9.9** |
| | MW-3 | ----removed---- | | | | | | |
| | MW-4*** | <250 | <50 | <1.5 | <1.5 | <2.5 | <2.5 | **86** |
| | MW-5 | NS | NS | NS | NS | NS | NS | NS |
| | MW-6 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **2.7** |
| | MW-7 | NS | NS | NS | NS | NS | NS | NS |
| | DW-6140 | NS | NS | NS | NS | NS | NS | NS |
| | DW-6100 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | <0.50 |

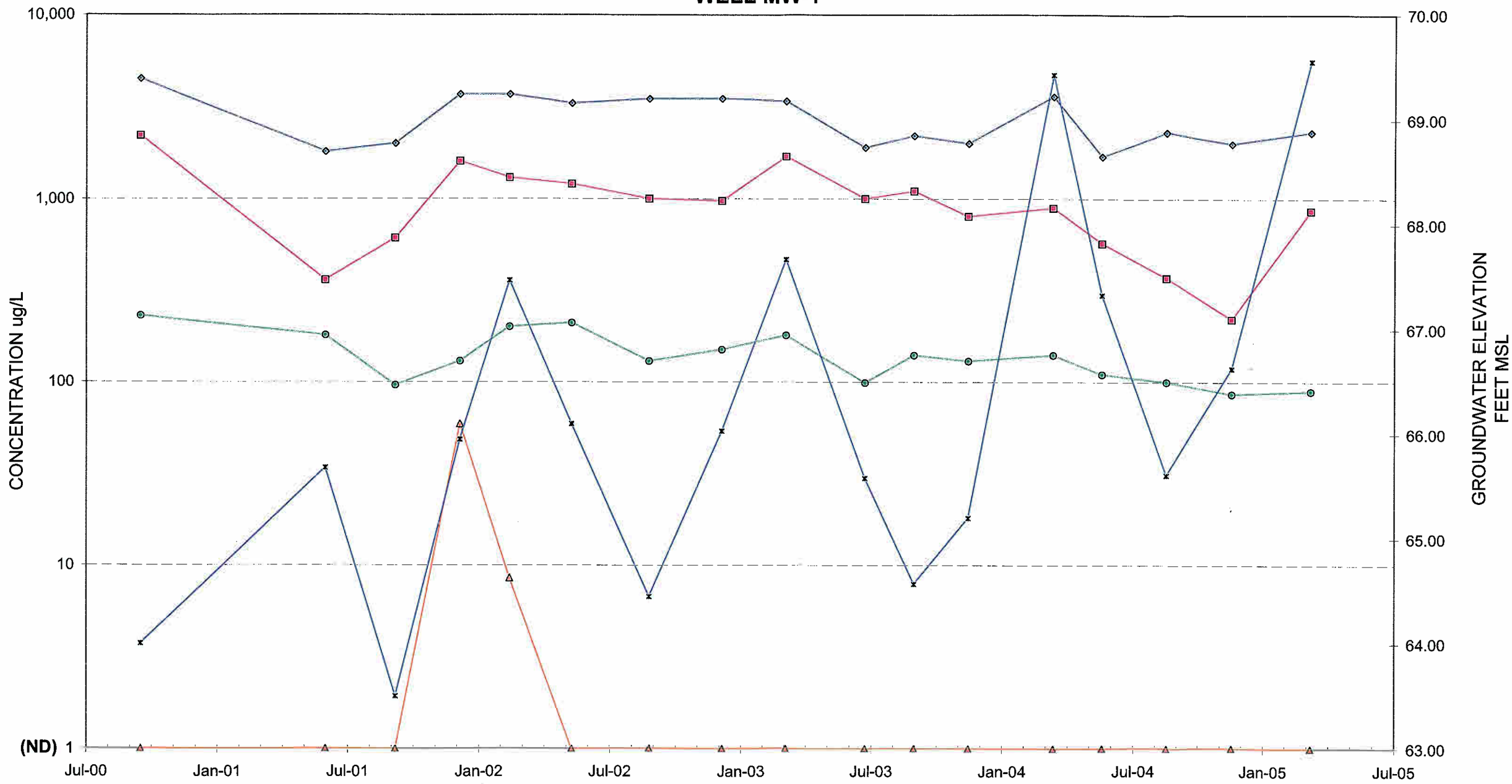
NS = not sampled.
< = less than the laboratory test method detection limit.
* = results in the diesel organics range are primarily due to overlap from a gasoline range product.
** = elevated detection limit to account for matrix interference.
*** = the reporting limits are elevated due to sample foaming.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 03/31/05 | MW-1*** | **2,300** | **860*** | <6.0 | <6.0 | <10 | <10 | **89** |
| | MW-2 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **34** |
| | MW-3 | ----removed---- | | | | | | |
| | MW-4 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **8.2** |
| | MW-5*** | <1,000 | <50 | <6.0 | <6.0 | <10 | <10 | <10 |
| | MW-6 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **8.8** |
| | MW-7 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **32⁺** |
| | DW-6100 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | <0.50 |
| | DW-6140 | <50 | <50 | <0.30 | <0.30 | <0.50 | <0.50 | **0.58** |

NS = Not sampled.
< = Less than the laboratory test method detection limit.
+ = 1,2-Dichloroethane detected at 5.0 µg/L.
* = Results in the diesel organics range are primarily due to overlap from a gasoline range product.
** = Elevated detection limit to account for matrix interference.
*** = The reporting limits are elevated due to sample foaming.

# APPENDIX E

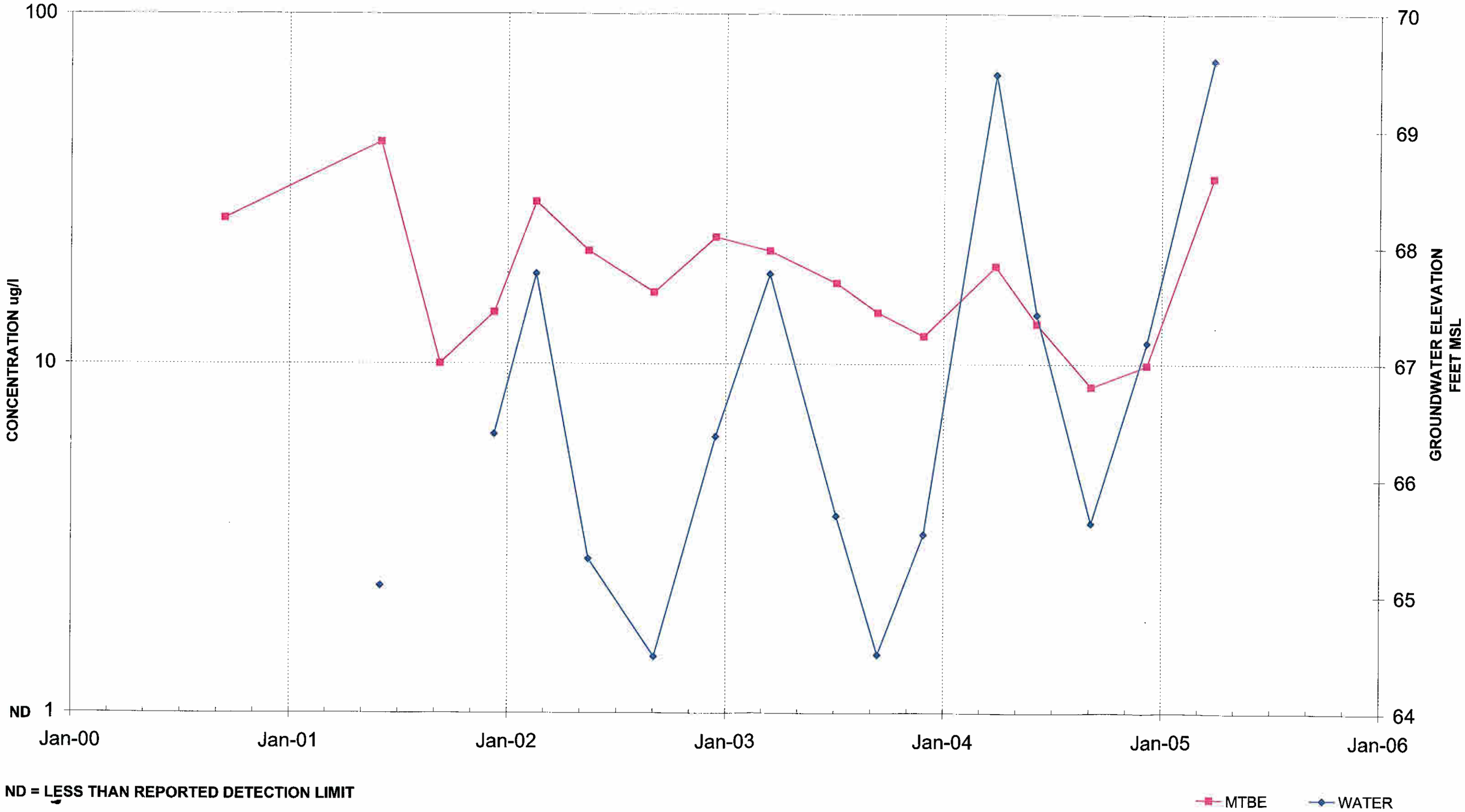
# TIME vs. CONCENTRATION GRAPH
## PIPELINE EXCAVATORS 5715 SEBASTOPOPL ROAD, SEBASTOPOL
## TTC Job No. 1301.01
## WELL MW-1




ND=LESS THAN REPORTED DETECTION LIMIT

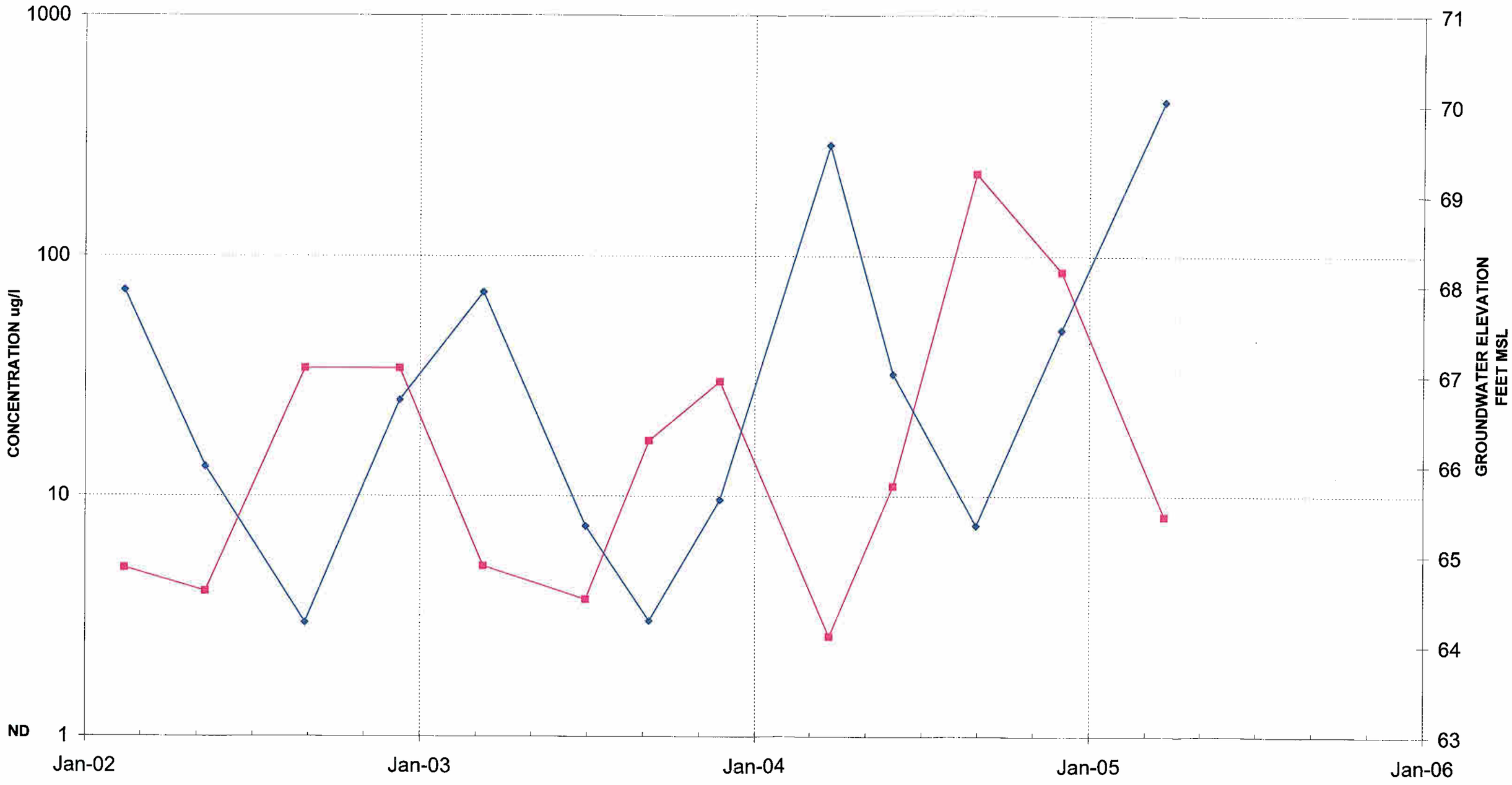
Note: results in the diesel range are primarily due to overlap from a gasoline range product (see laboratory reports).

**TIME vs. MTBE CONCENTRATION GRAPH**
**PIPELINE EXCAVATORS 5715 SEBASTOPOL ROAD, SEBASTOPOL**
**TTC JOB NO. 1301.01**
**MW-2**



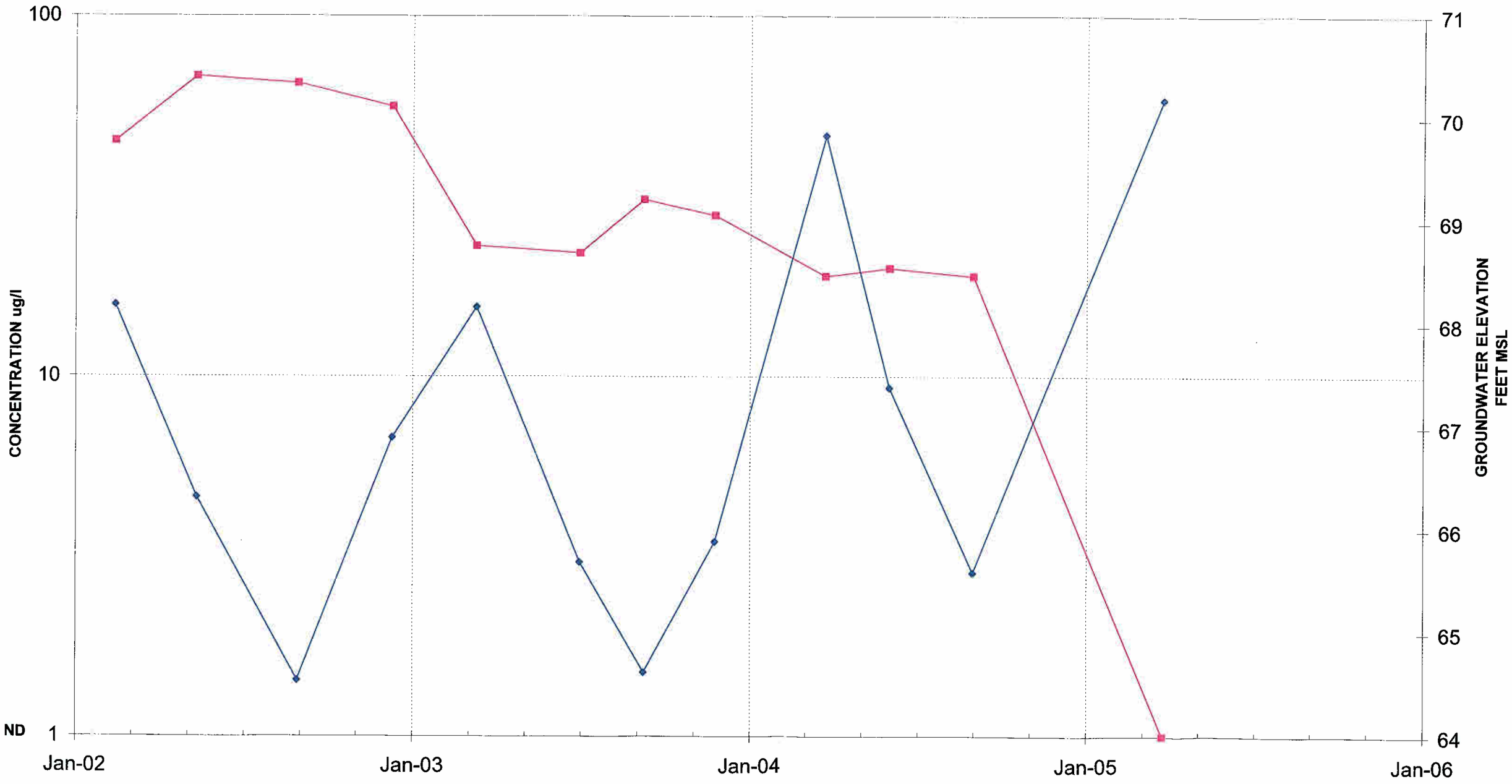

ND = LESS THAN REPORTED DETECTION LIMIT

**TIME vs. MTBE CONCENTRATION GRAPH**
**PIPELINE EXCAVATORS 5715 SEBASTOPOL ROAD, SEBASTOPOL**
**TTC JOB NO. 1301.01**
**MW-4**



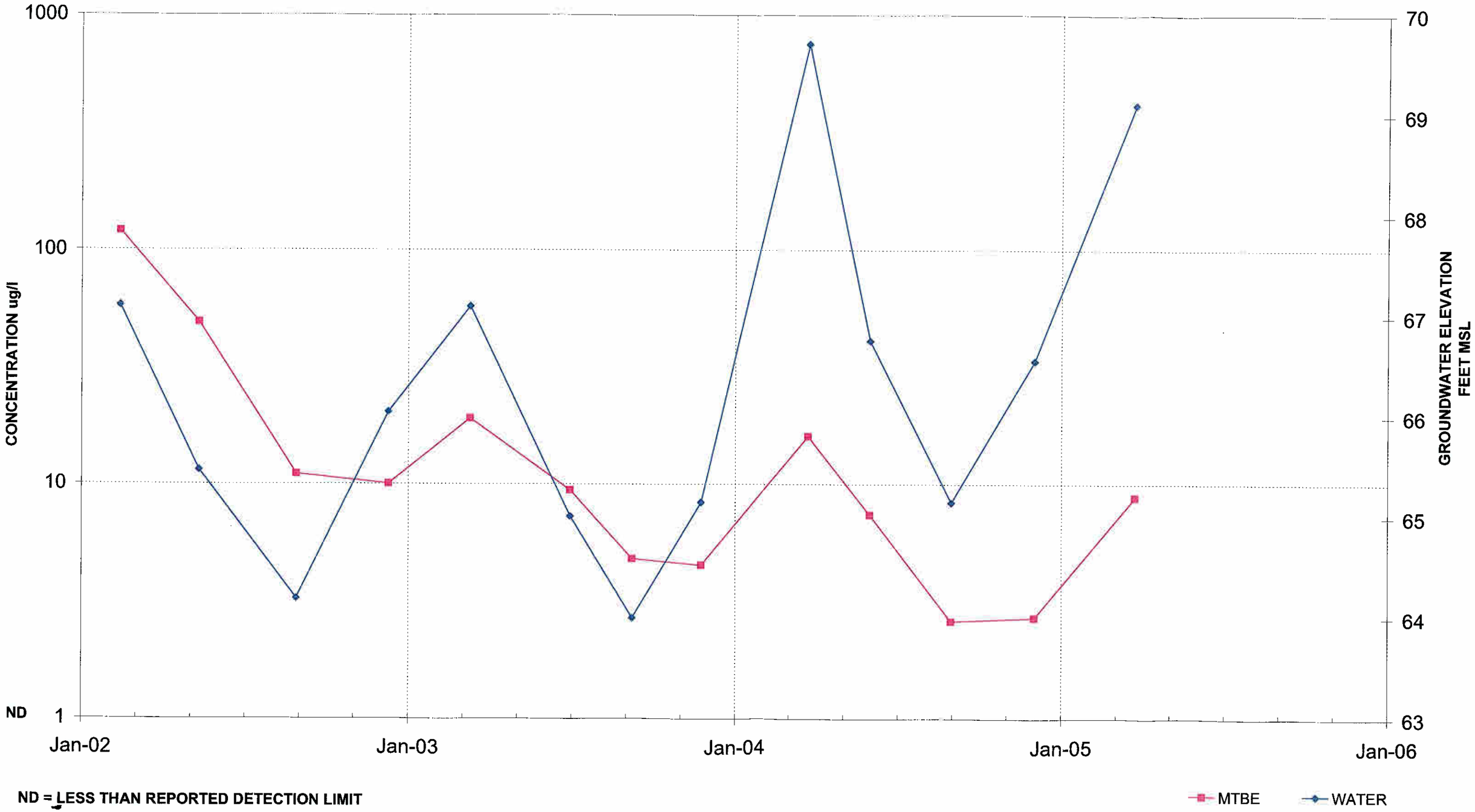

**ND = LESS THAN REPORTED DETECTION LIMIT**

**TIME vs. MTBE CONCENTRATION GRAPH**
**PIPELINE EXCAVATORS 5715 SEBASTOPOL ROAD, SEBASTOPOL**
**TTC JOB NO. 1301.01**
**MW-5**



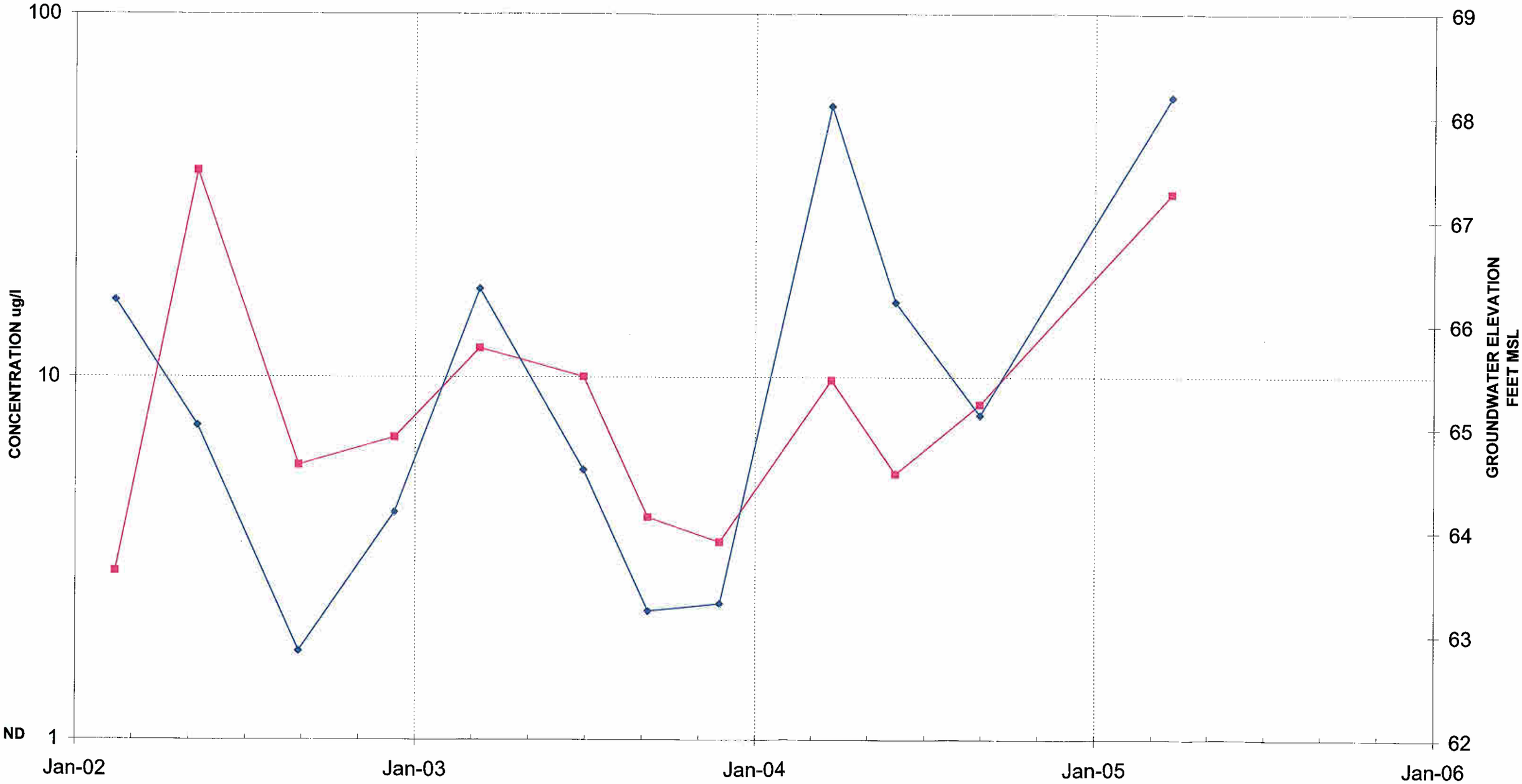

ND = LESS THAN REPORTED DETECTION LIMIT

**TIME vs. MTBE CONCENTRATION GRAPH**
**PIPELINE EXCAVATORS 5715 SEBASTOPOL ROAD, SEBASTOPOL**
**TTC JOB NO. 1301.01**
**MW-6**




ND = LESS THAN REPORTED DETECTION LIMIT

**TIME vs. MTBE CONCENTRATION GRAPH**
**PIPELINE EXCAVATORS 5715 SEBASTOPOL ROAD, SEBASTOPOL**
**TTC JOB NO. 1301.01**
**MW-7**




ND = LESS THAN REPORTED DETECTION LIMIT

**DISTRIBUTION LIST**
**FOR**
**1ST QUARTER 2005 MONITORING REPORT**

**PIPELINE EXCAVATORS**
**5715 SEBASTOPOL ROAD**
**SEBASTOPOL, CALIFORNIA 95473**

**DATED APRIL 25, 2005**
**JOB NO. 1301.01**

Mr. Dale Radford
Sonoma County Department of Health Services
Environmental Health Division
3273 Airway Drive, Suite D
Santa Rosa, California 95403-2097

North Coast Regional Water
Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403