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DATE: November 6, 2002

**CONOCOPHILLIPS CORPORATION**
**GROUNDWATER MONITORING REPORT**

Site No.: 4165 Address: 202 Avenue D, Snohomish, Washington
ConocoPhillips Site Manager: Timothy D. Johnson
Consultant/Contact Person: Environmental Resolutions, Inc./James S. Matthiessen
Primary Agency/Regulatory ID No.: Washington State Department of Ecology

**WORK PERFORMED THIS QUARTER(S) [Fourth - 2002]:**
- Monitored 7, purged, and sampled 6 groundwater monitoring wells

**WORK PROPOSED FOR NEXT QUARTER [First - 2003]:**
- Monitor, purge, and sample 7 groundwater monitoring wells

**SUMMARY:**

| | | |
|---|---|---|
| Frequency of Sampling Events: | Quarterly | (Quarterly, etc.) |
| Approximate Depth to Groundwater: | 7 to 12 ft | (Measured Feet) |
| Groundwater Gradient: | Southerly and Westerly | (Direction) |
| | 0.05 ft/ft | (Magnitude) |
| Maximum TPH-G/Benzene Concentrations: | 2,970/32.4 | (ppb) |
| Measurable Free Product Detected: | Yes – MW12 | (Yes - ID well(s)/No) |
| Free Product Recovered This Quarter: | Unknown | (gallons) |
| Cumulative Free Product Recovered to Date: | Unknown | (gallons) |
| Bulk Soil Removed This Quarter: | None | (cubic yards) |
| Water Wells or Surface Waters w/in 2,000 ft: | Snohomish River, | (Distance & |
| Radius and Respective Direction: | 600 ft, South | Direction) |
| Current Remedial Action: | None | (SVE/AS/P&T etc.) |
| Permits for Discharge: | None | (NPDES, POTW, etc.) |

**DISCUSSION:**
- 4 of 6 wells sampled contained hydrocarbon concentrations exceeding MTCA Method A Cleanup Levels.
- LPH thickness of 0.60 feet was measured in MW12.
- Sampling for natural attenuation parameters was conducted at this event; see attached Table 2 for results.

**ATTACHMENTS:**
Plate 1: Groundwater Sample Analysis Map 10/02/02
Table 1: Groundwater Analytical Results
Table 2: Natural Attenuation Parameters
Laboratory Reports and Chain of Custody Documentation
Field Data Records

Prepared By:

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276
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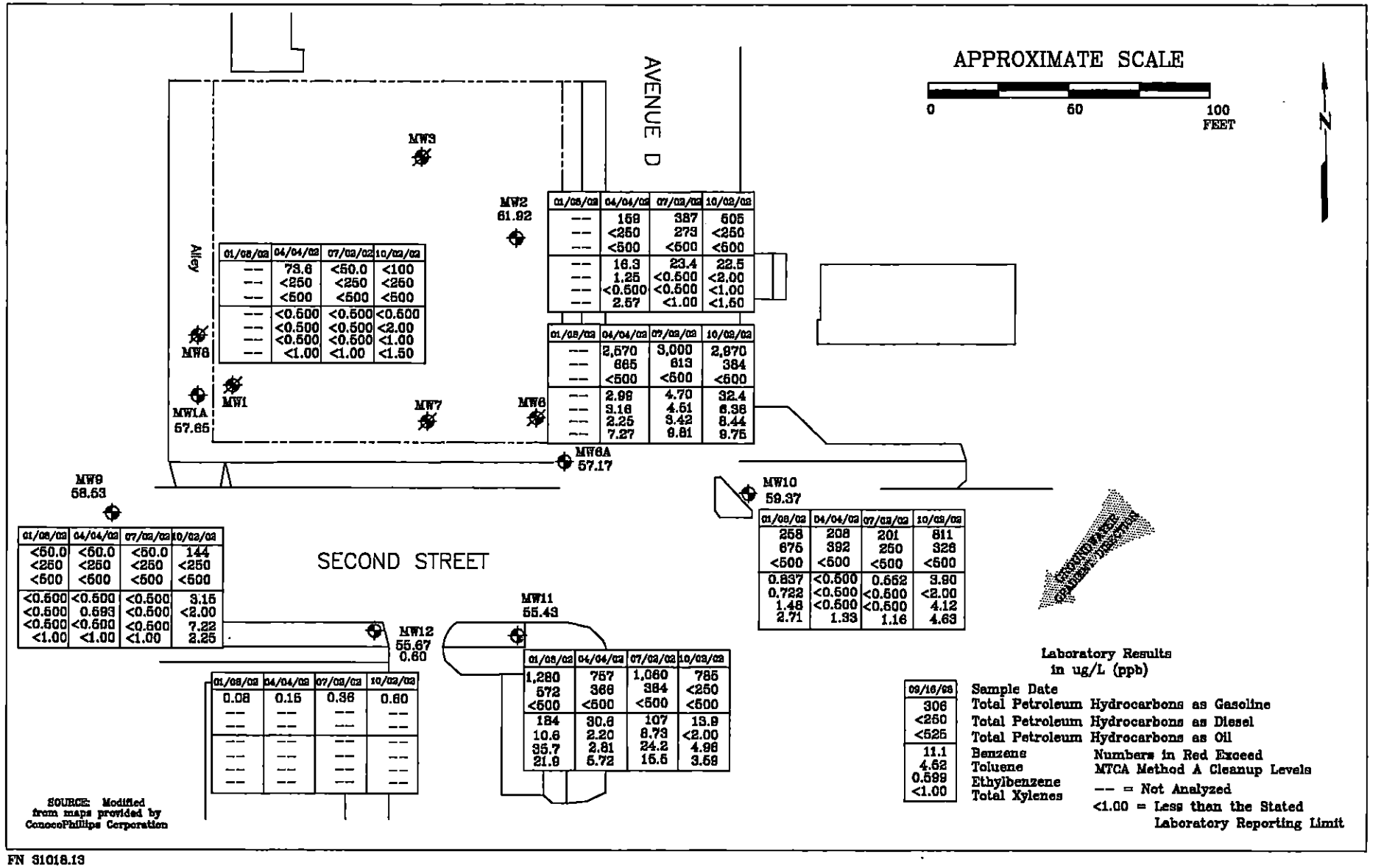
cc: Brian Sato, Washington State Department of Ecology, Northwest Regional Office
Mike Johnson, City of Snohomish
Lisa Bona, GeoEngineers

31018.13.Q024




| 01/08/02 | 04/04/02 | 07/02/02 | 10/02/02 |
|---|---|---|---|
| -- | 73.6 | <50.0 | <100 |
| -- | <250 | <250 | <250 |
| -- | <500 | <500 | <500 |
| -- | <0.500 | <0.500 | <0.500 |
| -- | <0.500 | <0.500 | <2.00 |
| -- | <0.500 | <0.500 | <1.00 |
| -- | <1.00 | <1.00 | <1.50 |

| 01/08/02 | 04/04/02 | 07/02/02 | 10/02/02 |
|---|---|---|---|
| -- | 168 | 387 | 605 |
| -- | <250 | 273 | <250 |
| -- | <500 | <500 | <500 |
| -- | 16.3 | 23.4 | 22.5 |
| -- | 1.25 | <0.500 | <2.00 |
| -- | <0.500 | <0.500 | <1.00 |
| -- | 2.57 | <1.00 | <1.50 |

| 01/08/02 | 04/04/02 | 07/02/02 | 10/02/02 |
|---|---|---|---|
| -- | 2,570 | 3,000 | 2,970 |
| -- | 665 | 613 | 384 |
| -- | <500 | <500 | <500 |
| -- | 2.98 | 4.70 | 32.4 |
| -- | 3.16 | 4.51 | 6.38 |
| -- | 2.25 | 3.42 | 8.44 |
| -- | 7.27 | 9.81 | 9.75 |

| 01/08/02 | 04/04/02 | 07/02/02 | 10/02/02 |
|---|---|---|---|
| <50.0 | <50.0 | <50.0 | 144 |
| <250 | <250 | <250 | <250 |
| <500 | <500 | <500 | <500 |
| <0.500 | <0.500 | <0.500 | 3.15 |
| <0.500 | 0.693 | <0.500 | <2.00 |
| <0.500 | <0.500 | <0.500 | 7.22 |
| <1.00 | <1.00 | <1.00 | 2.25 |

| 01/08/02 | 04/04/02 | 07/02/02 | 10/02/02 |
|---|---|---|---|
| 258 | 208 | 201 | 811 |
| 675 | 392 | 250 | 328 |
| <500 | <500 | <500 | <500 |
| 0.837 | <0.500 | 0.552 | 3.80 |
| 0.722 | <0.500 | <0.500 | <2.00 |
| 1.48 | <0.500 | <0.500 | 4.12 |
| 2.71 | 1.33 | 1.16 | 4.63 |

| 01/08/02 | 04/04/02 | 07/02/02 | 10/02/02 |
|---|---|---|---|
| 0.08 | 0.15 | 0.36 | 0.60 |
| -- | -- | -- | -- |
| -- | -- | -- | -- |
| -- | -- | -- | -- |
| -- | -- | -- | -- |
| -- | -- | -- | -- |
| -- | -- | -- | -- |

| 01/08/02 | 04/04/02 | 07/02/02 | 10/02/02 |
|---|---|---|---|
| 1,280 | 757 | 1,060 | 785 |
| 572 | 368 | 384 | <250 |
| <500 | <500 | <500 | <500 |
| 184 | 30.8 | 107 | 13.9 |
| 10.6 | 2.20 | 8.73 | <2.00 |
| 35.7 | 2.81 | 24.2 | 4.98 |
| 21.9 | 5.72 | 15.6 | 3.58 |

FN 31018.13

ENVIRONMENTAL RESOLUTIONS, INC.

# GROUNDWATER SAMPLE ANALYSIS MAP - 10/02/02

TOSCO SITE NO. 4165
202 Avenue D
Snohomish, Washington

EXPLANATION

- MW12 — Groundwater Monitoring Well
- 55.48 — Groundwater Elevation
- 0.07 — LPH Thickness in Feet
- MW1 — Abandoned Groundwater Monitoring Well

**PROJECT NO.** 31018

**PLATE** 1

YN: 10/23/02

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Site No. 4165
202 Avenue D
Snohomish, Washington
Page 1 of 6

| Well Name | Sample Date | DTW | GW Elev. | TPH-G | TPH-D | TPH-O | B | T | E | X |
|---|---|---|---|---|---|---|---|---|---|---|
| MW1 | 01/23/95 | 7.16 | 90.95 | 26,000 | 2,400 | <750 | 32 | 110 | 370 | 2,400 |
| 98.11 | 01/23/95 | -- | -- | 27,000 | -- | -- | 36 | 120 | 390 | 2,700 |
| | 04/20/95 | 7.56 | 90.55 | 40,000 | 1,600 | <750 | 100 | 390 | 750 | 4,900 |
| | 04/20/95 | -- | -- | 40,000 | -- | -- | 100 | 420 | 780 | 5,200 |
| | 07/21/95 | 10.15 | 87.96 | 7,300 | 1,600 | <1,000 | 6.6 | 17 | 80 | 310 |
| | 07/21/95 | -- | -- | 8,100 | -- | -- | 6.9 | 19 | 81 | 320 |
| | 10/18/95 | 9.17 | 88.94 | 30,000 | 2,500 | <750 | 19 | 24 | 260 | 1,600 |
| | 10/18/95 | -- | -- | 29,000 | -- | -- | 17 | 17 | 280 | 1,600 |
| | 01/24/96 | 5.51 | 95.47 | 36,000 | 2,600 | 1,700 | 66 | 99 | 540 | 3,800 |
| | 01/24/96 | -- | -- | 36,000 | -- | -- | 62 | 84 | 520 | 3,700 |
| | 04/24/96 | 7.78 | 90.73 | 19,000 | 1,600 | <750 | <2.0 | <2.0 | 25 | 140 |
| | 04/24/96 | -- | -- | 16,000 | -- | -- | 16 | 4.1 | 22 | 130 |
| 68.26 | 07/23/96 | 9.77 | 58.89 | 7,950 | 648 | <750 | 8.35 | 61.9 | 32.1 | 94.3 |
| | 07/23/96 | -- | -- | 7,430 | -- | -- | <2.50 | <2.50 | 24.7 | 72.3 |
| | 10/15/96 | 10.52 | 58.14 | 1,750 | 321 | <750 | <0.500 | 1.89 | 4.91 | 10.1 |
| | 10/15/96 | -- | -- | 1,730 | -- | -- | <0.500 | 1.86 | 5.01 | 10.2 |
| | 03/17/97[NP] | 6.61 | 62.05 | 8,600 | 984 | <785 | <0.500 | 3.6 | 3.25 | 8.37 |
| | 03/17/97 | NM | -- | 13,500 | 2,070 | 1,830 | 13.2 | 8.11 | 10.3 | 26.3 |
| | 06/04/97 | 8.40 | 60.26 | 16,600 | 895 | <750 | 18.1 | 14.7 | 25.5 | 106 |
| | 09/12/97 | 10.70 | 57.96 | 815 | 358 | <750 | 12.7 | 2.76 | 2.64 | 9.2 |
| | 12/16/97* | NM | -- | 4,640 | 3,210 | 3,780 | <1.25 | <6.25 | 3.96 | 10.8 |
| | 03/11/98 | 6.83 | 61.43 | 2,090 | 1,360 | <750 | 0.542 | <0.500 | 5.20 | 18.3 |
| | 06/22/98 | 8.91 | 59.35 | 3,470 | 726 | <750 | <2.50 | 24.9 | 4.34 | 6.93 |
| | 09/16/98 | 10.80 | 57.46 | 1,530 | 627 | <750 | 16.2 | <6.00 | <4.00 | <15.0 |
| | 01/08/99 | 7.12 | 61.14 | 14,400 | 1,680 | 1,430 | 17.8 | <10.0 | 197 | 795 |
| | 04/28/99 | 7.89 | 60.37 | 8,880 | 4,580 | 3,270 | 25.6 | 26.1 | 79.5 | 350 |
| | 07/23/99 | 8.60 | 59.66 | 393 | 2,430 | 2,270 | <0.980 | <1.50 | 2.89 | 14.6 |
| | 10/25/99 | 10.40 | 57.86 | 910 | 650 | <1,670 | <0.500 | <16.5 | <1.15 | <2.00 |
| | 01/08/00 | 7.17 | 61.09 | 11,000 | 1,180 | <1,360 | 17.4 | 7.70 | 132 | 504 |
| | 04/19/00 | Obstructed | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/12/00 | Obstructed | -- | -- | -- | -- | -- | -- | -- | -- |
| | 09/06/00 | NM | -- | 765 | 615 | <1,460 | <1.64 | <2.16 | <2.51 | 7.63 |
| | 10/16/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 11/27/00 | 10.30 | 57.96 | 1,070 | 1,080 | 791 | <1.63 | <7.62 | <0.500 | <4.84 |
| | 01/16/01 | 8.85 | 59.41 | 4,670 | -- | -- | 2.52 | 22.3 | 40.9 | 61.4 |
| | 04/04/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 05/22/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/09/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/09/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/08/02 | Obstructed by construction | | | -- | -- | -- | -- | -- | -- |
| | Abandoned | | | | | | | | | |
| MW1A | 04/04/02 | 7.21 | 62.11 | 73.6 | <250 | <500 | <0.500 | <0.500 | <0.500 | <1.00 |
| 69.32 | 07/02/02 | 9.30 | 60.02 | <50.0 | <250 | <500 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 10/02/02 | 11.67 | 57.65 | <100 | <250 | <500 | <0.500 | <2.00 | <1.00 | <1.50 |
| MTCA Method A Cleanup Levels | | | | | 1,000[a] | | 5 | 40 | 30 | 20 |

Continued on page 2

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Site No. 4165
202 Avenue D
Snohomish, Washington


| Well Name | Sample Date | DTW | GW Elev. | TPH-G | TPH-D | TPH-O | B | T | E | X |
|---|---|---|---|---|---|---|---|---|---|---|
| MW2 | 01/23/95 | 4.67 | 94.72 | 6,600 | 810 | <750 | 4.8 | 5 | 8.8 | 16 |
| | 04/20/95 | 5.20 | 94.19 | 5,700 | 1,100 | <750 | 45 | 4.1 | 4.5 | 7 |
| | 07/21/95 | 8.30 | 91.09 | 7,000 | 1,700 | <1,000 | 2.8 | 2.4 | 3.9 | 7.2 |
| | 10/18/95 | 6.00 | 93.39 | 6,400 | 1,000 | 760 | <2.0 | 2.7 | 7 | 11 |
| | 01/24/96 | 3.92 | 95.75 | 5,600 | 560 | <750 | 1.9 | <0.5 | 3.5 | 6.2 |
| 69.80 | 04/24/96 | 5.30 | 94.70 | 6,300 | 530 | <750 | 1.6 | 2.9 | 4.4 | 7.1 |
| | 07/23/96 | 8.24 | 61.97 | 3,710 | 458 | <750 | <2.50 | 2.61 | 2.92 | <5.00 |
| | 10/15/96 | 8.65 | 61.56 | 4,190 | 427 | <750 | <1.00 | 2.57 | 2.58 | 4.47 |
| | 03/17/97[NP] | 4.19 | 66.02 | 2,730 | 359 | <750 | <2.50 | <2.50 | <2.50 | <5.00 |
| | 03/17/97 | NM | -- | 3,260 | 677 | <750 | <2.50 | 3.13 | 2.61 | <5.00 |
| | 06/04/97 | 6.20 | 64.01 | 2,970 | <250 | <750 | 33.7 | 2.77 | 2.71 | 5.07 |
| | 09/12/97 | 8.92 | 61.29 | 1,850 | 336 | <750 | 50.3 | 4.24 | 3.37 | 4.83 |
| | 12/16/97 | 5.52 | 64.28 | 1,840 | 349 | <750 | 29.4 | 2.59 | 1.80 | 3.52 |
| | 03/11/98 | 4.53 | 65.27 | 3,030 | 413 | <750 | <0.500 | <0.500 | 0.939 | <1.00 |
| | 06/22/98 | 7.05 | 62.75 | 1,380 | 312 | <750 | <2.50 | 31.6 | <2.50 | <5.00 |
| | 09/16/98 | 8.98 | 60.82 | 1,940 | 299 | <750 | 42.3 | <10.0 | <2.50 | 10.7 |
| | 01/08/99 | 4.90 | 64.90 | 1,510 | 314 | <750 | 20.7 | <2.75 | <2.50 | <5.00 |
| | 04/28/99 | 4.91 | 64.89 | 1,180 | 324 | <750 | 16.1 | <1.60 | <1.32 | <3.30 |
| | 07/23/99 | 6.29 | 63.51 | 805 | 366 | <750 | 12.3 | <1.50 | <0.500 | <4.00 |
| | 10/25/99 | 8.64 | 61.16 | 2,100 | 250 | <750 | <0.700 | <19.6 | <0.700 | <1.90 |
| | 01/08/00 | 4.72 | 65.08 | 1,530 | <250 | <750 | 22.2 | <2.27 | <2.43 | <6.44 |
| | 04/19/00 | 5.48 | 64.32 | 1,210 | 257 | <718 | <0.500 | 28.5 | <2.55 | <4.22 |
| | 07/12/00 | 7.55 | 62.25 | 888 | 653 | <750 | <1.25 | 4.75 | <1.25 | <2.50 |
| | 09/06/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/16/00 | 8.88 | 60.92 | 1,110 | <358 | <1,070 | 42.3 | <4.13 | <2.08 | <5.00 |
| | 11/27/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/16/01 | 6.02 | 63.78 | 2,000 | 614 | <918 | <2.50 | 29.1 | <2.50 | <5.00 |
| | 04/04/01 | Unable to locate | | -- | -- | -- | -- | -- | -- | -- |
| | 05/22/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/09/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/09/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/08/02 | Obstructed by construction | | | -- | -- | -- | -- | -- | -- |
| | 04/04/02 | 3.47 | 66.33 | 159 | <250 | <500 | 16.3 | 1.25 | <0.500 | 2.57 |
| | 07/02/02 | 5.49 | 64.31 | 387 | 273 | <500 | 23.4 | <0.500 | <0.500 | <1.00 |
| | 10/02/02 | 7.88 | 61.92 | 505 | <250 | <500 | 22.5 | <2.00 | <1.00 | <1.50 |
| MW3 | 01/23/95 | 4.61 | 95.26 | <50 | <250 | <750 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 04/20/95 | 5.15 | 94.72 | <50 | <250 | <750 | <0.5 | <0.5 | <0.5 | <1.0 |
| | 07/21/95 | 8.72 | 91.15 | <50 | <250 | <1,000 | <0.5 | <0.5 | <0.5 | <1.0 |
| | 10/18/95 | 6.36 | 93.51 | <50 | <250 | <750 | <0.5 | <0.5 | <0.5 | <1.0 |
| | 01/24/96 | 4.12 | 95.75 | <50 | <250 | <750 | <0.5 | <0.5 | <0.5 | <1.0 |
| | 04/24/96 | 5.34 | 95.04 | -- | -- | -- | -- | -- | -- | -- |
| 70.25 | 07/23/96 | 8.81 | 61.95 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 10/15/96 | 9.14 | 61.62 | -- | -- | -- | -- | -- | -- | -- |
| | 03/17/97 | 4.46 | 66.30 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 06/04/97 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 09/12/97 | 9.41 | 61.35 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 12/16/97 | 5.95 | 64.30 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 03/11/98 | 4.85 | 65.40 | -- | -- | -- | -- | -- | -- | -- |
| | 06/22/98 | 7.60 | 62.65 | <50.0 | <250 | <750 | <0.500 | 0.956 | <0.500 | 1.45 |
| | 09/16/98 | 9.29 | 60.96 | -- | -- | -- | -- | -- | -- | -- |
| | 01/08/99 | 4.78 | 65.47 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 04/28/99 | 6.04 | 64.21 | -- | -- | -- | -- | -- | -- | -- |
| | 07/23/99 | 7.28 | 62.97 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 10/25/99 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/08/00 | 4.94 | 65.31 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | 1.04 |
| | 04/19/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/12/00 | 8.09 | 62.16 | <50.0 | <314 | <941 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 09/06/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/16/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 11/27/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/16/01 | 5.93 | 64.32 | <50.0 | <313 | <940 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 04/04/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 05/22/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/09/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/09/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/08/02 | Obstructed by construction | | | -- | -- | -- | -- | -- | -- |
| | Abandoned | | | | | | | | | |
| MTCA Method A Cleanup Levels | | | | | 1,000[a] | | 5 | 40 | 30 | 20 |

Continued on page 3

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Site No. 4165
202 Avenue D
Snohomish, Washington


| Well Name | Sample Date | DTW | GW Elev. | TPH-G | TPH-D | TPH-O | B | T | E | X |
|---|---|---|---|---|---|---|---|---|---|---|
| MW6 | 03/17/97[NP] | -- | -- | 4,710 | 595 | <750 | 941 | 102 | 218 | 142 |
| 67.74 | 03/17/97 | 6.86 | 61.30 | 2,700 | 551 | <750 | 1,100 | 37.5 | 170 | 105 |
| | 06/04/97 | 6.94 | 61.22 | 3,920 | <250 | <750 | 201 | 37.8 | 141 | 166 |
| | 09/12/97 | 9.05 | 59.11 | 674 | <250 | <750 | 7.56 | 3.98 | 6.57 | 12.7 |
| | 12/16/1997 | 6.51 | 61.23 | 2,260 | 343 | <750 | 111 | 32.3 | 118 | 137 |
| | 03/11/98 | 6.25 | 61.49 | 3,680 | 523 | <750 | 480 | 34.0 | 210 | 205 |
| | 06/22/98[1] | 7.50 | 60.24 | 934 | <250 | <750 | 2.39 | 15.6 | 21.4 | 22.3 |
| | 09/16/98 | 9.99 | 57.75 | 814 | <250 | <750 | 7.42 | <2.00 | 10.9 | 19.3 |
| | 01/08/99 | 5.78 | 61.96 | <50.0 | <250 | <750 | 28.1 | <0.500 | 1.25 | <1.00 |
| | 04/28/99 | 6.15 | 61.59 | 134 | <250 | <750 | 11.6 | <0.550 | 2.83 | 6.12 |
| | 07/23/99 | 6.75 | 60.99 | 77.8 | <250 | <750 | <0.700 | 1.61 | <0.750 | <2.20 |
| | 10/25/99 | 8.55 | 59.19 | 190 | <250 | <750 | <0.500 | <1.30 | <1.15 | <1.90 |
| | 01/08/00 | 5.95 | 61.79 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 04/19/00 | 6.13 | 61.73 | 908 | <250 | <750 | 3.74 | 8.58 | 10.1 | 38.9 |
| | 07/12/00 | 7.37 | 60.37 | 151 | <250 | <750 | <0.500 | 1.68 | <1.47 | 4.50 |
| | 09/06/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/16/00 | 8.96 | 58.78 | <50.0 | <333 | <999 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 11/27/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/16/01 | 6.89 | 60.85 | 63.6 | 6,130 | <955 | 6.12 | 5.98 | 1.14 | 5.23 |
| | 04/04/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 05/22/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/09/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/09/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/08/02 | Obstructed by construction | | | -- | -- | -- | -- | -- | -- |
| | Abandoned | | | | | | | | | |
| MW6A | 04/04/02 | 8.25 | 59.40 | 2,570 | 665 | <500 | 2.99 | 3.16 | 2.25 | 7.27 |
| 67.65 | 07/02/02 | 8.98 | 58.67 | 3,000 | 613 | <500 | 4.70 | 4.51 | 3.42 | 9.81 |
| | 10/02/02 | 10.48 | 57.17 | 2,970 | 384 | <500 | 32.4 | 6.38 | 8.44 | 9.75 |
| MW7 | 03/17/97 | 2.30 | 65.95 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| 67.86 | 06/04/97 | 5.68 | 62.57 | <50.0 | 1,420 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 09/12/97 | 9.22 | 59.03 | -- | -- | -- | -- | -- | -- | -- |
| | 12/16/97 | 4.79 | 63.07 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 03/11/98 | 3.45 | 64.41 | -- | -- | -- | -- | -- | -- | -- |
| | 06/22/98 | 7.32 | 60.54 | <50.0 | <250 | <750 | <0.500 | 1.24 | <0.500 | 2.07 |
| | 09/16/98 | 10.27 | 57.59 | -- | -- | -- | -- | -- | -- | -- |
| | 01/08/99 | 4.36 | 63.50 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 04/28/99 | 5.86 | 62.00 | -- | -- | -- | -- | -- | -- | -- |
| | 07/23/99 | 6.92 | 60.94 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 10/25/99 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/08/00 | 5.21 | 62.65 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 04/19/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/12/00 | 8.60 | 59.26 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 09/06/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/16/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 11/27/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/16/01 | 7.89 | 59.97 | <50.0 | -- | -- | <0.500 | <0.500 | <0.500 | <1.00 |
| | 04/04/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 05/22/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/09/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/09/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/08/02 | Obstructed by construction | | | -- | -- | -- | -- | -- | -- |
| | Abandoned | | | | | | | | | |
| MTCA Method A Cleanup Levels | | | | | 1,000[a] | | 5 | 40 | 30 | 20 |

Continued on page 4

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Site No. 4165
202 Avenue D
Snohomish, Washington


| Well Name | Sample Date | DTW | GW Elev. | TPH-G | TPH-D | TPH-O | B | T | E | X |
|---|---|---|---|---|---|---|---|---|---|---|
| MW8 | 03/17/97 | 6.48 | 61.45 | <50 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| 67.52 | 06/04/97 | 8.46 | 59.47 | 1,050 | <250 | <750 | 6.87 | 4.77 | 1.79 | 31.6 |
| | 09/12/97 | 10.74 | 57.19 | 1,330 | 1,360 | 914 | 12.2 | 5.74 | 2.66 | 7.89 |
| | 12/16/97 | 7.92 | 59.60 | 874 | 476 | <750 | 8.90 | <4.00 | <4.00 | <8.00 |
| | 03/11/98 | 6.85 | 60.67 | 771 | 309 | <750 | <0.500 | 0.774 | <0.500 | <1.00 |
| | 06/22/98 | 8.99 | 58.53 | 829 | <250 | <750 | <0.500 | 14.1 | <1.00 | 6.98 |
| | 09/16/98 | 10.81 | 56.71 | 343 | 456 | <750 | 2.62 | <1.50 | <0.500 | <4.00 |
| | 01/08/99 | 7.09 | 60.43 | 558 | 311 | <750 | 4.74 | <1.50 | <0.500 | <4.00 |
| | 04/28/99 | 7.91 | 59.61 | 349 | <250 | <750 | 2.40 | <0.800 | <0.500 | <2.00 |
| | 07/23/99 | 8.68 | 58.84 | 388 | 407 | <750 | 3.44 | <1.40 | <0.550 | <2.90 |
| | 10/25/99 | 10.75 | 56.77 | 189 | <250 | <750 | <0.500 | <3.45 | <0.500 | <2.40 |
| | 01/08/00 | 7.12 | 60.40 | 539 | <250 | <750 | 3.01 | <1.17 | 3.24 | 10.1 |
| | 04/19/00 | 7.56 | 59.96 | 547 | <250 | <750 | 16.8 | 31.2 | 3.60 | 18.5 |
| | 07/12/00 | 8.50 | 59.02 | 141 | <250 | <750 | <0.500 | 4.00 | <0.500 | <1.28 |
| | 09/06/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/16/00 | 11.00 | 56.52 | 105 | <250 | <750 | 1.52 | <0.680 | <0.500 | <2.51 |
| | 11/27/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/16/01 | 8.91 | 58.61 | 564 | 466 | <874 | <0.500 | 8.28 | <0.500 | <1.00 |
| | 04/04/01 | 8.38 | 59.14 | 534 | 383 | <750 | 2.45 | 0.739 | 0.985 | 8.25 |
| | 05/22/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/09/01 | 9.22 | 58.30 | 249 | 301 | <750 | <0.500 | 3.61 | <0.500 | <1.00 |
| | 10/09/01 | 11.60 | 55.92 | 179 | 270 | <500 | 1.82 | <0.500 | 0.882 | 2.70 |
| | 01/08/02 | Unable to locate | | -- | -- | -- | -- | -- | -- | -- |
| | 04/04/02 | Abandoned | | | | | | | | |
| MW9 | 03/17/97 | 6.89 | 62.21 | 6,770 | 4,850 | 1,140 | <2.50 | 15.7 | 9.38 | 12.3 |
| 68.66 | 06/04/97 | 7.94 | 61.16 | <50 | 887 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 09/12/97 | 9.84 | 59.26 | <50 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 12/16/97 | 7.38 | 61.28 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 03/11/98 | 6.57 | 62.09 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 06/22/98 | 8.27 | 60.39 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 09/16/98 | 9.89 | 58.77 | <50.0 | -- | -- | <0.500 | <0.500 | <0.500 | <1.00 |
| | 01/08/99 | 6.50 | 62.16 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 04/28/99 | 7.28 | 61.38 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 07/23/99 | 7.97 | 60.69 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 10/25/99 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/08/00 | 6.76 | 61.90 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 04/19/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/12/00 | 8.65 | 60.01 | <50.0 | <249 | <745 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 09/06/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/16/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 11/27/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/16/01 | 8.08 | 60.58 | <50.0 | -- | -- | <0.500 | <0.500 | <0.500 | <1.00 |
| | 04/04/01 | 7.78 | 60.88 | <50.0 | <250 | <750 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 05/22/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/09/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/09/01 | 9.70 | 58.96 | <50.0 | <250 | <500 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 01/08/02 | 6.16 | 62.50 | <50.0 | <250 | <500 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 04/04/02 | 6.54 | 62.12 | <50.0 | <250 | <500 | <0.500 | 0.593 | <0.500 | <1.00 |
| | 07/02/02 | 8.49 | 60.17 | <50.0 | <250 | <500 | <0.500 | <0.500 | <0.500 | <1.00 |
| | 10/02/02 | 10.13 | 58.53 | 144 | <250 | <500 | 3.15 | <2.00 | 7.22 | 2.25 |
| MTCA Method A Cleanup Levels | | | | | 1,000[a] | | 5 | 40 | 30 | 20 |

Continued on page 5

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Site No. 4165
202 Avenue D
Snohomish, Washington


| Well Name | Sample Date | DTW | GW Elev. | TPH-G | TPH-D | TPH-O | B | T | E | X |
|---|---|---|---|---|---|---|---|---|---|---|
| MW10 | 03/17/97 | 6.47 | 61.31 | 4,180 | 14,300 | 1,040 | 10.6 | <10.0 | 124 | <20.0 |
| 67.33 | 03/17/97[NP] | -- | -- | 4,550 | 5,940 | <750 | 9.94 | 8.36 | 55.8 | 9.77 |
| | 06/04/97 | 5.46 | 62.32 | 3,620 | <250 | <750 | 13.1 | 7.70 | 66.4 | 13.6 |
| | 09/12/97 | 7.49 | 60.29 | 4,280 | 660 | <750 | 21.6 | 13.4 | 10.7 | 41.6 |
| | 12/16/97* | 4.85 | 62.48 | 929 | 387 | <750 | <2.00 | <2.00 | <2.00 | <4.00 |
| | 03/11/98 | 4.53 | 62.80 | 1,150 | 343 | <750 | <0.500 | 1.07 | 1.36 | <1.00 |
| | 06/22/98 | 5.86 | 61.47 | 908 | <250 | <750 | <0.500 | <6.00 | <3.50 | <4.50 |
| | 09/16/98 | 7.97 | 59.36 | 1,010 | 369 | <750 | <2.10 | <2.00 | <3.50 | <8.00 |
| | 01/08/99 | 4.91 | 62.42 | 331 | 266 | <750 | 2.30 | <0.500 | <1.50 | <2.50 |
| | 04/28/99 | 5.04 | 62.29 | 280 | <250 | <750 | 2.99 | <0.800 | <1.10 | <3.00 |
| | 07/23/99 | 5.44 | 61.89 | 529 | <250 | <750 | 2.34 | <2.60 | 2.81 | 9.37 |
| | 10/25/99 | 7.00 | 60.33 | 519 | 251 | <750 | <0.800 | <5.65 | <2.75 | <8.65 |
| | 01/08/00 | 4.64 | 62.69 | 504 | <250 | <750 | <1.22 | <0.828 | <3.27 | <7.59 |
| | 04/19/00 | 5.02 | 62.11 | 332 | <250 | <750 | <0.610 | <4.43 | <2.84 | <6.91 |
| | 07/12/00 | 8.27 | 59.06 | 498 | <250 | <750 | <0.500 | 4.02 | <3.52 | <7.18 |
| | 09/06/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/16/00 | 7.41 | 59.92 | 770 | 616 | <1,330 | <4.17 | <3.47 | <2.69 | <8.05 |
| | 11/27/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/16/01 | 4.39 | 62.94 | 209 | 299 | <859 | <0.500 | 2.33 | 0.980 | 2.65 |
| | 04/04/01 | 5.00 | 62.33 | 198 | <250 | <750 | <0.500 | <0.500 | 1.03 | 2.71 |
| | 05/22/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/09/01 | 6.03 | 61.30 | 311 | 334 | <853 | <0.500 | 1.97 | 0.949 | 1.07 |
| | 10/09/01 | 7.15 | 60.18 | 675 | 291 | <581 | 2.16 | 0.678 | 0.777 | 4.67 |
| | 01/08/02 | 4.61 | 62.72 | 258 | 675 | <500 | 0.837 | 0.722 | 1.48 | 2.71 |
| | 04/04/02 | 4.48 | 62.85 | 208 | 392 | <500 | <0.500 | <0.500 | <0.500 | 1.33 |
| | 07/02/02 | 6.00 | 61.33 | 201 | 250 | <500 | 0.552 | <0.500 | <0.500 | 1.16 |
| | 10/02/02 | 7.96 | 59.37 | 811 | 326 | <500 | 3.90 | <2.00 | 4.12 | 4.63 |
| MW11 | 03/17/97[NP] | -- | -- | 924 | <250 | <750 | 246 | 17.5 | 37.1 | 30.1 |
| 66.37 | 03/17/97 | 9.58 | 57.33 | 798 | <250 | <750 | 241 | 16 | 34.4 | 25.7 |
| | 06/04/97 | 10.05 | 56.86 | 1,030 | <250 | <750 | 241 | 11.2 | 29.6 | 26.3 |
| | 09/12/97 | 11.01 | 55.90 | 1,200 | <250 | <750 | 38.4 | 1.27 | 2.34 | 7.12 |
| | 12/16/97* | 9.59 | 56.78 | 512 | 272 | <750 | 64.2 | 2.37 | 4.14 | 6.31 |
| | 03/11/98 | 9.38 | 56.99 | 985 | 546 | <750 | 158 | 7.88 | 17.7 | 12.0 |
| | 06/22/98 | 9.92 | 56.45 | 589 | <250 | <750 | 70.8 | 3.47 | 4.07 | <10.0 |
| | 09/16/98 | 10.93 | 55.44 | 306 | <250 | <750 | 11.1 | <0.500 | <0.500 | <3.50 |
| | 01/08/99 | 9.32 | 57.05 | 371 | -- | -- | 141 | 4.95 | 10.8 | 6.66 |
| | 04/28/99 | 9.58 | 56.79 | 782 | <250 | <750 | 176 | <11.0 | 26.1 | 28.9 |
| | 07/23/99 | 9.83 | 56.54 | 474 | <250 | <750 | 43.7 | <2.70 | 3.40 | 8.32 |
| | 10/25/99 | 10.69 | 55.68 | 845 | <250 | <750 | 9.22 | <2.90 | <3.75 | <6.20 |
| | 01/08/00 | 9.21 | 57.16 | 133 | <250 | <750 | 22.5 | <1.03 | 1.11 | 3.34 |
| | 04/19/00 | 9.52 | 56.85 | 869 | <250 | <750 | 92.8 | 8.15 | 9.25 | 20.2 |
| | 07/12/00 | 10.10 | 56.27 | 581 | 387 | <896 | 25.6 | 2.32 | <2.31 | <7.94 |
| | 09/06/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/16/00 | 10.80 | 55.57 | 322 | <250 | <750 | <2.80 | <0.640 | <0.860 | <4.20 |
| | 11/27/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/16/01 | 10.75 | 55.62 | 725 | 311 | <866 | 16.7 | 2.41 | 4.46 | 7.09 |
| | 04/04/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 05/22/01 | 9.69 | 56.68 | 385 | -- | -- | 15.8 | 2.37 | 2.47 | 4.37 |
| | 07/09/01 | 9.98 | 56.39 | 439 | <310 | <931 | 39.6 | 2.63 | 1.72 | 3.71 |
| | 10/09/01 | 10.67 | 55.70 | 410 | 333 | <500 | 6.04 | 1.08 | 1.74 | 4.40 |
| | 01/08/02 | 9.05 | 57.32 | 1,280 | 572 | <500 | 184 | 10.6 | 35.7 | 21.9 |
| | 04/04/02 | 5.67 | 60.70 | 757 | 366 | <500 | 30.6 | 2.20 | 2.81 | 5.72 |
| | 07/02/02 | 5.90 | 60.47 | 1,060 | 384 | <500 | 107 | 8.73 | 24.2 | 15.5 |
| | 10/02/02 | 10.94 | 55.43 | 785 | <250 | <500 | 13.9 | <2.00 | 4.96 | 3.59 |
| MTCA Method A Cleanup Levels | | | | | 1,000[a] | | 5 | 40 | 30 | 20 |

Continued on page 6

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
Tosco Site No. 4165
202 Avenue D
Snohomish, Washington


| Well Name | Sample Date | DTW | GW Elev. | TPH-G | TPH-D | TPH-O | B | T | E | X |
|---|---|---|---|---|---|---|---|---|---|---|
| MW12 | 03/17/97 | 9.01 | 58.05 | 2,080 | 1,700 | <750 | 9.27 | 3.53 | 12 | 13.4 |
| 66.40 | 06/04/97 | 9.68 | 57.38 | 2,640 | 726 | <750 | 11.4 | 4.16 | 32.2 | 33.5 |
| | 09/12/97 | 10.91 | 56.15 | 2,740 | 762 | <750 | 15.7 | 2.75 | 16.7 | 19.5 |
| | 12/16/97 | 8.09 | 58.32 | 0.01 Feet LPH Present | | | | | | |
| | 03/11/98[NP] | 8.72 | 57.68 | 11,200 | 17,800 | 5,000 | <2.50 | 4.29 | 42.9 | 197 |
| | 06/22/98 | 9.76 | 56.69 | 0.06 Feet LPH Present | | | | | | |
| | 09/16/98 | 10.97 | 55.48 | 0.07 Feet LPH Present | | | | | | |
| | 01/08/99[NP] | 8.74 | 57.66 | 2,670 | -- | -- | 21.1 | <5.00 | 40.1 | 48.1 |
| | 04/28/99 | 9.22 | 57.20 | 0.03 Feet LPH Present | | | | | | |
| | 07/23/99 | 9.51 | 56.90 | 0.01 Feet LPH Present | | | | | | |
| | 10/25/99 | 10.81 | 55.81 | 0.29 Feet LPH Present | | | | | | |
| | 01/08/00 | 8.71 | 57.69 | 6,480 | 8,380 | <8,250 | <15.6 | <10.2 | 53.2 | 47.8 |
| | 04/19/00 | 8.97 | 57.43 | 5,980 | 3,060 | <3,750 | <2.60 | <21.5 | 66.6 | <63.5 |
| | 07/12/00 | -- | -- | 0.2 Feet LPH Present | | | | | | |
| | 09/06/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 10/16/00 | -- | -- | 0.25 Feet LPH Present | | | | | | |
| | 11/27/00 | NM | -- | -- | -- | -- | -- | -- | -- | -- |
| | 01/16/01 | 9.44 | 56.96 | 5,360 | 20,100 | <8,250 | <5.00 | 12.9 | 72.0 | 63.8 |
| | 04/06/01 | 9.16 | 57.24 | 15,900 | 6,950 | 2,280 | 17.6 | 9.04 | 219 | 131 |
| | 05/22/01[NP] | 9.39 | 57.01 | 15,800 | -- | -- | <10.0 | 10.3 | 307 | 142 |
| | 07/09/01 | NM | -- | 0.3 Feet LPH Present | | | | | | |
| | 10/09/01 | 10.65 | 55.90 | 0.2 Feet LPH Present | | | | | | |
| | 01/08/02 | 8.15 | 58.31 | 0.08 Feet LPH Present | | | | | | |
| | 04/04/02 | 8.65 | 57.86 | 0.15 Feet LPH Present | | | | | | |
| | 07/02/02 | 9.66 | 57.01 | 0.36 Feet LPH Present | | | | | | |
| | 10/02/02 | 11.18 | 55.67 | 0.60 Feet LPH Present | | | | | | |
| MTCA Method A Cleanup Levels | | | | | 1,000[a] | | 5 | 40 | 30 | 20 |

EXPLANATION:
All concentrations are in ug/L (ppb).
Wellhead elevations were taken from prior consultant's reports. Elevations were resurveyed 04/29/96.
DTW = Depth to water in feet below top of casing
Measurements were taken from ground surface between 04/24/96 and 09/12/97.
LPH = Liquid-phase petroleum hydrocarbons present
GW Elev. = Groundwater elevation relative to top of casing elevations; corrected for LPH where applicable using a specific gravity of 0.75
TPH-G = Total Petroleum Hydrocarbons as Gasoline by Ecology Method NWTPH-Gx
TPH-D and TPH-O = Total Petroleum Hydrocarbons as Diesel and Oil, respectively, by Ecology Method NWTPH-Dx
B = Benzene; T = Toluene; E = Ethylbenzene; X = Total Xylenes
BTEX = Aromatic compounds by EPA Method 8021B.
NM = Not Measured; -- = Not Analyzed or Sampled; NE = Not Established
< = Less than the stated laboratory reporting limit
[NP] Sample collected without purging
* Well resampled on 12/23/97 due to laboratory breakage
[1] Approximate elevation
[a] Total Petroleum Hydrocarbons
Shaded values equal or exceed MTCA Method A Cleanup Levels.
Data collected before 12/16/97 are taken from prior consultants.

TABLE 2
NATURAL ATTENUATION PARAMETERS
Tosco Site No. 4165
202 Avenue D
Snohomish, Washington


| | | | | FIELD MEASUREMENTS | | | | | | | | | LABORATORY ANALYSIS RESULTS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well Name | Sample Date | DTW | GW Elev. | pH | Cond. (S/cm) | Turb. NTU | D.O. (g/L) | Temp. (°C) | Salinity (%) | TDS (g/L) | O.R.P. (mV) | Fl (mg/L) | ALK (mg/L) | Nitrate (mg/L) | Sulfate (mg/L) |
| MW1A | 10/09/01 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 69.32 | 01/08/02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 04/04/02 | 7.21 | 62.11 | 4.97 | 0.406 | 999.0 | 9.56 | 12.2 | 0.0 | 0.26 | 212 | 3.2 | 61.6 | 0.886 | 47.8 |
| | 07/02/02 | 9.30 | 60.02 | 5.49 | 0.252 | 999.0 | 19.99 | 16.9 | 0.0 | 0.16 | 186 | 0.0 | 42.4 | <0.200 | 54.5 |
| | 10/02/02 | 11.67 | 57.65 | 5.33 | 0.246 | 999.0 | 10.91 | 15.53 | 0.0 | 0.16 | 364 | 0.0 | 103 | <0.200 | 50.3 |
| MW2 | 10/09/01 | NM | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 69.80 | 01/08/02 | Obstructed by construction | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 04/04/02 | 3.47 | 66.33 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 07/02/02 | 5.49 | 64.31 | 5.43 | 0.368 | 26.9 | 17.76 | 19.6 | 0.0 | 0.24 | 37 | 3.4 | 148 | <0.200 | 29.6 |
| | 10/02/02 | 7.88 | 61.92 | 5.34 | 0.373 | 21.3 | 8.97 | 17.93 | 0.0 | 0.24 | 255 | 3.4 | 150 | <0.200 | 41.6 |
| MW8 | 10/09/01 | 11.60 | 55.92 | 6.66 | 0.359 | 5.69 | 5.07 | 15.1 | 0.0 | 0.22 | 202 | 6.0 | 117 | <0.100 | 23.7 |
| 67.52 | 01/08/02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 04/04/02 | Abandoned | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MW9 | 10/09/01 | 9.70 | 58.96 | 5.16 | 0.135 | 242.0 | 8.52 | 16.5 | 0.0 | 0.09 | 313 | 0.0 | 33.0 | 3.05 | 13.5 |
| 68.66 | 01/08/02 | 6.16 | 62.50 | 4.77 | 0.369 | 206.0 | 6.25 | 12.6 | 0.0 | 0.21 | 182 | 0.0 | 32.6 | 1.78 | 13.1 |
| | 04/04/02 | 6.54 | 62.12 | 5.10 | 0.152 | 278.0 | 7.54 | 15.2 | 0.0 | 0.10 | 350 | 0.0 | 29.8 | 2.49 | 12.6 |
| | 07/02/02 | 8.49 | 60.17 | 6.36 | 0.279 | 550.0 | 18.10 | 17.0 | 0.0 | 0.17 | 448 | 0.0 | 28.6 | 2.02 | 11.2 |
| | 10/02/02 | 10.13 | 58.53 | 4.90 | 0.128 | 275.0 | 10.73 | 17.18 | 0.0 | 0.08 | 498 | 0.0 | 32.4 | 2.49 | 10.4 |
| MW10 | 10/09/01 | 7.15 | 60.18 | 7.20 | 0.290 | 999.0 | 4.23 | 17.4 | 0.0 | 0.19 | 7 | 4.6 | 132 | <0.100 | 19.4 |
| 67.33 | 01/08/02 | 4.61 | 62.72 | 5.28 | 0.588 | 498.0 | 6.67 | 13.7 | 0.0 | 0.33 | -107 | 4.2 | 168 | <0.100 | 13.5 |
| | 04/04/02 | 4.48 | 62.85 | 5.89 | 0.368 | 349.0 | 7.81 | 19.1 | 0.0 | 0.24 | 22 | 2.0 | 170 | <0.200 | 13.2 |
| | 07/02/02 | 6.00 | 61.33 | 5.86 | 0.339 | 550.0 | 19.53 | 23.4 | 0.0 | 0.22 | 21 | 2.2 | 133 | <0.200 | 20.3 |
| | 10/02/02 | 7.96 | 59.37 | 5.50 | 0.285 | 162.0 | 7.72 | 18.02 | 0.0 | 0.18 | 302 | 2.2 | 129 | <0.200 | 21.3 |
| MW11 | 10/09/01 | 10.67 | 55.70 | 6.65 | 0.319 | 25.0 | 4.62 | 17.3 | 0.0 | 0.21 | 1 | 3.2 | 158 | <0.100 | 9.41 |
| 66.37 | 01/08/02 | 9.05 | 57.32 | 5.15 | 0.462 | 201.0 | 6.45 | 13.4 | 0.0 | 0.11 | 166 | 3.2 | 186 | <0.100 | 6.55 |
| | 04/04/02 | 5.67 | 60.70 | 5.00 | 0.414 | 56.7 | 8.84 | 15.7 | 0.0 | 0.27 | 43 | 5.4 | 203 | <0.200 | 2.19 |
| | 07/02/02 | 5.90 | 60.47 | 6.52 | 0.421 | 31.6 | 19.55 | 21.9 | 0.0 | 0.27 | -68 | 4.0 | 203 | <0.200 | 2.93 |
| | 10/02/02 | 10.94 | 55.43 | 5.85 | 0.346 | 43.1 | 8.75 | 17.01 | 0.0 | 0.22 | 219 | 4.0 | 169 | <0.200 | 4.04 |

EXPLANATION:
Field measurements were collected using Model U-22 Horiba Probe.
Wellhead elevations were taken from prior consultant's reports.
DTW = Depth to water in feet below top of casing
GW Elev. = Groundwater elevation relative to top of casing elevations
NM = Not Measured; -- = Not Analyzed or Sampled
pH = Acidity
Cond. = Conductivity
Turb. = Turbidity
D.O. = Dissolved Oxygen
TDS = Total Dissolved Oxygen
O.R.P. = Oxygen Reduction Potential
Fl = Ferrous Iron
ALK = Total Alkalinity reported as CaCO3 by EPA Method 310.1
Nitrate reported as Nitrogen by EPA Method 300.0
Sulfate analyzed by EPA Method 300.0

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16 October 2002



John Meyer
ERI
815 Industry Dr
Tukwila, WA/USA 98188

RE: TOSCO #4165, Snohomish

Enclosed are the results of analyses for samples received by the laboratory on 10/02/02 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Amar Gill
Project Manager

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| | | |
|---|---|---|
| ERI | Project: TOSCO #4165, Snohomish | |
| 815 Industry Dr | Project Number: 1018 | **Reported:** |
| Tukwila WA/USA, 98188 | Project Manager: John Meyer | 10/16/02 14:18 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| MW1A | B2J0068-01 | Water | 10/02/02 12:00 | 10/02/02 17:00 |
| MW2 | B2J0068-02 | Water | 10/02/02 12:00 | 10/02/02 17:00 |
| MW6A | B2J0068-03 | Water | 10/02/02 12:00 | 10/02/02 17:00 |
| MW9 | B2J0068-04 | Water | 10/02/02 12:00 | 10/02/02 17:00 |
| MW10 | B2J0068-05 | Water | 10/02/02 12:00 | 10/02/02 17:00 |
| MW11 | B2J0068-06 | Water | 10/02/02 15:30 | 10/02/02 17:00 |

North Creek Analytical - Bothell

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Amar Gill, Project Manager



*North Creek Analytical, Inc.*
*Environmental Laboratory Network*

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| | | |
|---|---|---|
| ERI | Project: TOSCO #4165, Snohomish | |
| 815 Industry Dr | Project Number: 1018 | **Reported:** |
| Tukwila WA/USA, 98188 | Project Manager: John Meyer | 10/16/02 14:18 |

## Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)

## North Creek Analytical - Bothell

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **MW1A (B2J0068-01) Water Sampled: 10/02/02 12:00 Received: 10/02/02 17:00** | | | | | | | | | |
| Diesel Range Hydrocarbons | ND | 0.250 | mg/l | 1 | 2J06004 | 10/06/02 | 10/07/02 | NWTPH-Dx | |
| Lube Oil Range Hydrocarbons | ND | 0.500 | " | " | " | " | " | " | |
| *Surrogate: 2-FBP* | *70.1 %* | *52-126* | | | " | " | " | " | |
| *Surrogate: Octacosane* | *75.3 %* | *53-122* | | | " | " | " | " | |
| **MW2 (B2J0068-02) Water Sampled: 10/02/02 12:00 Received: 10/02/02 17:00** | | | | | | | | | |
| Diesel Range Hydrocarbons | ND | 0.250 | mg/l | 1 | 2J06004 | 10/06/02 | 10/07/02 | NWTPH-Dx | |
| Lube Oil Range Hydrocarbons | ND | 0.500 | " | " | " | " | " | " | |
| *Surrogate: 2-FBP* | *62.6 %* | *52-126* | | | " | " | " | " | |
| *Surrogate: Octacosane* | *67.5 %* | *53-122* | | | " | " | " | " | |
| **MW6A (B2J0068-03) Water Sampled: 10/02/02 12:00 Received: 10/02/02 17:00** | | | | | | | | | |
| **Diesel Range Hydrocarbons** | **0.384** | 0.250 | mg/l | 1 | 2J06004 | 10/06/02 | 10/07/02 | NWTPH-Dx | D-06 |
| Lube Oil Range Hydrocarbons | ND | 0.500 | " | " | " | " | " | " | |
| *Surrogate: 2-FBP* | *78.8 %* | *52-126* | | | " | " | " | " | |
| *Surrogate: Octacosane* | *82.1 %* | *53-122* | | | " | " | " | " | |
| **MW9 (B2J0068-04) Water Sampled: 10/02/02 12:00 Received: 10/02/02 17:00** | | | | | | | | | |
| Diesel Range Hydrocarbons | ND | 0.250 | mg/l | 1 | 2J06004 | 10/06/02 | 10/07/02 | NWTPH-Dx | |
| Lube Oil Range Hydrocarbons | ND | 0.500 | " | " | " | " | " | " | |
| *Surrogate: 2-FBP* | *66.9 %* | *52-126* | | | " | " | " | " | |
| *Surrogate: Octacosane* | *73.7 %* | *53-122* | | | " | " | " | " | |
| **MW10 (B2J0068-05) Water Sampled: 10/02/02 12:00 Received: 10/02/02 17:00** | | | | | | | | | |
| **Diesel Range Hydrocarbons** | **0.326** | 0.250 | mg/l | 1 | 2J06004 | 10/06/02 | 10/07/02 | NWTPH-Dx | D-06 |
| Lube Oil Range Hydrocarbons | ND | 0.500 | " | " | " | " | " | " | |
| *Surrogate: 2-FBP* | *60.5 %* | *52-126* | | | " | " | " | " | |
| *Surrogate: Octacosane* | *64.6 %* | *53-122* | | | " | " | " | " | |

North Creek Analytical - Bothell

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| | | |
|---|---|---|
| ERI | Project: TOSCO #4165, Snohomish | |
| 815 Industry Dr | Project Number: 1018 | **Reported:** |
| Tukwila WA/USA, 98188 | Project Manager: John Meyer | 10/16/02 14:18 |

## Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up)

## North Creek Analytical - Bothell

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **MW11 (B2J0068-06) Water** | **Sampled: 10/02/02 15:30** | **Received: 10/02/02 17:00** | | | | | | | |
| Diesel Range Hydrocarbons | ND | 0.250 | mg/l | 1 | 2J06004 | 10/06/02 | 10/07/02 | NWTPH-Dx | |
| Lube Oil Range Hydrocarbons | ND | 0.500 | " | " | " | " | " | " | |
| *Surrogate: 2-FBP* | *71.5 %* | *52-126* | | | " | " | " | " | |
| *Surrogate: Octacosane* | *72.8 %* | *53-122* | | | " | " | " | " | |

North Creek Analytical - Bothell

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| | | |
|---|---|---|
| ERI | Project: TOSCO #4165, Snohomish | |
| 815 Industry Dr | Project Number: 1018 | **Reported:** |
| Tukwila WA/USA, 98188 | Project Manager: John Meyer | 10/16/02 14:18 |

## Conventional Chemistry Parameters by APHA/EPA Methods
## North Creek Analytical - Bothell

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **MW1A (B2J0068-01) Water** | **Sampled: 10/02/02 12:00** | **Received: 10/02/02 17:00** | | | | | | | |
| **Total Alkalinity** | **103** | 5.00 | mg/L as CaCO3 | 1 | 2J04044 | 10/04/02 | 10/04/02 | EPA 310.1 | |
| **MW2 (B2J0068-02) Water** | **Sampled: 10/02/02 12:00** | **Received: 10/02/02 17:00** | | | | | | | |
| **Total Alkalinity** | **150** | 5.00 | mg/L as CaCO3 | 1 | 2J04044 | 10/04/02 | 10/04/02 | EPA 310.1 | |
| **MW9 (B2J0068-04) Water** | **Sampled: 10/02/02 12:00** | **Received: 10/02/02 17:00** | | | | | | | |
| **Total Alkalinity** | **32.4** | 5.00 | mg/L as CaCO3 | 1 | 2J04044 | 10/04/02 | 10/04/02 | EPA 310.1 | |
| **MW10 (B2J0068-05) Water** | **Sampled: 10/02/02 12:00** | **Received: 10/02/02 17:00** | | | | | | | |
| **Total Alkalinity** | **129** | 5.00 | mg/L as CaCO3 | 1 | 2J04044 | 10/04/02 | 10/04/02 | EPA 310.1 | |
| **MW11 (B2J0068-06) Water** | **Sampled: 10/02/02 15:30** | **Received: 10/02/02 17:00** | | | | | | | |
| **Total Alkalinity** | **169** | 5.00 | mg/L as CaCO3 | 1 | 2J04044 | 10/04/02 | 10/04/02 | EPA 310.1 | |

North Creek Analytical - Bothell

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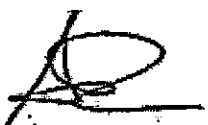

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| | | |
|---|---|---|
| ERI | Project: TOSCO #4165, Snohomish | |
| 815 Industry Dr | Project Number: 1018 | **Reported:** |
| Tukwila WA/USA, 98188 | Project Manager: John Meyer | 10/16/02 14:18 |

## Anions by EPA Method 300.0

## North Creek Analytical - Bothell

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **MW1A (B2J0068-01) Water Sampled: 10/02/02 12:00 Received: 10/02/02 17:00** | | | | | | | | | |
| Nitrate-Nitrogen | ND | 0.200 | mg/l as N | 1 | 2J04018 | 10/03/02 | 10/03/02 | EPA 300.0 | |
| **Sulfate** | 50.3 | 4.00 | mg/l | 10 | 2J06018 | 10/06/02 | 10/06/02 | " | |
| **MW2 (B2J0068-02) Water Sampled: 10/02/02 12:00 Received: 10/02/02 17:00** | | | | | | | | | |
| Nitrate-Nitrogen | ND | 0.200 | mg/l as N | 1 | 2J04018 | 10/03/02 | 10/03/02 | EPA 300.0 | |
| **Sulfate** | 41.6 | 4.00 | mg/l | 10 | 2J06018 | 10/06/02 | 10/06/02 | " | |
| **MW9 (B2J0068-04) Water Sampled: 10/02/02 12:00 Received: 10/02/02 17:00** | | | | | | | | | |
| **Nitrate-Nitrogen** | 2.49 | 0.200 | mg/l as N | 1 | 2J04018 | 10/03/02 | 10/03/02 | EPA 300.0 | |
| **Sulfate** | 10.4 | 0.800 | mg/l | 2 | 2J06018 | 10/06/02 | 10/06/02 | " | |
| **MW10 (B2J0068-05) Water Sampled: 10/02/02 12:00 Received: 10/02/02 17:00** | | | | | | | | | |
| Nitrate-Nitrogen | ND | 0.200 | mg/l as N | 1 | 2J04018 | 10/03/02 | 10/03/02 | EPA 300.0 | |
| **Sulfate** | 21.3 | 2.00 | mg/l | 5 | 2J06018 | 10/06/02 | 10/06/02 | " | |
| **MW11 (B2J0068-06) Water Sampled: 10/02/02 15:30 Received: 10/02/02 17:00** | | | | | | | | | |
| Nitrate-Nitrogen | ND | 0.200 | mg/l as N | 1 | 2J04018 | 10/03/02 | 10/03/02 | EPA 300.0 | |
| **Sulfate** | 4.04 | 0.400 | mg/l | " | " | " | " | " | |

North Creek Analytical - Bothell

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|---|---|---|
| ERI | Project: TOSCO #4165, Snohomish | |
| 815 Industry Dr | Project Number: 1018 | **Reported:** |
| Tukwila WA/USA, 98188 | Project Manager: John Meyer | 10/16/02 14:18 |

## Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B

## North Creek Analytical - Spokane

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **MW1A (B2J0068-01) Water Sampled: 10/02/02 12:00 Received: 10/02/02 17:00** | | | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 100 | ug/l | 1 | 2100029 | 10/10/02 | 10/11/02 | NWTPH-G/8021B | |
| Benzene | ND | 0.500 | " | " | " | " | " | " | |
| Toluene | ND | 2.00 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 1.00 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 1.50 | " | " | " | " | " | " | |
| *Surrogate: 4-BFB (FID)* | *88.8 %* | *50-150* | | | " | " | " | " | |
| *Surrogate: 4-BFB (PID)* | *112 %* | *53-142* | | | " | " | " | " | |
| **MW2 (B2J0068-02) Water Sampled: 10/02/02 12:00 Received: 10/02/02 17:00** | | | | | | | | | |
| **Gasoline Range Hydrocarbons** | **505** | 100 | ug/l | 1 | 2100029 | 10/10/02 | 10/11/02 | NWTPH-G/8021B | |
| **Benzene** | **22.5** | 0.500 | " | " | " | " | " | " | |
| Toluene | ND | 2.00 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 1.00 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 1.50 | " | " | " | " | " | " | |
| *Surrogate: 4-BFB (FID)* | *93.6 %* | *50-150* | | | " | " | " | " | |
| *Surrogate: 4-BFB (PID)* | *118 %* | *53-142* | | | " | " | " | " | |
| **MW6A (B2J0068-03) Water Sampled: 10/02/02 12:00 Received: 10/02/02 17:00** | | | | | | | | | |
| **Gasoline Range Hydrocarbons** | **2970** | 100 | ug/l | 1 | 2100029 | 10/10/02 | 10/11/02 | NWTPH-G/8021B | |
| **Benzene** | **32.4** | 0.500 | " | " | " | " | " | " | |
| **Toluene** | **6.38** | 2.00 | " | " | " | " | " | " | |
| **Ethylbenzene** | **8.44** | 1.00 | " | " | " | " | " | " | |
| **Xylenes (total)** | **9.75** | 1.50 | " | " | " | " | " | " | |
| *Surrogate: 4-BFB (FID)* | *241 %* | *50-150* | | | " | " | " | " | *S-02* |
| *Surrogate: 4-BFB (PID)* | *146 %* | *53-142* | | | " | " | " | " | *S-02* |

North Creek Analytical - Bothell

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| | | |
|---|---|---|
| ERI | Project: TOSCO #4165, Snohomish | |
| 815 Industry Dr | Project Number: 1018 | **Reported:** |
| Tukwila WA/USA, 98188 | Project Manager: John Meyer | 10/16/02 14:18 |

## Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B

## North Creek Analytical - Spokane

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **MW9 (B2J0068-04) Water Sampled: 10/02/02 12:00 Received: 10/02/02 17:00** | | | | | | | | | |
| **Gasoline Range Hydrocarbons** | **144** | 100 | ug/l | 1 | 2100029 | 10/10/02 | 10/11/02 | NWTPH-G/8021B | |
| **Benzene** | **3.15** | 0.500 | " | " | " | " | " | " | |
| Toluene | ND | 2.00 | " | " | " | " | " | " | |
| **Ethylbenzene** | **7.22** | 1.00 | " | " | " | " | " | " | |
| **Xylenes (total)** | **2.25** | 1.50 | " | " | " | " | " | " | |
| *Surrogate: 4-BFB (FID)* | *97.6 %* | *50-150* | | | " | " | " | " | |
| *Surrogate: 4-BFB (PID)* | *117 %* | *53-142* | | | " | " | " | " | |
| **MW10 (B2J0068-05) Water Sampled: 10/02/02 12:00 Received: 10/02/02 17:00** | | | | | | | | | |
| **Gasoline Range Hydrocarbons** | **811** | 100 | ug/l | 1 | 2100029 | 10/10/02 | 10/11/02 | NWTPH-G/8021B | |
| **Benzene** | **3.90** | 0.500 | " | " | " | " | " | " | |
| Toluene | ND | 2.00 | " | " | " | " | " | " | |
| **Ethylbenzene** | **4.12** | 1.00 | " | " | " | " | " | " | |
| **Xylenes (total)** | **4.63** | 1.50 | " | " | " | " | " | " | |
| *Surrogate: 4-BFB (FID)* | *114 %* | *50-150* | | | " | " | " | " | |
| *Surrogate: 4-BFB (PID)* | *149 %* | *53-142* | | | " | " | " | " | *S-02* |
| **MW11 (B2J0068-06) Water Sampled: 10/02/02 15:30 Received: 10/02/02 17:00** | | | | | | | | | |
| **Gasoline Range Hydrocarbons** | **785** | 100 | ug/l | 1 | 2100029 | 10/10/02 | 10/11/02 | NWTPH-G/8021B | |
| **Benzene** | **13.9** | 0.500 | " | " | " | " | " | " | |
| Toluene | ND | 2.00 | " | " | " | " | " | " | |
| **Ethylbenzene** | **4.96** | 1.00 | " | " | " | " | " | " | |
| **Xylenes (total)** | **3.59** | 1.50 | " | " | " | " | " | " | |
| *Surrogate: 4-BFB (FID)* | *130 %* | *50-150* | | | " | " | " | " | |
| *Surrogate: 4-BFB (PID)* | *154 %* | *53-142* | | | " | " | " | " | *S-02* |

North Creek Analytical - Bothell

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Amar Gill, Project Manager

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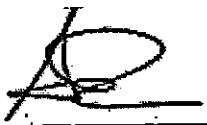
| | | |
|---|---|---|
| ERI | Project: TOSCO #4165, Snohomish | |
| 815 Industry Dr | Project Number: 1018 | **Reported:** |
| Tukwila WA/USA, 98188 | Project Manager: John Meyer | 10/16/02 14:18 |

## Semivolatile Petroleum Products by NWTPH-Dx (w/o Acid/Silica Gel Clean-up) - Quality Control
## North Creek Analytical - Bothell

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2J06004: Prepared 10/06/02 Using EPA 3520C** | | | | | | | | | | |
| **Blank (2J06004-BLK1)** | | | | | | | | | | |
| Diesel Range Hydrocarbons | ND | 0.250 | mg/l | | | | | | | |
| Lube Oil Range Hydrocarbons | ND | 0.500 | " | | | | | | | |
| *Surrogate: 2-FBP* | *0.243* | | " | *0.320* | | *75.9* | *52-126* | | | |
| *Surrogate: Octacosane* | *0.254* | | " | *0.320* | | *79.4* | *53-122* | | | |
| **LCS (2J06004-BS1)** | | | | | | | | | | |
| Diesel Range Hydrocarbons | 1.65 | 0.250 | mg/l | 2.00 | | 82.5 | 60-122 | | | |
| *Surrogate: 2-FBP* | *0.245* | | " | *0.320* | | *76.6* | *52-126* | | | |
| **LCS Dup (2J06004-BSD1)** | | | | | | | | | | |
| Diesel Range Hydrocarbons | 1.65 | 0.250 | mg/l | 2.00 | | 82.5 | 60-122 | 0.00 | 40 | |
| *Surrogate: 2-FBP* | *0.252* | | " | *0.320* | | *78.8* | *52-126* | | | |







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| | | |
|---|---|---|
| ERI | Project: TOSCO #4165, Snohomish | |
| 815 Industry Dr | Project Number: 1018 | **Reported:** |
| Tukwila WA/USA, 98188 | Project Manager: John Meyer | 10/16/02 14:18 |

## Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control
## North Creek Analytical - Bothell

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2J04044: Prepared 10/04/02 Using General Preparation** | | | | | | | | | | |
| **Blank (2J04044-BLK1)** | | | | | | | | | | |
| Total Alkalinity | ND | 5.00 | mg/L as CaCO3 | | | | | | | |
| **LCS (2J04044-BS1)** | | | | | | | | | | |
| Total Alkalinity | 50.2 | 5.00 | mg/L as CaCO3 | 50.0 | | 100 | 90-110 | | | |
| **LCS Dup (2J04044-BSD1)** | | | | | | | | | | |
| Total Alkalinity | 50.6 | 5.00 | mg/L as CaCO3 | 50.0 | | 101 | 90-110 | 0.794 | 20 | |
| **Duplicate (2J04044-DUP1)** | | | | | **Source: B2J0035-03** | | | | | |
| Total Alkalinity | 49.2 | 5.00 | mg/L as CaCO3 | | 49.4 | | | 0.406 | 6 | |

North Creek Analytical - Bothell

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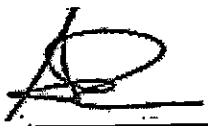

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| | | |
|---|---|---|
| ERI<br>815 Industry Dr<br>Tukwila WA/USA, 98188 | Project: TOSCO #4165, Snohomish<br>Project Number: 1018<br>Project Manager: John Meyer | **Reported:**<br>10/16/02 14:18 |

## Anions by EPA Method 300.0 - Quality Control
## North Creek Analytical - Bothell

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2J04018: Prepared 10/03/02 Using General Preparation** | | | | | | | | | | |
| **Blank (2J04018-BLK1)** | | | | | | | | | | |
| Nitrate-Nitrogen | ND | 0.200 | mg/l as N | | | | | | | |
| Sulfate | ND | 0.400 | mg/l | | | | | | | |
| **LCS (2J04018-BS1)** | | | | | | | | | | |
| Nitrate-Nitrogen | 0.994 | 0.200 | mg/l as N | 1.00 | | 99.4 | 90-110 | | | |
| Sulfate | 6.13 | 0.400 | mg/l | 6.00 | | 102 | 90-110 | | | |
| **LCS Dup (2J04018-BSD1)** | | | | | | | | | | |
| Nitrate-Nitrogen | 1.00 | 0.200 | mg/l as N | 1.00 | | 100 | 90-110 | 0.602 | 20 | |
| Sulfate | 6.15 | 0.400 | mg/l | 6.00 | | 102 | 90-110 | 0.326 | 20 | |
| **Duplicate (2J04018-DUP1)** | | | | | **Source: B2I0664-06** | | | | | |
| Sulfate | 342 | 20.0 | mg/l | | 349 | | | 2.03 | 25 | |
| **Duplicate (2J04018-DUP2)** | | | | | **Source: B2I0545-01** | | | | | |
| Sulfate | 21.4 | 2.00 | mg/l | | 21.5 | | | 0.466 | 25 | |
| **Duplicate (2J04018-DUP3)** | | | | | **Source: B2I0545-06** | | | | | |
| Sulfate | 26.8 | 2.00 | mg/l | | 24.5 | | | 8.97 | 25 | |
| **Duplicate (2J04018-DUP4)** | | | | | **Source: B2J0068-04** | | | | | |
| Nitrate-Nitrogen | 2.49 | 0.200 | mg/l as N | | 2.49 | | | 0.00 | 25 | |
| **Matrix Spike (2J04018-MS1)** | | | | | **Source: B2I0664-06** | | | | | |
| Sulfate | 970 | 40.0 | mg/l | 600 | 349 | 104 | 75-125 | | | |
| **Matrix Spike (2J04018-MS3)** | | | | | **Source: B2I0545-06** | | | | | |
| Sulfate | 87.7 | 4.00 | mg/l | 60.0 | 24.5 | 105 | 75-125 | | | |

North Creek Analytical - Bothell

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| | | |
|---|---|---|
| ERI | Project: TOSCO #4165, Snohomish | |
| 815 Industry Dr | Project Number: 1018 | Reported: |
| Tukwila WA/USA, 98188 | Project Manager: John Meyer | 10/16/02 14:18 |

## Anions by EPA Method 300.0 - Quality Control
## North Creek Analytical - Bothell

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2J04018: Prepared 10/03/02 Using General Preparation** | | | | | | | | | | |
| **Matrix Spike (2J04018-MS4)** | | | | | Source: B2J0068-04 | | | | | |
| Nitrate-Nitrogen | 3.39 | 0.200 | mg/l as N | 1.00 | 2.49 | 90.0 | 60-130 | | | |
| **Matrix Spike (2J04018-MS5)** | | | | | Source: B2I0545-01 | | | | | |
| Sulfate | 84.2 | 4.00 | mg/l | 60.0 | 21.5 | 104 | 75-125 | | | |
| **Batch 2J06018: Prepared 10/06/02 Using General Preparation** | | | | | | | | | | |
| **Blank (2J06018-BLK1)** | | | | | | | | | | |
| Sulfate | ND | 0.400 | mg/l | | | | | | | |
| **LCS (2J06018-BS1)** | | | | | | | | | | |
| Sulfate | 6.05 | 0.400 | mg/l | 6.00 | | 101 | 90-110 | | | |
| **LCS Dup (2J06018-BSD1)** | | | | | | | | | | |
| Sulfate | 6.12 | 0.400 | mg/l | 6.00 | | 102 | 90-110 | 1.15 | 20 | |
| **Duplicate (2J06018-DUP1)** | | | | | Source: B2I0612-02 | | | | | |
| Sulfate | 74.8 | 4.00 | mg/l | | 76.1 | | | 1.72 | 25 | |
| **Matrix Spike (2J06018-MS1)** | | | | | Source: B2I0612-02 | | | | | |
| Sulfate | 75.6 | 4.00 | mg/l | 6.00 | 76.1 | -8.33 | 75-125 | | | Q-01 |

North Creek Analytical - Bothell

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| | | |
|---|---|---|
| ERI<br>815 Industry Dr<br>Tukwila WA/USA, 98188 | Project: TOSCO #4165, Snohomish<br>Project Number: 1018<br>Project Manager: John Meyer | **Reported:**<br>10/16/02 14:18 |

## Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B - Quality Control
## North Creek Analytical - Spokane

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2100029: Prepared 10/10/02 Using GC Volatiles** | | | | | | | | | | |
| **Blank (2100029-BLK1)** | | | | | | | | | | |
| Gasoline Range Hydrocarbons | ND | 100 | ug/l | | | | | | | |
| Benzene | ND | 0.500 | " | | | | | | | |
| Toluene | ND | 2.00 | " | | | | | | | |
| Ethylbenzene | ND | 1.00 | " | | | | | | | |
| Xylenes (total) | ND | 1.50 | " | | | | | | | |
| *Surrogate: 4-BFB (FID)* | *27.6* | | " | *25.0* | | *110* | *50-150* | | | |
| *Surrogate: 4-BFB (PID)* | *27.0* | | " | *25.0* | | *108* | *53-142* | | | |
| **LCS (2100029-BS1)** | | | | | | | | | | |
| Gasoline Range Hydrocarbons | 1060 | 100 | ug/l | 1000 | | 106 | 85-115 | | | |
| *Surrogate: 4-BFB (FID)* | *32.2* | | " | *25.0* | | *129* | *50-150* | | | |
| **LCS (2100029-BS2)** | | | | | | | | | | |
| Benzene | 21.8 | 0.500 | ug/l | 20.0 | | 109 | 85-115 | | | |
| Toluene | 20.8 | 2.00 | " | 20.0 | | 104 | 85-115 | | | |
| Ethylbenzene | 20.2 | 1.00 | " | 20.0 | | 101 | 85-115 | | | |
| Xylenes (total) | 60.8 | 1.50 | " | 60.0 | | 101 | 85-115 | | | |
| *Surrogate: 4-BFB (PID)* | *26.7* | | " | *25.0* | | *107* | *53-142* | | | |
| **Duplicate (2100029-DUP1)** | | | | | **Source: S210022-12** | | | | | |
| Gasoline Range Hydrocarbons | ND | 100 | ug/l | | ND | | | NA | 50 | |
| Benzene | 0.534 | 0.500 | " | | 0.813 | | | 41.4 | 50 | |
| Toluene | ND | 2.00 | " | | ND | | | NA | 50 | |
| Ethylbenzene | ND | 1.00 | " | | ND | | | NA | 50 | |
| Xylenes (total) | ND | 1.50 | " | | ND | | | NA | 50 | |
| *Surrogate: 4-BFB (FID)* | *24.8* | | " | *25.0* | | *99.2* | *50-150* | | | |
| *Surrogate: 4-BFB (PID)* | *25.4* | | " | *25.0* | | *102* | *53-142* | | | |

North Creek Analytical - Bothell

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| | | |
|---|---|---|
| ERI | Project: TOSCO #4165, Snohomish | |
| 815 Industry Dr | Project Number: 1018 | **Reported:** |
| Tukwila WA/USA, 98188 | Project Manager: John Meyer | 10/16/02 14:18 |

## Gasoline Hydrocarbons by NWTPH-Gx and BTEX by EPA Method 8021B - Quality Control

## North Creek Analytical - Spokane

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 2100029: Prepared 10/10/02 Using GC Volatiles** | | | | | | | | | | |
| **Duplicate (2100029-DUP2)** | | | | | **Source: B2J0068-01** | | | | | |
| Gasoline Range Hydrocarbons | ND | 100 | ug/l | | ND | | | NA | 50 | |
| Benzene | ND | 0.500 | " | | ND | | | NA | 50 | |
| Toluene | ND | 2.00 | " | | ND | | | NA | 50 | |
| Ethylbenzene | ND | 1.00 | " | | ND | | | NA | 50 | |
| Xylenes (total) | ND | 1.50 | " | | ND | | | NA | 50 | |
| *Surrogate: 4-BFB (FID)* | *23.7* | | " | *25.0* | | *94.8* | *50-150* | | | |
| *Surrogate: 4-BFB (PID)* | *27.0* | | " | *25.0* | | *108* | *53-142* | | | |
| **Matrix Spike (2100029-MS1)** | | | | | **Source: S210022-12** | | | | | |
| Gasoline Range Hydrocarbons | 1030 | 100 | ug/l | 1000 | ND | 96.3 | 70-130 | | | |
| *Surrogate: 4-BFB (FID)* | *32.2* | | " | *25.0* | | *129* | *50-150* | | | |
| **Matrix Spike (2100029-MS2)** | | | | | **Source: S210022-12** | | | | | |
| Benzene | 22.5 | 0.500 | ug/l | 20.0 | 0.813 | 108 | 54-143 | | | |
| Toluene | 21.3 | 2.00 | " | 20.0 | ND | 101 | 48-145 | | | |
| Ethylbenzene | 20.0 | 1.00 | " | 20.0 | ND | 100 | 49-142 | | | |
| Xylenes (total) | 60.3 | 1.50 | " | 60.0 | ND | 100 | 55-140 | | | |
| *Surrogate: 4-BFB (PID)* | *25.2* | | " | *25.0* | | *101* | *53-142* | | | |

North Creek Analytical - Bothell

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| | | |
|---|---|---|
| ERI | Project: TOSCO #4165, Snohomish | |
| 815 Industry Dr | Project Number: 1018 | **Reported:** |
| Tukwila WA/USA, 98188 | Project Manager: John Meyer | 10/16/02 14:18 |

## Notes and Definitions

| | |
|---|---|
| D-06 | The sample chromatographic pattern does not resemble the fuel standard used for quantitation. |
| Q-01 | The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch. |
| S-02 | The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample. |
| 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 |

North Creek Analytical - Bothell

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20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 (541) 383-9310 FAX 382-7588

# TOSCO CHAIN OF CUSTODY REPORT B2J0068

**TOSCO INFORMATION**

Facility Number: 4165
Site Address: 202 AVE. D
City, State, ZIP: Snohomish WA
Project/AWO Code
Tosco Manager: Tim Johnson
FACILITY TYPE: (check one) ☐ BP/Ⓚ ☐ Terminal/Bulk Plant
☐ Brown Bear ☒ Former 76 Site ☐ Other

**CONSULTANT INFORMATION**

Firm: ERI Project# 1018
Address: 815 Industry Dr
Tukwila, WA 98188
Phone: (206) 575-6220 Fax: X6423
Project Manager: James Matthiesen E-mail:
Sample Collection by: Roy Morse

Quality Assurance Data Level: ☒ A ☐ B
A: Standard Summary
B: Standard + Chromatograms

Laboratory Turnaround Days: ☒ 10 ☐ 5 ☐ 3 ☐ 2 ☐ 1
10 Day - Standard

☐ OR ☐ WA ☐ AK ☒ NW Series ☐ ID

| SAMPLE IDENTIFICATION | SAMPLING DATE / TIME | MATRIX (W,S,O) | # OF CON-TAINERS | TPH-HCID | TPH-Gas | BTEX EPA 8021 Mod. | TPH-Gas + BTEX | TPH-Diesel | TPH-Diesel Extended | TPH-Diesel-Ext. w/SG Cleanup | Halogen. Volatiles EPA 8021 | Pesticides/PCBs or PCBs Only | GC/MS Volatiles EPA 8260 | GC/MS SemiVols. EPA 8270 | PAH's: 8270 SIM or 8310 | Lead: Total or Dissolved | TCLP or RCRA Metals (8) | ALKALINITY | NITRATE | SULFATE | NCA SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. MW1A | 10/2/02 | W | 6 | | | | X | | X | | | | | | | | | X | X | X | B2J0068-01 |
| 2. MW2 | 12:00 | W | 6 | | | | X | | X | | | | | | | | | X | X | X | -02 |
| 3. MW 6A | | W | 5 | | | | X | | X | | | | | | | | | | | | -03 |
| 4. MW 9 | | W | 6 | | | | X | | X | | | | | | | | | X | X | X | -04 |
| 5. MW10 | | W | 6 | | | | X | | X | | | | | | | | | X | X | X | -05 |
| 6. MW11 | 15:30 | W | 6 | | | | X | | X | | | | | | | | | X | X | X | -06 |
| 7. | | | | | | | | | | | | | | | | | | | | | |
| 8. | | | | | | | | | | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | | | | | | | | | | |

| | Relinquished by: | Firm: | Date & Time | Received by: | Firm: | Date & Time |
|---|---|---|---|---|---|---|
| 1. | Roy T Morse | ERI | 10/2/02 | Katie B. | NCA | 10/03/02 17:00 |
| 2. | | | | | | |
| 3. | | | | | | |

Comments: Samples were not @2-6C Upon Receipt

Page 1 of 1
Rev. Tos3.3.2/99

Comments:

Distribution: White - Laboratory Yellow - Consultant Photocopy - Tosco

15.8° W/O

# GROUNDWATER SAMPLING - FIELD LOG

Client Name: Tosco 4165 ERI Job No. 1018 Date: 10/2/02 Page 1 of 1

Location: Snohomish Field Cleaning Performed: _____

Field Crew: Roy Morse Analysis: _____

** Case Volume = $(d_{well} - d_{water})_{in\ ft} \times F$ where F =
0.163 for a 2" inside diameter well casing
0.652 for a 4" inside diameter well casing
1.467 for a 6" inside diameter well casing

| Well No. | Time LPH | Depth Water (ft.) | Depth Well (ft.) | Case Dia. (in) | Case Vol* gal | Purge Vol. (gal) | Conduct. µS/CM (X1000) | Temp. Deg F | pH | TURB. NTU | PID PPM | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW 2 | | 7.88 | 16.75 | 2 | 1 | 3 | | | | | | |
| MW 1A | | 11.67 | 14.40 | 2 | .5 | 1.5 | | | | | | |
| MW 9 | | 10.13 | 16.79 | 2 | 1 | 3 | | | | | | |
| MW 6A | | 10.48 | 18.35 | 2 | 1 | 3 | | | | | | |
| MW 10 | | 7.96 | 13.46 | 2 | .5 | 1.5 | | | | | | |
| MW 11 | | 10.94 | 16.82 | 2 | 1 | 3 | | | | | | |
| MW 12 | 10.58 | 11.18 | 16.37 | 2 | | | | | | | | 0.6 ft of LPH |

| MW | COND | TEMP | PH | TURB | DO | SAL | TDS | ORD | $Fe^{2+}$ |
|---|---|---|---|---|---|---|---|---|---|
| 1A | 0.246 | 15.53 | 5.33 | 999.0 | 10.91 | 0.0 | 0.16 | 364 | 0.0 |
| 2 | 0.373 | 17.93 | 5.34 | 21.3 | 8.97 | 0.0 | 0.24 | 255 | 3.4 |
| 9 | 0.128 | 17.18 | 4.90 | 275.0 | 10.73 | 0.0 | 0.08 | 498 | 0.0 |
| 10 | 0.285 | 18.02 | 5.50 | 162.0 | 7.72 | 0.0 | 0.18 | 302 | 2.2 |
| 4 | 0.346 | 17.01 | 5.85 | 43.1 | 8.75 | 0.0 | 0.22 | 219 | 4.0 |

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