



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

4601 N Monroe Street • Spokane, Washington 99205-1295 • (509)329-3400

May 24, 2010

Ms. Annette Brewster  
Project Manager  
URS Corporation  
10550 Richmond Ave., Ste. 155  
Houston, TX 77402

RECEIVED MAY 26 2010

*A. Brewster*

Dear Ms. Brewster:

The WA Dept. of Ecology received the Remedial Investigation and Feasibility Study (RI/FS) Work Plan for the NWTC Pasco Terminal in Pasco, Washington. The Work Plan was submitted jointly by the URS Corporation and CH2MHill on behalf of Chevron Pipe Line Company (Chevron) and Tidewater Terminal Company (Tidewater) to fulfill the requirements of Agreed Order 7294. Ecology accepts the Work Plan as final and looks forward to its implementation.

If you have any questions, please contact me at 509/329-3589.

Sincerely,

*William J. Fees*

William J. Fees, P.E.  
Environmental Engineer  
Toxics Cleanup Program

CC: Sam Pounds – Tidewater  
Kim Turloukis – Chevron  
Robert Martin – CH2MHill



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

4601 N Monroe Street • Spokane, Washington 99205-1295 • (509)329-3400

October 28, 2010

Ms. Annette Brewster  
Project Manager  
URS Corporation  
10550 Richmond Ave., Ste. 155  
Houston, Texas 77402

RECEIVED NOV 1 2010

*A. Brewster*

Dear Ms. Brewster:

The Washington Department of Ecology (Ecology) has received the Preliminary Remedial Investigation Report for the NWTC Pasco Terminal in Pasco, Washington. The work plan was submitted jointly by the URS Corporation and CH2MHill on behalf of Chevron Pipe Line Company (Chevron) and Tidewater Terminal Company (Tidewater) to fulfill the requirements of Agreed Order 7294.

Ecology believes an additional sampling event, at a minimum, is needed before decisions can be made on the efficacy of remedial alternatives. The site sampling results indicate the remediation systems' successful removal of petroleum contaminants at the Site. However, the apparent reduction in concentrations may also be the result of the remediation systems redistribution of contaminants and other attenuation processes coupled with the infrequent sampling events. We look forward to scheduling the next sampling event.

If you have any questions, please contact me at 509/329-3589.

Sincerely,

*William J. Fees*

William J. Fees, P.E.  
Environmental Engineer  
Toxics Cleanup Program

CC: Sam Pounds – Tidewater  
Kim Turloukis – Chevron  
Robert Martin – CH2MHill





STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

4601 N Monroe Street • Spokane, Washington 99205-1295 • (509)329-3400

March 16, 2011

Ms. Annette Brewster  
Project Manager  
URS Corporation  
10550 Richmond Ave., Ste. 155  
Houston, Texas 77402

RECEIVED MAR 21 2011

Dear Ms. Brewster:

The WA Department of Ecology (Ecology) has received the *Addendum to the Preliminary Remedial Investigation (RI) Report* for the NWTC Pasco Terminal in Pasco, Washington. The addendum was submitted jointly by the URS Corporation and CH2M Hill on behalf of Chevron Pipe Line Company (Chevron) and Tidewater Terminal Company (Tidewater) to fulfill the requirements of Agreed Order 7294.

The addendum presents results from the recent sampling event. As with the sampling event completed in June 2010, the December 2010 event results suggest the bulk of the contamination has been addressed with either biodegradation associated with the remedial actions and/or natural attenuation. With this in mind, Ecology would like to discuss the next steps in the Remedial Investigation and Feasibility Study process. At your convenience, we can schedule a conference call to discuss the project sequence.

If you have any questions, please contact me at 509/329-3589.

Sincerely,

William J. Fees, P.E.  
Environmental Engineer  
Toxics Cleanup Program

CC: Sam Pounds – Tidewater  
Kim Tourloukis – Chevron  
Robert Martin – CH2M Hill



## **CPL MONITOR WELLS**

**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTG Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD)  | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE | NWTPH-Gx | NWTPH-Dx           | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |
|-------------------------------|---------------------------|---------|---------|--------------|---------------|------|----------|--------------------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|
| Ecology Criteria <sup>2</sup> |                           | 5       | 1000    | 700          | 1000          | 20   | 1000     | N/A                | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |
| MW-1<br>419.45                | 1983                      | 5.7     | <1.0    | NA           | 24            | -    | -        | -                  | -                             | -                                | -       | 82.00                       | 0                        | 337.45   |
|                               | 08/26/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.77                       | 0                        | 342.68   |
|                               | 12/11/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.03                       | 0                        | 343.42   |
|                               | 12/15/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.03                       | 0                        | 343.42   |
|                               | 12/17/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.06                       | 0                        | 343.39   |
|                               | 12/21/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.08                       | 0                        | 343.37   |
|                               | 12/28/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.99                       | 0                        | 343.46   |
|                               | 01/05/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.96                       | 0                        | 343.49   |
|                               | 01/12/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.94                       | 0                        | 343.51   |
|                               | 01/19/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.95                       | 0                        | 343.50   |
|                               | 01/26/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.05                       | 0                        | 343.40   |
|                               | 02/03/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.01                       | 0                        | 343.44   |
|                               | 02/09/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.94                       | 0                        | 343.51   |
|                               | 02/16/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.96                       | 0                        | 343.49   |
|                               | 02/24/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.97                       | 0                        | 343.48   |
|                               | 03/01/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.93                       | 0                        | 343.52   |
|                               | 03/08/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.85                       | 0                        | 343.60   |
|                               | 03/15/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.88                       | 0                        | 343.57   |
|                               | 03/16/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.87                       | 0                        | 343.58   |
|                               | 03/22/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.85                       | 0                        | 343.60   |
|                               | 03/30/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.85                       | 0                        | 343.60   |
|                               | 04/05/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.83                       | 0                        | 343.62   |
|                               | 04/12/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.83                       | 0                        | 343.62   |
|                               | 04/19/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.97                       | 0                        | 343.48   |
|                               | 04/26/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.89                       | 0                        | 343.56   |
|                               | 05/03/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.92                       | 0                        | 343.53   |
|                               | 05/10/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.06                       | 0                        | 343.39   |
|                               | 05/16/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.26                       | 0                        | 343.19   |
|                               | 05/23/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.40                       | 0                        | 343.05   |
|                               | 05/31/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.49                       | 0                        | 342.96   |
|                               | 06/07/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.61                       | 0                        | 342.84   |
|                               | 06/08/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.61                       | 0                        | 342.84   |
|                               | 06/13/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.65                       | 0                        | 342.80   |
|                               | 06/20/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.79                       | 0                        | 342.66   |
|                               | 06/24/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.87                       | 0                        | 342.58   |
|                               | 06/27/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.91                       | 0                        | 342.54   |
|                               | 07/05/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.03                       | 0                        | 342.42   |
|                               | 04/12/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.64                       | 0                        | 342.81   |
|                               | 08/06/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.26                       | 0                        | 342.19   |
|                               | 11/19/90                  | ND      | ND      | ND           | ND            | -    | -        | ND                 | -                             | -                                | -       | 76.82                       | 0                        | 342.63   |
|                               | 02/14/91                  | ND      | ND      | ND           | ND            | -    | -        | ND                 | -                             | -                                | -       | 76.35                       | 0                        | 343.10   |
|                               | 05/15/91                  | ND      | ND      | ND           | ND            | -    | -        | 500                | -                             | -                                | -       | 76.57                       | 0                        | 342.88   |
|                               | 08/08/91                  | ND      | ND      | ND           | ND            | -    | -        | ND                 | -                             | -                                | -       | 77.56                       | 0                        | 341.89   |
|                               | 04/01/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.38                       | 0                        | 343.07   |
|                               | 07/01/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.21                       | 0                        | 342.24   |
|                               | 12/01/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.75                       | 0                        | 342.70   |
|                               | 10/93                     | <0.5    | <0.5    | <0.5         | <1.0          | -    | -        | <1000 <sup>3</sup> | -                             | -                                | -       | -                           | -                        | -  |
|                               | 11/01/93                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.25                       | 0                        | 342.20   |
|                               | 02/01/94                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.40                       | 0                        | 343.05   |
|                               | 01/31/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.50                       | 0                        | 342.95   |
|                               | 02/27/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.70                       | 0                        | 341.75   |
|                               | 03/31/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.60                       | 0                        | 341.85   |
|                               | 04/28/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.30                       | 0                        | 343.15   |
|                               | 05/31/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.60                       | 0                        | 342.85   |
|                               | 06/30/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.75                       | 0                        | 342.70   |
|                               | 07/24/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.30                       | 0                        | 342.15   |
|                               | 08/29/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.20                       | 0                        | 342.25   |
|                               | 09/27/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.32                       | 0                        | 342.13   |
|                               | 01/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.00                       | 0                        | 342.45   |
|                               | 02/29/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.90                       | 0                        | 342.55   |
|                               | 03/29/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.70                       | 0                        | 342.75   |
|                               | 04/29/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.90                       | 0                        | 342.55   |
|                               | 05/22/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.50                       | 0                        | 342.95   |
|                               | 06/28/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.20                       | 0                        | 343.25   |
|                               | 07/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.00                       | 0                        | 343.45   |
|                               | 08/30/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.90                       | 0                        | 343.55   |
|                               | 09/30/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.70                       | 0                        | 343.75   |
|                               | 10/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.40                       | 0                        | 342.05   |
|                               | 11/19/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.60                       | 0                        | 342.85   |
|                               | 01/30/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.68                       | 0                        | 342.77   |

**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTG Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD) | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE | NWTPH-Gx | NWTPH-Dx           | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |
|------------------------------|---------------------------|---------|---------|--------------|---------------|------|----------|--------------------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|
| Ecology                      | Criteria <sup>2</sup>     | 5       | 1000    | 700          | 1000          | 20   | 1000     | N/A                | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |
| MW-1<br>419.45               | 02/28/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.00                       | 0                        | 343.45   |
|                              | 04/19/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.00                       | 0                        | 343.45   |
|                              | 08/20/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 75.92                       | 0                        | 343.53   |
|                              | 11/02/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 76.00                       | 0                        | 343.45   |
|                              | 03/26/98                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 78.04                       | 0                        | 341.41   |
|                              | 06/25/98                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <1000              | -                             | -                                | -       | 76.21                       | 0                        | 343.24   |
|                              | 9/17/98                   | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50      | -                  | -                             | -                                | -       | 75.62                       | 0                        | 343.83   |
|                              | 9/24/98                   | -       | -       | -            | -             | -    | -        | <1000              | -                             | -                                | -       | -                           | -                        | -  |
|                              | 12/18/98                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50      | 1030.00            | -                             | -                                | -       | 75.23                       | 0                        | 344.22   |
|                              | 03/29/99                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <2000              | -                             | -                                | -       | 75.46                       | 0                        | 343.99   |
|                              | 06/24/99                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | 1740 <sup>3</sup>  | -                             | -                                | -       | 76.33                       | 0                        | 343.12   |
|                              | 10/08/99                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | 1740     | 1620               | -                             | -                                | -       | 77.14                       | 0                        | 342.31   |
|                              | 12/20/99                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | 1000 <sup>3</sup>  | -                             | -                                | -       | 76.52                       | 0                        | 342.93   |
|                              | 03/14/00                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | 6970 <sup>3</sup>  | -                             | -                                | -       | 76.02                       | 0                        | 343.43   |
|                              | 06/08/00                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | 52.1     | <1000 <sup>3</sup> | -                             | -                                | -       | 74.72                       | 0                        | 344.73   |
|                              | 09/13/00                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | DRY                         | 0                        | -  |
|                              | 12/06/00                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | DRY                         | 0                        | -  |
|                              | 03/01/01                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | NS                          | -                        | DRY  |
|                              | 03/26/01                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | DRY                         | -                        | DRY  |
|                              | 06/05/01                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 76.71                       | 0                        | 342.74   |
|                              | 09/25/01                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | DRY                         | -                        | DRY  |
|                              | 09/05/02                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | DRY                         | -                        | DRY  |
|                              | 09/11/03                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | DRY                         | -                        | DRY  |
|                              | 11/17/04                  | NS      | NS      | NS           | NS            | -    | NS       | -                  | NS                            | NS                               | -       | DRY                         | -                        | DRY  |
|                              | 07/11/05                  | NS      | NS      | NS           | NS            | -    | NS       | -                  | NS                            | NS                               | -       | DRY                         | -                        | DRY  |
|                              | 07/07/06                  | NS      | NS      | NS           | NS            | -    | NS       | -                  | NS                            | NS                               | -       | DRY                         | -                        | DRY  |
| 419.24                       | 11/15/07                  | NS      | NS      | NS           | NS            | -    | NS       | -                  | NS                            | NS                               | -       | NS                          | -                        | NS   |
|                              | 10/08/08                  | NS      | NS      | NS           | NS            | -    | NS       | -                  | NS                            | NS                               | NS      | DRY                         | -                        | DRY  |
| 419.40                       | 06/30/10                  | NS      | NS      | NS           | NS            | -    | NS       | -                  | NS                            | NS                               | NS      | 74.99                       | 0                        | 344.41   |
|                              | 12/14/10                  | NS      | NS      | NS           | NS            | -    | NS       | -                  | NS                            | NS                               | NS      | DRY                         | 0                        | DRY  |
| MW-2<br>416.57               | 1983                      | 1.4     | <1      | -            | <1            | -    | -        | -                  | -                             | -                                | -       | 78.00                       | -                        | -  |
|                              | 11/17/86                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.20                     | -  |
|                              | 11/26/86                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.12                     | -  |
|                              | 12/15/86                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.06                     | -  |
|                              | 01/08/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.17                     | -  |
|                              | 03/16/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.08                     | -  |
|                              | 08/26/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 73.90                       | 1.70                     | 344.03   |
|                              | 09/02/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 73.94                       | 1.67                     | 343.97   |
|                              | 12/11/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 72.17                       | 0.34                     | 344.67   |
|                              | 12/14/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 72.05                       | 1.17                     | 345.46   |
|                              | 03/14/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 71.70                       | 0.22                     | 345.05   |
|                              | 03/15/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 71.70                       | 0                        | 344.87   |
|                              | 03/15/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 71.65                       | 0.30                     | 345.16   |
|                              | 03/16/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 71.65                       | 0.28                     | 345.14   |
|                              | 03/16/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 71.86                       | 0                        | 344.71   |
|                              | 03/31/88                  | 29      | 43      | 5            | 236           | -    | NS       | NS                 | -                             | -                                | -       | -                           | -                        | -  |
|                              | 05/10/88                  | 0.5     | 12      | 0.5          | 0.5           | -    | -        | -                  | -                             | -                                | -       | 71.95                       | 0.13                     | 344.72   |
|                              | 05/16/88                  | <1      | <1      | <1           | <1            | -    | -        | -                  | -                             | -                                | -       | 72.88                       | 0.15                     | 343.81   |
|                              | 05/17/88                  | <1      | 12      | <1           | <1            | -    | -        | -                  | -                             | -                                | -       | -                           | -                        | -  |
|                              | 05/23/88                  | 3       | 11      | <1           | <1            | -    | -        | -                  | -                             | -                                | -       | 73.39                       | 1.37                     | 344.28   |
|                              | 05/24/88                  | 3       | 11      | <1           | <1            | -    | -        | -                  | -                             | -                                | -       | -                           | -                        | -  |
|                              | 05/31/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 73.67                       | 0.87                     | 343.60   |
|                              | 06/01/88                  | <1      | <1      | <1           | <1            | -    | -        | -                  | -                             | -                                | -       | -                           | -                        | -  |
|                              | 06/07/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 73.85                       | 1.69                     | 344.07   |
|                              | 06/08/88                  | <1      | <1      | <1           | <1            | -    | -        | -                  | -                             | -                                | -       | -                           | -                        | -  |
|                              | 06/14/88                  | 2       | <5      | <1           | <1            | -    | -        | -                  | -                             | -                                | -       | -                           | -                        | -  |
|                              | 06/21/88                  | <1      | <1      | <1           | <1            | -    | -        | -                  | -                             | -                                | -       | -                           | -                        | -  |
|                              | 08/24/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 2.04                     | -  |
|                              | 10/17/89                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 1.97                     | -  |
|                              | 04/12/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 73.74                       | 0                        | 342.83   |
|                              | 08/06/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 74.58                       | 0.15                     | 342.11   |
|                              | 10/31/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.01                     | -  |
|                              | 11/19/90                  | ND      | ND      | ND           | ND            | -    | -        | -                  | -                             | -                                | -       | 73.97                       | 0.10                     | 342.68   |
|                              | 12/16/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.74                     | -  |
|                              | 01/13/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 1.18                     | -  |
|                              | 02/05/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.40                     | -  |
|                              | 02/14/91                  | 40      | 95      | 29           | 1300          | -    | NS       | 6000 <sup>3</sup>  | -                             | -                                | -       | 74.14                       | 0.39                     | 342.74   |
|                              | 03/28/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.59                     | -  |
|                              | 05/06/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.38                     | -  |
|                              | 05/15/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 74.18                       | 0.56                     | 342.84   |

**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTG Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD)  | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE  | NWTPH-Gx           | NWTPH-Dx           | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |
|-------------------------------|---------------------------|---------|---------|--------------|---------------|-------|--------------------|--------------------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|
| Ecology Criteria <sup>2</sup> |                           | 5       | 1000    | 700          | 1000          | 20    | 1000               | N/A                | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |
| MW-2<br>416.57                | 06/01/91                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 1.18                     | -  |
|                               | 07/20/91                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 3.33                     | -  |
|                               | 08/04/91                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 4.06                     | -  |
|                               | 08/08/91                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 77.54                       | 3.35                     | 341.71   |
|                               | 10/27/91                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0.23                     | -  |
|                               | 11/17/1991                | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0.45                     | -  |
|                               | 12/27/91                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0.80                     | -  |
|                               | 01/18/92                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0.32                     | -  |
|                               | 01/31/92                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0.28                     | -  |
|                               | 02/17/92                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0.28                     | -  |
|                               | 03/08/92                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0.28                     | -  |
|                               | 04/04/92                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0.28                     | -  |
|                               | 04/21/92                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 73.69                       | 0.12                     | 342.98   |
|                               | 05/02/92                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0.10                     | -  |
|                               | 05/28/92                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0.15                     | -  |
|                               | 06/28/92                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0.40                     | -  |
|                               | 07/30/92                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 74.35                       | 0.39                     | 342.53   |
|                               | 09/16/92                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0                        | -  |
|                               | 12/08/92                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 73.07                       | 0                        | 343.50   |
|                               | 04/02/93                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0                        | -  |
|                               | 07/15/93                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0                        | -  |
|                               | 10/18/93                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0                        | -  |
|                               | 11/01/93                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 73.66                       | 0                        | 342.91   |
|                               | 11/05/93                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0                        | -  |
|                               | 02/01/93                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 72.98                       | 0                        | 343.59   |
|                               | 12/28/93                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | -                           | 0                        | -  |
|                               | 10/18/93                  | 0.8     | 0.5     | 5.0          | 4.4           | -     | 370                | 7700 <sup>3</sup>  | -                             | -                                | -       | 73.66                       | 0                        | 342.91   |
|                               | 02/01/94                  | 1.8     | <0.5    | 4.8          | 27.0          | -     | 1100               | 13000 <sup>3</sup> | -                             | -                                | -       | 72.98                       | 0                        | 343.59   |
|                               | 09/19/94                  | <1.0    | <5.0    | <5.0         | <15.0         | -     | NA                 | 1300 <sup>3</sup>  | -                             | -                                | -       | -                           | 0                        | -  |
|                               | 01/31/95                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 73.60                       | 0.13                     | 342.97   |
|                               | 02/27/95                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 73.20                       | 0.13                     | 343.37   |
|                               | 03/31/95                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 73.20                       | 0.13                     | 343.37   |
|                               | 04/28/95                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 72.20                       | 0.13                     | 344.37   |
|                               | 05/31/95                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 73.40                       | 0.13                     | 343.17   |
|                               | 06/30/95                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 73.65                       | 0.13                     | 342.92   |
|                               | 07/24/95                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 74.26                       | Trace                    | 342.31   |
|                               | 08/29/95                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 74.31                       | Trace                    | 342.26   |
|                               | 09/27/95                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 74.07                       | Trace                    | 342.50   |
|                               | 01/31/96                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 73.40                       | Trace                    | 343.17   |
|                               | 02/29/96                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 72.22                       | 0                        | 344.35   |
|                               | 03/29/96                  | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | -       | 72.50                       | 0                        | 344.07   |
| 04/29/96                      | -                         | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | 72.60   | 0                           | 343.97                   |  |
| 05/22/96                      | -                         | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | 72.50   | 0                           | 344.07                   |  |
| 06/28/96                      | -                         | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | 73.90   | 0                           | 342.67                   |  |
| 07/31/96                      | -                         | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | 73.80   | 0                           | 342.77                   |  |
| 08/30/96                      | -                         | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | 73.50   | 0                           | 343.07                   |  |
| 09/30/96                      | -                         | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | 72.70   | 0                           | 343.87                   |  |
| 10/31/96                      | -                         | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | 74.50   | 0                           | 342.07                   |  |
| 11/19/96                      | -                         | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | 74.50   | 0                           | 342.07                   |  |
| 01/30/97                      | -                         | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | 73.52   | 0                           | 343.05                   |  |
| 02/28/97                      | -                         | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | 73.30   | 0                           | 343.27                   |  |
| 04/19/97                      | -                         | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | 73.00   | 0                           | 343.57                   |  |
| 08/20/97                      | -                         | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | 72.83   | 0                           | 343.74                   |  |
| 11/02/97                      | -                         | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | 72.90   | 0                           | 343.67                   |  |
| 03/26/98                      | -                         | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | 72.85   | 0                           | 343.72                   |  |
| 06/25/98                      | <0.5                      | 0.715   | 0.636   | 1.46         | -             | 119   | 3870 <sup>3</sup>  | -                  | -                             | -                                | 73.34   | 0                           | 343.23                   |  |
| 09/17/98                      | <0.5                      | <0.5    | 1.03    | 1.95         | -             | <50.0 | NA                 | -                  | -                             | -                                | 72.82   | 0                           | 343.75                   |  |
| 09/24/98                      | -                         | -       | -       | -            | -             | -     | <1000 <sup>3</sup> | -                  | -                             | -                                | -       | -                           | -                        |  |
| 12/18/98                      | <0.5                      | <0.5    | 0.501   | <1.0         | -             | 59.7  | <1000 <sup>3</sup> | -                  | -                             | -                                | 72.41   | 0                           | 344.16                   |  |
| 03/29/99                      | 0.518                     | <0.5    | <0.5    | 1.05         | -             | 113   | <1000 <sup>3</sup> | -                  | -                             | -                                | 72.53   | 0                           | 344.04                   |  |
| 06/24/99                      | <0.5                      | <0.5    | <0.5    | <1.0         | -             | <50.0 | 3010 <sup>3</sup>  | -                  | -                             | -                                | 73.40   | 0                           | 343.17                   |  |
| 10/08/99                      | <0.5                      | <0.5    | <0.5    | <1.0         | -             | <50.0 | <1000 <sup>3</sup> | -                  | -                             | -                                | 74.32   | 0                           | 342.25                   |  |
| 12/20/99                      | <0.5                      | <0.5    | <0.5    | <1.0         | -             | <50.0 | 2300 <sup>3</sup>  | -                  | -                             | -                                | 73.67   | 0                           | 342.90                   |  |
| 03/14/00                      | <0.5                      | <0.5    | <0.5    | <1.0         | -             | 124   | 1290 <sup>3</sup>  | -                  | -                             | -                                | 73.19   | 0                           | 343.38                   |  |
| 06/08/00                      | <0.5                      | <0.5    | <0.5    | <1.0         | -             | 115   | <1000 <sup>3</sup> | -                  | -                             | -                                | 73.86   | 0                           | 342.71                   |  |
| 09/13/00                      | <0.5                      | 0.551   | <0.5    | <1.0         | -             | 138   | 2790 <sup>3</sup>  | -                  | -                             | -                                | 74.67   | 0                           | 341.90                   |  |
| 12/06/00                      | <0.5                      | <0.5    | <0.5    | <1.0         | -             | 82.8  | 1090 <sup>3</sup>  | -                  | -                             | -                                | 73.95   | 0                           | 342.62                   |  |
| 03/01/01                      | -                         | -       | -       | -            | -             | -     | -                  | -                  | -                             | -                                | 73.35   | 0                           | 343.22                   |  |

**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTG Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD) | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE | NWTPH-Gx | NWTPH-Dx           | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |
|------------------------------|---------------------------|---------|---------|--------------|---------------|------|----------|--------------------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|
| Ecology                      | Criteria <sup>2</sup>     | 5       | 1000    | 700          | 1000          | 20   | 1000     | N/A                | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |
| MW-2<br>416.57               | 03/26/01                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | 130      | <5000 <sup>3</sup> | -                             | -                                | -       | 73.35                       | 0                        | 343.22   |
|                              | 06/05/01                  | <0.5    | 0.772   | <0.5         | 2.15          | -    | 52.6     | NA                 | -                             | -                                | -       | 73.81                       | 0                        | 342.76   |
|                              | 09/25/01                  | <0.5    | <1.0    | <1.0         | <1.0          | -    | 112      | 1530               | -                             | -                                | -       | 74.50                       | 0                        | 342.07   |
|                              | 09/06/02                  | <1.0    | <1.0    | <1.0         | <3.0          | -    | <100     | 820                | -                             | -                                | -       | 75.12                       | 0                        | 341.45   |
|                              | 09/11/03                  | <1.0    | <1.0    | <1.0         | <3.0          | -    | <100     | 1100               | -                             | -                                | -       | 74.71                       | 0                        | 341.86   |
|                              | 11/17/04                  | <0.2    | <0.2    | <0.2         | <0.6          | -    | <48      | -                  | 1900                          | 130                              | -       | 74.07                       | 0                        | 342.50   |
|                              | 07/11/05                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <48      | -                  | 2700                          | 1500                             | -       | 74.05                       | 0                        | 342.52   |
|                              | 07/07/06                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <48      | -                  | 1000                          | 220                              | -       | 73.25                       | 0                        | 343.32   |
|                              | 07/07/06                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <48      | -                  | 1200                          | 290                              | -       | (duplicate sample)          | -                        | -  |
| 416.49                       | 11/15/07                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <50      | -                  | 2000                          | 460                              | -       | 74.05                       | 0                        | 342.44   |
|                              | 10/08/08                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <50      | -                  | 1200                          | 210                              | <200    | 73.44                       | 0                        | 343.05   |
| 417.28                       | 06/30/10                  | <1.0    | <1.0    | <1.0         | <2.0          | -    | <50      | -                  | 3600                          | 3300                             | <10000  | 72.80                       | 0                        | 344.48   |
|                              | 12/15/10                  | <1.0    | <1.0    | <1.0         | <2.0          | -    | <50      | -                  | 3100                          | 2400                             | <10000  | 73.21                       | 0                        | 344.07   |
| MW-3<br>423.30               | 1983                      | 19      | <1.0    | -            | 1.2           | -    | -        | -                  | -                             | -                                | -       | 83.20                       | 0                        | 340.10   |
|                              | 08/26/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 78.68                       | 0                        | 344.62   |
|                              | 12/11/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.92                       | 0                        | 345.38   |
|                              | 12/21/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.95                       | 0                        | 345.35   |
|                              | 12/28/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.87                       | 0                        | 345.43   |
|                              | 01/05/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.86                       | 0                        | 345.44   |
|                              | 01/12/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.84                       | 0                        | 345.46   |
|                              | 01/19/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.84                       | 0                        | 345.46   |
|                              | 01/26/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.91                       | 0                        | 345.39   |
|                              | 02/03/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.91                       | 0                        | 345.39   |
|                              | 02/09/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.83                       | 0                        | 345.47   |
|                              | 02/16/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.85                       | 0                        | 345.45   |
|                              | 02/24/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.85                       | 0                        | 345.45   |
|                              | 03/01/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.90                       | 0                        | 345.40   |
|                              | 03/08/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.77                       | 0                        | 345.53   |
|                              | 03/15/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.77                       | 0                        | 345.53   |
|                              | 03/16/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.77                       | 0                        | 345.53   |
|                              | 03/22/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.75                       | 0                        | 345.55   |
|                              | 03/30/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.75                       | 0                        | 345.55   |
|                              | 04/05/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.74                       | 0                        | 345.56   |
|                              | 04/12/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.73                       | 0                        | 345.57   |
|                              | 04/19/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.84                       | 0                        | 345.46   |
|                              | 04/26/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.78                       | 0                        | 345.52   |
|                              | 05/03/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 77.84                       | 0                        | 345.46   |
|                              | 04/12/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 78.52                       | 0                        | 344.78   |
|                              | 08/06/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.19                       | 0                        | 344.11   |
|                              | 10/31/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 0                           | 0                        | -  |
|                              | 11/19/90                  | ND      | ND      | ND           | ND            | -    | NS       | ND                 | -                             | -                                | -       | 78.72                       | 0                        | 344.58   |
|                              | 12/16/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 0                           | 0                        | -  |
|                              | 01/13/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 0                           | 0                        | -  |
|                              | 02/05/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 0                           | 0                        | -  |
|                              | 02/13/91                  | ND      | 3.9     | 7.3          | 80            | -    | NS       | ND                 | -                             | -                                | -       | 78.27                       | 0                        | 345.03   |
|                              | 03/28/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.52                     | -  |
|                              | 05/06/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.54                     | -  |
|                              | 05/15/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.03                       | 0.71                     | 344.84   |
|                              | 06/01/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.61                     | -  |
|                              | 07/20/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.75                     | -  |
|                              | 08/04/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 1.19                     | -  |
|                              | 08/08/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 80.03                       | 0.74                     | 343.86   |
|                              | 10/27/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.98                     | -  |
|                              | 11/17/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.59                     | -  |
|                              | 12/27/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 1.03                     | -  |
|                              | 01/18/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.25                     | -  |
|                              | 01/31/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.20                     | -  |
|                              | 02/17/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.20                     | -  |
|                              | 03/08/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.15                     | -  |
|                              | 04/04/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.40                     | -  |
|                              | 04/21/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 78.68                       | 0.45                     | 344.98   |
|                              | 05/02/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.66                     | -  |
|                              | 05/28/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 1.21                     | -  |
|                              | 06/28/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 2.02                     | -  |
|                              | 07/28/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 1.16                     | -  |
|                              | 07/30/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 80.05                       | 1.16                     | 344.18   |
|                              | 09/16/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0.09                     | -  |
|                              | 12/08/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 78.61                       | 0.00                     | 344.69   |
|                              | 04/02/93                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0                        | -  |
|                              | 07/15/93                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 1.26                     | -  |
|                              | 10/18/93                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 0                        | -  |



**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTG Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD)  | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE | NWTPH-Gx | NWTPH-Dx             | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |
|-------------------------------|---------------------------|---------|---------|---------------|---------------|------|----------|----------------------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|
| Ecology Criteria <sup>2</sup> |                           | 5       | 1000    | 700           | 1000          | 20   | 1000     | N/A                  | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |
| MW-3<br>423.30                | 11/05/93                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | -                           | 1.31                     | -  |
|                               | 12/28/93                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | -                           | 0.09                     | -  |
|                               | 02/01/94                  | 0.01    | 0.01    | 0.05          | 0.26          | -    | 17000    | 360000 <sup>3</sup>  | -                             | -                                | -       | 80.26                       | 0                        | 343.04   |
|                               | 09/19/94                  | 4.6     | 21      | 136           | 187           | -    | NA       | 1165000 <sup>3</sup> | -                             | -                                | -       | -                           | 0                        | -  |
|                               | 01/31/95                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 80.20                       | 0.12                     | 343.10   |
|                               | 02/27/95                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 80.30                       | 0.12                     | 343.00   |
|                               | 03/31/95                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 80.40                       | 0.12                     | 342.90   |
|                               | 04/28/95                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 79.10                       | 0.12                     | 344.20   |
|                               | 05/31/95                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 80.60                       | 0.1                      | 342.70   |
|                               | 06/30/95                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 79.85                       | 0.1                      | 343.45   |
|                               | 07/24/95                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 80.73                       | 0.13                     | 342.57   |
|                               | 08/29/95                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 80.60                       | 0.10                     | 342.70   |
|                               | 09/27/95                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 80.28                       | 0.07                     | 343.02   |
|                               | 01/31/96                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 80.40                       | 0.05                     | 342.90   |
|                               | 02/29/96                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 80.50                       | 0.20                     | 342.80   |
|                               | 03/29/96                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 80.30                       | 0.47                     | 343.00   |
|                               | 04/29/96                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 79.65                       | 0.65                     | 343.65   |
|                               | 05/22/96                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 80.10                       | 0.78                     | 343.20   |
|                               | 06/28/96                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 80.00                       | 0.17                     | 343.30   |
|                               | 07/31/96                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 79.95                       | 0.22                     | 343.35   |
|                               | 08/30/96                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 79.80                       | 0.30                     | 343.50   |
|                               | 09/30/96                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 78.70                       | 1.13                     | 344.60   |
|                               | 10/31/96                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 82.26                       | 0.90                     | 341.04   |
|                               | 11/19/96                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 80.77                       | 0.17                     | 342.53   |
|                               | 01/30/97                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 80.10                       | Trace                    | 343.20   |
|                               | 02/28/97                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 79.80                       | 0.10                     | 343.50   |
|                               | 04/19/97                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 79.50                       | Trace                    | 343.80   |
|                               | 08/20/97                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 79.50                       | Trace                    | 343.80   |
|                               | 11/02/97                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 79.50                       | Trace                    | 343.80   |
|                               | 03/26/98                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 79.58                       | Trace                    | 343.72   |
|                               | 06/24/98                  | <10.0   | <10.0   | <10.0         | <20.0         | -    | 13500    | 136000 <sup>3</sup>  | -                             | -                                | -       | 80.00                       | 0                        | 343.30   |
|                               | 09/17/98                  | 4.93    | 4.93    | 6.74          | 17.4          | -    | <250.0   | NA                   | -                             | -                                | -       | 79.46                       | 0                        | 343.84   |
|                               | 09/24/98                  | NA      | NA      | NA            | NA            | -    | NA       | 31700 <sup>3</sup>   | -                             | -                                | -       | -                           | -                        | -  |
|                               | 12/18/98                  | <5.0    | <5.0    | <5.0          | <10.0         | -    | <500     | 11900 <sup>3</sup>   | -                             | -                                | -       | 79.07                       | 0                        | 344.23   |
|                               | 03/29/99                  | <2.5    | <2.5    | <2.5          | <5.0          | -    | 1380     | 119000 <sup>3</sup>  | -                             | -                                | -       | 79.21                       | 0                        | 344.09   |
|                               | 06/24/99                  | 2.98    | <2.5    | <2.5          | <5.0          | -    | 823      | 59400 <sup>3</sup>   | -                             | -                                | -       | 79.50                       | 0.01                     | 343.81   |
|                               | 10/08/99                  | NA      | NA      | NA            | NA            | -    | NA       | NA                   | -                             | -                                | -       | 81.59                       | 0.77                     | 342.33   |
|                               | 12/20/99                  | <1.30   | <1.10   | <4.10         | 21.1          | -    | 5880     | 51500 <sup>3</sup>   | -                             | -                                | -       | 80.23                       | 0                        | 343.07   |
|                               | 03/14/00                  | <25.0   | <25.0   | 30.6          | 125           | -    | 48600    | 4440 <sup>3</sup>    | -                             | -                                | -       | 79.77                       | 0                        | 343.53   |
|                               | 06/08/00                  | 12.9    | <2.5    | 14.3          | 92.2          | -    | 34800    | 18200 <sup>3</sup>   | -                             | -                                | -       | 80.17                       | 0                        | 343.13   |
|                               | 09/13/00                  | NA      | NA      | NA            | NA            | -    | NA       | NA                   | -                             | -                                | -       | 82.11                       | 0.75                     | 341.79   |
|                               | 12/06/00                  | 2.93    | <0.5    | 10.0          | 27.4          | -    | 42100    | 653000 <sup>3</sup>  | -                             | -                                | -       | 80.65                       | 0                        | 342.65   |
|                               | 03/01/01                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 79.50                       | 0                        | 343.80   |
|                               | 03/27/01                  | <1.25   | <1.25   | <1.25         | <2.50         | -    | 1820     | 24800 <sup>3</sup>   | -                             | -                                | -       | 79.50                       | 0                        | 343.80   |
|                               | 06/05/01                  | 1.23    | <1.25   | 1.06          | 2.54          | -    | 2270     | 119003 <sup>3</sup>  | -                             | -                                | -       | 80.45                       | SHEEN                    | 342.86   |
|                               | 09/25/01                  | NS      | NS      | NS            | NS            | -    | NS       | NS                   | -                             | -                                | -       | 81.90                       | 0.20                     | 341.40   |
|                               | 09/05/02                  | NS      | NS      | NS            | NS            | -    | NS       | NS                   | -                             | -                                | -       | DRY                         | -                        | DRY  |
|                               | 09/11/03                  | NS      | NS      | NS            | NS            | -    | NS       | NS                   | -                             | -                                | -       | 82.57                       | 0.42                     | 341.07   |
|                               | 11/17/04                  | NS      | NS      | NS            | NS            | -    | NS       | -                    | NS                            | NS                               | -       | DRY                         | -                        | DRY  |
|                               | 07/11/05                  | NS      | NS      | NS            | NS            | -    | NS       | -                    | NS                            | NS                               | -       | DRY                         | -                        | DRY  |
|                               | 07/07/06                  | NS      | NS      | NS            | NS            | -    | NS       | -                    | NS                            | NS                               | -       | DRY                         | -                        | DRY  |
|                               | 11/15/07                  | NS      | NS      | NS            | NS            | -    | NS       | -                    | NS                            | NS                               | -       | DRY                         | -                        | DRY  |
|                               | 10/08/08                  | NS      | NS      | NS            | NS            | -    | NS       | -                    | NS                            | NS                               | NS      | DRY                         | -                        | DRY  |
| 424.45                        | 06/30/10                  | NS      | NS      | NS            | NS            | -    | NS       | -                    | NS                            | NS                               | NS      | 78.97                       | Trace                    | 344.45   |
| 423.42                        | 12/14/10                  | NS      | NS      | NS            | NS            | -    | NS       | -                    | NS                            | NS                               | NS      | 79.38                       | 0.00                     | 344.04   |
| MW-4<br>410.12<br>(est.)      | 1983                      | <1.0    | <1.0    | -             | <1.0          | -    | -        | -                    | -                             | -                                | -       | 74.30                       | 0                        | 335.82   |
|                               | 08/26/87                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 68.41                       | 0                        | 341.71   |
|                               | 12/11/87                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 67.71                       | 0                        | 342.41   |
|                               | 12/17/87                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 67.75                       | 0                        | 342.37   |
|                               | 12/21/88                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 67.69                       | 0                        | 342.43   |
|                               | 12/28/87                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 67.67                       | 0                        | 342.45   |
|                               | 01/05/88                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 67.64                       | 0                        | 342.48   |
|                               | 01/12/88                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 67.62                       | 0                        | 342.50   |
|                               | 01/19/88                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 67.64                       | 0                        | 342.48   |
|                               | 01/26/88                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 67.72                       | 0                        | 342.40   |
|                               | 02/03/88                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 67.72                       | 0                        | 342.40   |
|                               | 02/09/88                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 67.62                       | 0                        | 342.50   |
|                               | 02/16/88                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 67.63                       | 0                        | 342.49   |
|                               | 02/24/88                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 67.67                       | 0                        | 342.45   |
|                               | 03/01/88                  | -       | -       | -             | -             | -    | -        | -                    | -                             | -                                | -       | 67.61                       | 0                        | 342.51   |

**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTG Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD) | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE | NWTPH-Gx | NWTPH-Dx          | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |   |
|------------------------------|---------------------------|---------|---------|---------------|---------------|------|----------|-------------------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|---|
| Ecology                      | Criteria <sup>2</sup>     | 5       | 1000    | 700           | 1000          | 20   | 1000     | N/A               | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |   |
| MW-4<br>410.12<br>(est.)     | 03/08/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 67.55                       | 0                        | 342.57   |   |
|                              | 03/15/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 67.56                       | 0                        | 342.56   |   |
|                              | 03/22/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 67.53                       | 0                        | 342.59   |   |
|                              | 03/30/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 67.54                       | 0                        | 342.58   |   |
|                              | 04/05/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 67.53                       | 0                        | 342.59   |   |
|                              | 04/12/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 67.52                       | 0                        | 342.60   |   |
|                              | 04/19/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 67.67                       | 0                        | 342.45   |   |
|                              | 04/26/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 67.55                       | 0                        | 342.57   |   |
|                              | 05/03/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 67.58                       | 0                        | 342.54   |   |
|                              | 05/10/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 67.74                       | 0                        | 342.38   |   |
|                              | 05/16/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 67.92                       | 0                        | 342.20   |   |
|                              | 05/23/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.06                       | 0                        | 342.06   |   |
|                              | 05/31/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.13                       | 0                        | 341.99   |   |
|                              | 06/07/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.26                       | 0                        | 341.86   |   |
|                              | 06/13/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.30                       | 0                        | 341.82   |   |
|                              | 06/20/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.42                       | 0                        | 341.70   |   |
|                              | 06/24/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.49                       | 0                        | 341.63   |   |
|                              | 06/27/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.53                       | 0                        | 341.59   |   |
|                              | 07/05/88                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.66                       | 0                        | 341.46   |   |
|                              | 04/12/90                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.25                       | 0                        | 341.87   |   |
|                              | 08/06/90                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.87                       | 0                        | 341.25   |   |
|                              | 11/19/90                  | ND      | ND      | ND            | ND            | -    | NS       | ND                | -                             | -                                | -       | 68.42                       | 0                        | 341.70   |   |
|                              | 02/14/91                  | <0.5    | 39      | 7.3           | 80            | -    | NS       | 2000 <sup>3</sup> | -                             | -                                | -       | 68.00                       | 0                        | 342.12   |   |
|                              | 05/15/91                  | <0.5    | <0.5    | <0.5          | <0.5          | -    | NS       | 600 <sup>3</sup>  | -                             | -                                | -       | 68.18                       | 0                        | 341.94   |   |
|                              | 08/08/91                  | ND      | ND      | ND            | ND            | -    | NS       | NS                | -                             | -                                | -       | 69.13                       | 0                        | 340.99   |   |
|                              | 04/01/92                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.05                       | 0                        | 342.07   |   |
|                              | 07/01/92                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.80                       | 0                        | 341.32   |   |
|                              | 12/08/92                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.37                       | 0                        | 341.75   |   |
|                              | 10/1/93                   | <0.5    | <0.5    | <0.5          | <0.5          | -    | NS       | ND                | -                             | -                                | -       | -                           | 0                        | 0  | - |
|                              | 11/01/93                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.90                       | 0                        | 341.22   |   |
|                              | 02/01/94                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.04                       | 0                        | 342.08   |   |
|                              | 01/31/95                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.30                       | Trace                    | 341.82   |   |
|                              | 02/27/95                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.00                       | Trace                    | 342.12   |   |
|                              | 03/31/95                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.20                       | Trace                    | 341.92   |   |
|                              | 04/28/95                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.00                       | Trace                    | 342.12   |   |
|                              | 05/31/95                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.20                       | Trace                    | 341.92   |   |
|                              | 06/30/95                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.43                       | Trace                    | 341.70   |   |
|                              | 07/24/95                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.73                       | Trace                    | 341.39   |   |
|                              | 08/29/95                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.61                       | Trace                    | 341.51   |   |
|                              | 09/27/95                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.10                       | Trace                    | 342.02   |   |
|                              | 01/31/96                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.40                       | Trace                    | 341.72   |   |
|                              | 02/29/96                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.30                       | Trace                    | 341.82   |   |
|                              | 03/29/96                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.40                       | 0                        | 341.72   |   |
|                              | 04/29/96                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.10                       | 0                        | 342.02   |   |
|                              | 05/22/96                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.00                       | 0                        | 342.12   |   |
|                              | 06/28/96                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 68.42                       | 0                        | 341.70   |   |
|                              | 07/31/96                  | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | -       | 65.50                       | 0                        | 344.62   |   |
| 08/30/96                     | -                         | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | 68.60   | 0                           | 341.52                   |  |   |
| 09/30/96                     | -                         | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | 68.60   | 0                           | 341.52                   |  |   |
| 10/31/96                     | -                         | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | 68.90   | 0                           | 341.22                   |  |   |
| 11/19/96                     | -                         | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | 68.30   | 0                           | 341.82                   |  |   |
| 01/30/97                     | -                         | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | 62.40   | 0                           | 347.72                   |  |   |
| 02/28/97                     | -                         | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | 62.10   | 0                           | 348.02                   |  |   |
| 04/19/97                     | -                         | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | 62.00   | 0                           | 348.12                   |  |   |
| 08/20/97                     | -                         | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | 62.00   | 0                           | 348.12                   |  |   |
| 11/02/97                     | -                         | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | 62.00   | 0                           | 348.12                   |  |   |
| 03/26/98                     | -                         | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | 67.40   | 0                           | 342.72                   |  |   |
| 06/26/98                     | -                         | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | 65.90   | -                           | 344.22                   |  |   |
| 09/17/98                     | -                         | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | 75.28   | 0                           | 334.84                   |  |   |
| 12/18/98                     | -                         | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | 66.86   | 0                           | 343.26                   |  |   |
| 03/29/99                     | NS                        | NS      | NS      | NS            | -             | NS   | NS       | -                 | -                             | -                                | 67.15   | 0                           | 342.97                   |  |   |
| 06/24/99                     | NS                        | NS      | NS      | NS            | -             | NS   | NS       | -                 | -                             | -                                | 67.92   | 0                           | 342.20                   |  |   |
| 10/08/99                     | NS                        | NS      | NS      | NS            | -             | NS   | NS       | -                 | -                             | -                                | 68.73   | 0                           | 341.39                   |  |   |
| 12/20/99                     | NS                        | NS      | NS      | NS            | -             | NS   | NS       | -                 | -                             | -                                | 68.13   | 0                           | 341.99                   |  |   |
| 03/14/00                     | NS                        | NS      | NS      | NS            | -             | NS   | NS       | -                 | -                             | -                                | 67.70   | 0                           | 342.42                   |  |   |
| 06/08/00                     | NS                        | NS      | NS      | NS            | -             | NS   | NS       | -                 | -                             | -                                | 68.31   | 0                           | 341.81                   |  |   |
| 09/13/00                     | NS                        | NS      | NS      | NS            | -             | NS   | NS       | -                 | -                             | -                                | 69.07   | 0                           | 341.05                   |  |   |
| 12/06/00                     | NS                        | NS      | NS      | NS            | -             | NS   | NS       | -                 | -                             | -                                | 68.37   | 0                           | 341.75                   |  |   |
| 03/01/01                     | -                         | -       | -       | -             | -             | -    | -        | -                 | -                             | -                                | 67.80   | 0                           | 342.32                   |  |   |

**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTG Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD)  | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE | NWTPH-Gx | NWTPH-Dx            | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |   |
|-------------------------------|---------------------------|---------|---------|--------------|---------------|------|----------|---------------------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|---|
| Ecology Criteria <sup>2</sup> |                           | 5       | 1000    | 700          | 1000          | 20   | 1000     | N/A                 | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |   |
| MW-4                          | 03/26/01                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | < 5000 <sup>3</sup> | -                             | -                                | -       | 67.80                       | 0                        | 342.32   |   |
| 410.12 (est.)                 | 06/05/01                  | NS      | NS      | NS           | NS            | -    | NS       | NS                  | -                             | -                                | -       | 68.11                       | 0                        | 342.01   |   |
|                               | 09/25/01                  | NS      | NS      | NS           | NS            | -    | NS       | NS                  | -                             | -                                | -       | DRY                         | -                        | DRY  |   |
|                               | 09/06/02                  | <1.0    | <1.0    | <1.0         | <3.0          | -    | <100     | <690                | -                             | -                                | -       | damaged                     | -                        | NM   |   |
|                               | 09/11/03                  | <1.0    | <1.0    | <1.0         | <3.0          | -    | <100     | <410                | -                             | -                                | -       | damaged                     | -                        | NM   |   |
| 410.59                        | 11/17/04                  | <0.2    | <0.2    | <0.2         | <0.6          | -    | <48      | -                   | <78                           | <97                              | -       | 68.50                       | 0                        | 341.62   |   |
|                               | 07/11/05                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <48      | -                   | 200                           | 520                              | -       | 68.52                       | 0                        | 341.60   |   |
|                               | 07/07/06                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <48      | -                   | 400                           | 540                              | -       | 67.72                       | 0                        | 342.40   |   |
|                               | 11/14/07                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <50      | -                   | <77                           | <96                              | -       | 68.04                       | 0                        | 342.55   |   |
| 412.09                        | 10/08/08                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <50      | -                   | 260                           | <97                              | <200    | 67.91                       | 0                        | 342.68   |   |
|                               | 06/29/10                  | <1.0    | <1.0    | <1.0         | <2.0          | -    | <50      | -                   | <120                          | <240                             | <10000  | 68.01                       | 0                        | 344.08   |   |
|                               | 12/15/10                  | <1.0    | <1.0    | <1.0         | <2.0          | -    | <50      | -                   | <120                          | <240                             | <10000  | 68.43                       | 0                        | 343.66   |   |
| MW-05 (48" dia. culvert)      | 08/26/87                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.50                       | 0                        | -  |   |
|                               | 12/11/87                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.47                       | 0                        | -  |   |
|                               | 12/21/87                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.42                       | 0                        | -  |   |
|                               | 12/28/87                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.30                       | 0                        | -  |   |
|                               | 01/05/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.24                       | 0                        | -  |   |
|                               | 01/12/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.20                       | 0                        | -  |   |
|                               | 01/19/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.47                       | 0                        | -  |   |
|                               | 01/26/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 19.22                       | 0                        | -  |   |
|                               | 02/03/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 18.23                       | 0                        | -  |   |
|                               | 02/09/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 18.16                       | 0                        | -  |   |
|                               | 02/16/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 18.16                       | 0                        | -  |   |
|                               | 02/24/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 18.27                       | 0                        | -  |   |
|                               | 03/01/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.58                       | 0                        | -  |   |
|                               | 03/08/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.37                       | 0                        | -  |   |
|                               | 03/15/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.46                       | 0                        | -  |   |
|                               | 03/22/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.38                       | 0                        | -  |   |
|                               | 03/30/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.35                       | 0                        | -  |   |
|                               | 04/05/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.35                       | 0                        | -  |   |
|                               | 04/12/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.54                       | 0                        | -  |   |
|                               | 04/19/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.77                       | 0                        | -  |   |
|                               | 04/26/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.02                       | 0                        | -  |   |
|                               | 05/03/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.04                       | 0                        | -  |   |
|                               | 05/10/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.31                       | 0                        | -  |   |
|                               | 05/16/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.67                       | 0                        | -  |   |
|                               | 05/23/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 18.16                       | 0                        | -  |   |
|                               | 05/31/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.23                       | 0                        | -  |   |
|                               | 06/07/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 18.18                       | 0                        | -  |   |
|                               | 06/13/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.99                       | 0                        | -  |   |
|                               | 06/20/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 18.11                       | 0                        | -  |   |
|                               | 06/24/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.80                       | 0                        | -  |   |
|                               | 06/27/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.61                       | 0                        | -  |   |
|                               | 07/05/88                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.95                       | 0                        | -  |   |
|                               | 08/06/90                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | 17.57                       | 0                        | -  |   |
|                               | 11/19/90                  | ND      | ND      | ND           | ND            | ND   | -        | -                   | ND                            | -                                | -       | -                           | 17.74                    | 0  | - |
|                               | 02/14/91                  | ND      | ND      | ND           | ND            | ND   | -        | -                   | -                             | -                                | -       | -                           | 17.60                    | 0  | - |
|                               | 05/15/91                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | -                           | 17.75                    | 0  | - |
|                               | 08/08/91                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | -                           | 18.39                    | 0  | - |
|                               | 04/01/92                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | -                           | 17.58                    | 0  | - |
|                               | 07/01/92                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | -                           | 17.87                    | 0  | - |
|                               | 12/08/92                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | -                           | 17.83                    | 0  | - |
|                               | 11/01/93                  | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | -                           | 18.85                    | 0  | - |
|                               | 02/01/94                  | ND      | ND      | ND           | ND            | ND   | -        | -                   | ND                            | -                                | -       | -                           | 17.82                    | 0  | - |
| 01/31/95                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 02/27/95                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 03/31/95                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 04/28/95                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 05/31/95                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 06/30/95                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 07/24/95                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 08/29/95                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 09/27/95                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 01/31/96                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 02/29/96                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 03/29/96                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 04/29/96                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 05/22/96                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 06/28/96                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 07/31/96                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |
| 08/30/96                      | -                         | -       | -       | -            | -             | -    | -        | -                   | -                             | -                                | -       | DRY                         | -                        | -  |   |

**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTG Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD)  | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE | NWTPH-Gx | NWTPH-Dx           | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |        |
|-------------------------------|---------------------------|---------|---------|--------------|---------------|------|----------|--------------------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|--------|
| Ecology Criteria <sup>2</sup> |                           | 5       | 1000    | 700          | 1000          | 20   | 1000     | N/A                | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |        |
| MW-05<br>(48" dia. culvert)   | 09/30/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
|                               | 10/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
|                               | 11/19/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
|                               | 01/30/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
|                               | 02/28/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
|                               | 04/19/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
|                               | 08/20/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
|                               | 11/02/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
|                               | 03/26/98                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
|                               | 06/24/98                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
|                               | 09/17/98                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
|                               | 12/18/98                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
|                               | 06/24/99                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
|                               | 03/29/99                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
|                               | 10/08/99                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
| 03/01/01                      | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | DRY                         | -                        | -  |        |
| MW-6<br>358.07                | 08/26/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.75                       | 0                        | 341.32   |        |
|                               | 08/26/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.76                       | 0                        | 341.31   |        |
|                               | 12/11/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 15.28                       | 0                        | 342.79   |        |
|                               | 12/21/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.14                       | 0                        | 341.93   |        |
|                               | 12/28/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.09                       | 0                        | 341.98   |        |
|                               | 01/05/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.05                       | 0                        | 342.02   |        |
|                               | 01/12/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.04                       | 0                        | 342.03   |        |
|                               | 01/19/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.17                       | 0                        | 341.90   |        |
|                               | 01/26/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.98                       | 0                        | 341.09   |        |
|                               | 02/03/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.50                       | 0                        | 341.57   |        |
|                               | 02/09/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.21                       | 0                        | 341.86   |        |
|                               | 02/16/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.24                       | 0                        | 341.83   |        |
|                               | 02/24/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.04                       | 0                        | 342.03   |        |
|                               | 03/01/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.20                       | 0                        | 341.87   |        |
|                               | 03/08/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.06                       | 0                        | 342.01   |        |
|                               | 03/15/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.20                       | 0                        | 341.87   |        |
|                               | 03/22/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.07                       | 0                        | 342.00   |        |
|                               | 03/30/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.05                       | 0                        | 342.02   |        |
|                               | 04/05/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.03                       | 0                        | 342.04   |        |
|                               | 04/12/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.09                       | 0                        | 341.98   |        |
|                               | 04/19/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.31                       | 0                        | 341.76   |        |
|                               | 04/26/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 15.91                       | 0                        | 342.16   |        |
|                               | 05/03/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 15.93                       | 0                        | 342.14   |        |
|                               | 05/10/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.18                       | 0                        | 341.89   |        |
|                               | 05/16/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.41                       | 0                        | 341.66   |        |
|                               | 05/23/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.70                       | 0                        | 341.37   |        |
|                               | 05/31/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.34                       | 0                        | 341.73   |        |
|                               | 06/07/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.81                       | 0                        | 341.26   |        |
|                               | 06/13/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.77                       | 0                        | 341.30   |        |
|                               | 06/20/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.87                       | 0                        | 341.20   |        |
|                               | 06/24/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.77                       | 0                        | 341.30   |        |
|                               | 06/27/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.70                       | 0                        | 341.37   |        |
|                               | 07/05/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.93                       | 0                        | 341.14   |        |
|                               | 04/12/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.84                       | 0                        | 341.23   |        |
|                               | 08/06/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.89                       | 0                        | 341.18   |        |
|                               | 11/19/90                  | ND      | ND      | ND           | ND            | ND   | -        | -                  | ND                            | -                                | -       | -                           | 16.75                    | 0  | 341.32 |
|                               | 02/14/91                  | ND      | ND      | ND           | ND            | ND   | -        | -                  | -                             | -                                | -       | -                           | 16.43                    | 0  | 341.64 |
|                               | 05/14/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 16.64                    | 0  | 341.43 |
|                               | 08/08/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 17.44                    | 0  | 340.63 |
|                               | 04/01/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 16.50                    | 0  | 341.57 |
|                               | 07/01/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 17.00                    | 0  | 341.07 |
| 12/08/92                      | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.76                       | 0                        | 341.31   |        |
| 10/19/93                      | <0.5                      | <0.5    | <0.5    | <5.0         | <5.0          | -    | <100.0   | <1000 <sup>3</sup> | -                             | -                                | -       | 17.78                       | 0                        | 340.29   |        |
| 02/01/94                      | <0.5                      | <0.5    | <0.5    | <5.0         | <5.0          | -    | <100.0   | <1000 <sup>3</sup> | -                             | -                                | -       | 16.62                       | 0                        | 341.45   |        |
| 01/31/95                      | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.40                       | Trace                    | 341.67   |        |
| 02/27/95                      | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.30                       | Trace                    | 341.77   |        |
| 03/31/95                      | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.30                       | Trace                    | 341.77   |        |
| 04/28/95                      | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.30                       | Trace                    | 341.77   |        |
| 05/31/95                      | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.10                       | Trace                    | 341.97   |        |
| 06/30/95                      | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.20                       | Trace                    | 341.87   |        |
| 07/24/95                      | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.77                       | 0.01                     | 341.30   |        |
| 08/29/95                      | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.62                       | 0.01                     | 341.45   |        |
| 09/27/95                      | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.70                       | 0.01                     | 341.37   |        |

**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTC Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD) | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE | NWTPH-Gx | NWTPH-Dx           | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |
|------------------------------|---------------------------|---------|---------|--------------|---------------|------|----------|--------------------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|
| Ecology                      | Criteria <sup>2</sup>     | 5       | 1000    | 700          | 1000          | 20   | 1000     | N/A                | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |
| MW-6<br>358.07               | 01/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.60                       | 0.01                     | 341.47   |
|                              | 02/29/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.80                       | 0.01                     | 341.27   |
|                              | 03/29/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.50                       | 0                        | 341.57   |
|                              | 04/29/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 15.89                       | 0                        | 342.18   |
|                              | 05/22/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.10                       | 0                        | 341.97   |
|                              | 06/28/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.58                       | 0                        | 341.49   |
|                              | 07/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.40                       | 0                        | 341.67   |
|                              | 08/30/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.30                       | 0                        | 341.77   |
|                              | 09/30/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.10                       | 0                        | 341.97   |
|                              | 10/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 17.35                       | 0                        | 340.72   |
|                              | 11/19/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.50                       | 0                        | 341.57   |
|                              | 01/30/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.07                       | 0                        | 342.00   |
|                              | 02/28/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.10                       | 0                        | 341.97   |
|                              | 04/19/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.10                       | 0                        | 341.97   |
|                              | 08/20/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.10                       | 0                        | 341.97   |
|                              | 11/02/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.10                       | 0                        | 341.97   |
|                              | 03/26/98                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.19                       | 0                        | 341.88   |
|                              | 06/24/98                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | 16.07                       | 0                        | 342.00   |
|                              | 09/17/98                  | <0.5    | <0.5    | <0.5         | 1.18          | -    | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | 16.56                       | 0                        | 341.51   |
|                              | 09/24/98                  | -       | -       | -            | -             | -    | -        | <1000 <sup>3</sup> | -                             | -                                | -       | -                           | -                        | -  |
|                              | 12/18/98                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | 16.14                       | 0                        | 341.93   |
|                              | 03/29/99                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | 15.59                       | 0                        | 342.48   |
|                              | 06/24/99                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | 16.09                       | 0                        | 341.98   |
|                              | 10/08/99                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | 16.85                       | 0                        | 341.22   |
|                              | 12/20/99                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | 16.64                       | 0                        | 341.43   |
|                              | 03/14/00                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | 16.46                       | 0                        | 341.61   |
|                              | 06/08/00                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | 16.76                       | 0                        | 341.31   |
|                              | 09/13/00                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | 17.25                       | 0                        | 340.82   |
|                              | 12/06/00                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | 16.71                       | 0                        | 341.36   |
|                              | 03/01/01                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 16.33                       | 0                        | 341.74   |
|                              | 03/26/01                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <5000 <sup>3</sup> | -                             | -                                | -       | 16.33                       | 0                        | 341.74   |
|                              | 06/05/01                  | <0.5    | 0.772   | <0.5         | 2.15          | -    | 52.6     | <250               | -                             | -                                | -       | 16.92                       | 0                        | 341.15   |
|                              | 09/25/01                  | <0.5    | <1.0    | <1.0         | <1.5          | -    | <50.0    | <250               | -                             | -                                | -       | 16.98                       | 0                        | 341.09   |
|                              | 09/05/02                  | <1.0    | <1.0    | <1.0         | <3.0          | -    | <100     | <500               | -                             | -                                | -       | 17.60                       | 0                        | 340.47   |
|                              | 09/11/03                  | <1.0    | <1.0    | <1.0         | <3.0          | -    | <100     | <410               | -                             | -                                | -       | 17.58                       | 0                        | 340.49   |
|                              | 11/17/04                  | <0.2    | <0.2    | <0.2         | <0.6          | -    | <48      | -                  | <78                           | <98                              | -       | 16.91                       | 0                        | 341.16   |
|                              | 07/11/05                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <48      | -                  | <76                           | 130                              | -       | 17.18                       | 0                        | 340.89   |
|                              | 07/07/06                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <48      | -                  | <76                           | <95                              | -       | 16.19                       | 0                        | 341.88   |
| 358.77                       | 11/15/07                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <50      | -                  | <76                           | <95                              | -       | 16.96                       | 0                        | 341.81   |
|                              | 10/08/08                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <50      | -                  | <76                           | <95                              | <200    | 16.39                       | 0                        | 342.38   |
| 358.61                       | 06/29/10                  | <1.0    | <1.0    | <1.0         | <2.0          | -    | <50      | -                  | <120                          | <240                             | <10000  | 15.84                       | 0                        | 342.77   |
|                              | 12/14/10                  | <1.0    | <1.0    | <1.0         | <2.0          | -    | <50      | -                  | <120                          | <240                             | <10000  | 16.34                       | 0                        | 342.27   |
| MW-7<br>410.12               | 08/26/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.52                       | 0                        | 342.60   |
|                              | 12/11/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.85                       | 0                        | 343.27   |
|                              | 12/15/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.80                       | 0                        | 343.32   |
|                              | 12/17/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.81                       | 0                        | 343.31   |
|                              | 12/21/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.77                       | 0                        | 343.35   |
|                              | 12/28/87                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.74                       | 0                        | 343.38   |
|                              | 01/05/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.68                       | 0                        | 343.44   |
|                              | 01/12/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.69                       | 0                        | 343.43   |
|                              | 01/19/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.71                       | 0                        | 343.41   |
|                              | 01/26/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.75                       | 0                        | 343.37   |
|                              | 02/03/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.66                       | 0                        | 343.46   |
|                              | 02/09/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.67                       | 0                        | 343.45   |
|                              | 02/16/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.69                       | 0                        | 343.43   |
|                              | 02/24/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.70                       | 0                        | 343.42   |
|                              | 03/01/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.66                       | 0                        | 343.46   |
|                              | 03/08/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.54                       | 0                        | 343.58   |
|                              | 03/15/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.61                       | 0                        | 343.51   |
|                              | 03/16/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.61                       | 0                        | 343.51   |
|                              | 03/22/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.63                       | 0                        | 343.49   |
|                              | 03/30/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.60                       | 0                        | 343.52   |
|                              | 04/05/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.58                       | 0                        | 343.54   |
|                              | 04/12/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.58                       | 0                        | 343.54   |
|                              | 04/19/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.71                       | 0                        | 343.41   |
|                              | 04/26/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.64                       | 0                        | 343.48   |
|                              | 05/03/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.67                       | 0                        | 343.45   |
|                              | 05/10/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.78                       | 0                        | 343.34   |
|                              | 05/16/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.98                       | 0                        | 343.14   |
|                              | 05/23/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.14                       | 0                        | 342.98   |

**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTG Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD) | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE | NWTPH-Gx | NWTPH-Dx           | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |
|------------------------------|---------------------------|---------|---------|--------------|---------------|------|----------|--------------------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|
| Ecology                      | Criteria <sup>2</sup>     | 5       | 1000    | 700          | 1000          | 20   | 1000     | N/A                | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |
| MW-7<br>410.12               | 05/31/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.25                       | 0                        | 342.87   |
|                              | 06/07/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.35                       | 0                        | 342.77   |
|                              | 06/13/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.40                       | 0                        | 342.72   |
|                              | 06/20/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.53                       | 0                        | 342.59   |
|                              | 06/24/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.62                       | 0                        | 342.50   |
|                              | 06/27/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.66                       | 0                        | 342.46   |
|                              | 07/05/88                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.79                       | 0                        | 342.33   |
|                              | 04/12/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.34                       | 0                        | 342.78   |
|                              | 08/06/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 68.01                       | 0                        | 342.11   |
|                              | 11/18/90                  | ND      | ND      | ND           | ND            | -    | -        | ND                 | -                             | -                                | -       | 65.55                       | 0                        | 344.57   |
|                              | 02/14/91                  | ND      | ND      | ND           | ND            | -    | -        | -                  | -                             | -                                | -       | 67.09                       | 0                        | 343.03   |
|                              | 05/15/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.29                       | 0                        | 342.83   |
|                              | 08/08/91                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 68.28                       | 0                        | 341.84   |
|                              | 04/01/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.12                       | 0                        | 343.00   |
|                              | 07/01/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.93                       | 0                        | 342.19   |
|                              | 12/08/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.47                       | 0                        | 342.65   |
|                              | 10/18/93                  | ND      | ND      | ND           | ND            | -    | -        | ND                 | -                             | -                                | -       | -                           | 0                        | -  |
|                              | 11/01/93                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.95                       | 0                        | 342.17   |
|                              | 02/01/94                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.08                       | 0                        | 343.04   |
|                              | 01/31/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.40                       | 0.38                     | 342.72   |
|                              | 02/27/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.00                       | 0.38                     | 343.12   |
|                              | 03/31/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.10                       | 0.38                     | 343.02   |
|                              | 04/28/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.20                       | 0.25                     | 342.92   |
|                              | 05/31/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.30                       | 0.13                     | 342.82   |
|                              | 06/30/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.30                       | 0.13                     | 342.82   |
|                              | 07/24/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 65.13                       | 0.01                     | 344.99   |
|                              | 08/29/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 65.20                       | 0.01                     | 344.92   |
|                              | 09/27/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 65.40                       | 0.01                     | 344.72   |
|                              | 01/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.30                       | 0.01                     | 342.82   |
|                              | 02/29/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.80                       | 0.01                     | 343.32   |
|                              | 03/29/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.80                       | 0                        | 343.32   |
|                              | 04/29/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.85                       | 0                        | 343.27   |
|                              | 05/22/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.60                       | 0                        | 343.52   |
|                              | 06/28/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.64                       | 0                        | 342.48   |
|                              | 07/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.50                       | 0                        | 342.62   |
|                              | 08/30/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.70                       | 0                        | 342.42   |
|                              | 09/30/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 68.00                       | 0                        | 342.12   |
|                              | 10/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 68.05                       | 0                        | 342.07   |
|                              | 11/19/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.60                       | 0                        | 342.52   |
|                              | 01/30/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.05                       | 0                        | 343.07   |
|                              | 02/28/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.90                       | 0                        | 343.22   |
|                              | 04/19/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.80                       | 0                        | 343.32   |
|                              | 08/20/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.64                       | 0                        | 342.48   |
|                              | 11/02/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.20                       | 0                        | 342.92   |
|                              | 03/26/98                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.40                       | 0                        | 343.72   |
|                              | 06/24/98                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.90                       | -                        | 343.22   |
|                              | 09/17/98                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.36                       | 0                        | 343.76   |
|                              | 12/18/98                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 65.98                       | 0                        | 344.14   |
|                              | 03/29/99                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 66.16                       | 0                        | 343.96   |
|                              | 06/24/99                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 67.04                       | 0                        | 343.08   |
|                              | 10/08/99                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 68.87                       | 0                        | 341.25   |
|                              | 12/20/99                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 67.19                       | 0                        | 342.93   |
|                              | 03/14/00                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 66.72                       | 0                        | 343.40   |
|                              | 06/08/00                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 67.45                       | 0                        | 342.67   |
|                              | 09/13/00                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 68.25                       | 0                        | 341.87   |
|                              | 12/06/00                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 67.50                       | 0                        | 342.62   |
|                              | 02/27/01                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | NA                 | -                             | -                                | -       | -                           | -                        | -  |
|                              | 03/01/01                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 66.85                       | 0                        | 343.27   |
|                              | 03/27/01                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <5000 <sup>3</sup> | -                             | -                                | -       | 66.85                       | 0                        | 343.27   |
|                              | 06/05/01                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 67.37                       | 0                        | 342.75   |
|                              | 09/25/01                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 68.05                       | 0                        | 342.07   |
|                              | 09/05/02                  | <1.0    | <1.0    | <1.0         | <3.0          | -    | <100     | <530               | -                             | -                                | -       | 68.07                       | 0                        | 342.05   |
|                              | 09/11/03                  | <1.0    | <1.0    | <1.0         | <3.0          | -    | <100     | <410               | -                             | -                                | -       | 68.25                       | 0                        | 341.87   |
|                              | 11/17/04                  | <0.2    | <0.2    | <0.2         | <0.6          | -    | <48      | -                  | <76                           | <95                              | -       | 67.58                       | 0                        | 342.54   |
|                              | 07/11/05                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <48      | -                  | 690                           | 570                              | -       | 67.60                       | 0                        | 342.52   |
|                              | 07/07/06                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <48      | -                  | <76                           | <95                              | -       | 66.80                       | 0                        | 343.32   |
|                              | 11/15/07                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <50      | -                  | <76                           | <95                              | -       | 67.05                       | 0                        | 342.96   |
|                              | 10/08/08                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3 | <50      | -                  | <77                           | <96                              | <200    | 66.97                       | 0                        | 343.04   |
|                              | 06/30/10                  | <1.0    | <1.0    | <1.0         | <2.0          | -    | <50      | -                  | <120                          | <240                             | <10000  | 66.96                       | 0                        | 344.44   |
|                              | 12/15/10                  | <1.0    | <1.0    | <1.0         | <2.0          | -    | <50      | -                  | <120                          | <240                             | <10000  | 67.37                       | 0                        | 344.03   |
| 410.01                       |                           |         |         |              |               |      |          |                    |                               |                                  |         |                             |                          |  |
| 411.40                       |                           |         |         |              |               |      |          |                    |                               |                                  |         |                             |                          |  |

**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTG Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD) | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE | NWTPH-Gx | NWTPH-Dx | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |
|------------------------------|---------------------------|---------|---------|--------------|---------------|------|----------|----------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|
| Ecology                      | Criteria <sup>2</sup>     | 5       | 1000    | 700          | 1000          | 20   | 1000     | N/A      | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |
| MW-8<br>384.58               | 08/26/87                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.95                       | 0                        | 342.63   |
|                              | 12/11/87                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.21                       | 0                        | 343.37   |
|                              | 12/17/87                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.24                       | 0                        | 343.34   |
|                              | 12/21/87                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.21                       | 0                        | 343.37   |
|                              | 12/28/87                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.33                       | 0                        | 343.25   |
|                              | 01/05/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.12                       | 0                        | 343.46   |
|                              | 01/12/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.10                       | 0                        | 343.48   |
|                              | 01/19/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.14                       | 0                        | 343.44   |
|                              | 01/26/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.18                       | 0                        | 343.40   |
|                              | 02/03/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.17                       | 0                        | 343.41   |
|                              | 02/09/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.09                       | 0                        | 343.49   |
|                              | 02/16/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.09                       | 0                        | 343.49   |
|                              | 02/24/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.12                       | 0                        | 343.46   |
|                              | 03/01/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.06                       | 0                        | 343.52   |
|                              | 03/08/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.04                       | 0                        | 343.54   |
|                              | 03/15/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.03                       | 0                        | 343.55   |
|                              | 03/16/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.04                       | 0                        | 343.54   |
|                              | 03/22/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.00                       | 0                        | 343.58   |
|                              | 03/30/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.02                       | 0                        | 343.56   |
|                              | 04/05/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.00                       | 0                        | 343.58   |
|                              | 04/12/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.00                       | 0                        | 343.58   |
|                              | 04/19/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.12                       | 0                        | 343.46   |
|                              | 04/26/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.02                       | 0                        | 343.56   |
|                              | 05/03/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.09                       | 0                        | 343.49   |
|                              | 05/10/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.24                       | 0                        | 343.34   |
|                              | 05/16/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.40                       | 0                        | 343.18   |
|                              | 05/23/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.57                       | 0                        | 343.01   |
|                              | 05/31/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.66                       | 0                        | 342.92   |
|                              | 06/07/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.77                       | 0                        | 342.81   |
|                              | 06/13/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.82                       | 0                        | 342.76   |
|                              | 06/20/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.95                       | 0                        | 342.63   |
|                              | 06/24/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 42.04                       | 0                        | 342.54   |
|                              | 06/27/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 42.08                       | 0                        | 342.50   |
|                              | 07/05/88                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 42.21                       | 0                        | 342.37   |
|                              | 04/12/90                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.77                       | 0                        | 342.81   |
|                              | 08/06/90                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 42.44                       | 0                        | 342.14   |
|                              | 11/18/90                  | ND      | ND      | ND           | ND            | -    | -        | ND       | -                             | -                                | -       | 41.96                       | 0                        | 342.62   |
|                              | 02/14/91                  | ND      | ND      | ND           | ND            | -    | -        | -        | -                             | -                                | -       | 41.50                       | 0                        | 343.08   |
|                              | 05/14/91                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.71                       | 0                        | 342.87   |
|                              | 08/08/91                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 42.70                       | 0                        | 341.88   |
|                              | 04/01/92                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.54                       | 0                        | 343.04   |
|                              | 07/01/92                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 42.36                       | 0                        | 342.22   |
|                              | 12/08/92                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.89                       | 0                        | 342.69   |
|                              | 11/01/93                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 42.40                       | 0                        | 342.18   |
|                              | 02/01/94                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.51                       | 0                        | 343.07   |
|                              | 01/31/95                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.70                       | 0.25                     | 342.88   |
|                              | 02/27/95                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.40                       | 0.25                     | 343.18   |
|                              | 03/31/95                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.40                       | 0.25                     | 343.18   |
|                              | 04/28/95                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.40                       | 0.13                     | 343.18   |
|                              | 05/31/95                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.70                       | 0.13                     | 342.88   |
|                              | 06/30/95                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.80                       | Trace                    | 342.78   |
|                              | 07/24/95                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 42.28                       | Trace                    | 342.30   |
|                              | 08/29/95                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 42.31                       | Trace                    | 342.27   |
|                              | 09/27/95                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 42.47                       | Trace                    | 342.11   |
|                              | 01/31/96                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 42.50                       | Trace                    | 342.08   |
|                              | 02/29/96                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 42.40                       | Trace                    | 342.18   |
|                              | 03/29/96                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 42.40                       | Trace                    | 342.18   |
|                              | 04/29/96                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.10                       | Trace                    | 343.48   |
|                              | 05/22/96                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.20                       | Trace                    | 343.38   |
|                              | 06/28/96                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.03                       | 0                        | 343.55   |
|                              | 07/31/96                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 40.90                       | 0                        | 343.68   |
|                              | 08/30/96                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 40.80                       | 0                        | 343.78   |
|                              | 09/30/96                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 40.50                       | 0                        | 344.08   |
|                              | 10/31/96                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.60                       | 0                        | 342.98   |
|                              | 11/19/96                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 40.70                       | 0                        | 343.88   |
|                              | 01/30/97                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 40.80                       | 0                        | 343.78   |
|                              | 02/28/97                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 48.50                       | 0                        | 336.08   |
|                              | 04/19/97                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 46.50                       | 0                        | 338.08   |
|                              | 08/20/97                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.83                       | 0                        | 342.75   |
|                              | 11/02/97                  | -       | -       | -            | -             | -    | -        | -        | -                             | -                                | -       | 41.70                       | 0                        | 342.88   |

**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTG Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD) | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE | NWTPH-Gx | NWTPH-Dx           | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |
|------------------------------|---------------------------|---------|---------|--------------|---------------|------|----------|--------------------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|
| Ecology                      | Criteria <sup>2</sup>     | 5       | 1000    | 700          | 1000          | 20   | 1000     | N/A                | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |
| MW-8<br>384.58               | 03/26/98                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 40.85                       | 0                        | 343.73   |
|                              | 06/24/98                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 41.32                       | -                        | 343.26   |
|                              | 09/17/98                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 41.78                       | 0                        | 342.80   |
|                              | 12/18/98                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 41.28                       | 0                        | 343.30   |
|                              | 03/29/99                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 40.60                       | 0                        | 343.98   |
|                              | 06/24/99                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 41.45                       | 0                        | 343.13   |
|                              | 10/08/99                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 42.30                       | 0                        | 342.28   |
|                              | 12/20/99                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 41.61                       | 0                        | 342.97   |
|                              | 03/14/00                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 41.15                       | 0                        | 343.43   |
|                              | 06/08/00                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 41.90                       | 0                        | 342.68   |
|                              | 09/13/00                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 42.63                       | 0                        | 341.95   |
|                              | 12/06/00                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 41.85                       | 0                        | 342.73   |
|                              | 03/26/01                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <5000 <sup>3</sup> | -                             | -                                | -       | 41.23                       | 0                        | 343.35   |
|                              | 06/05/01                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 41.81                       | 0                        | 342.77   |
|                              | 09/25/01                  | NS      | NS      | NS           | NS            | -    | NS       | NS                 | -                             | -                                | -       | 42.39                       | 0                        | 342.19   |
|                              | 09/05/02                  | <1.0    | <1.0    | <1.0         | <3.0          | -    | <100     | <530               | -                             | -                                | -       | 42.48                       | 0                        | 342.10   |
|                              | 09/11/03                  | <1.0    | <1.0    | <1.0         | <3.0          | -    | <100     | <410               | -                             | -                                | -       | 40.41                       | 0                        | 344.17   |
| 11/17/04                     | <0.2                      | <0.2    | <0.2    | <0.6         | -             | <48  | -        | <76                | <96                           | -                                | 39.72   | 0                           | 344.86                   |  |
| 07/11/05                     | <0.2                      | <0.2    | <0.2    | <0.6         | <0.3          | <48  | -        | 78                 | 230                           | -                                | 39.74   | 0                           | 344.84                   |  |
| 07/07/06                     | <0.2                      | <0.2    | <0.2    | <0.6         | <0.3          | <48  | -        | <76                | <96                           | -                                | 38.91   | 0                           | 345.67                   |  |
| 11/15/07                     | <0.2                      | <0.2    | <0.2    | <0.6         | <0.3          | <50  | -        | <75                | <94                           | -                                | 39.19   | 0                           | 345.08                   |  |
| 10/08/08                     | <0.2                      | <0.2    | <0.2    | <0.6         | <0.3          | <50  | -        | <78                | <97                           | <200                             | 39.11   | 0                           | 345.16                   |  |
| 06/30/10                     | <1.0                      | <1.0    | <1.0    | <2.0         | -             | <50  | -        | <120               | <240                          | <10000                           | 39.51   | 0                           | 344.40                   |  |
| 12/15/11                     | <1.0                      | <1.0    | <1.0    | <2.0         | -             | <50  | -        | <120               | <240                          | <10000                           | 39.93   | 0                           | 343.98                   |  |
| MW-10<br>407.40              | 04/12/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.60                       | 0                        | 342.80   |
|                              | 08/06/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 65.27                       | 0                        | 342.13   |
|                              | 11/19/90                  | ND      | ND      | ND           | ND            | -    | -        | ND                 | -                             | -                                | -       | 64.80                       | 0                        | 342.60   |
|                              | 02/14/91                  | ND      | ND      | ND           | ND            | -    | -        | 4000               | -                             | -                                | -       | 64.31                       | 0                        | 343.09   |
|                              | 05/15/91                  | ND      | ND      | ND           | ND            | -    | -        | ND                 | -                             | -                                | -       | 64.52                       | 0                        | 342.88   |
|                              | 08/08/91                  | ND      | ND      | ND           | ND            | -    | -        | ND                 | -                             | -                                | -       | 65.52                       | 0                        | 341.88   |
|                              | 04/01/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.37                       | 0.27                     | 343.25   |
|                              | 07/01/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 65.17                       | 0                        | 342.23   |
|                              | 12/08/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.72                       | 0                        | 342.68   |
|                              | 10/18/93                  | ND      | ND      | ND           | ND            | -    | -        | -                  | ND                            | -                                | -       | -                           | -                        | -  |
|                              | 11/01/93                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 65.22                       | 0                        | 342.18   |
|                              | 02/01/94                  | ND      | ND      | ND           | ND            | -    | -        | -                  | ND                            | -                                | -       | 64.36                       | 0                        | 343.04   |
|                              | 01/31/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.40                       | Trace                    | 343.00   |
|                              | 02/27/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.30                       | Trace                    | 343.10   |
|                              | 03/31/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.30                       | Trace                    | 343.10   |
|                              | 04/28/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.50                       | Trace                    | 342.90   |
|                              | 05/31/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.70                       | Trace                    | 342.70   |
|                              | 06/30/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.60                       | Trace                    | 342.80   |
|                              | 07/24/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.89                       | Trace                    | 339.51   |
|                              | 08/29/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.77                       | Trace                    | 339.63   |
|                              | 09/27/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 67.50                       | Trace                    | 339.90   |
|                              | 01/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 65.60                       | Trace                    | 341.80   |
|                              | 02/29/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 65.30                       | 0                        | 342.10   |
|                              | 03/29/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 65.40                       | 0                        | 342.00   |
|                              | 04/29/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.70                       | 0                        | 342.70   |
|                              | 05/22/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.50                       | 0                        | 342.90   |
|                              | 06/28/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.84                       | 0                        | 342.56   |
|                              | 07/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.70                       | 0                        | 342.70   |
|                              | 08/30/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.70                       | 0                        | 342.70   |
|                              | 09/30/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.30                       | 0                        | 343.10   |
|                              | 10/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 65.35                       | 0                        | 342.05   |
|                              | 11/19/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.80                       | 0                        | 342.60   |
|                              | 01/30/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.32                       | 0                        | 343.08   |
|                              | 02/28/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 64.10                       | 0                        | 343.30   |
| 04/19/97                     | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | 64.00   | 0                           | 343.40                   |  |
| 08/20/97                     | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | 64.65   | 0                           | 342.75                   |  |
| 11/02/97                     | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | 64.60   | 0                           | 342.80                   |  |
| 03/26/98                     | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | 63.63   | 0                           | 343.77                   |  |
| 06/24/98                     | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | 64.18   | -                           | 343.22                   |  |
| 09/17/98                     | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | 63.60   | 0                           | 343.80                   |  |
| 12/18/98                     | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | 63.12   | 0                           | 344.28                   |  |
| 03/29/99                     | NS                        | NS      | NS      | NS           | -             | NS   | NS       | -                  | -                             | -                                | 63.42   | 0                           | 343.98                   |  |
| 06/24/99                     | NS                        | NS      | NS      | NS           | -             | NS   | NS       | -                  | -                             | -                                | 64.29   | 0                           | 343.11                   |  |
| 10/08/99                     | NS                        | NS      | NS      | NS           | -             | NS   | NS       | -                  | -                             | -                                | 65.12   | 0                           | 342.28                   |  |
| 12/20/99                     | NS                        | NS      | NS      | NS           | -             | NS   | NS       | -                  | -                             | -                                | 64.45   | 0                           | 342.95                   |  |
| 03/14/00                     | NS                        | NS      | NS      | NS           | -             | NS   | NS       | -                  | -                             | -                                | 63.97   | 0                           | 343.43                   |  |
| 06/08/00                     | NS                        | NS      | NS      | NS           | -             | NS   | NS       | -                  | -                             | -                                | 64.65   | 0                           | 342.75                   |  |
| 09/13/00                     | NS                        | NS      | NS      | NS           | -             | NS   | NS       | -                  | -                             | -                                | 65.45   | 0                           | 341.95                   |  |



**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTG Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD) | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE   | NWTPH-Gx          | NWTPH-Dx           | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |
|------------------------------|---------------------------|---------|---------|--------------|---------------|--------|-------------------|--------------------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|
| Ecology                      | Criteria <sup>2</sup>     | 5       | 1000    | 700          | 1000          | 20     | 1000              | N/A                | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |
| MW-10<br>407.40              | 12/06/00                  | NS      | NS      | NS           | NS            | -      | NS                | NS                 | -                             | -                                | -       | 64.73                       | 0                        | 342.67   |
|                              | 03/01/01                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | 64.10                       | 0                        | 343.30   |
|                              | 03/27/01                  | <0.5    | <0.5    | <0.5         | <1.0          | -      | <50.0             | <5000 <sup>3</sup> | -                             | -                                | -       | 64.10                       | 0                        | 343.30   |
|                              | 06/05/01                  | NS      | NS      | NS           | NS            | -      | NS                | NS                 | -                             | -                                | -       | 64.62                       | 0                        | 342.78   |
|                              | 09/25/01                  | NS      | NS      | NS           | NS            | -      | NS                | NS                 | -                             | -                                | -       | 65.30                       | 0                        | 342.10   |
|                              | 09/06/02                  | <1.0    | <1.0    | <1.0         | <3.0          | <4.0   | <100              | <510               | -                             | -                                | -       | 65.34                       | 0                        | 342.06   |
|                              | 09/06/02                  | <1.0    | <1.0    | <1.0         | <3.0          | <4.0   | <100              | -                  | -                             | -                                | -       | (duplicate sample)          | -                        | -  |
|                              | 09/11/03                  | <1.0    | <1.0    | <1.0         | <3.0          | -      | <100              | <420               | -                             | -                                | -       | 65.55                       | 0                        | 341.85   |
|                              | 11/17/04                  | <0.2    | <0.2    | <0.2         | <0.6          | -      | <48               | -                  | <84                           | <110                             | -       | 64.84                       | 0                        | 342.56   |
|                              | 07/11/05                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3   | <48               | -                  | 310                           | 260                              | -       | 64.84                       | 0                        | 342.56   |
|                              | 07/07/06                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3   | <48               | -                  | 79                            | <96                              | -       | 64.04                       | 0                        | 343.36   |
|                              | 11/15/07                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3   | <50               | -                  | <75                           | <94                              | -       | 64.28                       | 0                        | 342.99   |
|                              | 10/08/08                  | <0.2    | <0.2    | <0.2         | <0.6          | <0.3   | <50               | -                  | <76                           | <96                              | <200    | 64.22                       | 0                        | 343.05   |
| 407.91                       | 06/30/10                  | <1.0    | <1.0    | <1.0         | <2.0          | -      | <50               | -                  | <120                          | <240                             | <10000  | 63.42                       | 0                        | 344.49   |
|                              | 12/15/10                  | <1.0    | <1.0    | <1.0         | <2.0          | -      | <50               | -                  | <120                          | <240                             | <10000  | 63.84                       | 0                        | 344.07   |
| MW-11<br>423.70              | 01/23/89                  | 350     | 1050    | 700          | 2120          | -      | NA                | NA                 | -                             | -                                | -       | -                           | 0                        | -  |
|                              | 04/12/90                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | 80.75                       | 0                        | 342.95   |
|                              | 08/06/90                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | 81.40                       | 0                        | 342.30   |
|                              | 10/31/90                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0                        | -  |
|                              | 11/19/90                  | 56      | 99      | 140          | 90            | -      | NA                | 2000 <sup>3</sup>  | -                             | -                                | -       | 80.92                       | 0                        | 342.78   |
|                              | 12/16/90                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0                        | -  |
|                              | 01/13/91                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0                        | -  |
|                              | 02/05/91                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0                        | -  |
|                              | 02/14/91                  | 110     | 8       | 130          | 25            | -      | NA                | 3000 <sup>3</sup>  | -                             | -                                | -       | 80.51                       | 0                        | 343.19   |
|                              | 03/28/91                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0                        | -  |
|                              | 05/06/91                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0.09                     | -  |
|                              | 05/15/91                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | 80.90                       | 0.27                     | 343.02   |
|                              | 06/01/91                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0.24                     | -  |
|                              | 07/20/91                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0.54                     | -  |
|                              | 08/04/91                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0.85                     | -  |
|                              | 08/08/91                  | NS      | NS      | NS           | NS            | -      | -                 | NS                 | -                             | -                                | -       | 82.25                       | 0.70                     | 342.01   |
|                              | 10/27/91                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0.21                     | -  |
|                              | 11/17/91                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0.23                     | -  |
|                              | 12/27/91                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0.26                     | -  |
|                              | 01/18/92                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0.02                     | -  |
|                              | 01/31/92                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0.02                     | -  |
|                              | 02/17/92                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0.04                     | -  |
|                              | 3/18/1992                 | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0.05                     | -  |
|                              | 04/04/92                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0.05                     | -  |
|                              | 04/21/92                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0.19                     | -  |
|                              | 04/01/92                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | 80.65                       | 0                        | 343.05   |
|                              | 05/02/92                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0.38                     | -  |
|                              | 05/28/92                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0.96                     | -  |
|                              | 06/28/92                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 1.36                     | -  |
|                              | 07/26/92                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 1.66                     | -  |
|                              | 07/30/92                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | 82.71                       | 1.70                     | 342.35   |
|                              | 09/16/92                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0                        | -  |
|                              | 12/08/92                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | 80.99                       | 0                        | 342.71   |
|                              | 04/02/93                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0                        | -  |
|                              | 07/15/93                  | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | 0                        | -  |
|                              | 10/18/93                  | <0.5    | 0.8     | 1.8          | 4.1           | -      | 3200              | 3300 <sup>3</sup>  | -                             | -                                | -       | 81.85                       | 0                        | 341.85   |
| 11/05/93                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | 0                           | -                        |  |
| 12/28/93                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | 0                           | -                        |  |
| 02/07/94                     | <0.5                      | <0.5    | <0.5    | <0.5         | -             | <100.0 | 1700 <sup>3</sup> | -                  | -                             | -                                | 80.80   | 0                           | 342.90                   |  |
| 01/31/95                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 79.00   | 0                           | 344.70                   |  |
| 02/27/95                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 80.50   | 0                           | 343.20                   |  |
| 03/31/95                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 80.50   | 0                           | 343.20                   |  |
| 04/01/95                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | -       | -                           | -                        |  |
| 04/28/95                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 80.70   | 0                           | 343.00                   |  |
| 05/31/95                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 79.20   | 0                           | 344.50                   |  |
| 06/30/95                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 79.30   | Trace                       | 344.40                   |  |
| 07/24/95                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 81.51   | Trace                       | 342.19                   |  |
| 08/29/95                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 81.45   | Trace                       | 342.25                   |  |
| 09/27/95                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 81.66   | Trace                       | 342.04                   |  |
| 01/31/96                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 81.40   | Trace                       | 342.30                   |  |
| 02/29/96                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 81.10   | Trace                       | 342.60                   |  |
| 03/29/96                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 80.90   | 0                           | 342.80                   |  |
| 04/29/96                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 80.61   | 0                           | 343.09                   |  |
| 05/22/96                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 81.50   | 0                           | 342.20                   |  |
| 06/28/96                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 81.40   | 0                           | 342.30                   |  |
| 07/31/96                     | -                         | -       | -       | -            | -             | -      | -                 | -                  | -                             | -                                | 81.45   | 0                           | 342.25                   |  |

**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTCo Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD) | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE  | NWTPH-Gx | NWTPH-Dx           | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |        |
|------------------------------|---------------------------|---------|---------|--------------|---------------|-------|----------|--------------------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|--------|
| Ecology                      | Criteria <sup>2</sup>     | 5       | 1000    | 700          | 1000          | 20    | 1000     | N/A                | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |        |
| MW-11<br>423.70              | 08/30/96                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 81.10                       | 0                        | 342.60   |        |
|                              | 09/30/96                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 80.70                       | 0                        | 343.00   |        |
|                              | 10/31/96                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 81.67                       | 0                        | 342.03   |        |
|                              | 11/19/96                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 80.30                       | 0                        | 343.40   |        |
|                              | 01/30/97                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 80.90                       | 0                        | 342.80   |        |
|                              | 02/28/97                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 81.00                       | 0                        | 342.70   |        |
|                              | 04/19/97                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 81.25                       | 0                        | 342.45   |        |
|                              | 08/20/97                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 81.00                       | 0                        | 342.70   |        |
|                              | 11/02/97                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 81.00                       | 0                        | 342.70   |        |
|                              | 03/26/98                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 80.04                       | 0                        | 343.66   |        |
|                              | 06/25/98                  | <0.5    | <0.5    | <0.5         | <1.0          | -     | <50.0    | 1100 <sup>3</sup>  | -                             | -                                | -       | -                           | 80.54                    | 0  | 343.16 |
|                              | 09/17/98                  | <0.5    | <0.5    | <0.5         | <1.0          | -     | <50.0    | NA                 | -                             | -                                | -       | -                           | 79.94                    | 0  | 343.76 |
|                              | 09/24/98                  | NA      | NA      | NA           | NA            | -     | NA       | 8710 <sup>3</sup>  | -                             | -                                | -       | -                           | -                        | -  | -      |
|                              | 12/18/98                  | <0.5    | <0.5    | <0.5         | <1.0          | -     | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | -                           | 79.55                    | 0  | 344.15 |
|                              | 03/29/99                  | <0.5    | <0.5    | <0.5         | <1.0          | -     | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | -                           | 79.62                    | 0  | 344.08 |
|                              | 06/24/99                  | <0.5    | <0.5    | <0.5         | <1.0          | -     | <50.0    | 2060 <sup>3</sup>  | -                             | -                                | -       | -                           | 80.51                    | 0  | 343.19 |
|                              | 10/08/99                  | <0.5    | <0.5    | <0.5         | <1.0          | -     | 54.5     | <1000 <sup>3</sup> | -                             | -                                | -       | -                           | 81.39                    | 0  | 342.31 |
|                              | 12/20/99                  | <0.5    | <0.5    | <0.5         | <1.0          | -     | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | -                           | 80.75                    | 0  | 342.95 |
|                              | 03/14/00                  | <0.5    | <0.5    | <0.5         | <1.0          | -     | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | -                           | 80.30                    | 0  | 343.40 |
|                              | 06/08/00                  | <0.5    | <0.5    | <0.5         | <1.0          | -     | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | -                           | 80.95                    | 0  | 342.75 |
|                              | 09/13/00                  | <0.5    | 0.539   | <0.5         | <0.5          | -     | <50.0    | 4530 <sup>3</sup>  | -                             | -                                | -       | -                           | 81.47                    | 0  | 342.23 |
|                              | 12/06/00                  | <0.5    | <0.5    | <0.5         | <1.0          | -     | <50.0    | 1740 <sup>3</sup>  | -                             | -                                | -       | -                           | 81.05                    | 0  | 342.65 |
|                              | 03/03/01                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | -                           | 80.40                    | 0  | 343.30 |
|                              | 03/27/01                  | <0.5    | <0.5    | <0.5         | <1.0          | -     | <50.0    | <5000 <sup>3</sup> | -                             | -                                | -       | -                           | 80.40                    | 0  | 343.30 |
| 06/05/01                     | <0.5                      | <0.5    | <0.5    | <1.0         | -             | <50.0 | NA       | -                  | -                             | -                                | -       | 80.87                       | 0                        | 342.83   |        |
| 09/25/01                     | <0.5                      | <1.0    | <1.0    | 2.47         | -             | <100  | 1510     | -                  | -                             | -                                | -       | 81.60                       | 0                        | 342.10   |        |
| 09/06/02                     | <1.0                      | <1.0    | <1.0    | <3.0         | -             | <100  | <530     | -                  | -                             | -                                | -       | 81.60                       | 0                        | 342.10   |        |
| 09/11/03                     | <1.0                      | <1.0    | <1.0    | <3.0         | -             | <100  | <410     | -                  | -                             | -                                | -       | 81.80                       | 0                        | 341.90   |        |
| 11/17/04                     | <0.2                      | <0.2    | <0.2    | <0.6         | -             | <48   | -        | -                  | 1000                          | 180                              | -       | 81.11                       | 0                        | 342.59   |        |
| 07/11/05                     | <0.2                      | <0.2    | <0.2    | <0.6         | <0.3          | <48   | -        | -                  | 1900                          | 4200                             | -       | 81.70                       | 0                        | 342.00   |        |
| 07/07/06                     | <0.2                      | <0.2    | <0.2    | <0.6         | <0.3          | <48   | -        | -                  | 490                           | 400                              | -       | 80.31                       | 0                        | 343.39   |        |
| 11/14/07                     | <0.2                      | <0.2    | <0.2    | <0.6         | <0.3          | <50   | -        | -                  | 120                           | <94                              | -       | 80.57                       | 0                        | 342.95   |        |
| 10/08/08                     | <0.2                      | <0.2    | <0.2    | <0.6         | <0.3          | <50   | -        | -                  | 160                           | <99                              | <200    | 80.51                       | 0                        | 343.01   |        |
| 423.52                       | 06/30/10                  | <1.0    | <1.0    | <1.0         | <2.0          | -     | <50      | -                  | 1100                          | 450                              | <10000  | 79.06                       | 0                        | 344.42   |        |
| 423.48                       | 12/16/10                  | <1.0    | <1.0    | <1.0         | <2.0          | -     | <50      | -                  | 200                           | <240                             | <10000  | 79.46                       | 0                        | 344.02   |        |
| MW-12<br>424.58              | 01/23/89                  | 340     | 73      | 160          | 79            | -     | NS       | NS                 | -                             | -                                | -       | -                           | 0                        | -  |        |
|                              | 04/12/90                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 81.70                       | 0                        | 342.88   |        |
|                              | 08/06/90                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 82.27                       | 0                        | 342.31   |        |
|                              | 11/19/90                  | 430     | 210     | 430          | 2800          | -     | NS       | 3000 <sup>3</sup>  | -                             | -                                | -       | 81.34                       | 0                        | 343.24   |        |
|                              | 02/14/91                  | 270     | 240     | 380          | 2900          | -     | NS       | 3000 <sup>3</sup>  | -                             | -                                | -       | 80.83                       | 0                        | 343.75   |        |
|                              | 05/14/91                  | 11      | 45      | 200          | 1300          | -     | NS       | 2400 <sup>3</sup>  | -                             | -                                | -       | 81.53                       | 0                        | 343.05   |        |
|                              | 08/08/91                  | 75      | 68      | 22           | 560           | -     | NS       | 6100 <sup>3</sup>  | -                             | -                                | -       | 79.46                       | 0                        | 345.12   |        |
|                              | 08/01/91                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 81.97                       | -                        | 342.61   |        |
|                              | 04/01/92                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 80.43                       | 0                        | 344.15   |        |
|                              | 07/01/92                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 82.28                       | 0                        | 342.30   |        |
|                              | 12/08/92                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 81.72                       | 0                        | 342.86   |        |
|                              | 10/18/93                  | 23      | 2.7     | 17           | 61            | -     | 2300     | 13000 <sup>3</sup> | -                             | -                                | -       | 81.90                       | 0                        | 342.68   |        |
|                              | 02/07/94                  | 4.1     | 0.6     | 2.7          | 14            | -     | 690      | 2500 <sup>3</sup>  | -                             | -                                | -       | 81.26                       | 0                        | 343.32   |        |
|                              | 09/19/94                  | 7.0     | <5.0    | <5.0         | 16            | -     | NA       | 600 <sup>3</sup>   | -                             | -                                | -       | -                           | 0                        | 0  | -      |
|                              | 01/31/95                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | -                           | 81.40                    | 0.25   | 343.18 |
|                              | 02/27/95                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | -                           | 81.00                    | 0.25   | 343.58 |
|                              | 03/31/95                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | -                           | 81.00                    | 0.25   | 343.58 |
|                              | 04/10/95                  | 75      | <5.0    | 90           | 300           | -     | NA       | NA                 | -                             | -                                | -       | -                           | 0                        | 0  | -      |
|                              | 04/28/95                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | -                           | 79.90                    | 0.25   | 344.68 |
|                              | 05/31/95                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | -                           | 81.50                    | 0.13   | 343.08 |
|                              | 06/30/95                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | -                           | 81.60                    | 0.06   | 342.98 |
|                              | 07/24/95                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | -                           | 81.91                    | Trace  | 342.67 |
|                              | 08/29/95                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | -                           | 81.87                    | Trace  | 342.71 |
|                              | 09/27/95                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | -                           | 81.28                    | Trace  | 343.30 |
|                              | 01/31/96                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | -                           | 80.90                    | Trace  | 343.68 |
|                              | 02/29/96                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | -                           | 80.50                    | 0  | 344.08 |
|                              | 03/29/96                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | -                           | 80.40                    | 0  | 344.18 |
|                              | 04/29/96                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | -                           | 81.10                    | 0  | 343.48 |
|                              | 05/22/96                  | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | -                           | 80.90                    | 0  | 343.68 |
| 06/28/96                     | -                         | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 81.73                       | 0                        | 342.85   |        |
| 07/31/96                     | -                         | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 81.70                       | 0                        | 342.88   |        |
| 08/30/96                     | -                         | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 81.40                       | 0                        | 343.18   |        |
| 09/30/96                     | -                         | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 81.00                       | 0                        | 343.58   |        |
| 10/31/96                     | -                         | -       | -       | -            | -             | -     | -        | -                  | -                             | -                                | -       | 82.15                       | 0                        | 342.43   |        |

**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTG Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD) | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE | NWTPH-Gx | NWTPH-Dx           | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |        |
|------------------------------|---------------------------|---------|---------|--------------|---------------|------|----------|--------------------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|--------|
| Ecology                      | Criteria <sup>2</sup>     | 5       | 1000    | 700          | 1000          | 20   | 1000     | N/A                | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |        |
| MW-12<br>424.58              | 11/19/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 81.30                       | 0                        | 343.28   |        |
|                              | 01/30/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 81.28                       | -                        | 343.30   |        |
|                              | 02/28/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 81.10                       | -                        | 343.48   |        |
|                              | 04/19/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 81.00                       | 0                        | 343.58   |        |
|                              | 08/20/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 81.00                       | 0                        | 343.58   |        |
|                              | 11/02/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 81.00                       | 0                        | 343.58   |        |
|                              | 03/26/98                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 80.64                       | 0                        | 343.94   |        |
|                              | 06/24/98                  | 1.67    | <1.2    | <0.5         | <1.2          | -    | 1060     | 19300 <sup>3</sup> | -                             | -                                | -       | -                           | 81.20                    | 0  | 343.38 |
|                              | 09/17/98                  | <0.5    | <0.5    | <0.5         | 2.02          | -    | 65.8     | NA                 | -                             | -                                | -       | -                           | 80.70                    | 0  | 343.88 |
|                              | 09/24/98                  | NA      | NA      | NA           | NA            | -    | NA       | 5540 <sup>3</sup>  | -                             | -                                | -       | -                           | -                        | -  | -      |
|                              | 12/18/98                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | 1390 <sup>3</sup>  | -                             | -                                | -       | -                           | 80.25                    | 0  | 344.33 |
|                              | 03/29/99                  | <0.5    | <0.5    | <0.5         | 1.12          | -    | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | -                           | 80.39                    | 0  | 344.19 |
|                              | 06/24/99                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | 2610 <sup>3</sup>  | -                             | -                                | -       | -                           | 80.05                    | 0  | 344.53 |
|                              | 10/08/99                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | -                           | 82.21                    | 0  | 342.37 |
|                              | 12/20/99                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | -                           | 81.58                    | 0  | 343.00 |
|                              | 03/14/00                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | 72.8     | <1000 <sup>3</sup> | -                             | -                                | -       | -                           | 81.07                    | 0  | 343.51 |
|                              | 06/08/00                  | 1.74    | <0.5    | <0.5         | <1.0          | -    | 52.3     | <1000 <sup>3</sup> | -                             | -                                | -       | -                           | 81.74                    | 0  | 342.84 |
|                              | 09/13/00                  | <0.5    | 0.667   | <0.5         | <1.0          | -    | 82.3     | <1000 <sup>3</sup> | -                             | -                                | -       | -                           | 82.56                    | 0  | 342.02 |
|                              | 12/06/00                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <1000 <sup>3</sup> | -                             | -                                | -       | -                           | 80.95                    | 0  | 343.63 |
|                              | 03/01/01                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | -                           | 81.25                    | 0  | 343.33 |
|                              | 03/27/01                  | <0.5    | <0.5    | <0.5         | <1.0          | -    | <50.0    | <5000 <sup>3</sup> | -                             | -                                | -       | -                           | 81.25                    | 0  | 343.33 |
|                              | 06/05/01                  | 1.23    | <0.5    | <0.5         | <1.0          | -    | 50       | 793                | -                             | -                                | -       | -                           | 81.72                    | 0  | 342.86 |
|                              | 09/25/01                  | <0.5    | <1.0    | <1.0         | <1.5          | -    | 103      | 1060               | -                             | -                                | -       | -                           | 82.40                    | 0  | 342.18 |
|                              | 09/06/02                  | <1.0    | <1.0    | <1.0         | <3.0          | -    | <100     | <530               | -                             | -                                | -       | -                           | 82.37                    | 0  | 342.21 |
|                              | 09/11/03                  | <1.0    | <1.0    | <1.0         | <3.0          | -    | <100     | 410                | -                             | -                                | -       | -                           | 82.61                    | 0  | 341.97 |
|                              | 11/17/04                  | <0.2    | <0.2    | <0.2         | <0.6          | -    | <48      | -                  | 890                           | 310                              | -       | -                           | 81.93                    | 0  | 342.65 |
|                              | 07/11/05                  | 0.3     | <0.2    | <0.2         | <0.6          | <0.3 | <48      | -                  | 2100                          | 2300                             | -       | -                           | 81.96                    | 0  | 342.62 |
| 07/07/06                     | 0.4                       | <0.2    | <0.2    | <0.6         | <0.3          | <48  | -        | 1200               | 650                           | -                                | -       | 81.18                       | 0                        | 343.40   |        |
| 11/14/07                     | <0.2                      | <0.2    | <0.2    | <0.6         | <0.3          | <50  | -        | 930                | 490                           | -                                | -       | 81.40                       | 0                        | 343.00   |        |
| 10/08/08                     | 0.3                       | <0.2    | <0.2    | <0.6         | <0.3          | <50  | -        | 670                | 220                           | <200                             | -       | 81.33                       | 0                        | 343.07   |        |
| 423.65                       | 06/30/10                  | 1.1     | <1.0    | <1.0         | <2.0          | -    | <50      | -                  | 950                           | 700                              | <10000  | 79.22                       | 0                        | 344.43   |        |
|                              | 06/30/10                  | 1.0     | <1.0    | <1.0         | <2.0          | -    | <50      | -                  | 950                           | 650                              | <10000  | (duplicate sample)          | -                        | -  |        |
|                              | 12/16/10                  | <1.0    | <1.0    | <1.0         | <2.0          | -    | <50      | -                  | 490                           | 430                              | <10000  | 79.62                       | 0                        | 344.03   |        |
|                              | 12/16/10                  | <1.0    | <1.0    | <1.0         | <2.0          | -    | <50      | -                  | 520                           | 450                              | <10000  | (duplicate sample)          | -                        | -  |        |
| MW-14<br>420.61              | 01/23/89                  | <10.0   | <10.0   | <10.0        | <10.0         | -    | NA       | NA                 | -                             | -                                | -       | -                           | 0                        | -  |        |
|                              | 08/06/90                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.18                       | 0                        | 341.43   |        |
|                              | 11/19/90                  | ND      | ND      | ND           | ND            | -    | -        | ND                 | -                             | -                                | -       | 78.72                       | 0                        | 341.89   |        |
|                              | 02/14/91                  | ND      | ND      | ND           | ND            | -    | -        | -                  | -                             | -                                | -       | 78.25                       | 0                        | 342.36   |        |
|                              | 05/15/91                  | ND      | ND      | ND           | ND            | -    | -        | ND                 | -                             | -                                | -       | 78.48                       | 0                        | 342.13   |        |
|                              | 08/08/91                  | ND      | ND      | ND           | ND            | -    | -        | ND                 | -                             | -                                | -       | 79.46                       | 0                        | 341.15   |        |
|                              | 04/01/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 78.30                       | 0                        | 342.31   |        |
|                              | 07/01/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.12                       | 0                        | 341.49   |        |
|                              | 12/08/92                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 78.65                       | 0                        | 341.96   |        |
|                              | 11/01/93                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 80.51                       | 0                        | 340.10   |        |
|                              | 02/01/94                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.65                       | 0                        | 340.96   |        |
|                              | 01/31/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.70                       | Trace                    | 340.91   |        |
|                              | 02/27/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.10                       | Trace                    | 341.51   |        |
|                              | 03/31/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.20                       | Trace                    | 341.41   |        |
|                              | 04/28/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.60                       | Trace                    | 341.01   |        |
|                              | 05/31/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.90                       | Trace                    | 340.71   |        |
|                              | 06/30/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 80.15                       | 0                        | 340.46   |        |
|                              | 07/24/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 80.58                       | Trace                    | 340.03   |        |
|                              | 08/29/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 80.45                       | Trace                    | 340.16   |        |
|                              | 09/27/95                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 80.58                       | Trace                    | 340.03   |        |
|                              | 01/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 80.30                       | Trace                    | 340.31   |        |
|                              | 02/29/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.36                       | Trace                    | 341.25   |        |
|                              | 03/29/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 78.70                       | Trace                    | 341.91   |        |
|                              | 04/29/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.80                       | Trace                    | 340.81   |        |
|                              | 05/22/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 80.10                       | Trace                    | 340.51   |        |
|                              | 06/28/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 80.11                       | 0                        | 340.50   |        |
|                              | 07/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 80.00                       | 0                        | 340.61   |        |
|                              | 08/30/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.80                       | 0                        | 340.81   |        |
|                              | 09/30/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.40                       | 0                        | 341.21   |        |
|                              | 10/31/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 80.63                       | 0                        | 339.98   |        |
|                              | 11/19/96                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.80                       | 0                        | 340.81   |        |
|                              | 01/30/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.60                       | -                        | 341.01   |        |
|                              | 02/28/97                  | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | -       | 79.80                       | -                        | 340.81   |        |
| 04/19/97                     | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | 79.80   | 0                           | 340.81                   |  |        |
| 08/20/97                     | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | 79.78   | 0                           | 340.83                   |  |        |
| 11/02/97                     | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | 79.80   | 0                           | 340.81                   |  |        |
| 03/26/98                     | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | 78.98   | 0                           | 341.63                   |  |        |
| 06/24/98                     | -                         | -       | -       | -            | -             | -    | -        | -                  | -                             | -                                | 76.09   | 0                           | 344.52                   |  |        |

**APPENDIX B**  
**Historical Data - CPL Wells**  
 NWTG Pasco Terminal RI/FS  
 Pasco, Washington

(Concentrations are reported in micrograms per liter)

| Well No. & Elev. (feet NGVD)  | Date Sampled <sup>1</sup> | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE | NWTPH-Gx | NWTPH-Dx           | Diesel Range TPH <sup>4</sup> | Heavy Oil Range TPH <sup>4</sup> | Ethanol | Depth to Groundwater (feet) | Product Thickness (feet) | Groundwater Elevation <sup>5</sup> (feet NGVD) |
|-------------------------------|---------------------------|---------|---------|---------------|---------------|------|----------|--------------------|-------------------------------|----------------------------------|---------|-----------------------------|--------------------------|--|
| Ecology Criteria <sup>2</sup> |                           | 5       | 1000    | 700           | 1000          | 20   | 1000     | N/A                | 500                           | 500                              | N/A     | ---                         | ---                      | ---  |
| MW-14<br>420.61               | 09/17/98                  | -       | -       | -             | -             | -    | -        | -                  | -                             | -                                | -       | 77.56                       | 0                        | 343.05   |
|                               | 12/18/98                  | -       | -       | -             | -             | -    | -        | -                  | -                             | -                                | -       | 77.16                       | 0                        | 343.45   |
|                               | 03/29/99                  | NS      | NS      | NS            | NS            | -    | NS       | NS                 | -                             | -                                | -       | 77.34                       | 0                        | 343.27   |
|                               | 06/24/99                  | NS      | NS      | NS            | NS            | -    | NS       | NS                 | -                             | -                                | -       | 76.41                       | 0                        | 344.20   |
|                               | 10/08/99                  | NS      | NS      | NS            | NS            | -    | NS       | NS                 | -                             | -                                | -       | 79.05                       | 0                        | 341.56   |
|                               | 12/20/99                  | NS      | NS      | NS            | NS            | -    | NS       | NS                 | -                             | -                                | -       | 78.37                       | 0                        | 342.24   |
|                               | 03/14/00                  | NS      | NS      | NS            | NS            | -    | NS       | NS                 | -                             | -                                | -       | 77.88                       | 0                        | 342.73   |
|                               | 06/08/00                  | NS      | NS      | NS            | NS            | -    | NS       | NS                 | -                             | -                                | -       | 78.57                       | 0                        | 342.04   |
|                               | 09/13/00                  | NS      | NS      | NS            | NS            | -    | NS       | NS                 | -                             | -                                | -       | 79.41                       | 0                        | 341.20   |
|                               | 12/06/00                  | NS      | NS      | NS            | NS            | -    | NS       | NS                 | -                             | -                                | -       | 78.70                       | 0                        | 341.91   |
|                               | 03/26/01                  | <0.5    | <0.5    | <0.5          | <1.0          | -    | <50.0    | <5000 <sup>3</sup> | -                             | -                                | -       | 78.40                       | 0                        | 342.21   |
|                               | 06/05/01                  | NS      | NS      | NS            | NS            | -    | NS       | NS                 | -                             | -                                | -       | 79.93                       | 0                        | 340.68   |
|                               | 09/25/01                  | NS      | NS      | NS            | NS            | -    | NS       | NS                 | -                             | -                                | -       | 79.25                       | 0                        | 341.36   |
|                               | 09/06/02                  | <1.0    | <1.0    | <1.0          | <3.0          | -    | <100     | <600               | -                             | -                                | -       | 80.69                       | 0                        | 339.92   |
|                               | 09/11/03                  | <1.0    | <1.0    | <1.0          | <3.0          | -    | <100     | <400               | -                             | -                                | -       | 79.52                       | 0                        | 341.09   |
|                               | 11/17/04                  | <0.2    | <0.2    | <0.2          | <0.6          | -    | <48      | -                  | <320                          | <400                             | -       | 78.77                       | 0                        | 341.84   |
|                               | 07/11/05                  | <0.2    | <0.2    | <0.2          | <0.6          | <0.3 | <48      | -                  | 550                           | 390                              | -       | 78.60                       | 0                        | 342.01   |
| 07/07/06                      | <0.2                      | <0.2    | <0.2    | <0.6          | <0.3          | <48  | -        | 90                 | <95                           | -                                | 78.98   | 0                           | 341.63                   |  |
| 418.35                        | 11/15/07                  | <0.2    | <0.2    | <0.2          | <0.6          | <0.3 | <50      | -                  | <76                           | <95                              | -       | 78.24                       | 0                        | 340.11   |
|                               | 10/08/08                  | <0.2    | <0.2    | <0.2          | <0.6          | <0.3 | <50      | -                  | <77                           | <96                              | <200    | 78.16                       | 0                        | 340.19   |
| 421.97                        | 06/29/10                  | <1.0    | <1.0    | <1.0          | <2.0          | NA   | <50      | -                  | 160                           | <240                             | <10000  | 77.52                       | 0                        | 344.45   |
|                               | 12/15/10                  | <1.0    | <1.0    | <1.0          | <2.0          | NA   | <50      | -                  | <120                          | <240                             | <10000  | 77.94                       | 0                        | 344.03   |
| RW-1                          | 06/29/10                  | <1.0    | <1.0    | <1.0          | <2.0          | NA   | <50      | NA                 | <120                          | <240                             | <10000  | 72.89                       | 0                        | 344.40   |
| 417.29                        | 12/16/10                  | <1.0    | <1.0    | <1.0          | <2.0          | NA   | <50      | NA                 | <120                          | <240                             | <10000  | 73.28                       | 0                        | 344.01   |

NGVD = National Geodetic Vertical Datum of 1929; used only for the November 2007 top of casing and groundwater elevations

NS = Not Sampled for one of the following reasons: insufficient water in well, presence of liquid hydrocarbons, inaccessibility, date was between sampling events, or well no longer in sampling program.

N/A = Not applicable or not available

NA = Not analyzed for this parameter (laboratory error).

NM = Not measured due to damaged casing.

Concentrations in **bold** exceed Washington Department of Ecology cleanup levels.

<sup>1</sup> URS has conducted groundwater sampling annually at Pasco since 2002; data presented here prior to 2002 was provided by Chevron.

<sup>2</sup> Washington Department of Ecology Method A cleanup levels as listed in Table 720-1 of the Model Toxics Control Act, revised October 12, 2007.

<sup>3</sup> NWTPH-Dx concentrations measured prior to June 2001 are by EPA Method 418.1.

<sup>4</sup> Prior to the November 2004 sampling event, diesel-range TPH and heavy oil-range TPH were reported as a combined concentration (NWTPH-Dx).

<sup>5</sup> When measureable product was present, the equivalent groundwater elevation was calculated by assuming a specific gravity of 0.8 for the product..



## **TIDEWATER MONITOR WELLS**

**Tidewater Historical Groundwater Monitoring Results  
Pasco, Washington**

| Well ID                             | Date                            | Benzene (µg/L)<br>MCL 5 | Toluene (µg/L)<br>MCL 1,000 | Ethylbenzene (µg/L) MCL<br>700 | Total Xylenes (µg/L)<br>1,000 | TPH-G (µg/L) MCL<br>800/1,000 | TPH-D (µg/L)<br>MCL 500 | TPH-D - Heavy Oil (µg/L)<br>MCL 500 |
|-------------------------------------|---------------------------------|-------------------------|-----------------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------|-------------------------------------|
| AR-1                                | Feb-03                          | 191                     | 2,130                       | 153                            | 4,570                         | 31,700                        | NA                      | NA                                  |
|                                     | Jun-03                          | 77                      | 1,340                       | 179                            | 3,590                         | 20,000                        | NA                      | NA                                  |
|                                     | Jun-10                          | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
|                                     | Dec-10                          | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
| AR-3                                | Feb-03                          | 754                     | 3,870                       | 148                            | 6,350                         | 38,900                        | NA                      | NA                                  |
|                                     | Jun-03                          | 6,750                   | 6,270                       | 649                            | 7,170                         | 37,400                        | NA                      | NA                                  |
|                                     | Mar-06                          | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
|                                     | Nov-07                          | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
|                                     | Oct-08                          | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
|                                     | Jun-10                          | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
|                                     | Dec-10                          | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
| AR-4<br><br><i>MW-11 (AR-4 Dup)</i> | Apr-02                          | 52                      | 337                         | 13.9                           | 1,989                         | 10,500                        | NA                      | NA                                  |
|                                     | Jul-02                          | 90                      | 816                         | 10.7                           | 705                           | 6,400                         | NA                      | NA                                  |
|                                     | Nov-02                          | 10.3                    | 118                         | 5.5                            | 345                           | 3,080                         | NA                      | NA                                  |
|                                     | Feb-03                          | 1 U                     | 1 U                         | 1 U                            | 4.8                           | 195                           | NA                      | NA                                  |
|                                     | Jun-03                          | 10.1                    | 66                          | 10                             | 326                           | 5,090                         | NA                      | NA                                  |
|                                     | Sep-03                          | 797                     | 70                          | 27                             | 321                           | 3,430                         | NA                      | NA                                  |
|                                     | Mar-06                          | 2,210                   | 3,430                       | 481                            | 5,600                         | 26,600                        | 4,400                   | NA                                  |
|                                     | Nov-07                          | 640                     | 2,800                       | 220                            | 4,400                         | 28,000                        | 4,500                   | 1,400                               |
|                                     | Oct-08                          | 340                     | 2,100                       | 170                            | 2,700                         | 17,000                        | 2,500                   | 5,900                               |
|                                     | Jun-10                          | 380                     | 1,900                       | 270                            | 4,400                         | 21,000                        | 5,300                   | 650                                 |
|                                     | Jun-10                          | 370                     | 1,800                       | 250                            | 4,000                         | 20,000                        | 3,700                   | 440                                 |
|                                     | Dec-10                          | 350                     | 1,400                       | 230                            | 3,600                         | 17,000                        | 3,700                   | 260 U                               |
|                                     | AR-5                            | Jul-02                  | 379                         | 1,010                          | 17.5                          | 3,850                         | 39,000                  | NA                                  |
| Nov-02                              |                                 | 0.7                     | 10.6                        | ND                             | 124                           | 2,900                         | NA                      | NA                                  |
| Feb-03                              |                                 | 4.3                     | 12.2                        | 1                              | 90                            | 830                           | NA                      | NA                                  |
| Jun-03                              |                                 | 15.2                    | 8.8                         | 3.4                            | 136                           | 1,740                         | NA                      | NA                                  |
| Sep-03                              |                                 | 8.5                     | 4.6                         | 1.3                            | 33                            | 557                           | NA                      | NA                                  |
| Dec-03                              |                                 | 1 U                     | 26.1                        | 14.1                           | 739                           | 6,010                         | NA                      | NA                                  |
| Mar-06                              |                                 | 0.5 U                   | 0.5 U                       | 0.5 U                          | 0.57                          | 250                           | NA                      | NA                                  |
| Nov-07                              |                                 | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
| Oct-08                              |                                 | 0.9 U                   | 0.9 U                       | 0.5 U                          | 10                            | 65                            | 120                     | 95 U                                |
| Jun-10                              |                                 | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 50 U                          | 120 U                   | 250 U                               |
| Dec-10                              |                                 | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 260                           | 730                     | 270 U                               |
| AR-6                                |                                 | Nov-01                  | 29.8                        | 402                            | 82                            | 2,800                         | 2,390                   | NA                                  |
|                                     | Apr-02                          | 713                     | 559                         | 27                             | 2,060                         | 17,700                        | NA                      | NA                                  |
|                                     | Jul-02                          | 1,820                   | 3,100                       | 85                             | 4,780                         | 24,700                        | NA                      | NA                                  |
|                                     | Nov-02                          | 104                     | 289                         | 67                             | 2,886                         | 11,900                        | NA                      | NA                                  |
|                                     | Feb-03                          | 531                     | 1,280                       | 93                             | 2,900                         | 23,700                        | NA                      | NA                                  |
|                                     | Jun-03                          | 475                     | 2,340                       | 110                            | 3,750                         | 23,500                        | NA                      | NA                                  |
|                                     | Sep-03                          | 221                     | 3,140                       | 241                            | 4,610                         | 25,000                        | NA                      | NA                                  |
|                                     | Mar-06                          | 0.5 U                   | 0.5 U                       | 0.5 U                          | 6.7                           | 330                           | 260                     | NA                                  |
|                                     | Nov-07                          | 0.6                     | 2.5                         | 0.7                            | 73                            | 670                           | 1,500                   | 990                                 |
|                                     | Oct-08                          | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
|                                     | Jun-10                          | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.4                           | 50 U                          | 120 U                   | 250 U                               |
|                                     | Dec-10                          | 1.0 U                   | 1.0 U                       | 1.0 U                          | 8.6                           | 81                            | 120 U                   | 240 U                               |
| AR-7                                | Mar-06                          | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
|                                     | Nov-07                          | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
|                                     | Oct-08                          | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
|                                     | Jun-10                          | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
|                                     | Dec-10                          | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
| AR-8<br><br><i>FD-1 (AR-8 Dup)</i>  | Jul-02                          | 47.3                    | 229                         | 32                             | 918                           | 5,330                         | NA                      | NA                                  |
|                                     | Nov-02                          | 19.2                    | 1,070                       | 384                            | 4,170                         | 57,400                        | NA                      | NA                                  |
|                                     | Feb-03                          | 43.8                    | 577                         | 276                            | 3,410                         | 59,600                        | NA                      | NA                                  |
|                                     | Jun-03                          | 1470                    | 2,050                       | 651                            | 2,760                         | 22,700                        | NA                      | NA                                  |
|                                     | Sep-03                          | 3,350                   | 1,740                       | 1,480                          | 2,520                         | 16,000                        | NA                      | NA                                  |
|                                     | Mar-06                          | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
|                                     | Nov-07                          | 8.0                     | 46                          | 35                             | 610                           | 7,400                         | 23,000                  | <4700                               |
|                                     | Oct-08                          | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
|                                     | Jun-10                          | 2.0                     | 15                          | 99                             | 420                           | 3,300                         | 2,000                   | 250                                 |
|                                     | Dec-10                          | 1.7                     | 26                          | 100                            | 460                           | 3,700                         | 1,500                   | 260 U                               |
|                                     | Dec-10                          | 1.7                     | 36                          | 100                            | 590                           | 3,500                         | 1,500                   | 280 U                               |
|                                     | AR-9<br><i>MW-12 (AR-9 dup)</i> | Nov-01                  | 1 U                         | 1 U                            | 1 U                           | 2 U                           | 50 U                    | NA                                  |
| Nov-01                              |                                 | 1 U                     | 1 U                         | 1.1                            | 2 U                           | 50 U                          | NA                      | NA                                  |
| Nov-02                              |                                 | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |
| Dec-03                              |                                 | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |
| Mar-06                              |                                 | 0.5 U                   | 0.5 U                       | 0.5 U                          | 1 U                           | 250 U                         | 250 U                   | NA                                  |
| Nov-07                              |                                 | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
| Oct-08                              |                                 | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |
| Jun-10                              |                                 | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 50 U                          | 120 U                   | 240 U                               |
| Dec-10                              |                                 | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 50 U                          | 130 U                   | 270 U                               |

**Tidewater Historical Groundwater Monitoring Results  
Pasco, Washington**

| Well ID | Date             | Benzene (µg/L)<br>MCL 5 | Toluene (µg/L)<br>MCL 1,000 | Ethylbenzene (µg/L) MCL<br>700 | Total Xylenes (µg/L)<br>1,000 | TPH-G (µg/L) MCL<br>800/1,000 | TPH-D (µg/L)<br>MCL 500 | TPH-D - Heavy Oil (µg/L)<br>MCL 500 |    |
|---------|------------------|-------------------------|-----------------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------|-------------------------------------|----|
| AR-10   | Nov-01           | 54                      | 13.7                        | ND                             | 221                           | 311                           | NA                      | NA                                  |    |
|         | Apr-02           | 3.1                     | 1 U                         | 3.5                            | 2 U                           | 50 U                          | NA                      | NA                                  |    |
|         | Nov-02           | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 78                            | NA                      | NA                                  |    |
|         | Feb-03           | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |    |
|         | Jun-03           | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |    |
|         | Sep-03           | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |    |
|         | Mar-06           | 0.5 U                   | 0.5 U                       | 0.5 U                          | 1 U                           | 250 U                         | 250 U                   | NA                                  |    |
|         | Nov-07           | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |    |
|         | Oct-08           | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |    |
|         | Jun-10           | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 50 U                          | 120 U                   | 240 U                               |    |
| Dec-10  | 1.0 U            | 1.0 U                   | 1.0 U                       | 2.0 U                          | 50 U                          | 120 U                         | 240 U                   |                                     |    |
| AR-11   | Mar-01           | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | 230 U                   | 560 U                               |    |
|         | Aug-01           | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |    |
|         | Nov-02           | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |    |
|         | Dec-03           | 1 U                     | 1.9                         | 1 U                            | 1.1                           | 50 U                          | NA                      | NA                                  |    |
|         | Mar-06           | 0.5 U                   | 0.5 U                       | 0.5 U                          | 1 U                           | 250 U                         | 250 U                   | NA                                  |    |
|         | Nov-07           | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |    |
|         | Oct-08           | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |    |
|         | Jun-10           | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 50 U                          | 120 U                   | 240 U                               |    |
| Dec-10  | 1.0 U            | 1.0 U                   | 1.0 U                       | 2.0 U                          | 50 U                          | 120 U                         | 240 U                   |                                     |    |
| AR-12   | Feb-03           | 3,860                   | 10,400                      | 1,000                          | 13,560                        | 84,700                        | NA                      | NA                                  |    |
|         | Jun-03           | 3,810                   | 8,060                       | 731                            | 9,190                         | 55,100                        | NA                      | NA                                  |    |
|         | Nov-07           | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |    |
|         | Oct-08           | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |    |
|         | Jun-10           | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |    |
|         | Dec-10           | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |    |
| MW-1    | Mar-01           | 20                      | 21                          | 1 U                            | 2 U                           | 110                           | 230 U                   | 580 U                               |    |
|         | Aug-01           | 1,890                   | 1,900                       | 9.5                            | 1,109                         | 5,980                         | NA                      | NA                                  |    |
|         | Nov-01           | 336                     | 88                          | 1 U                            | 211                           | 321                           | NA                      | NA                                  |    |
|         | Apr-02           | 880                     | 33                          | 5.3                            | 43                            | 667                           | NA                      | NA                                  |    |
|         | Jul-02           | 1,040                   | 22                          | 41                             | 40                            | 1,600                         | NA                      | NA                                  |    |
|         | Nov-02           | 434                     | 36                          | 57                             | 131                           | 1,040                         | NA                      | NA                                  |    |
|         | Nov-02           | 385                     | 31                          | 38                             | 95                            | 712                           | NA                      | NA                                  |    |
|         | MW-19 (MW-1 dup) | Feb-03                  | 453                         | 19.7                           | 43                            | 43.8                          | 263                     | NA                                  | NA |
|         | Feb-03           | 369                     | 15                          | 32                             | 33.8                          | 240                           | NA                      | NA                                  |    |
|         | MW-9 (MW-1 dup)  | Jun-03                  | 240                         | 131                            | 78                            | 257                           | 841                     | NA                                  | NA |
|         | Jun-03           | 131                     | 68                          | 35                             | 128                           | 1,420                         | NA                      | NA                                  |    |
|         | MW-9 (MW-1 dup)  | Sep-03                  | 149                         | 77                             | 38                            | 145                           | 589                     | NA                                  | NA |
|         | Sep-03           | 112                     | 69                          | 26                             | NR                            | 431                           | NA                      | NA                                  |    |
|         | MW-9 (MW-1 dup)  | Dec-03                  | 20.2                        | 58                             | 3.1                           | 26                            | 102                     | NA                                  | NA |
|         | Dec-03           | 8.0                     | 22                          | 1.2                            | 9.3                           | 143                           | NA                      | NA                                  |    |
|         | MW-11 (MW-1 dup) | Mar-06                  | 0.5 U                       | 0.71                           | 8.4                           | 8.7                           | 250                     | 250 U                               | NA |
|         | Mar-06           | 0.5 U                   | 0.69                        | 6.8                            | 6.1                           | 250                           | 250 U                   | NA                                  |    |
|         | Nov-07           | 0.2 U                   | 0.20                        | 0.5                            | 0.6 U                         | 50 U                          | 190                     | 670                                 |    |
|         | Oct-08           | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |    |
|         | Jun-10           | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 50 U                          | 120 U                   | 240 U                               |    |
| Dec-10  | 1.0 U            | 1.0 U                   | 1.0 U                       | 2.0 U                          | 50 U                          | 120 U                         | 240 U                   |                                     |    |
| MW-2    | Mar-01           | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | 220 U                   | 540 U                               |    |
|         | Aug-01           | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |    |
|         | Nov-01           | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |    |
|         | Nov-02           | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 82                            | NA                      | NA                                  |    |
|         | Mar-06           | 0.5 U                   | 0.5 U                       | 0.5 U                          | 1 U                           | 250 U                         | 250 U                   | NA                                  |    |
|         | Nov-07           | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |    |
|         | Oct-08           | 0.2 U                   | 0.2 U                       | 0.2 U                          | 0.6 U                         | 50 U                          | 78                      | 96 U                                |    |
|         | Jun-10           | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 50 U                          | 120 U                   | 250 U                               |    |
|         | Dec-10           | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 50 U                          | 130 U                   | 260 U                               |    |
|         | MW-3             | Mar-01                  | 1 U                         | 1 U                            | 1 U                           | 2 U                           | 50 U                    | 270                                 | NA |
| Aug-01  |                  | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |    |
| Nov-02  |                  | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 117                           | NA                      | NA                                  |    |
| Mar-06  |                  | 0.5 U                   | 0.5 U                       | 0.5 U                          | 1 U                           | 250 U                         | 250 U                   | NA                                  |    |
| Nov-07  |                  | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |    |
| Oct-08  |                  | 0.2 U                   | 0.2 U                       | 0.2 U                          | 0.6 U                         | 50 U                          | 80 U                    | 100 U                               |    |
| Jun-10  |                  | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 50 U                          | 140                     | 270 U                               |    |
| Dec-10  |                  | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 50 U                          | 120 U                   | 250 U                               |    |

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Pasco, Washington**

| Well ID | Date   | Benzene (µg/L)<br>MCL 5 | Toluene (µg/L)<br>MCL 1,000 | Ethylbenzene (µg/L) MCL<br>700 | Total Xylenes (µg/L)<br>1,000 | TPH-G (µg/L) MCL<br>800/1,000 | TPH-D (µg/L)<br>MCL 500 | TPH-D - Heavy Oil (µg/L)<br>MCL 500 |       |
|---------|--------|-------------------------|-----------------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------|-------------------------------------|-------|
| MW-4    | Mar-01 | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | 200 U                   | 680 U                               |       |
|         | Aug-01 | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |       |
|         | Nov-01 | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |       |
|         | Nov-02 | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 55                            | NA                      | NA                                  |       |
|         | Dec-03 | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |       |
|         | Mar-06 | 0.5 U                   | 0.5 U                       | 0.5 U                          | 1 U                           | 250 U                         | 250 U                   | NA                                  |       |
|         | Nov-07 | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |       |
|         | Oct-08 | 0.2 U                   | 0.2 U                       | 0.2 U                          | 0.6 U                         | 50 U                          | 77 U                    | 97 U                                |       |
|         | Jun-10 | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 50 U                          | 120 U                   | 250 U                               |       |
|         | Dec-10 | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 50 U                          | 140 U                   | 280 U                               |       |
| MW-5    | Mar-01 | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | 200 U                   | NA                                  |       |
|         | Aug-01 | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |       |
|         | Nov-02 | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 954                           | NA                      | NA                                  |       |
|         | Mar-06 | 0.5 U                   | 0.5 U                       | 0.5 U                          | 1 U                           | 250 U                         | 4,300                   | NA                                  |       |
|         | Nov-07 | 0.2 U                   | 0.2 U                       | 0.2 U                          | 0.6 U                         | 50 U                          | 1,300                   | 1,100                               |       |
|         | Oct-08 | 0.2 U                   | 0.2 U                       | 0.2 U                          | 0.6 U                         | 50 U                          | 91                      | 98 U                                |       |
|         | Jun-10 | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 50 U                          | 120 U                   | 250 U                               |       |
|         | Dec-10 | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 50 U                          | 130 U                   | 260 U                               |       |
|         | MW-6   | Mar-01                  | 1 U                         | 1 U                            | 1 U                           | 2 U                           | 50 U                    | 190 U                               | 480 U |
|         |        | Aug-01                  | 1 U                         | 1 U                            | 1 U                           | 2 U                           | 50 U                    | NA                                  | NA    |
| Nov-01  |        | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |       |
| Nov-02  |        | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 62                            | NA                      | NA                                  |       |
| Sep-03  |        | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |       |
| Dec-03  |        | 1 U                     | 1 U                         | 1 U                            | 2 U                           | 50 U                          | NA                      | NA                                  |       |
| Mar-06  |        | 0.5 U                   | 0.5 U                       | 0.5 U                          | 1 U                           | 250 U                         | 250 U                   | NA                                  |       |
| Nov-07  |        | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |       |
| Oct-08  |        | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |       |
| Jun-10  |        | 1.0 U                   | 1.0 U                       | 1.0 U                          | 2.0 U                         | 50 U                          | 120 U                   | 240 U                               |       |
| Dec-10  | 1.0 U  | 1.0 U                   | 1.0 U                       | 2.0 U                          | 50 U                          | 120 U                         | 240 U                   |                                     |       |
| MW-7    | Mar-01 | 990                     | 3,000                       | 130                            | 1,260                         | 11,000,000                    | 1,240                   | 510                                 |       |
|         | Mar-09 | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |       |
|         | Nov-07 | 70                      | 530                         | 53                             | 930                           | 7,000                         | 2,000                   | 300                                 |       |
|         | Oct-08 | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |       |
|         | Jun-10 | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |       |
|         | Dec-10 | 1.0 U                   | 4.1                         | 1.0 U                          | 27                            | 350                           | 120 U                   | 240 U                               |       |
| MW-8    | Mar-01 | 5,300                   | 17,000                      | 1,500                          | 10,800                        | 77,000,000                    | 72,400                  | 1,210                               |       |
|         | Feb-03 | 3,630                   | 8,540                       | 931                            | 8,450                         | 51,500                        | NA                      | NA                                  |       |
|         | Jun-03 | 6,490                   | 14,500                      | 1,320                          | 12,590                        | 80,900                        | NA                      | NA                                  |       |
|         | Mar-06 | 183                     | 5,440                       | 452                            | 5,140                         | 25,700                        | 8,400                   | NA                                  |       |
|         | Nov-07 | 29                      | 2,200                       | 410                            | 5,500                         | 36,000                        | 6,500                   | <1,900                              |       |
|         | Oct-08 | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |       |
|         | Jun-10 | NS                      | NS                          | NS                             | NS                            | NS                            | NS                      | NS                                  |       |
|         | Dec-10 | 2.4                     | 500                         | 210                            | 2,000                         | 9,900                         | 2,500                   | 260 U                               |       |

Notes:

MCL - Maximum Contaminant Level. Based on Washington Department of Ecology Method A cleanup levels in Table 720-1 of the Model Toxics Control Act, Oct 2007.

µg/L - Micrograms per liter

U = Analyte not detected

NS = Not Sampled for one of the following reasons: insufficient water in well, presence of liquid hydrocarbons, inaccessibility, date was between sampling events, or well no longer in sampling program.

N/A = Not applicable or not available



|   |   |                                |
|---|---|--------------------------------|
| <b>Client Name:</b><br><b>Chevron Pipe Line Company</b> | <b>Site Location:</b><br>NWTC Pasco Terminal, Pasco, Washington | <b>Project No.</b><br>25012120 |
|---|---|--------------------------------|

|                              |                         |
|------------------------------|-------------------------|
| <b>Photo No.</b><br><b>1</b> | <b>Date:</b><br>6/28/10 |
|------------------------------|-------------------------|

**Description:**

View northeast at the location of MW-1 (covered by steel plate) after excavation of approximately six to seven inches of road gravel.



|                              |                         |
|------------------------------|-------------------------|
| <b>Photo No.</b><br><b>2</b> | <b>Date:</b><br>6/23/10 |
|------------------------------|-------------------------|

**Description:**

Up close view of the manhole for MW-1. Note that the outer casing is filled with road gravel.



**Client Name:**

**Chevron Pipe Line Company**

**Site Location:**

NWTC Pasco Terminal, Pasco, Washington

**Project No.**

25012120

**Photo No.**

**3**

**Date:**

11/30/04

**Description:**

View looking north at MW-6 prior to monitor well reconditioning that occurred in June 2010.



**Photo No.**

**4**

**Date:**

6/22/10

**Description:**

View looking east (Snake River in background) at MW-6 subsequent to monitor well reconditioning activities. A new locking protective standpipe, concrete pad, and three bollards were installed.



|   |   |                                 |
|---|---|---------------------------------|
| <b>Client Name:</b><br><b>Chevron Pipe Line Company</b> | <b>Site Location:</b><br>NWTC Pasco Terminal, Pasco, Washington | <b>Project No.:</b><br>25012120 |
|---|---|---------------------------------|

|   |                         |   |  |
|---|-------------------------|---|--|
| <b>Photo No.</b><br><b>5</b>  | <b>Date:</b><br>12/1/04 |  |  |
| <b>Description:</b><br><br>View looking at MW-4 prior to monitor well reconditioning in June 2010. Note the damaged PVC casing caused by a grass fire (date unknown). |                         |   |  |

|   |                         |  |  |
|---|-------------------------|--|--|
| <b>Photo No.</b><br><b>6</b>  | <b>Date:</b><br>6/23/10 |  |  |
| <b>Description:</b><br><br>View looking at MW-4 subsequent to monitor well reconditioning activities. A new locking protective standpipe and concrete pad were installed. Damaged PVC casing was also replaced. |                         |  |  |

**Client Name:**

**Chevron Pipe Line Company**

**Site Location:**

NWTC Pasco Terminal, Pasco, Washington

**Project No.**

25012120

**Photo No.**

**7**

**Date:**

6/22/10

**Description:**

View looking at MW-8 prior to monitor well reconditioning in June 2010.



**Photo No.**

**8**

**Date:**

6/22/10

**Description:**

View looking at MW-8 subsequent to monitor well reconditioning activities. A new locking protective standpipe, concrete pad, and three bollards were installed.



**Client Name:**

**Chevron Pipe Line Company**

**Site Location:**

NWTC Pasco Terminal, Pasco, Washington

**Project No.**

25012120

**Photo No.**

**9**

**Date:**

6/28/10

**Description:**

View northeast along intermediate bench on slope down to the Snake River. Yellow standpipes accessed from the bench are monitor wells MW-7 (left) and MW-10 (center). Monitor well MW-8 is located adjacent to the paved road on right side of photo (adjacent to the red vehicle).



**Photo No.**

**10**

**Date:**

6/29/10

**Description:**

View west-northwest from lower terrace uphill toward CPL tank farm. URS field team is preparing to sample RW-1.





**CPL MONITOR WELLS  
JUNE 2010 SAMPLING EVENT**

URS Corporation

Groundwater Level Form

Chevron Pipeline, Pasco, WA

Job No: 25012120  
 Date: 6/28/10  
 Personnel: ZEO / EAL3  
 Equipment: H. Oil 200'

No readings @ MW-1

| Well ID | Time | Depth to Product (ft btc) | Depth to Water (ft btc) | Product Thickness | Total Depth   | Comments/ Repairs/ Gas Readings |     |    |                |       |
|---------|------|---------------------------|-------------------------|-------------------|---------------|---------------------------------|-----|----|----------------|-------|
|         |      |                           |                         |                   |               | H <sub>2</sub> S                | PID | CO | O <sub>2</sub> | LEL   |
| MW-1    | 1639 | -                         | 74.99                   | -                 | 75.26         | H <sub>2</sub> S                | PID | CO | O <sub>2</sub> | LEL X |
| MW-2    | 1608 | -                         | 72.80                   | -                 | 78.81         | ∅                               | ∅   | ∅  | 15.6           | ∅     |
| MW-3    | 1719 | TPH odor                  | 78.97                   | TRACE             | 95.40         | ∅                               | 9   | ∅  | 15.7           | ∅     |
| MW-4    | 1542 | -                         | 68.01                   | -                 | 76.97         | ∅                               | ∅   | ∅  | 20.9           | ∅     |
| MW-6    | 1454 | -                         | 15.84                   | -                 | 25.54         | 4                               | ∅   | ∅  | 20.3           | ∅     |
| MW-7    | 1528 | -                         | 66.96                   | -                 | 78.29         | 2                               | ∅   | ∅  | 19.4           | ∅     |
| MW-8    | 1503 | -                         | 39.51                   | -                 | 55.78         | 2                               | ∅   | ∅  | 20.4           | ∅     |
| MW-10   | 1576 | -                         | 63.42                   | -                 | 78.98         | ∅                               | ∅   | ∅  | 20.9           | ∅     |
| MW-11   | 1618 | -                         | 79.06                   | -                 | 84.56         | ∅                               | ∅   | ∅  | 3.1            | ∅     |
| MW-12   | 1624 | -                         | 79.22                   | -                 | 85.15         | ∅                               | ∅   | ∅  | 9.8            | ∅     |
| MW-14   | 1557 | -                         | 77.52                   | -                 | 85.07         | ∅                               | ∅   | ∅  | 12.1           | ∅     |
| RW-1    | 1650 | -                         | 72.89 / 76.24           | -                 | 99.3 / 102.85 |                                 |     |    |                | ∅     |

btc bgs

btc bgs

Monitoring Well Sampling Field Log

Well Number: MW-2

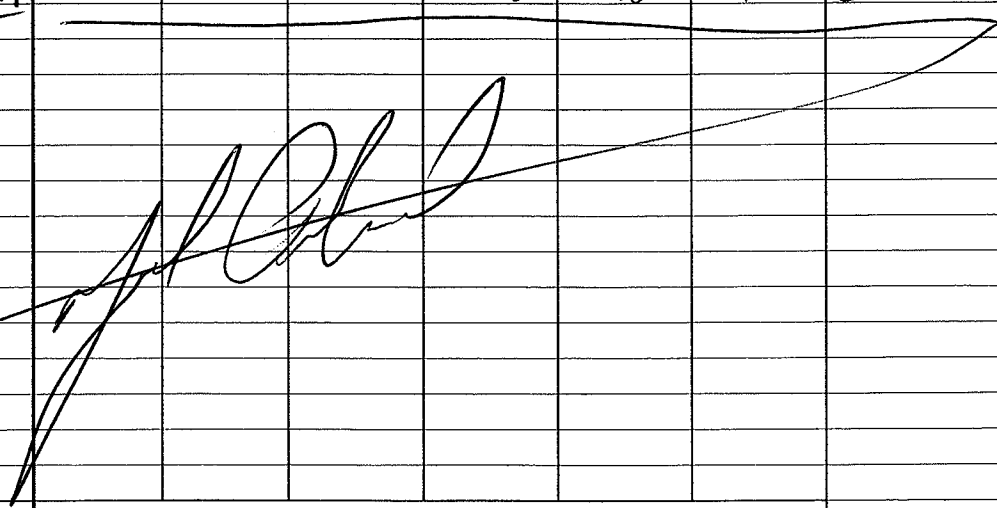
Page 1 of \_\_\_\_\_

Date: 6/30/10

| Project Information         |   |
|-----------------------------|---|
| Project Name:               | <u>CPL PASCO</u>                        |
| URS Project Number:         |   |
| Sampling Information        |   |
| Field Team:                 | <u>ZIO/ell</u>                          |
| Purge Method:               | <u>Submersible</u>                      |
| Pump Intake Depth (ft btc): | <u>76'</u>                              |
| Flow-Through Cell:          | <u>Y</u>                                |
| Sampling Method:            | <u>Low flow</u>                         |
| Decontamination Method:     | <u>Methanol/Alconox/Deionized Water</u> |
| Purge Water Disposition:    |   |
| Field Conditions:           | <u>Overcast</u>                         |
| Comments:                   | <u>Ferrous Iron = 0.45 ppm</u>          |

| Well Information  |                          |                          |                         |                       |                          |
|---|--------------------------|--------------------------|-------------------------|-----------------------|--------------------------|
| Well Diameter (in)  | Screen Interval (ft bgs) | <u>Stick-up or Flush</u> |                         |                       |                          |
| <u>4"</u>   |                          |                          |                         |                       |                          |
| Well Volume Calculation                                       |                          |                          |                         |                       |                          |
| Well Depth (ft btc)   | DTW (ft btc)             | Water Column (ft)        | Convert Factor (gal/ft) | One Well Volume (gal) | Three Well Volumes (gal) |
| <u>78.81</u>  | <u>72.80</u>             |                          |                         |                       |                          |
| 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft |                          |                          |                         |                       |                          |

| Sample Containers |            |              |                       |  | Filtered? |
|-------------------|------------|--------------|-----------------------|--|-----------|
| Number            | Type       | Preservative | Analytical Parameters |  |           |
| 3                 | 40ml vial  | HCl          | BTEX                  |  | N         |
| 3                 | 40ml vial  | HCl          | Ethanol               |  | N         |
| 3                 | 40ml vial  | HCl          | Methane               |  | N         |
| 3                 | 40ml vial  | HCl          | NH4P-Cx               |  | N         |
| 2                 | 16. Amber  | HCl          | NH4P-Dx               |  | N         |
| 1                 | 250ml poly | None         | Alkalinity/Salinity   |  | N         |
| 1                 | 150ml poly | H2SO4        | Nitrite/Nitrate       |  | N         |
| 1                 | 150ml poly | HNO3         | Manganese             |  | N         |

| Well Purge Data  |                   |                   |                                 |              |                      |             |               |           |                  |                           |
|--|-------------------|-------------------|---------------------------------|--------------|----------------------|-------------|---------------|-----------|------------------|---------------------------|
| Time   | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)                    | Temp. (°C)   | Conductivity (µS/cm) | D.O. (mg/L) | pH            | ORP (mV)  | Turbidity (NTUs) | Clarity/Color/Remarks     |
|  | Pump On           | <u>1540</u>       | <u>72.88</u> <sup>Initial</sup> | -            | ±3%                  | ±10%        | ±0.1          | ±10mv     | ±10%             | <= Stabilization Criteria |
| <u>1600</u>  |                   | <u>400</u>        | <u>73.18</u>                    | <u>17.70</u> | <u>1.60</u>          | <u>0.90</u> | <u>7.11</u>   | <u>99</u> | <u>7.5</u>       | <u>C</u>                  |
| <u>1605</u>  |                   |                   | <u>72.98</u>                    | <u>18.81</u> | <u>1.60</u>          | <u>0.35</u> | <u>6.98</u>   | <u>86</u> | <u>5.0</u>       | <u>C</u>                  |
| <u>1610</u>  |                   |                   | <u>72.98</u>                    | <u>20.36</u> | <u>1.60</u>          | <u>0.34</u> | <u>6.95</u>   | <u>64</u> | <u>7.1</u>       | <u>C</u>                  |
| <u>1615</u>  |                   |                   | <u>72.98</u>                    | <u>20.75</u> | <u>1.61</u>          | <u>0.27</u> | <u>6.85</u>   | <u>58</u> | <u>5.5</u>       | <u>C</u>                  |
| <u>1620</u>  |                   |                   | <u>72.98</u>                    | <u>21.33</u> | <u>1.60</u>          | <u>0.24</u> | <u>6.95</u>   | <u>53</u> | <u>6.6</u>       | <u>C</u>                  |
| <u>1625</u>  | <u>~11</u>        |                   | <u>72.99</u>                    | <u>21.49</u> | <u>1.61</u>          | <u>0.10</u> | <u>6.96</u>   | <u>48</u> | <u>7.0</u>       | <u>C</u>                  |
| <u>SAMPLE</u>  |                   |                   |                                 |              |                      |             |               |           |                  |                           |
|  |                   |                   |                                 |              |                      |             |               |           |                  |                           |
| Start Sampling   |                   | <u>1628</u>       |                                 |              |                      |             |               |           |                  |                           |
| End Sampling   |                   | <u>1642</u>       | Sample Number:                  |              | <u>C-MW-02-0610</u>  |             | <u>ST1628</u> |           |                  |                           |
|  |                   |                   | <u>Final</u>                    |              |                      |             |               |           |                  |                           |

Note: bgs= below ground surface btc=below top of casing DTW=depth to water  
Clarity: VC=very cloudy CI=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear



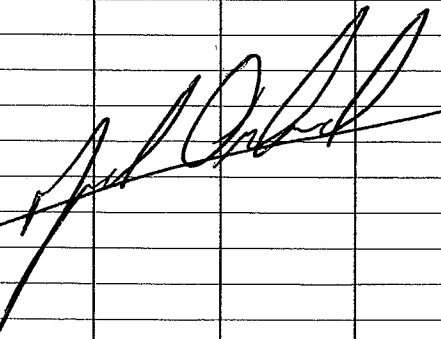
Monitoring Well Sampling Field Log

Well Number: MW-4  
Date: 6/29/10

Project Information  
Project Name: CPL PASCO  
URS Project Number:  
Sampling Information  
Field Team: Z. Oakland / E. LeCoq  
Purge Method: Submersible  
Pump Intake Depth (ft btc): 72'  
Flow-Through Cell: Yes  
Sampling Method: Low Flow  
Decontamination Method:  
Methanol / Alconox / DI  
Purge Water Disposition: Clear  
Field Conditions: Sunny Breeze 85°  
Comments:  
Ferrous Iron = 0.24 ppm

Well Information  
Well Diameter (in): 4  
Screen Interval (ft bgs):  
Stick-up or Flush:  
Well Volume Calculation  
Well Depth (ft btc): 76.97 DTW (ft btc): 68.01 Water Column (ft): 8.96 Convert Factor (gal/ft): One Well Volume (gal): Three Well Volumes (gal):  
3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

| Number | Type       | Preservative                   | Analytical Parameters | Filtered? |
|--------|------------|--------------------------------|-----------------------|-----------|
| 3      | 40ml VOA   | HCl                            | BTEX                  | N         |
| 3      | 40ml VOA   | HCl                            | Ethanol               | N         |
| 3      | 40ml VOA   | HCl                            | Methane               | N         |
| 3      | 40ml VOA   | HCl                            | NHTPH-Cox             | N         |
| 2      | 1L Amber   | HCl                            | NHTPH-Dx              | N         |
| 1      | 250ml Poly | None                           | Alkalinity/Sul Rate   | N         |
| 1      | 250ml Poly | H <sub>2</sub> SO <sub>4</sub> | Nitrate/Nitrite       | N         |
| 1      | 250ml Poly | HNO <sub>3</sub>               | Manganese             | N         |

| Time   | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)                       | Temp. (°C)   | Conductivity (µS/cm) | D.O. (mg/L) | pH          | ORP (mV)   | Turbidity (NTUs) | Clarity/Color/Remarks     |
|--|-------------------|-------------------|------------------------------------|--------------|----------------------|-------------|-------------|------------|------------------|---------------------------|
|  | Pump On           |                   | Initial <u>68.06</u>               |              | ±3%                  | ±10%        | ±0.1        | ±10mv      | ±10%             | <= Stabilization Criteria |
| 1420   | 0                 | 300               | <u>68.05</u>                       | <u>17.96</u> | <u>0.881</u>         | <u>8.44</u> | <u>7.80</u> | <u>89</u>  | <u>6.7</u>       | <u>C</u>                  |
| 1425   | 1.5               |                   | <u>68.05</u>                       | <u>19.70</u> | <u>0.882</u>         | <u>7.15</u> | <u>7.62</u> | <u>93</u>  | <u>6.8</u>       | <u>C</u>                  |
| 1430   | 3                 |                   | <u>68.05</u>                       | <u>20.46</u> | <u>0.882</u>         | <u>6.97</u> | <u>7.61</u> | <u>93</u>  | <u>6.5</u>       | <u>C</u>                  |
| 1435   | 4.5               |                   | <u>68.05</u>                       | <u>21.44</u> | <u>0.884</u>         | <u>6.80</u> | <u>7.60</u> | <u>99</u>  | <u>11.2</u>      | <u>C</u>                  |
| 1440   | 6                 |                   | <u>68.05</u>                       | <u>22.32</u> | <u>0.881</u>         | <u>6.65</u> | <u>7.60</u> | <u>110</u> | <u>15.5</u>      | <u>C</u>                  |
| 1445   | 7.5               |                   | <u>68.05</u>                       | <u>22.68</u> | <u>0.882</u>         | <u>6.49</u> | <u>7.60</u> | <u>115</u> | <u>11.5</u>      | <u>C</u>                  |
| 1450   | 9                 |                   | <u>68.05</u>                       | <u>22.78</u> | <u>0.868</u>         | <u>6.13</u> | <u>7.61</u> | <u>114</u> | <u>12.0</u>      | <u>C</u>                  |
| 1455   | 11                |                   | <u>68.05</u>                       | <u>22.88</u> | <u>0.877</u>         | <u>6.28</u> | <u>7.62</u> | <u>117</u> | <u>11.5</u>      | <u>C</u>                  |
| <b>SAMPLED</b>   |                   |                   |                                    |              |                      |             |             |            |                  |                           |
|  |                   |                   |                                    |              |                      |             |             |            |                  |                           |
| Start Sampling <u>1457</u>   |                   |                   | Sample Number: <u>C-MW-04-0610</u> |              |                      |             |             |            |                  |                           |
| End Sampling <u>1516</u>   |                   |                   | ST <u>1457</u>                     |              |                      |             |             |            |                  |                           |
|  |                   |                   | Final <u>68.04</u>                 |              |                      |             |             |            |                  |                           |

Note: bgs= below ground surface btc=below top of casing DTW=depth to water  
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

# Monitoring Well Sampling Field Log

Well Number: **UV-10**

Page 1 of **1**

Date: **6/29/10**

| Project Information         |   |
|-----------------------------|---|
| Project Name:               | <b>CPL Pasco</b>                        |
| URS Project Number:         |   |
| Sampling Information        |   |
| Field Team:                 | <b>ZED/EdLyn</b>                        |
| Purge Method:               | <b>low flow Submersible</b>             |
| Pump Intake Depth (ft btc): | <b>20'</b>                              |
| Flow-Through Cell:          | <b>Y</b>                                |
| Sampling Method:            | <b>low flow</b>                         |
| Decontamination Method:     | <b>Methanol/Alconox/Deionized water</b> |
| Purge Water Disposition:    |   |
| Field Conditions:           | <b>clear 83°F</b>                       |
| Comments:                   | <b>Ferrous Iron = 0.37 ppm</b>          |

| Well Information        |                          |                          |                         |                       |                          |
|-------------------------|--------------------------|--------------------------|-------------------------|-----------------------|--------------------------|
| Well Diameter (in)      | Screen Interval (ft bgs) | <b>Stick-up or Flush</b> |                         |                       |                          |
| <b>7</b>                |                          |                          |                         |                       |                          |
| Well Volume Calculation |                          |                          |                         |                       |                          |
| Well Depth (ft btc)     | DTW (ft btc)             | Water Column (ft)        | Convert Factor (gal/ft) | One Well Volume (gal) | Three Well Volumes (gal) |
| <b>25.54</b>            | <b>15.84</b>             |                          |                         |                       |                          |

3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

| Sample Containers |            |              |                       |  | Filtered? |
|-------------------|------------|--------------|-----------------------|--|-----------|
| Number            | Type       | Preservative | Analytical Parameters |  |           |
| 5                 | 40ml VOA   | HCl          | STEX                  |  | N         |
| 3                 | 40ml VOA   | HCl          | Ethanol               |  | N         |
| 3                 | 40ml VOA   | HCl          | Methane               |  | N         |
| 3                 | 40ml VOA   | HCl          | NH4PH-Cox             |  | N         |
| 2                 | 1L Amber   | HCl          | NH4PH-Dx              |  | N         |
| 1                 | 250ml Poly | None         | Alkalinity/Sulfate    |  | N         |
| 1                 | 250ml Poly | H2SO4        | Nitrite/Nitrate       |  | N         |
| 1                 | 250ml Poly | HNO3         | Manganese             |  | N         |

| Well Purge Data |                   |                   |                         |                                   |                      |             |      |          |                  |                           |
|-----------------|-------------------|-------------------|-------------------------|-----------------------------------|----------------------|-------------|------|----------|------------------|---------------------------|
| Time            | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)            | Temp. (°C)                        | Conductivity (uS/cm) | D.O. (mg/L) | pH   | ORP (mV) | Turbidity (NTUs) | Clarity/Color/Remarks     |
|                 | Pump On           |                   | Initial<br><b>15.86</b> | -                                 | ±3%                  | ±10%        | ±0.1 | ±10mv    | ±10%             | <= Stabilization Criteria |
| 1630            | 0                 | 500               | 15.89                   | 17.77                             | 0.849                | 13.64       | 8.16 | 121      | 433              | Cl                        |
| 1635            | 2.5               | ↓                 | 15.90                   | 18.17                             | 0.899                | 8.15        | 7.80 | 140      | 117              | Cl                        |
| 1640            | 5.0               |                   | 15.91                   | 18.08                             | 0.908                | 7.89        | 7.67 | 148      | 65.1             | AC                        |
| 1645            | 7.5               |                   | 15.91                   | 17.72                             | 0.906                | 7.72        | 7.60 | 153      | 68.3             | AC                        |
| 1650            | 10                |                   | 15.91                   | 17.84                             | 0.907                | 7.59        | 7.55 | 158      | 68.8             | AC                        |
| 1655            | 12.5              |                   | 15.91                   | 17.78                             | 0.905                | 7.56        | 7.52 | 161      | 56.2             | AC                        |
|                 | <b>SAMPLE</b>     |                   |                         |                                   |                      |             |      |          |                  |                           |
| Start Sampling  |                   |                   | 1657                    |                                   |                      |             |      |          |                  |                           |
| End Sampling    |                   |                   | 1712                    | Sample Number: <b>C-MW-6-0610</b> |                      |             |      |          |                  |                           |
|                 |                   |                   | Final<br><b>15.88</b>   | <b>51-1657</b>                    |                      |             |      |          |                  |                           |

Note: bgs= below ground surface btc=below top of casing DTW=depth to water  
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log

Well Number: MW-7

Page 1 of \_\_\_

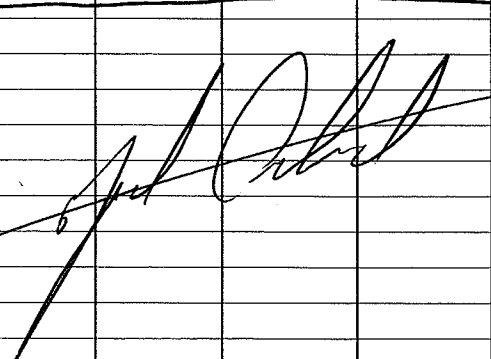
Date: 6/30/10

| Project Information         |                         |
|-----------------------------|-------------------------|
| Project Name:               | CPL                     |
| URS Project Number:         |                         |
| Sampling Information        |                         |
| Field Team:                 | Z. Orenland / E. Helwig |
| Purge Method:               | Submersible             |
| Pump Intake Depth (ft btc): | 72'                     |
| Flow-Through Cell:          | Yes                     |
| Sampling Method:            | Low Flow                |
| Decontamination Method:     |                         |
| Methanol / Alconox / DI     |                         |
| Purge Water Disposition:    | Murky, Lt Brown         |
| Field Conditions:           | Sunny Clear 80°         |
| Comments:                   |                         |
| Ferrois Iron = 0.53 ppm     |                         |
| MS/MSD Collected            |                         |

| Well Information        |                          |                   |                         |                       |                          |
|-------------------------|--------------------------|-------------------|-------------------------|-----------------------|--------------------------|
| Well Diameter (in)      | Screen Interval (ft bgs) | Stick-up or Flush |                         |                       |                          |
| 2                       | 57-77                    |                   |                         |                       |                          |
| Well Volume Calculation |                          |                   |                         |                       |                          |
| Well Depth (ft btc)     | DTW (ft btc)             | Water Column (ft) | Convert Factor (gal/ft) | One Well Volume (gal) | Three Well Volumes (gal) |
| 78.29                   | 66.96                    |                   |                         |                       |                          |

3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

| Sample Containers |            |              |                       | Filtered? |
|-------------------|------------|--------------|-----------------------|-----------|
| Number            | Type       | Preservative | Analytical Parameters |           |
| 3 x 3             | 40ul VOA   | HCl          | BTEX                  |           |
| 3 x 3             | 40ul VOA   | HCl          | Ethanol               |           |
| 3                 | 40ul VOA   | HCl          | Methane               |           |
| 3 x 3             | 40ul VOA   | HCl          | NH4PH-Gx              |           |
| 2 x 3             | 1L Amber   | HCl          | NH4PH-Dx              |           |
| 1                 | 250ul Poly | None         | Alkalinity/Sal Rate   |           |
| 1                 | 250ul Poly | H2SO4        | Nitrate/Nitrite       |           |
| 1                 | 250ul Poly | HNO3         | Manganese             |           |

| Well Purge Data  |                   |                   |                  |            |                                   |             |         |          |                  |                           |
|--|-------------------|-------------------|------------------|------------|-----------------------------------|-------------|---------|----------|------------------|---------------------------|
| Time   | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)     | Temp. (°C) | Conductivity (uS/cm)              | D.O. (mg/L) | pH      | ORP (mV) | Turbidity (NTUs) | Clarity/Color/Remarks     |
|  | Pump On           | 0913              | Initial<br>67.10 | -          | ±3%                               | ±10%        | ±0.1    | ±10mv    | ±10%             | <= Stabilization Criteria |
| 0915   |                   |                   | 67.08            | 16.62      | 0.974                             | 5.73        | 6.19    | 132      | 800+             | VC                        |
| 0920   |                   |                   | 67.08            | 18.02      | 0.943                             | 5.23        | 6.94    | 97       | 800+             | VC                        |
| 0925   |                   |                   | 67.06            | 18.92      | 0.933                             | 5.20        | 7.17    | 102      | 379              | CI                        |
| 0930   |                   |                   | 67.06            | 18.76      | 0.936                             | 5.50        | 7.39    | 96       | 111              | CI                        |
| 0935   |                   |                   | 67.06            | 17.87      | 0.933                             | 5.58        | 7.40    | 98       | 827              | CI                        |
| 0940   |                   |                   | 67.06            | 18.28      | 0.926                             | 5.40        | 7.39    | 94       | 73.8             | CI                        |
| 0945   |                   |                   | 67.06            | 19.38      | 0.927                             | 4.93        | 7.45    | 98       | 85.2             | CI                        |
| 0950   |                   |                   | 67.07            | 18.05      | 0.922                             | 5.03        | 7.46    | 88       | 84.5             | CI                        |
| SAMPLE   |                   |                   |                  |            |                                   |             |         |          |                  |                           |
|  |                   |                   |                  |            |                                   |             |         |          |                  |                           |
|  | Start Sampling    | 955               |                  |            |                                   |             |         |          |                  |                           |
|  | End Sampling      | 1010              |                  |            |                                   |             |         |          |                  |                           |
|  |                   | Final<br>67.07    |                  |            |                                   |             |         |          |                  |                           |
|  |                   |                   |                  |            | Sample Number: C-MW-7-0010 MS/MSD |             | ST 1001 |          |                  |                           |

Note: bgs= below ground surface btc=below top of casing DTW=depth to water  
Clarity: VC=very cloudy CI=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log

Well Number: MW-8

Date: 6/30/10

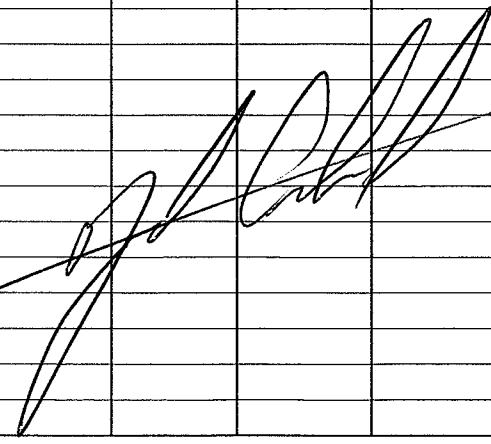
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| Project Information         |   |
|-----------------------------|---|
| Project Name:               | <u>CPL Pasco</u>                        |
| URS Project Number:         |   |
| Sampling Information        |   |
| Field Team:                 | <u>ZED/ELW</u>                          |
| Purge Method:               | <u>Submersible</u>                      |
| Pump Intake Depth (ft btc): | <u>45'</u>                              |
| Flow-Through Cell:          | <u>Y</u>                                |
| Sampling Method:            | <u>Low Flow</u>                         |
| Decontamination Method:     | <u>Methanol/Aceonox/Deionized Water</u> |
| Purge Water Disposition:    |   |
| Field Conditions:           | <u>Clear</u>                            |
| Comments:                   | <u>Ferrous Iron = 0.01 ppm</u>          |

| Well Information        |                          |                       |                         |                       |                          |
|-------------------------|--------------------------|-----------------------|-------------------------|-----------------------|--------------------------|
| Well Diameter (in)      | Screen Interval (ft bgs) | <u>Stick</u> or Flush |                         |                       |                          |
| <u>2"</u>               | <u>29-54'</u>            |                       |                         |                       |                          |
| Well Volume Calculation |                          |                       |                         |                       |                          |
| Well Depth (ft btc)     | DTW (ft btc)             | Water Column (ft)     | Convert Factor (gal/ft) | One Well Volume (gal) | Three Well Volumes (gal) |
| <u>55.78</u>            | <u>39.51</u>             |                       |                         |                       |                          |

3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

| Sample Containers |             |                                |                       |  | Filtered? |
|-------------------|-------------|--------------------------------|-----------------------|--|-----------|
| Number            | Type        | Preservative                   | Analytical Parameters |  |           |
| 3                 | 40 mL VOA   | HCl                            | BTEX                  |  | N         |
| 3                 | 40 mL VOA   | HCl                            | Ethanol               |  | N         |
| 3                 | 40 mL VOA   | HCl                            | Methane               |  | N         |
| 3                 | 40 mL VOA   | HCl                            | NWTPH-Cx              |  | N         |
| 2                 | 1L Amber    | HCl                            | NWTPH-Dx              |  | N         |
| 1                 | 250 mL Poly | None                           | Alkalinity/Sulfate    |  | N         |
| 1                 | 250 mL Poly | H <sub>2</sub> SO <sub>4</sub> | Nitrate/Nitrite       |  | M         |
| 1                 | 250 mL Poly | HNO <sub>3</sub>               | Manganese             |  | N         |

| Well Purge Data  |                   |                       |                                     |              |                      |             |             |            |                  |                           |
|--|-------------------|-----------------------|-------------------------------------|--------------|----------------------|-------------|-------------|------------|------------------|---------------------------|
| Time   | Volume Purged (L) | Purge Rate (mL/m)     | DTW (ft btc)                        | Temp. (°C)   | Conductivity (µS/cm) | D.O. (mg/L) | pH          | ORP (mV)   | Turbidity (NTUs) | Clarity/Color/Remarks     |
|  | Pump On           | <u>1049</u>           | Initial<br><u>39.62</u>             | -            | ±3%                  | ±10%        | ±0.1        | ±10mv      | ±10%             | <= Stabilization Criteria |
| <u>1052</u>  |                   |                       | <u>39.61</u>                        | <u>17.12</u> | <u>0.934</u>         | <u>6.74</u> | <u>7.89</u> | <u>103</u> | <u>2.1</u>       | <u>C</u>                  |
| <u>1057</u>  |                   |                       | <u>39.62</u>                        | <u>17.31</u> | <u>0.929</u>         | <u>5.29</u> | <u>7.65</u> | <u>86</u>  | <u>0.0</u>       | <u>C</u>                  |
| <u>1102</u>  |                   |                       | <u>39.62</u>                        | <u>17.47</u> | <u>0.931</u>         | <u>5.33</u> | <u>7.60</u> | <u>94</u>  | <u>0.0</u>       | <u>C</u>                  |
| <u>1107</u>  |                   |                       | <u>39.62</u>                        | <u>17.55</u> | <u>0.931</u>         | <u>5.20</u> | <u>7.55</u> | <u>100</u> | <u>0.0</u>       | <u>C</u>                  |
| <u>1102</u>  |                   |                       | <u>39.62</u>                        | <u>17.57</u> | <u>0.931</u>         | <u>5.11</u> | <u>7.54</u> | <u>99</u>  | <u>0.0</u>       | <u>C</u>                  |
| <u>SAMPLE</u>  |                   |                       |                                     |              |                      |             |             |            |                  |                           |
|  |                   |                       |                                     |              |                      |             |             |            |                  |                           |
| Start Sampling   |                   | <u>1105</u>           |                                     |              |                      |             |             |            |                  |                           |
| End Sampling   |                   | <u>1123</u>           | Sample Number: <u>C - MW-8-0010</u> |              | <u>ST1105</u>        |             |             |            |                  |                           |
|  |                   | Final<br><u>39.62</u> |                                     |              |                      |             |             |            |                  |                           |

Note: bgs= below ground surface btc=below top of casing DTW=depth to water  
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log

Well Number: MW-10

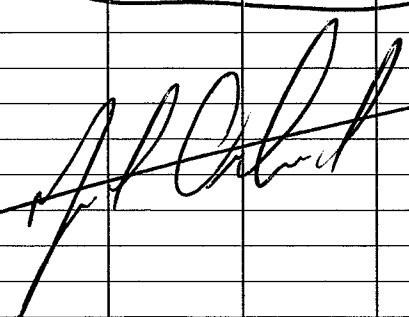
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Date: 6/30/10

| Project Information         |                                  |
|-----------------------------|----------------------------------|
| Project Name:               | CPL Pasco                        |
| URS Project Number:         |                                  |
| Sampling Information        |                                  |
| Field Team:                 | ZEO/ELW                          |
| Purge Method:               | Submersible                      |
| Pump Intake Depth (ft btc): | 69'                              |
| Flow-Through Cell:          | Y                                |
| Sampling Method:            | low flow                         |
| Decontamination Method:     | Methanol/Acetone/Deionized water |
| Purge Water Disposition:    |                                  |
| Field Conditions:           | clear                            |
| Comments:                   | Ferrous Iron = 0.00 ppm          |

| Well Information        |                          |                   |                         |                       |                          |
|-------------------------|--------------------------|-------------------|-------------------------|-----------------------|--------------------------|
| Well Diameter (in)      | Screen Interval (ft bgs) | Stick-up or Flush |                         |                       |                          |
| 4                       | 54-78                    |                   |                         |                       |                          |
| Well Volume Calculation |                          |                   |                         |                       |                          |
| Well Depth (ft btc)     | DTW (ft btc)             | Water Column (ft) | Convert Factor (gal/ft) | One Well Volume (gal) | Three Well Volumes (gal) |
| 70.98                   | 63.42                    |                   |                         |                       |                          |

| 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft |            |                                |                       |           |
|---|------------|--------------------------------|-----------------------|-----------|
| Sample Containers   |            |                                |                       | Filtered? |
| Number  | Type       | Preservative                   | Analytical Parameters |           |
| 3   | 40ml vial  | HCl                            | BTEX                  | N         |
| 3   | 40ml vial  | HCl                            | Ethanol               | N         |
| 3   | 40ml vial  | HCl                            | Methane               | N         |
| 3   | 40ml vial  | HCl                            | NUTPH-Cx              | N         |
| 2   | 1L. amber  | HCl                            | NUTPH-Dx              | N         |
| 1   | 250ml Poly | None                           | Alkalinity/Sulfate    | N         |
| 1   | 250ml Poly | H <sub>2</sub> SO <sub>4</sub> | Nitrate/Nitrite       | N         |
| 1   | 250ml Poly | HNO <sub>3</sub>               | Manganese             | N         |

| Well Purge Data  |                   |                   |                             |            |                      |             |      |          |                  |                          |
|--|-------------------|-------------------|-----------------------------|------------|----------------------|-------------|------|----------|------------------|--------------------------|
| Time   | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)                | Temp. (°C) | Conductivity (µS/cm) | D.O. (mg/L) | pH   | ORP (mV) | Turbidity (NTUs) | Clarity/Color/Remarks    |
|  | Pump On           |                   | Initial 63.53               | -          | ±3%                  | ±10%        | ±0.1 | ±10mv    | ±10%             | ⇐ Stabilization Criteria |
| 0742   | 0                 | 250               | 63.53                       | 16.31      | 0.914                | 6.82        | 8.06 | 170      | 4.0              | C                        |
| 0747   | 1.3               | 250               | 63.54                       | 17.34      | 0.929                | 5.82        | 7.69 | 71       | 0.3              | C                        |
| 0752   | 3                 | 400               | 63.54                       | 17.40      | 0.930                | 4.86        | 7.63 | 89       | 0.0              | C                        |
| 0757   | 5                 | 400               | 63.53                       | 17.49      | 0.927                | 4.62        | 7.62 | 89       | 0.0              | CC                       |
| 0802   | 7                 | 300               | 63.53                       | 18.00      | 0.929                | 5.55        | 7.53 | 75       | 0.7              | CC                       |
| 0807   | 8.5               | 300               | 63.53                       | 18.54      | 0.930                | 5.68        | 7.53 | 74       | 6.0              | CC ✓                     |
| 812  | 11                | 400               | 63.53                       | 18.47      | 0.929                | 5.62        | 7.58 | 74       | 0.9              | CC ✓                     |
| 817  | 13                | 400               | 63.53                       | 18.12      | 0.929                | 5.53        | 7.56 | 80       | 0.0              | CC ✓                     |
| SAMPLER  |                   |                   |                             |            |                      |             |      |          |                  |                          |
|  |                   |                   |                             |            |                      |             |      |          |                  |                          |
| Start Sampling   | 822               |                   |                             |            |                      |             |      |          |                  |                          |
| End Sampling   | 0834              |                   | Sample Number: C-MW-10-0010 |            |                      |             |      |          |                  |                          |
|  |                   |                   | Final 63.52                 | ST: 822    |                      |             |      |          |                  |                          |

Note: bgs= below ground surface btc=below top of casing DTW=depth to water  
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log

Well Number: MW-11

Date: 10/30/10

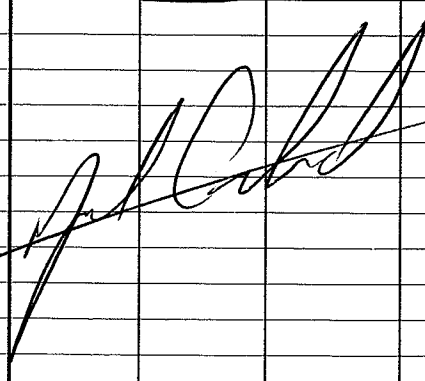
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|                                |                         |
|--------------------------------|-------------------------|
| <b>Project Information</b>     |                         |
| Project Name:                  | CPL Pasco               |
| URS Project Number:            |                         |
| <b>Sampling Information</b>    |                         |
| Field Team:                    | Z. Orneland / E. LeCocq |
| Purge Method:                  | Submersible             |
| Pump Intake Depth (ft btc):    | 82'                     |
| Flow-Through Cell:             | YES                     |
| Sampling Method:               | Low Flow                |
| <b>Decontamination Method:</b> |                         |
| Methanol / Alconox / DI        |                         |
| Purge Water Disposition:       |                         |
| Field Conditions:              | P+ Cloudy calm 85°      |
| <b>Comments:</b>               |                         |
| Ferrous Iron = 0.05 ppm        |                         |

|                                |                          |                   |                         |                       |                          |
|--------------------------------|--------------------------|-------------------|-------------------------|-----------------------|--------------------------|
| <b>Well Information</b>        |                          |                   |                         |                       |                          |
| Well Diameter (in)             | Screen Interval (ft bgs) | Stick-up or Flush |                         |                       |                          |
| 2"                             |                          |                   |                         |                       |                          |
| <b>Well Volume Calculation</b> |                          |                   |                         |                       |                          |
| Well Depth (ft btc)            | DTW (ft btc)             | Water Column (ft) | Convert Factor (gal/ft) | One Well Volume (gal) | Three Well Volumes (gal) |
| 84.56                          | 79.06                    |                   |                         |                       |                          |

3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

| Sample Containers |            |                                |                       | Filtered? |
|-------------------|------------|--------------------------------|-----------------------|-----------|
| Number            | Type       | Preservative                   | Analytical Parameters |           |
| 3                 | 40ml VOA   | HCl                            | BTEX                  |           |
| 3                 | 40ml VOA   | HCl                            | Ethanol               |           |
| 3                 | 40ml VOA   | HCl                            | Methane               |           |
| 3                 | 40ml VOA   | HCl                            | NWTPH-Cx              |           |
| 2                 | 1L Amber   | HCl                            | NWTPH-Ox              |           |
| 1                 | 250ml Poly | None                           | Alkalinity/Sulphate   |           |
| 1                 | 250ml Poly | H <sub>2</sub> SO <sub>4</sub> | Nitrate/Nitrite       |           |
| 1                 | 250ml Poly | HNO <sub>3</sub>               | Manganese             |           |

| Well Purge Data  |                   |                   |                             |            |                      |             |         |          |                  |                           |
|--|-------------------|-------------------|-----------------------------|------------|----------------------|-------------|---------|----------|------------------|---------------------------|
| Time   | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)                | Temp. (°C) | Conductivity (µS/cm) | D.O. (mg/L) | pH      | ORP (mV) | Turbidity (NTUs) | Clarity/Color/Remarks     |
|  | Pump On           | 1201              | Initial<br>79.14            | -          | ±3%                  | ±10%        | ±0.1    | ±10mv    | ±10%             | <= Stabilization Criteria |
| 1203   |                   |                   | 79.38                       | 18.30      | 1.30                 | 1.04        | 6.91    | 108      | 5.5              | AC                        |
| 1208   |                   |                   | 79.52                       | 19.47      | 1.13                 | 1.52        | 7.03    | 75       | 5.2              | C                         |
| 1213   |                   |                   | 79.56                       | 19.67      | 1.12                 | 1.67        | 7.11    | 79       | 2.8              | C                         |
| 1218   |                   |                   | 79.24                       | 20.20      | 1.11                 | 1.39        | 7.08    | 90       | 3.3              | C                         |
| 1223   |                   |                   | 79.75                       | 21.36      | 1.10                 | 1.65        | 7.11    | 72       | 2.8              | C                         |
| 1228   |                   |                   | 79.60                       | 18.77      | 1.11                 | 1.85        | 7.18    | 77       | 2.0              | C                         |
| 1233   |                   |                   | 79.60                       | 18.83      | 1.11                 | 1.90        | 7.19    | 81       | 0.4              | C                         |
| 1238   |                   |                   | 79.60                       | 18.86      | 1.10                 | 2.08        | 7.20    | 83       | 0.0              | C                         |
| <del>SAMPLE 9A</del>   |                   |                   |                             |            |                      |             |         |          |                  |                           |
| <del></del> |                   |                   |                             |            |                      |             |         |          |                  |                           |
| Start Sampling 1241  |                   |                   |                             |            |                      |             |         |          |                  |                           |
| End Sampling 1252  |                   |                   | Sample Number: C-MW-11-0610 |            |                      |             | ST 1241 |          |                  |                           |
|  |                   |                   | Final 79.10                 |            |                      |             |         |          |                  |                           |

Note: bgs= below ground surface btc=below top of casing DTW=depth to water  
Clarity: VC=very cloudy CI=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log

Well Number: **MW-12**

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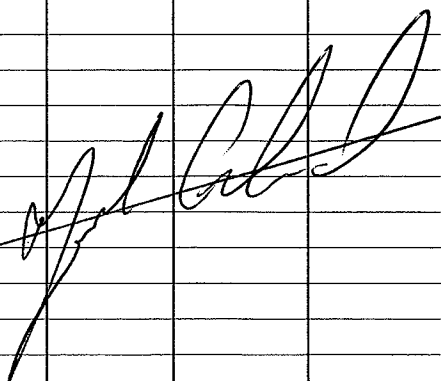
Date: **6/30/10**

| Project Information                  |   |
|--------------------------------------|---|
| Project Name:                        | <b>CPL Pasco</b>                        |
| URS Project Number:                  |   |
| Sampling Information                 |   |
| Field Team:                          | <b>ZBO/ELW</b>                          |
| Purge Method:                        | <b>Submersible</b>                      |
| Pump Intake Depth (ft btc):          | <b>82'</b>                              |
| Flow-Through Cell:                   | <b>Y</b>                                |
| Sampling Method:                     | <b>Low flow</b>                         |
| Decontamination Method:              | <b>Methanol/Alconox/Deionized water</b> |
| Purge Water Disposition:             |   |
| Field Conditions:                    | <b>Overcast</b>                         |
| Comments:                            | <b>Ferrous Iron = 1.09 ppm</b>          |
| <b>Duplicate Sample:</b>             |   |
| <b>Field Name: MW-12-0610 ST0707</b> |   |

| Well Information        |                          |                          |                         |                       |                          |
|-------------------------|--------------------------|--------------------------|-------------------------|-----------------------|--------------------------|
| Well Diameter (in)      | Screen Interval (ft bgs) | <b>Stick-up or Flush</b> |                         |                       |                          |
| <b>2"</b>               |                          |                          |                         |                       |                          |
| Well Volume Calculation |                          |                          |                         |                       |                          |
| Well Depth (ft btc)     | DTW (ft btc)             | Water Column (ft)        | Convert Factor (gal/ft) | One Well Volume (gal) | Three Well Volumes (gal) |
| <b>85.15</b>            | <b>79.22</b>             |                          |                         |                       |                          |

3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

| Sample Containers |             |                                |                       | Filtered? |
|-------------------|-------------|--------------------------------|-----------------------|-----------|
| Number            | Type        | Preservative                   | Analytical Parameters |           |
| 3 x 2             | 40 mL VOA   | HCl                            | BTEX                  | N         |
| 3 x 2             | 40 mL VOA   | HCl                            | Phenol                | N         |
| 3 x 2             | 40 mL VOA   | HCl                            | Methane               | N         |
| 3 x 2             | 40 mL VOA   | HCl                            | NWTPH-Cox             | N         |
| 2 x 2             | 1 L Amber   | HCl                            | NWTPH-Dx              | N         |
| 1 x 2             | 250 mL Poly | None                           | Alkalinity/Sul fate   | N         |
| 1 x 2             | 250 mL Poly | H <sub>2</sub> SO <sub>4</sub> | Nitrite/Nitrate       | N         |
| 1 x 2             | 250 mL Poly | HNO <sub>3</sub>               | Manganese             | N         |

| Well Purge Data  |                   |                   |                         |   |                      |             |             |            |                  |                           |
|--|-------------------|-------------------|-------------------------|---|----------------------|-------------|-------------|------------|------------------|---------------------------|
| Time   | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)            | Temp. (°C)                                | Conductivity (uS/cm) | D.O. (mg/L) | pH          | ORP (mV)   | Turbidity (NTUs) | Clarity/Color/Remarks     |
|  | Pump On           | <b>1348</b>       | Initial<br><b>79.53</b> | -   | ±3%                  | ±10%        | ±0.1        | ±10mv      | ±10%             | <= Stabilization Criteria |
| 1350   |                   |                   | <b>80.01</b>            | <b>17.41</b>                              | <b>1.50</b>          | <b>0.88</b> | <b>7.42</b> | <b>31</b>  | <b>25.9</b>      | <b>AC</b>                 |
| 1355   |                   |                   | <b>79.64</b>            | <b>17.85</b>                              | <b>1.36</b>          | <b>0.00</b> | <b>7.14</b> | <b>-50</b> | <b>30.1</b>      | <b>AC</b>                 |
| 1400   |                   |                   | <b>80.51</b>            | <b>20.98</b>                              | <b>1.30</b>          | <b>0.00</b> | <b>7.14</b> | <b>-21</b> | <b>36.7</b>      | <b>AC</b>                 |
| 1405   |                   |                   | <b>80.18</b>            | <b>18.46</b>                              | <b>1.25</b>          | <b>0.00</b> | <b>7.18</b> | <b>-72</b> | <b>3.3</b>       | <b>C</b>                  |
| 1410   |                   |                   | <b>80.14</b>            | <b>18.75</b>                              | <b>1.24</b>          | <b>0.22</b> | <b>7.18</b> | <b>-72</b> | <b>2.9</b>       | <b>C</b>                  |
| 1415   |                   |                   | <b>80.12</b>            | <b>18.85</b>                              | <b>1.23</b>          | <b>0.34</b> | <b>7.17</b> | <b>-72</b> | <b>2.8</b>       | <b>C</b>                  |
| 1420   |                   |                   | <b>80.11</b>            | <b>18.87</b>                              | <b>1.23</b>          | <b>0.32</b> | <b>7.19</b> | <b>-74</b> | <b>2.3</b>       | <b>C</b>                  |
| <b>SAMPLED</b>   |                   |                   |                         |   |                      |             |             |            |                  |                           |
|  |                   |                   |                         |   |                      |             |             |            |                  |                           |
| Start Sampling   |                   |                   | <b>1422</b>             |   |                      |             |             |            |                  |                           |
| End Sampling   |                   |                   | <b>1445</b>             | Sample Number: <b>C-MW-12-0610 ST1422</b> |                      |             |             |            |                  |                           |
|  |                   |                   | Final<br><b>80.07</b>   |   |                      |             |             |            |                  |                           |

Note: bgs= below ground surface btc=below top of casing DTW=depth to water  
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log

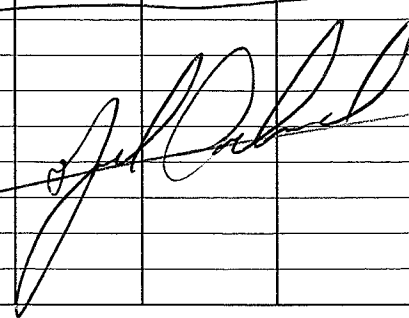
Well Number: **MW-14**  
 Date: **6/29/10**

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|                                       |                                |
|---------------------------------------|--------------------------------|
| <b>Project Information</b>            |                                |
| Project Name:                         | <b>CPL Pasco</b>               |
| URS Project Number:                   |                                |
| <b>Sampling Information</b>           |                                |
| Field Team:                           | <b>2. Orenland / E. LeCocq</b> |
| Purge Method:                         | <b>Submersible Ground Pos</b>  |
| Pump Intake Depth (ft btc):           | <b>81'</b>                     |
| Flow-Through Cell:                    | <b>Yes</b>                     |
| Sampling Method:                      | <b>Low Flow</b>                |
| <b>Decontamination Method:</b>        |                                |
| <b>Methanol / Alconox / DI</b>        |                                |
| Purge Water Disposition:              |                                |
| Field Conditions:                     | <b>Clear Sunny 80° breeze</b>  |
| <b>Comments:</b>                      |                                |
| <b>DTW = 77.58' btc, DiB = 85.07'</b> |                                |
| <b>Fer. Iron = 0.34 ppm</b>           |                                |

|                                |                          |                   |                         |                       |                          |
|--------------------------------|--------------------------|-------------------|-------------------------|-----------------------|--------------------------|
| <b>Well Information</b>        |                          |                   |                         |                       |                          |
| Well Diameter (in)             | Screen Interval (ft bgs) |                   | Stick-up or Flush       |                       |                          |
| <b>2</b>                       |                          |                   | <b>Stick Up</b>         |                       |                          |
| <b>Well Volume Calculation</b> |                          |                   |                         |                       |                          |
| Well Depth (ft btc)            | DTW (ft btc)             | Water Column (ft) | Convert Factor (gal/ft) | One Well Volume (gal) | Three Well Volumes (gal) |
| <b>85.07</b>                   | <b>77.58</b>             |                   |                         |                       | <b>NA</b>                |

| 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft |                 |                                    |                            |           |
|---|-----------------|------------------------------------|----------------------------|-----------|
| <b>Sample Containers</b>                                      |                 |                                    |                            |           |
| Number  | Type            | Preservative                       | Analytical Parameters      | Filtered? |
| <b>2</b>  | <b>1L Amber</b> | <b>HCl</b>                         | <b>Dx</b>                  |           |
| <b>3</b>  | <b>VOA</b>      | <b>HCl</b>                         | <b>Gx</b>                  |           |
| <b>3</b>  | <b>VOA</b>      | <b>HCl</b>                         | <b>BTEX</b>                |           |
| <b>3</b>  | <b>VOA</b>      | <b>HCl</b>                         | <b>Ethanol</b>             |           |
| <b>1</b>  | <b>250 Poly</b> | <b>Ø</b>                           | <b>Alkalinity/ Sulfate</b> |           |
| <b>1</b>  | <b>250 Poly</b> | <b>H<sub>2</sub>SO<sub>4</sub></b> | <b>Nitrate/ Nitrite</b>    |           |
| <b>1</b>  | <b>250 Poly</b> | <b>HNO<sub>3</sub></b>             | <b>Manganese</b>           |           |
| <b>3</b>  | <b>VOA</b>      | <b>HCl</b>                         | <b>Methane</b>             |           |

| <b>Well Purge Data</b>   |                   |                   |                                    |              |                      |             |             |              |                  |                                 |
|--|-------------------|-------------------|------------------------------------|--------------|----------------------|-------------|-------------|--------------|------------------|---------------------------------|
| Time   | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)                       | Temp. (°C)   | Conductivity (µS/cm) | D.O. (mg/L) | pH          | ORP (mV)     | Turbidity (NTUs) | Clarity/Color/Remarks           |
| <b>905</b>   | <b>Pump On</b>    |                   | <b>Initial 77.58</b>               |              | <b>±3%</b>           | <b>±10%</b> | <b>±0.1</b> | <b>±10mv</b> | <b>±10%</b>      | <b>≤ Stabilization Criteria</b> |
| <b>0907</b>  | <b>Ø</b>          | <b>300</b>        | <b>77.61</b>                       | <b>17.04</b> | <b>0.989</b>         | <b>4.66</b> | <b>6.09</b> | <b>36</b>    | <b>171</b>       | <b>CI</b>                       |
| <b>912</b>   | <b>1.5</b>        | <b>300</b>        | <b>77.60</b>                       | <b>17.65</b> | <b>0.987</b>         | <b>4.21</b> | <b>6.65</b> | <b>113</b>   | <b>240</b>       | <b>CI</b>                       |
| <b>917</b>   | <b>3.5</b>        | <b>400</b>        | <b>77.60</b>                       | <b>17.53</b> | <b>0.992</b>         | <b>4.32</b> | <b>6.84</b> | <b>120</b>   | <b>252</b>       | <b>CI</b>                       |
| <b>922</b>   | <b>5.0</b>        | <b>300</b>        | <b>77.60</b>                       | <b>18.88</b> | <b>0.990</b>         | <b>4.17</b> | <b>7.05</b> | <b>116</b>   | <b>250</b>       | <b>CI</b>                       |
| <b>927</b>   | <b>7.0</b>        | <b>400</b>        | <b>77.60</b>                       | <b>19.19</b> | <b>0.991</b>         | <b>4.04</b> | <b>7.14</b> | <b>110</b>   | <b>93.7</b>      | <b>AC</b>                       |
| <b>932</b>   | <b>8.5</b>        | <b>300</b>        | <b>77.60</b>                       | <b>20.28</b> | <b>0.992</b>         | <b>4.05</b> | <b>7.09</b> | <b>103</b>   | <b>36.0</b>      | <b>C</b>                        |
| <b>937</b>   | <b>9.0</b>        | <b>300</b>        | <b>77.60</b>                       | <b>19.99</b> | <b>0.988</b>         | <b>4.14</b> | <b>7.13</b> | <b>100</b>   | <b>34.3</b>      | <b>C</b>                        |
| <b>942</b>   | <b>10.5</b>       | <b>300</b>        | <b>77.60</b>                       | <b>19.41</b> | <b>0.988</b>         | <b>3.82</b> | <b>7.20</b> | <b>106</b>   | <b>24.0</b>      | <b>C</b>                        |
| <b>947</b>   | <b>12.0</b>       | <b>300</b>        | <b>77.60</b>                       | <b>20.28</b> | <b>0.989</b>         | <b>4.01</b> | <b>7.29</b> | <b>99</b>    | <b>22.6</b>      | <b>C</b>                        |
| <b>952</b>   | <b>13.5</b>       | <b>300</b>        | <b>77.58</b>                       | <b>20.29</b> | <b>0.987</b>         | <b>4.07</b> | <b>7.35</b> | <b>89</b>    | <b>23.9</b>      | <b>C</b>                        |
| <b>0957</b>  | <b>15</b>         | <b>300</b>        | <b>77.59</b>                       | <b>20.08</b> | <b>0.988</b>         | <b>3.94</b> | <b>7.36</b> | <b>98</b>    | <b>24.1</b>      | <b>C</b>                        |
| <b>SAMPLE</b>  |                   |                   |                                    |              |                      |             |             |              |                  |                                 |
|  |                   |                   |                                    |              |                      |             |             |              |                  |                                 |
| Start Sampling <b>0959</b>   |                   |                   | Sample Number: <b>C-MW-14-0610</b> |              |                      |             |             |              |                  |                                 |
| End Sampling <b>1014</b>   |                   |                   | ST: <b>959</b>                     |              |                      |             |             |              |                  |                                 |
|  |                   |                   | Final <b>77.62</b>                 |              |                      |             |             |              |                  |                                 |

Note: bgs= below ground surface btc=below top of casing DTW=depth to water  
 Clarity: VC=very cloudy CI=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear



# Monitoring Well Sampling Field Log

Page 1 of \_\_\_\_\_

Well Number: **RW - 1**  
 Date: **6/29/10**

| Project Information         |   |
|-----------------------------|---|
| Project Name:               | <b>CPL Pasco</b>                            |
| URS Project Number:         |   |
| Sampling Information        |   |
| Field Team:                 | <b>ZIO/MLL</b>                              |
| Purge Method:               | <b>Submersible Ground Pore</b>              |
| Pump Intake Depth (ft btc): | <b>81'</b>                                  |
| Flow-Through Cell:          | <b>Y</b>                                    |
| Sampling Method:            | <b>Low Flow</b>                             |
| Decontamination Method:     | <b>Methanol / Alcohol / Deionized Water</b> |
| Purge Water Disposition:    |   |
| Field Conditions:           | <b>Sunny Lt Breeze 85°</b>                  |
| Comments:                   | <b>Ferrous Iron = 0.29 ppm</b>              |

| Well Information        |                          |                   |                         |                       |                          |
|-------------------------|--------------------------|-------------------|-------------------------|-----------------------|--------------------------|
| Well Diameter (in)      | Screen Interval (ft bgs) | Stick-up or Flush |                         |                       |                          |
| <b>8</b>                | <b>64 - 98</b>           | <b>-2.5 flush</b> |                         |                       |                          |
| Well Volume Calculation |                          |                   |                         |                       |                          |
| Well Depth (ft btc)     | DTW (ft btc)             | Water Column (ft) | Convert Factor (gal/ft) | One Well Volume (gal) | Three Well Volumes (gal) |
| <b>103.4</b>            |                          |                   |                         |                       |                          |

3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

| Sample Containers |            |                                |                       |  | Filtered? |
|-------------------|------------|--------------------------------|-----------------------|--|-----------|
| Number            | Type       | Preservative                   | Analytical Parameters |  |           |
| 3                 | 40ml VOA   | HCl                            | BTEX                  |  | N         |
| 3                 | 40ml VOA   | HCl                            | Ethanol               |  | N         |
| 3                 | 40ml VOA   | HCl                            | Methane               |  | N         |
| 3                 | 40ml VOA   | HCl                            | NWTPH-ox              |  | N         |
| 2                 | 1L Amber   | HCl                            | NWTPH-Dx              |  | N         |
| 1                 | 250ml Poly | None                           | Alkalinity / Sulfate  |  | N         |
| 1                 | 250ml Poly | H <sub>2</sub> SO <sub>4</sub> | Nitrate / Nitrite     |  | N         |
| 1                 | 250ml Poly | HNO <sub>3</sub>               | Manganese             |  | N         |

| Well Purge Data     |                   |                   |                                    |            |                      |             |      |          |                  |                           |
|---------------------|-------------------|-------------------|------------------------------------|------------|----------------------|-------------|------|----------|------------------|---------------------------|
| Time                | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)                       | Temp. (°C) | Conductivity (µS/cm) | D.O. (mg/L) | pH   | ORP (mV) | Turbidity (NTUs) | Clarity/Color/Remarks     |
| 1213                | Pump On           |                   | Initial                            |            | ±3%                  | ±10%        | ±0.1 | ±10mv    | ±10%             | <= Stabilization Criteria |
| 1215                | 0                 | 500               | 76.40                              | 19.45      | 919                  | 7.80        | 7.59 | 111      | 12.10            | AC                        |
| 1220                | 2.5               |                   | 76.40                              | 18.27      | 922                  | 6.75        | 7.53 | 89       | 11.4             | AC                        |
| 1225                | 5.0               |                   | 76.40                              | 18.88      | 922                  | 6.60        | 7.46 | 91       | 8.2              | AC                        |
| 1230                | 7.5               |                   | 76.40                              | 18.91      | 922                  | 6.54        | 7.43 | 93       | 7.4              | AC                        |
| 1235                | 10.0              |                   | 76.40                              | 18.92      | 922                  | 6.40        | 7.39 | 96       | 5.1              | AC                        |
| 1240                | 12.5              |                   | 76.40                              | 18.96      | 923                  | 6.42        | 7.38 | 94       | 3.3              | C                         |
| 1245                | 15                |                   | 76.40                              | 19.06      | 923                  | 6.35        | 7.36 | 97       | 3.0              | C                         |
| <b>SAMPLED</b>      |                   |                   |                                    |            |                      |             |      |          |                  |                           |
|                     |                   |                   |                                    |            |                      |             |      |          |                  |                           |
| Start Sampling 1252 |                   |                   | Sample Number: <b>C-RW-01-0610</b> |            |                      | ST: 1252    |      |          |                  |                           |
| End Sampling 1304   |                   |                   | Final DTW: <b>76.40</b>            |            |                      |             |      |          |                  |                           |

Note: bgs= below ground surface btc=below top of casing DTW=depth to water  
 Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Rush

Short Hold

## Chain of Custody Record

Client: **URS Corp** Chain of Custody Number: **6356**  
 Address: **10550 Richmond Ave Ste 155** Date: **7/11/10**  
 City: **Houston** State: **TX** Zip Code: **77042** Lab Number: \_\_\_\_\_ Page: **1** of **1**  
 Project Name and Location (State): **NWTC Pasco Terminal (WA)** Lab Contact: **C. Armstrong**  
 Contract/Purchase Order/Quote No.: \_\_\_\_\_ Billing Contact: **E. LeCocq**

| Sample I.D. and Location/Description<br>(Containers for each sample may be combined on one line) | Date    | Time | Matrix |         |      |      |         | Containers & Preservatives |      |     |      |           | Analysis (Attach list if more space is needed) | Special Instructions/<br>Conditions of Receipt |   |  |
|--|---------|------|--------|---------|------|------|---------|----------------------------|------|-----|------|-----------|--|--|---|--|
|  |         |      | Air    | Aqueous | Sed. | Soil | Unpres. | H2SO4                      | HNO3 | HCl | NaOH | ZnAc/NaOH |  |  |   |  |
| C-MW-02-0610   | 6/30/10 | 1628 | X      |         |      |      |         | 1                          | 1    | 14  |      |           |  | X  | X | MS/MSD Volume<br>for BTEX, Gx, Dx, Ethanol |
| C-MW-04-0610   | 6/29/10 | 1457 | X      |         |      |      |         | 1                          | 1    | 14  |      |           |  | X  | X |  |
| C-MW-06-0610   | 6/29/10 | 1657 | X      |         |      |      |         | 1                          | 1    | 14  |      |           |  | X  | X |  |
| C-MW-07-0610   | 6/30/10 | 1001 | X      |         |      |      |         | 1                          | 1    | 35  |      |           |  | X  | X |  |
| C-MW-08-0610   | 6/30/10 | 1105 | X      |         |      |      |         | 1                          | 1    | 14  |      |           |  | X  | X |  |
| C-MW-10-0610   | 6/30/10 | 822  | X      |         |      |      |         | 1                          | 1    | 14  |      |           |  | X  | X |  |
| C-MW-11-0610   | 6/30/10 | 1241 | X      |         |      |      |         | 1                          | 1    | 14  |      |           |  | X  | X |  |
| C-MW-12-0610   | 6/30/10 | 1422 | X      |         |      |      |         | 1                          | 1    | 14  |      |           |  | X  | X |  |
| C-MW-14-0610   | 6/29/10 | 959  | X      |         |      |      |         | 1                          | 1    | 14  |      |           |  | X  | X |  |
| C-MW-22-0610   | 6/30/10 | 707  | X      |         |      |      |         | 1                          | 1    | 14  |      |           |  | X  | X |  |
| C-RW-01-0610   | 6/29/10 | 1252 | X      |         |      |      |         | 1                          | 1    | 14  |      |           |  | X  | X |  |
| C-Rinsate-0610   | 7/17/10 | 1730 | X      |         |      |      |         |                            |      | 11  |      |           |  | X  | X |  |

Sample Disposal:  BTEX  NWTPH-Gx  NWTPH-Dx  Ethanol  Methane  Alkalinity  Sulfide  Hydrocarbons

Possible Hazard Identification:  Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

QC Requirements (Specify): **MS/MSD CA MW-07 for Gx, Dx, BTEX, Ethanol/Trip Blank**

1. Relinquished By **ZACK ORELAND** Date **7/11/10** Time **1430**  
 2. Relinquished By \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_  
 3. Relinquished By \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Comments: **A Coolers total. Trip Blanks provided for Lab QC volatiles**



**CPL MONITOR WELLS  
DECEMBER 2010 SAMPLING EVENT**

URS Corporation  
 Groundwater Level Form  
 Chevron Pipeline, Pasco, WA

Job No: 25012120

Date: December 14, 2010

Personnel: Z. Oremland C. Pearson

Equipment: HERON Interface Probe

| Well  | Time | Depth to Product (ft btc) | Depth to Water (ft btc) | Product Thickness | Total Depth | Comments                           |
|-------|------|---------------------------|-------------------------|-------------------|-------------|------------------------------------|
| MW-6  | 1221 | -                         | 16.34                   | -                 | 25.50       | SILTY TAPE                         |
| MW-8  | 1227 | -                         | 39.93                   | -                 | 55.68       |                                    |
| MW-10 | 1231 | -                         | 13.84                   | -                 | 78.95       | Soft Bottom                        |
| MW-7  | 1240 | -                         | 67.37                   | -                 | 78.28       |                                    |
| MW-4  | 1245 | -                         | 68.43                   | -                 | 76.90       |                                    |
| MW-14 | 1254 | -                         | 77.94                   | -                 | 85.06       |                                    |
| MW-2  | 1301 | -                         | 73.21                   | -                 | 78.82       |                                    |
| MW-11 | 1347 | -                         | 79.46                   | -                 | 84.54       |                                    |
| MW-12 | 1353 | -                         | 79.62                   | -                 | 85.11       |                                    |
| MW-1  | 1310 | -                         | -                       | -                 | 75.24       |                                    |
| RW-1  | 1331 | -                         | 76.65                   | -                 | 102.78      | Measured from metal ring @ Surface |
| MW-3  | 1401 | -                         | 79.38                   | -                 | 95.40       | ODM                                |

**Monitoring Well Sampling Field Log**

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Well Number: **MW-02**

Date: **12-15-2010**

| Project Information                  |                             |
|--------------------------------------|-----------------------------|
| Project Name:                        | Chevron Pipeline Pasco      |
| URS Project Number:                  | 25012120                    |
| Sampling Information                 |                             |
| Field Team: Z. Oremland C. Pearson   |                             |
| Purge Method:                        | Submersible                 |
| Pump Intake Depth (ft btc):          | <b>76'</b>                  |
| Flow-Through Cell:                   | Yes                         |
| Sampling Method:                     | Low Flow                    |
| Decontamination Method:              |                             |
| Methanol / Alconox / Deionized Water |                             |
| Purge Water Disposal:                | onsite treatment system     |
| Field Conditions:                    | <b>P+ Cloudy ~40°, Dark</b> |
| Comments:                            |                             |
| Initial DTP (DTW) <b>73.22'</b>      |                             |
| <b>Purge = 8 GAL TOTAL</b>           |                             |
| <b>Iron = 0.41 ppm</b>               |                             |

| Well Information  |                    |                                |                       |          |                          |
|---|--------------------|--------------------------------|-----------------------|----------|--------------------------|
| Well Diameter (in)  | Drilled Well Depth |                                | Top of Screen         |          | Screen Interval (ft bgs) |
|   | (ft bgs)           | (ft btc)                       | (ft bgs)              | (ft btc) |                          |
| <b>4</b>  |                    | <b>78.82</b>                   |                       |          |                          |
| CMT Port=0.006 gal/ft    3/4"=0.023 gal/ft    2"=0.17 gal/ft    4"=0.66 gal/ft    6"=1.5 gal/ft |                    |                                |                       |          |                          |
| Sample Containers   |                    |                                |                       |          |                          |
| Number  | Type               | Preservative                   | Analytical Parameters |          | Filtered?                |
| 3   | 40 mL VOA          | HCl                            | BTEX                  |          |                          |
| 3   | 40 mL VOA          | HCl                            | Ethanol               |          |                          |
| 3   | 40 mL VOA          | HCl                            | Methane               |          |                          |
| 3   | 40 mL VOA          | HCl                            | Gx                    |          |                          |
| 2   | 1L Amber           | HCl                            | Dx                    |          |                          |
| 1   | 250 mL Poly        | None                           | Alkalinity / Sulfate  |          |                          |
| 1   | 250 mL Poly        | H <sub>2</sub> SO <sub>4</sub> | Nitrate / Nitrite     |          |                          |
| 1   | 250 mL Poly        | HNO <sub>3</sub>               | Manganese             |          |                          |

| Well Purge Data    |                   |                   |               |                             |                      |                            |      |                   |                  |                           |  |
|--------------------|-------------------|-------------------|---------------|-----------------------------|----------------------|----------------------------|------|-------------------|------------------|---------------------------|--|
| Time               | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)  | Temp. (°C)                  | Conductivity (mS/cm) | D.O. (mg/L)                | pH   | ORP (mV)          | Turbidity (NTUs) | Clarity / Color / Remarks |  |
| 1630               | 1613              | Pump On           | Initial 73.22 | -                           | ±3%                  | ±greater of 10% or 0.2mg/L | ±0.1 | ±10mv             | ±10%             | <= Stabilization Criteria |  |
| 1635               | 1640              | 0                 |               | Connect Flow-through cell   |                      |                            |      |                   |                  |                           |  |
|                    | 1640              | 3                 | 73.36         | 18.32                       | 0.982                | 3.10                       | 7.10 | 60                | 9.0              | AC                        |  |
|                    | 1645              |                   | 73.36         | 19.90                       | 0.987                | 2.77                       | 7.10 | 29                | 3.6              | C                         |  |
|                    | 1650              | 11                | 73.36         | 20.20                       | 0.942                | 2.62                       | 7.11 | 22                | 3.5              | C                         |  |
|                    | 1655              | 13                | 73.36         | 20.60                       | 0.933                | 2.48                       | 7.11 | 19                | 2.7              | C                         |  |
|                    | 1700              | 15                | 73.35         | 20.58                       | 0.925                | 2.43                       | 7.11 | 17                | 1.8              | C                         |  |
|                    | 1705              | 17                | 73.35         | 20.50                       | 0.928                | 2.40                       | 7.11 | 15                | 1.0              | C                         |  |
| <b>SAMPLE</b>      |                   |                   |               |                             |                      |                            |      |                   |                  |                           |  |
| <i>[Signature]</i> |                   |                   |               |                             |                      |                            |      |                   |                  |                           |  |
| Start Sampling     |                   | 1708              |               |                             |                      |                            |      |                   |                  |                           |  |
| End Sampling       |                   | 1718              |               | Sample Number: C-MW-02-1210 |                      |                            |      | Sample Time: 1712 |                  |                           |  |
|                    |                   |                   | Final 73.35   |                             |                      |                            |      |                   |                  |                           |  |

Notes: AC = almost clear    bts = below top of casing    DTW = depth to water    VC = very cloudy  
 bgs = below ground surface    CI = cloudy    C = clear    SC = slightly cloudy

**Monitoring Well Sampling Field Log**

Well Number: MW-4

Page 1 of 1

Date: 12-15-10

| Project Information                  |                            |
|--------------------------------------|----------------------------|
| Project Name:                        | Chevron Pipeline Pasco     |
| URS Project Number:                  | 25012120                   |
| Sampling Information                 |                            |
| Field Team: Z. Oremland C. Pearson   |                            |
| Purge Method:                        | Submersible                |
| Pump Intake Depth (ft btc):          | <u>73'</u>                 |
| Flow-Through Cell:                   | Yes                        |
| Sampling Method:                     | Low Flow                   |
| Decontamination Method:              |                            |
| Methanol / Alconox / Deionized Water |                            |
| Purge Water Disposal:                | onsite treatment system    |
| Field Conditions:                    | <u>Overcast breezy 40"</u> |
| Comments:                            |                            |
| Initial DTP (DTW) <u>68.43</u>       |                            |
| <u>5 GAL TOTAL purge</u>             |                            |
| <u>Iron = 0.00 ppm</u>               |                            |

| Well Information   |                    |              |               |          |                          |
|--------------------|--------------------|--------------|---------------|----------|--------------------------|
| Well Diameter (in) | Drilled Well Depth |              | Top of Screen |          | Screen Interval (ft bgs) |
|                    | (ft bgs)           | (ft btc)     | (ft bgs)      | (ft btc) |                          |
| <u>4</u>           |                    | <u>76.90</u> |               |          |                          |

CMT Port=0.006 gal/ft    3/4"=0.023 gal/ft    2"=0.17 gal/ft    4"=0.66 gal/ft    6"=1.5 gal/ft

| Sample Containers |             |                                |                       | Filtered? |
|-------------------|-------------|--------------------------------|-----------------------|-----------|
| Number            | Type        | Preservative                   | Analytical Parameters |           |
| 3                 | 40 mL VOA   | HCl                            | BTEX                  |           |
| 3                 | 40 mL VOA   | HCl                            | Ethanol               |           |
| 3                 | 40 mL VOA   | HCl                            | Methane               |           |
| 3                 | 40 mL VOA   | HCl                            | Gx                    |           |
| 2                 | 1L Amber    | HCl                            | Dx                    |           |
| 1                 | 250 mL Poly | None                           | Alkalinity / Sulfate  |           |
| 1                 | 250 mL Poly | H <sub>2</sub> SO <sub>4</sub> | Nitrate / Nitrite     |           |
| 1                 | 250 mL Poly | HNO <sub>3</sub>               | Manganese             |           |

| Well Purge Data    |                   |                   |                               |                                    |                      |                            |      |                          |                  |                           |  |
|--------------------|-------------------|-------------------|-------------------------------|------------------------------------|----------------------|----------------------------|------|--------------------------|------------------|---------------------------|--|
| Time               | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)                  | Temp. (°C)                         | Conductivity (mS/cm) | D.O. (mg/L)                | pH   | ORP (mV)                 | Turbidity (NTUs) | Clarity / Color / Remarks |  |
| 1037               | Pump On           |                   | <sup>Initial</sup> 68.43      | -                                  | ±3%                  | ±greater of 10% or 0.2mg/L | ±0.1 | ±10mv                    | ±10%             | <= Stabilization Criteria |  |
| 1040               | 0                 | 400               | 68.43                         |                                    |                      |                            |      |                          |                  | Connect Flow-through cell |  |
| 1045               | 3                 | 400               | 68.42                         | 16.97                              | 0.517                | 7.21                       | 7.61 | 105                      | 0.0              | C                         |  |
| 1050               | 6                 | 450               | 68.42                         | 18.09                              | 0.515                | 7.15                       | 7.64 | 98                       | 0.0              | C                         |  |
| 1055               | ~8                | 450               | 68.42                         | 18.52                              | 0.515                | 6.90                       | 7.69 | 92                       | 0.0              | C                         |  |
| 1100               | ~11               | 450               | 68.42                         | 18.50                              | 0.515                | 6.87                       | 7.72 | 89                       | 0.0              | C                         |  |
| 1105               | 14                | 450               | 68.42                         | 18.64                              | 0.515                | 6.76                       | 7.73 | 87                       | 0.0              | C                         |  |
| 1110               |                   |                   |                               |                                    |                      |                            |      |                          |                  | SAMPLE                    |  |
| <i>[Signature]</i> |                   |                   |                               |                                    |                      |                            |      |                          |                  |                           |  |
| Start Sampling     |                   |                   | <u>1108</u>                   |                                    |                      |                            |      |                          |                  |                           |  |
| End Sampling       |                   |                   | <u>1117</u>                   | Sample Number: <u>C-MW-04-1210</u> |                      |                            |      | Sample Time: <u>1112</u> |                  |                           |  |
|                    |                   |                   | <u>68.42</u> <sup>Final</sup> |                                    |                      |                            |      |                          |                  |                           |  |

Notes: AC = almost clear    btc = below top of casing    DTW = depth to water    VC = very cloudy  
 bgs = below ground surface    Cl = cloudy    C = clear    SC = slightly cloudy

# Monitoring Well Sampling Field Log

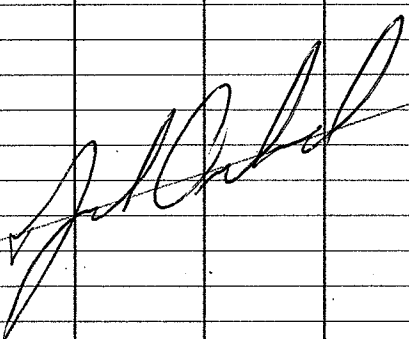
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Well Number: MW-6  
Date: 12-14-10

| Project Information         |                                      |
|-----------------------------|--------------------------------------|
| Project Name:               | Chevron Pipeline Pasco               |
| URS Project Number:         | 25012120                             |
| Sampling Information        |                                      |
| Field Team:                 | Z. Oremland C. Pearson               |
| Purge Method:               | Submersible                          |
| Pump Intake Depth (ft btc): | <u>21</u>                            |
| Flow-Through Cell:          | Yes                                  |
| Sampling Method:            | Low Flow                             |
| Decontamination Method:     | Methanol / Alconox / Deionized Water |
| Purge Water Disposal:       | onsite treatment system              |
| Field Conditions:           | <u>windy, cold ~40°</u>              |
| Comments:                   |                                      |
| Initial DTP / DTW:          | <u>16.34'</u>                        |
|                             | <u>Iron = 0.00 ppm</u>               |

| Well Information  |                    |              |                                |          |                          |
|---|--------------------|--------------|--------------------------------|----------|--------------------------|
| Well Diameter (in)  | Drilled Well Depth |              | Stick-up or Flush (circle one) |          | Screen Interval (ft bgs) |
|   | (ft bgs)           | (ft btc)     | (ft bgs)                       | (ft btc) |                          |
| <u>2</u>  |                    | <u>25.50</u> |                                |          | -                        |
| CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft |                    |              |                                |          |                          |

| Sample Containers |             |                                |                       | Filtered? |
|-------------------|-------------|--------------------------------|-----------------------|-----------|
| Number            | Type        | Preservative                   | Analytical Parameters |           |
| 3                 | 40 mL VOA   | HCl                            | BTEX                  |           |
| 3                 | 40 mL VOA   | HCl                            | Ethanol               |           |
| 3                 | 40 mL VOA   | HCl                            | Methane               |           |
| 3                 | 40 mL VOA   | HCl                            | Gx                    |           |
| 2                 | 1L Amber    | HCl                            | Dx                    |           |
| 1                 | 250 mL Poly | None                           | Alkalinity / Sulfate  |           |
| 1                 | 250 mL Poly | H <sub>2</sub> SO <sub>4</sub> | Nitrate / Nitrite     |           |
| 1                 | 250 mL Poly | HNO <sub>3</sub>               | Manganese             |           |

| Well Purge Data  |                   |                   |               |                                    |                      |                            |      |          |                  |                           |                          |
|--|-------------------|-------------------|---------------|------------------------------------|----------------------|----------------------------|------|----------|------------------|---------------------------|--------------------------|
| Time   | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)  | Temp. (°C)                         | Conductivity (mS/cm) | D.O. (mg/L)                | pH   | ORP (mV) | Turbidity (NTUs) | Clarity / Color / Remarks |                          |
| 1557   | Pump On           |                   | Initial 16.34 | -                                  | ±3%                  | ±greater of 10% or 0.2mg/L | ±0.1 | ±10mv    | ±10%             | <= Stabilization Criteria |                          |
| 1600   | 0                 | 300               | 16.40         |                                    |                      |                            |      |          |                  | Connect Flow-through cell |                          |
| 1605   | 3                 | 400               | 16.40         | 17.65                              | 0.517                | 8.18                       | 7.55 | 89       | 3.8              | AC                        |                          |
| 1610   | 6                 | 400               | 16.40         | 17.72                              | 0.515                | 7.65                       | 7.60 | 90       | 2.2              | AC ✓                      |                          |
| 1615   | 9                 | 450               | 16.40         | 17.48                              | 0.517                | 7.34                       | 7.62 | 93       | 1.1              | C ✓                       |                          |
| 1620   | 12                | 450               | 16.40         | 17.89                              | 0.511                | 7.18                       | 7.64 | 93       | 1.2              | C ✓                       |                          |
| 1625   | 14                | 450               | 16.40         | 17.95                              | 0.512                | 7.06                       | 7.64 | 94       | 0.7              | C ✓                       |                          |
| <b>SAMPLE</b>  |                   |                   |               |                                    |                      |                            |      |          |                  |                           |                          |
|  |                   |                   |               |                                    |                      |                            |      |          |                  |                           |                          |
| Start Sampling   |                   |                   | <u>1630</u>   | Sample Number: <u>C-MW-06-1210</u> |                      |                            |      |          |                  |                           | Sample Time: <u>1647</u> |
| End Sampling   |                   |                   | <u>1647</u>   | Final <u>16.20</u>                 |                      |                            |      |          |                  |                           |                          |

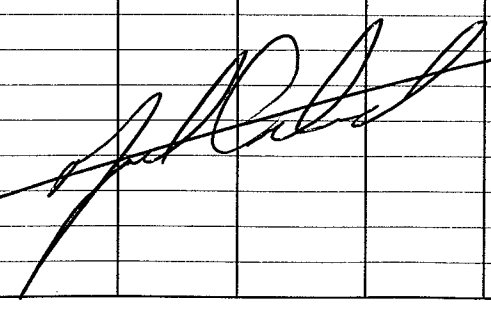
Notes: AC = almost clear      btc = below top of casing      DTW = depth to water      VC = very cloudy  
 bgs = below ground surface      Cl = cloudy      C = clear      SC = slightly cloudy

**Monitoring Well Sampling Field Log**

Well Number: MW-7  
 Date: 12-15-2010

|  |                         |
|--|-------------------------|
| <b>Project Information</b>                 |                         |
| Project Name:                              | Chevron Pipeline Pasco  |
| URS Project Number:                        | 25012120                |
| <b>Sampling Information</b>                |                         |
| Field Team:                                | Z. Oremland C. Pearson  |
| Purge Method:                              | Submersible             |
| Pump Intake Depth (ft btc):                | <u>72</u>               |
| Flow-Through Cell:                         | Yes                     |
| Sampling Method:                           | Low Flow                |
| Decontamination Method:                    |                         |
| Methanol / Alconox / Deionized Water       |                         |
| Purge Water Disposal:                      | onsite treatment system |
| Field Conditions:                          | <u>Overcast 40s</u>     |
| <b>Comments:</b>                           |                         |
| Initial DTP / DTW: <u>67.37'</u>           |                         |
| Pump Intake Surged @ 1308, purged 2L fast. |                         |
| 6.5 Gal TOTAL Purge                        |                         |
| Iron = 0.00 ppm                            |                         |

|   |                    |                                |                       |          |                          |
|---|--------------------|--------------------------------|-----------------------|----------|--------------------------|
| <b>Well Information</b>   |                    |                                |                       |          |                          |
| (Stick-up or Flush (circle one))  |                    |                                |                       |          |                          |
| Well Diameter (in)  | Drilled Well Depth |                                | Top of Screen         |          | Screen Interval (ft bgs) |
|   | (ft bgs)           | (ft btc)                       | (ft bgs)              | (ft btc) |                          |
| <u>2</u>  |                    | <u>78.28</u>                   |                       |          | <u>57 - 77</u>           |
| CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft |                    |                                |                       |          |                          |
| <b>Sample Containers</b>  |                    |                                |                       |          | Filtered?                |
| Number  | Type               | Preservative                   | Analytical Parameters |          |                          |
| 3   | 40 mL VOA          | HCl                            | BTEX                  |          |                          |
| 3   | 40 mL VOA          | HCl                            | Ethanol               |          |                          |
| 3   | 40 mL VOA          | HCl                            | Methane               |          |                          |
| 3   | 40 mL VOA          | HCl                            | Gx                    |          |                          |
| 2   | 1L Amber           | HCl                            | Dx                    |          |                          |
| 1   | 250 mL Poly        | None                           | Alkalinity / Sulfate  |          |                          |
| 1   | 250 mL Poly        | H <sub>2</sub> SO <sub>4</sub> | Nitrate / Nitrite     |          |                          |
| 1   | 250 mL Poly        | HNO <sub>3</sub>               | Manganese             |          |                          |

| Well Purge Data  |                   |                   |                       |                                    |                      |                            |             |                          |                  |                           |  |
|--|-------------------|-------------------|-----------------------|------------------------------------|----------------------|----------------------------|-------------|--------------------------|------------------|---------------------------|--|
| Time   | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)          | Temp. (°C)                         | Conductivity (mS/cm) | D.O. (mg/L)                | pH          | ORP (mV)                 | Turbidity (NTUs) | Clarity / Color / Remarks |  |
|  | Pump On           |                   | Initial <u>67.37'</u> | -                                  | ±3%                  | ±greater of 10% or 0.2mg/L | ±0.1        | ±10mv                    | ±10%             | ← Stabilization Criteria  |  |
| <u>1249</u>  | <u>0</u>          | <u>400</u>        | <u>67.37</u>          |                                    |                      |                            |             |                          |                  | Connect Flow-through cell |  |
| <u>1255</u>  | <u>1.5</u>        | <u>400</u>        | <u>67.37</u>          | <u>16.09</u>                       | <u>0.545</u>         | <u>8.08</u>                | <u>7.64</u> | <u>68</u>                | <u>29.3</u>      | <u>Cl</u>                 |  |
| <u>1300</u>  | <u>3.5</u>        | <u>400</u>        | <u>67.37</u>          | <u>17.11</u>                       | <u>0.536</u>         | <u>7.53</u>                | <u>7.64</u> | <u>84</u>                | <u>89.1</u>      | <u>Lt Brown</u>           |  |
| <u>1305</u>  | <u>5.5</u>        | <u>400</u>        | <u>67.38</u>          | <u>16.80</u>                       | <u>0.524</u>         | <u>7.24</u>                | <u>7.67</u> | <u>94</u>                | <u>44.2</u>      | <u>Cl</u>                 |  |
| <u>1310</u>  | <u>10</u>         | <u>400</u>        | <u>67.37</u>          | <u>17.18</u>                       | <u>0.520</u>         | <u>7.57</u>                | <u>7.54</u> | <u>95</u>                | <u>19.3</u>      | <u>Cl</u>                 |  |
| <u>1315</u>  | <u>11.5</u>       | <u>400</u>        | <u>67.37</u>          | <u>17.02</u>                       | <u>0.524</u>         | <u>7.37</u>                | <u>7.50</u> | <u>100</u>               | <u>17.5</u>      | <u>Cl</u>                 |  |
| <u>1320</u>  | <u>13.5</u>       | <u>400</u>        | <u>67.38</u>          | <u>17.37</u>                       | <u>0.516</u>         | <u>7.09</u>                | <u>7.51</u> | <u>92</u>                | <u>6.1</u>       | <u>Cl</u>                 |  |
| <u>1325</u>  | <u>15.5</u>       | <u>400</u>        | <u>67.37</u>          | <u>17.77</u>                       | <u>0.516</u>         | <u>6.79</u>                | <u>7.55</u> | <u>88</u>                | <u>6.7</u>       | <u>Cl</u>                 |  |
| <u>1330</u>  | <u>17.5</u>       | <u>400</u>        | <u>67.37</u>          | <u>17.69</u>                       | <u>0.516</u>         | <u>6.96</u>                | <u>7.59</u> | <u>89</u>                | <u>6.2</u>       | <u>Cl</u>                 |  |
| <b>SAMPLE</b>  |                   |                   |                       |                                    |                      |                            |             |                          |                  |                           |  |
|  |                   |                   |                       |                                    |                      |                            |             |                          |                  |                           |  |
| Start Sampling   |                   |                   | <u>1332</u>           |                                    |                      |                            |             |                          |                  |                           |  |
| End Sampling   |                   |                   | <u>1345</u>           | Sample Number: <u>C-MW-07-1310</u> |                      |                            |             | Sample Time: <u>1335</u> |                  |                           |  |
|  |                   |                   | Final <u>67.37</u>    |                                    |                      |                            |             |                          |                  |                           |  |

Notes: AC = almost clear      btc = below top of casing      DTW = depth to water      VC = very cloudy  
 bgs = below ground surface      Cl = cloudy      C = clear      SC = slightly cloudy



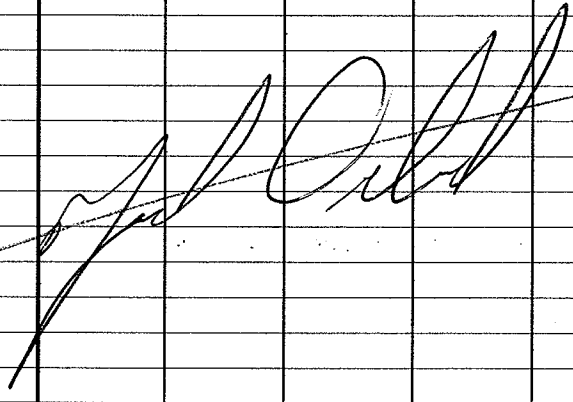
**Monitoring Well Sampling Field Log**

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Well Number: MW-8  
Date: 12-15-2010

|                                      |                         |
|--------------------------------------|-------------------------|
| <b>Project Information</b>           |                         |
| Project Name:                        | Chevron Pipeline Pasco  |
| URS Project Number:                  | 25012120                |
| <b>Sampling Information</b>          |                         |
| Field Team: Z. Oremland C. Pearson   |                         |
| Purge Method:                        | Submersible             |
| Pump Intake Depth (ft btc):          | 45                      |
| Flow-Through Cell:                   | Yes                     |
| Sampling Method:                     | Low Flow                |
| Decontamination Method:              |                         |
| Methanol / Alconox / Deionized Water |                         |
| Purge Water Disposal:                | onsite treatment system |
| Field Conditions:                    | Clear Calm 37°          |
| <b>Comments:</b>                     |                         |
| Initial DTP (DTW): 39.93'            |                         |
| 6 Gal purged TOTAL                   |                         |
| Iron = 0.00 ppm                      |                         |

|   |                    |                                |                       |          |                                |  |
|---|--------------------|--------------------------------|-----------------------|----------|--------------------------------|--|
| <b>Well Information</b>   |                    |                                |                       |          | Stick-up or Flush (circle one) |  |
| Well Diameter (in)  | Drilled Well Depth |                                | Top of Screen         |          | Screen Interval (ft bgs)       |  |
|   | (ft bgs)           | (ft btc)                       | (ft bgs)              | (ft btc) |                                |  |
| 2   | 55.67              | 29                             |                       |          | 29 - 55                        |  |
| CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft |                    |                                |                       |          |                                |  |
| <b>Sample Containers</b>  |                    |                                |                       |          |                                |  |
| Number  | Type               | Preservative                   | Analytical Parameters |          | Filtered?                      |  |
| 3   | 40 mL VOA          | HCl                            | BTEX                  |          |                                |  |
| 3   | 40 mL VOA          | HCl                            | Ethanol               |          |                                |  |
| 3   | 40 mL VOA          | HCl                            | Methane               |          |                                |  |
| 3   | 40 mL VOA          | HCl                            | Gx                    |          |                                |  |
| 2   | 1L Amber           | HCl                            | Dx                    |          |                                |  |
| 1   | 250 mL Poly        | None                           | Alkalinity / Sulfate  |          |                                |  |
| 1   | 250 mL Poly        | H <sub>2</sub> SO <sub>4</sub> | Nitrate / Nitrite     |          |                                |  |
| 1   | 250 mL Poly        | HNO <sub>3</sub>               | Manganese             |          |                                |  |

| Well Purge Data  |                   |                   |               |                             |                      |                            |                  |          |                  |                           |  |
|--|-------------------|-------------------|---------------|-----------------------------|----------------------|----------------------------|------------------|----------|------------------|---------------------------|--|
| Time   | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)  | Temp. (°C)                  | Conductivity (mS/cm) | D.O. (mg/L)                | pH               | ORP (mV) | Turbidity (NTUs) | Clarity / Color / Remarks |  |
|  | Pump On           |                   | Initial 39.93 | -                           | ±3%                  | ±greater of 10% or 0.2mg/L | ±0.1             | ±10mv    | ±10%             | <= Stabilization Criteria |  |
| 804  | 0                 | 400               | 39.97         |                             |                      |                            |                  |          |                  | Connect Flow-through cell |  |
| 809  | 3                 | 400               | 39.97         | 16.19                       | 0.525                | 8.02                       | 7.50             | 83       | 4.4              | AC/L                      |  |
| 814  | 5                 | 400               | 39.97         | 16.76                       | 0.524                | 7.53                       | 7.48             | 86       | 1.9              | C                         |  |
| 819  | 8                 | 400               | 39.95         | 16.83                       | 0.525                | 7.50                       | 7.14             | 91       | 0.6              | C ✓                       |  |
| 824  | 10                | 250               | 39.94         | 17.63                       | 0.525                | 6.96                       | 7.50             | 93       | 0.0              | C ✓                       |  |
| 829  | 13                | 400               | 39.95         | 16.94                       | 0.525                | 6.94                       | 7.52             | 94       | 0.0              | C ✓                       |  |
| 834  |                   |                   | SAMPLE        |                             |                      |                            |                  |          |                  |                           |  |
|  |                   |                   |               |                             |                      |                            |                  |          |                  |                           |  |
| Start Sampling   |                   |                   | 836           |                             |                      |                            |                  |          |                  |                           |  |
| End Sampling   |                   |                   | 847           | Sample Number: C-MW-08-1210 |                      |                            | Sample Time: 844 |          |                  |                           |  |
|  |                   |                   | Final 39.95   |                             |                      |                            |                  |          |                  |                           |  |

Notes: AC = almost clear      btc = below top of casing      DTW = depth to water      VC = very cloudy  
 bgs = below ground surface      Cl = cloudy      C = clear      SC = slightly cloudy

# Monitoring Well Sampling Field Log

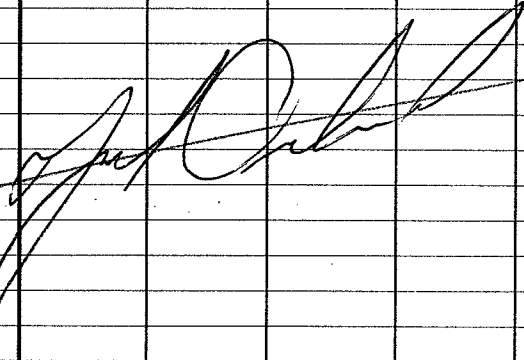
Well Number: MW-10  
 Date: 12-15-2010

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| Project Information                  |                         |
|--------------------------------------|-------------------------|
| Project Name:                        | Chevron Pipeline Pasco  |
| URS Project Number:                  | 25012120                |
| Sampling Information                 |                         |
| Field Team: Z. Oremland C. Pearson   |                         |
| Purge Method:                        | Submersible             |
| Pump Intake Depth (ft btc):          | <u>69'</u>              |
| Flow-Through Cell:                   | Yes                     |
| Sampling Method:                     | Low Flow                |
| Decontamination Method:              |                         |
| Methanol / Alconox / Deionized Water |                         |
| Purge Water Disposal:                | onsite treatment system |
| Field Conditions:                    | <u>Pt Cloudy 40°</u>    |
| Comments:                            |                         |
| Initial DTW / DTW <u>63.84'</u>      |                         |
| <u>5 GAL Total Purge</u>             |                         |
| <u>Iron = 0.00 ppm</u>               |                         |

| Well Information  |                    |              |               |          |                          |
|---|--------------------|--------------|---------------|----------|--------------------------|
| Well Diameter (in)  | Drilled Well Depth |              | Top of Screen |          | Screen Interval (ft bgs) |
|   | (ft bgs)           | (ft btc)     | (ft bgs)      | (ft btc) |                          |
| <u>4.22</u>   |                    | <u>78.95</u> |               |          | <u>57 - 77</u>           |
| CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft |                    |              |               |          |                          |

| Sample Containers |             |                                |                       | Filtered? |
|-------------------|-------------|--------------------------------|-----------------------|-----------|
| Number            | Type        | Preservative                   | Analytical Parameters |           |
| 3                 | 40 mL VOA   | HCl                            | BTEX                  |           |
| 3                 | 40 mL VOA   | HCl                            | Ethanol               |           |
| 3                 | 40 mL VOA   | HCl                            | Methane               |           |
| 3                 | 40 mL VOA   | HCl                            | Gx                    |           |
| 2                 | 1L Amber    | HCl                            | Dx                    |           |
| 1                 | 250 mL Poly | None                           | Alkalinity / Sulfate  |           |
| 1                 | 250 mL Poly | H <sub>2</sub> SO <sub>4</sub> | Nitrate / Nitrite     |           |
| 1                 | 250 mL Poly | HNO <sub>3</sub>               | Manganese             |           |

| Well Purge Data  |                   |                   |                      |                                    |                      |                            |                          |           |                  |                           |
|--|-------------------|-------------------|----------------------|------------------------------------|----------------------|----------------------------|--------------------------|-----------|------------------|---------------------------|
| Time   | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)         | Temp. (°C)                         | Conductivity (mS/cm) | D.O. (mg/L)                | pH                       | ORP (mV)  | Turbidity (NTUs) | Clarity / Color / Remarks |
|  | Pump On           |                   | <u>Initial 63.84</u> | -                                  | ±3%                  | ±greater of 10% or 0.2mg/L | ±0.1                     | ±10mv     | ±10%             | ← Stabilization Criteria  |
| 920  | 0                 | 500               | <u>63.84</u>         |                                    |                      |                            |                          |           |                  | Connect Flow-through cell |
| 930  | 3                 | 300               | <u>63.84</u>         | <u>16.75</u>                       | <u>0.526</u>         | <u>7.33</u>                | <u>7.65</u>              | <u>99</u> | <u>0.0</u>       | <u>CC</u>                 |
| 935  | 6                 | 400               | <u>63.84</u>         | <u>17.89</u>                       | <u>0.524</u>         | <u>6.89</u>                | <u>7.66</u>              | <u>96</u> | <u>0.0</u>       | <u>CC</u>                 |
| 940  | 7.5               | 250               | <u>63.84</u>         | <u>18.31</u>                       | <u>0.524</u>         | <u>6.65</u>                | <u>7.66</u>              | <u>96</u> | <u>0.0</u>       | <u>CC</u>                 |
| 945  | 9.5               | 400               | <u>63.82</u>         | <u>18.23</u>                       | <u>0.524</u>         | <u>6.47</u>                | <u>7.67</u>              | <u>97</u> | <u>0.0</u>       | <u>CC</u> ✓               |
| 950  | 11                | 300               | <u>63.82</u>         | <u>18.27</u>                       | <u>0.524</u>         | <u>6.57</u>                | <u>7.67</u>              | <u>98</u> | <u>0.0</u>       | <u>CC</u> ✓               |
| 955  | 13                | 400               | <u>63.82</u>         | <u>18.19</u>                       | <u>0.524</u>         | <u>6.30</u>                | <u>7.68</u>              | <u>99</u> | <u>0.0</u>       | <u>CC</u> ✓               |
| <u>SAMPLE</u>  |                   |                   |                      |                                    |                      |                            |                          |           |                  |                           |
|  |                   |                   |                      |                                    |                      |                            |                          |           |                  |                           |
| Start Sampling   |                   |                   | <u>958</u>           |                                    |                      |                            |                          |           |                  |                           |
| End Sampling   |                   |                   | <u>1012</u>          | Sample Number: <u>C-MW-10-1210</u> |                      |                            | Sample Time: <u>1010</u> |           |                  |                           |
|  |                   |                   | <u>Final 63.82</u>   |                                    |                      |                            |                          |           |                  |                           |

Notes: AC = almost clear      btc = below top of casing      DTW = depth to water      VC = very cloudy  
 bgs = below ground surface      Cl = cloudy      C = clear      SC = slightly cloudy

# Monitoring Well Sampling Field Log

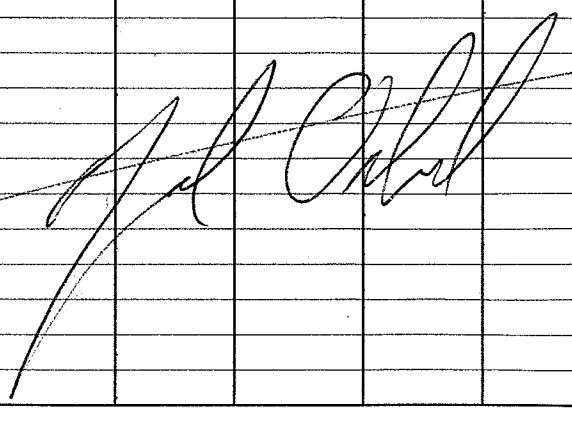
Well Number: MW-11  
 Date: 12-16-2010

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| Project Information                  |                           |
|--------------------------------------|---------------------------|
| Project Name:                        | Chevron Pipeline Pasco    |
| URS Project Number:                  | 25012120                  |
| Sampling Information                 |                           |
| Field Team:                          | Z. Oremland C. Pearson    |
| Purge Method:                        | Submersible               |
| Pump Intake Depth (ft btc):          | <u>82'</u>                |
| Flow-Through Cell:                   | Yes                       |
| Sampling Method:                     | Low Flow                  |
| Decontamination Method:              |                           |
| Methanol / Alconox / Deionized Water |                           |
| Purge Water Disposal:                | onsite treatment system   |
| Field Conditions:                    | <u>Pt Cloud Lt Breeze</u> |
| Comments:                            |                           |
| Initial DTP (DTW) <u>79.46</u>       |                           |
| Total purge = <u>4 GAL</u>           |                           |
| Iron = <u>0.00 ppm</u>               |                           |

| Well Information  |                    |              |               |          |                          |
|---|--------------------|--------------|---------------|----------|--------------------------|
| Well Diameter (in)  | Drilled Well Depth |              | Top of Screen |          | Screen Interval (ft bgs) |
|   | (ft bgs)           | (ft btc)     | (ft bgs)      | (ft btc) |                          |
| <u>2</u>  |                    | <u>84.54</u> |               |          | -                        |
| CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft |                    |              |               |          |                          |

| Sample Containers |             |                                |                       | Filtered? |
|-------------------|-------------|--------------------------------|-----------------------|-----------|
| Number            | Type        | Preservative                   | Analytical Parameters |           |
| 3                 | 40 mL VOA   | HCl                            | BTEX                  |           |
| 3                 | 40 mL VOA   | HCl                            | Ethanol               |           |
| 3                 | 40 mL VOA   | HCl                            | Methane               |           |
| 3                 | 40 mL VOA   | HCl                            | Gx                    |           |
| 2                 | 1L Amber    | HCl                            | Dx                    |           |
| 1                 | 250 mL Poly | None                           | Alkalinity / Sulfate  |           |
| 1                 | 250 mL Poly | H <sub>2</sub> SO <sub>4</sub> | Nitrate / Nitrite     |           |
| 1                 | 250 mL Poly | HNO <sub>3</sub>               | Manganese             |           |

| Well Purge Data  |                   |                   |              |                                    |                      |                            |                          |          |                  |                           |
|--|-------------------|-------------------|--------------|------------------------------------|----------------------|----------------------------|--------------------------|----------|------------------|---------------------------|
| Time   | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc) | Temp. (°C)                         | Conductivity (mS/cm) | D.O. (mg/L)                | pH                       | ORP (mV) | Turbidity (NTUs) | Clarity / Color / Remarks |
|  |                   |                   | Initial      |                                    |                      | ±greater of 10% or 0.2mg/L | ±0.1                     | ±10mv    | ±10%             | ≤ Stabilization Criteria  |
|  | Pump On           |                   |              |                                    | ±3%                  |                            |                          |          |                  |                           |
| 945  | 0                 | 320               | 79.83        |                                    |                      |                            |                          |          |                  | Connect Flow-through cell |
| 950  | 2                 | 350               | 79.71        | 13.11                              | 0.685                | 8.78                       | 6.80                     | 131      | 37.0             | Cl                        |
| 955  | 4                 | 350               | 79.67        | 16.95                              | 0.593                | 7.39                       | 6.94                     | 93       | 5.6              | Cl                        |
| 1000   | 6                 | 350               | 79.65        | 17.18                              | 0.573                | 7.10                       | 6.97                     | 92       | 0.5              | Cl                        |
| 1005   | 8                 | 350               | 79.65        | 17.83                              | 0.571                | 6.66                       | 7.00                     | 88       | 0.0              | Cl                        |
| 1010   | 10                | 350               | 79.65        | 18.49                              | 0.565                | 6.22                       | 7.04                     | 84       | 0.0              | Cl                        |
| <b>SAMPLE</b>  |                   |                   |              |                                    |                      |                            |                          |          |                  |                           |
|  |                   |                   |              |                                    |                      |                            |                          |          |                  |                           |
| Start Sampling   |                   |                   | <u>1013</u>  |                                    |                      |                            |                          |          |                  |                           |
| End Sampling   |                   |                   | <u>1023</u>  | Sample Number: <u>C-MW-11-1210</u> |                      |                            | Sample Time: <u>1020</u> |          |                  |                           |
|  |                   |                   | <u>79.65</u> |                                    |                      |                            |                          |          |                  |                           |

Notes: AC = almost clear      btc = below top of casing      DTW = depth to water      VC = very cloudy  
 bgs = below ground surface      Cl = cloudy      C = clear      SC = slightly cloudy

**Monitoring Well Sampling Field Log**

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Well Number: MW-12  
Date: 12-16-2010

| Project Information                  |                                       |
|--------------------------------------|---------------------------------------|
| Project Name:                        | Chevron Pipeline Pasco                |
| URS Project Number:                  | 25012120                              |
| Sampling Information                 |                                       |
| Field Team:                          | Z. Oremland C. Pearson                |
| Purge Method:                        | Submersible                           |
| Pump Intake Depth (ft btc):          | <u>82'</u>                            |
| Flow-Through Cell:                   | Yes                                   |
| Sampling Method:                     | Low Flow                              |
| Decontamination Method:              |                                       |
| Methanol / Alconox / Deionized Water |                                       |
| Purge Water Disposal:                | onsite treatment system               |
| Field Conditions:                    | <u>Clear, Lt Breeze ~40°</u>          |
| Comments:                            | <u>DUP + MS/MSD Collected</u>         |
| Initial DTP (DTW):                   | <u>79.64</u>                          |
|                                      | <u>Iron = 0.50 ppm</u>                |
|                                      | <u>8.5 GAL TOTAL Purge</u>            |
|                                      | <u>Duplicate: C-MW-22-1210 @ 1400</u> |

| Well Information  |                    | Stick-up or Flush (circle one) |               |          |                          |
|---|--------------------|--------------------------------|---------------|----------|--------------------------|
| Well Diameter (in)  | Drilled Well Depth |                                | Top of Screen |          | Screen Interval (ft bgs) |
|   | (ft bgs)           | (ft btc)                       | (ft bgs)      | (ft btc) |                          |
| <u>2</u>  | <u>85.11</u>       |                                |               |          |                          |
| CMT Port=0.006 gal/ft    3/4"=0.023 gal/ft    2"=0.17 gal/ft    4"=0.66 gal/ft    6"=1.5 gal/ft |                    |                                |               |          |                          |

| Sample Containers                             |                    |                                    |                             | Filtered? |
|---|--------------------|------------------------------------|-----------------------------|-----------|
| Number  | Type               | Preservative                       | Analytical Parameters       |           |
| <u>3 x 4</u>                                  | <u>40 mL VOA</u>   | <u>HCl</u>                         | <u>BTEX</u>                 |           |
| <u>3 x 4</u>                                  | <u>40 mL VOA</u>   | <u>HCl</u>                         | <u>Ethanol</u>              |           |
| <u>3 x 4</u>                                  | <u>40 mL VOA</u>   | <u>HCl</u>                         | <u>Methane</u>              |           |
| <u>3 x 4</u>                                  | <u>40 mL VOA</u>   | <u>HCl</u>                         | <u>Gx</u>                   |           |
| <u>2 x 4</u>                                  | <u>1L Amber</u>    | <u>HCl</u>                         | <u>Dx</u>                   |           |
| <u>1 x 4</u>                                  | <u>250 mL Poly</u> | <u>None</u>                        | <u>Alkalinity / Sulfate</u> |           |
| <u>1 x 4</u>                                  | <u>250 mL Poly</u> | <u>H<sub>2</sub>SO<sub>4</sub></u> | <u>Nitrate / Nitrite</u>    |           |
| <u>1 x 4</u>                                  | <u>250 mL Poly</u> | <u>HNO<sub>3</sub></u>             | <u>Manganese</u>            |           |
| <u>Duplicate AND MS/MSD Volumes Collected</u> |                    |                                    |                             |           |

| Well Purge Data |                   |                   |                      |                                    |                      |                            |             |                          |                  |                           |  |
|-----------------|-------------------|-------------------|----------------------|------------------------------------|----------------------|----------------------------|-------------|--------------------------|------------------|---------------------------|--|
| Time            | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)         | Temp. (°C)                         | Conductivity (mS/cm) | D.O. (mg/L)                | pH          | ORP (mV)                 | Turbidity (NTUs) | Clarity / Color / Remarks |  |
|                 | Pump On           |                   | <u>Initial 79.64</u> | -                                  | ±3%                  | ±greater of 10% or 0.2mg/L | ±0.1        | ±10mv                    | ±10%             | ← Stabilization Criteria  |  |
| <u>1055</u>     | <u>0</u>          | <u>200</u>        | <u>80.31</u>         |                                    |                      |                            |             |                          |                  | Connect Flow-through cell |  |
| <u>1100</u>     | <u>2</u>          | <u>500</u>        | <u>80.23</u>         | <u>16.30</u>                       | <u>0.674</u>         | <u>5.79</u>                | <u>7.01</u> | <u>58</u>                | <u>3.4</u>       | <u>C</u>                  |  |
| <u>1105</u>     | <u>4</u>          | <u>Varying</u>    | <u>79.98</u>         | <u>18.32</u>                       | <u>0.636</u>         | <u>5.27</u>                | <u>7.06</u> | <u>11</u>                | <u>0.0</u>       | <u>CC</u>                 |  |
| <u>1110</u>     | <u>7</u>          | <u>"</u>          | <u>80.13</u>         | <u>20.05</u>                       | <u>0.644</u>         | <u>4.57</u>                | <u>7.10</u> | <u>-7</u>                | <u>0.0</u>       | <u>CC</u>                 |  |
| <u>1115</u>     | <u>12</u>         | <u>"</u>          | <u>80.64</u>         | <u>19.05</u>                       | <u>0.637</u>         | <u>4.64</u>                | <u>7.11</u> | <u>-18</u>               | <u>0.0</u>       | <u>CC</u>                 |  |
| <u>1120</u>     | <u>15</u>         | <u>"</u>          | <u>80.19</u>         | <u>17.98</u>                       | <u>0.615</u>         | <u>4.48</u>                | <u>7.17</u> | <u>-20</u>               | <u>0.0</u>       | <u>CC</u>                 |  |
| <u>1125</u>     | <u>"</u>          | <u>"</u>          | <u>80.12</u>         | <u>18.63</u>                       | <u>0.621</u>         | <u>4.17</u>                | <u>7.19</u> | <u>-24</u>               | <u>0.0</u>       | <u>CC</u>                 |  |
| <u>1130</u>     | <u>~20</u>        | <u>"</u>          | <u>80.11</u>         | <u>19.28</u>                       | <u>0.624</u>         | <u>3.97</u>                | <u>7.21</u> | <u>-29</u>               | <u>0.0</u>       | <u>CC</u>                 |  |
| <u>1135</u>     | <u>~23</u>        | <u>"</u>          | <u>80.11</u>         | <u>19.50</u>                       | <u>0.621</u>         | <u>3.86</u>                | <u>7.22</u> | <u>-30</u>               | <u>0.0</u>       | <u>CC</u>                 |  |
| <u>1140</u>     |                   |                   |                      |                                    |                      |                            |             |                          |                  | <u>SAMPLE</u>             |  |
| Start Sampling  |                   |                   | <u>1138</u>          | <u>DUP SAMPLE! C-MW-22-1210</u>    |                      |                            |             | <u>ST: 1400</u>          |                  |                           |  |
| End Sampling    |                   |                   | <u>1211</u>          | <u>Sample Number: C-MW-12-1210</u> |                      |                            |             | <u>Sample Time: 1145</u> |                  |                           |  |
|                 |                   |                   | <u>Final 80.30</u>   |                                    |                      |                            |             |                          |                  |                           |  |

Notes: AC = almost clear      btc = below top of casing      DTW = depth to water      VC = very cloudy  
bgs = below ground surface      Cl = cloudy      C = clear      SC = slightly cloudy

**Monitoring Well Sampling Field Log**

Well Number: **MW-14**

Date: **12-15-2010**

|                                      |                         |
|--------------------------------------|-------------------------|
| <b>Project Information</b>           |                         |
| Project Name:                        | Chevron Pipeline Pasco  |
| URS Project Number:                  | 25012120                |
| <b>Sampling Information</b>          |                         |
| Field Team:                          | Z. Oremland C. Pearson  |
| Purge Method:                        | Submersible             |
| Pump Intake Depth (ft btc):          | 81                      |
| Flow-Through Cell:                   | Yes                     |
| Sampling Method:                     | Low Flow                |
| Decontamination Method:              |                         |
| Methanol / Alconox / Deionized Water |                         |
| Purge Water Disposal:                | onsite treatment system |
| Field Conditions:                    | Pt Sun 43°              |
| <b>Comments:</b>                     |                         |
| Initial DTP (DTW) 77.94'             |                         |
| Water Quality varying w/ flow rate.  |                         |
| Pump may be close to overheating,    |                         |
| so temp. is highly varied.           |                         |
| Purge = 10 GAL                       |                         |
| Iron > 0.00 ppm                      |                         |

|                         |                    |                                |               |                          |   |
|-------------------------|--------------------|--------------------------------|---------------|--------------------------|---|
| <b>Well Information</b> |                    | Stick-up or Flush (circle one) |               | Screen Interval (ft bgs) |   |
| Well Diameter (in)      | Drilled Well Depth |                                | Top of Screen |                          |   |
|                         | (ft bgs)           | (ft btc)                       | (ft bgs)      | (ft btc)                 |   |
| 2                       | 85.06              |                                |               |                          | - |

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

| Sample Containers |             |                                |                       | Filtered? |
|-------------------|-------------|--------------------------------|-----------------------|-----------|
| Number            | Type        | Preservative                   | Analytical Parameters |           |
| 3                 | 40 mL VOA   | HCl                            | BTEX                  |           |
| 3                 | 40 mL VOA   | HCl                            | Ethanol               |           |
| 3                 | 40 mL VOA   | HCl                            | Methane               |           |
| 3                 | 40 mL VOA   | HCl                            | Gx                    |           |
| 2                 | 1L Amber    | HCl                            | Dx                    |           |
| 1                 | 250 mL Poly | None                           | Alkalinity / Sulfate  |           |
| 1                 | 250 mL Poly | H <sub>2</sub> SO <sub>4</sub> | Nitrate / Nitrite     |           |
| 1                 | 250 mL Poly | HNO <sub>3</sub>               | Manganese             |           |

| Well Purge Data |                   |                   |               |                             |                           |                            |      |                   |                  |                           |  |
|-----------------|-------------------|-------------------|---------------|-----------------------------|---------------------------|----------------------------|------|-------------------|------------------|---------------------------|--|
| Time            | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)  | Temp. (°C)                  | Conductivity (mS/cm)      | D.O. (mg/L)                | pH   | ORP (mV)          | Turbidity (NTUs) | Clarity / Color / Remarks |  |
|                 | Pump On           |                   | Initial 77.94 | -                           | ±3%                       | ±greater of 10% or 0.2mg/L | ±0.1 | ±10mv             | ±10%             | ← Stabilization Criteria  |  |
| 1428            | 0                 | Varying           |               |                             | Connect Flow-through cell |                            |      |                   |                  |                           |  |
| 1440            | 4.5               | 275               | 77.94         | 15.85                       | 0.536                     | 6.68                       | 7.30 | 106               | 15.7             | Cl                        |  |
| 1450            | 6                 | Varying           | 77.94         | 20.30                       | 0.534                     | 5.72                       | 7.29 | 67                | 30.4             | Cl                        |  |
| 1500            | 14                | "                 | 77.95         | 20.18                       | 0.518                     | 5.34                       | 7.26 | 78                | 4.0              | C                         |  |
| 1505            | 17                | "                 | 77.95         | 19.15                       | 0.518                     | 5.69                       | 7.28 | 83                | 2.6              | C                         |  |
| 1510            | 19                | 400               | 77.95         | 20.12                       | 0.519                     | 5.31                       | 7.27 | 78                | 3.3              | C                         |  |
| 1515            | 20.5              | Vary              | 77.95         | 17.81                       | 0.518                     | 5.77                       | 7.33 | 85                | 1.7              | C                         |  |
| 1520            |                   |                   |               | SAMPLE                      |                           |                            |      |                   |                  |                           |  |
| Start Sampling  |                   |                   | 1530          |                             |                           |                            |      |                   |                  |                           |  |
| End Sampling    |                   |                   | 1535          | Sample Number: C-MW-14-1210 |                           |                            |      | Sample Time: 1523 |                  |                           |  |
|                 |                   |                   | Final 77.95   |                             |                           |                            |      |                   |                  |                           |  |

Notes: AC = almost clear      btc = below top of casing      DTW = depth to water      VC = very cloudy  
 bgs = below ground surface      Cl = cloudy      C = clear      SC = slightly cloudy

**Monitoring Well Sampling Field Log**

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Well Number: RW-1  
Date: 12-16-2010

|                                      |  |
|--------------------------------------|--|
| <b>Project Information</b>           |  |
| Project Name:                        | Chevron Pipeline Pasco                     |
| URS Project Number:                  | 25012120                                   |
| <b>Sampling Information</b>          |  |
| Field Team:                          | Z. Oremland C. Pearson                     |
| Purge Method:                        | Submersible                                |
| Pump Intake Depth (ft btc):          | 82'  |
| Flow-Through Cell:                   | Yes  |
| Sampling Method:                     | Low Flow                                   |
| Decontamination Method:              |  |
| Methanol / Alconox / Deionized Water |  |
| Purge Water Disposal:                | onsite treatment system                    |
| Field Conditions:                    | Clear Freezy 33°                           |
| Comments:                            | Well located in Berm directly above MW-02. |
| Initial DTP (DTW)                    | 76.68                                      |
| 6 GAL TOTAL Purge                    |  |
| Iron = 0.00 ppm                      |  |

|                          |                    |                                       |                   |
|--------------------------|--------------------|---------------------------------------|-------------------|
| <b>Well Information</b>  |                    | Stick-up or <u>Flush</u> (circle one) |                   |
| Well Diameter (in)       | Drilled Well Depth |                                       | Top of Screen     |
|                          | (ft bgs)           | (ft btc)                              | (ft bgs) (ft btc) |
| 8-1/2                    | 102.78             |                                       |                   |
| Screen Interval (ft bgs) |                    |                                       |                   |
| -                        |                    |                                       |                   |

CMT Port=0.006 gal/ft 3/4"=0.023 gal/ft 2"=0.17 gal/ft 4"=0.66 gal/ft 6"=1.5 gal/ft

| Sample Containers |             |                                |                       | Filtered? |
|-------------------|-------------|--------------------------------|-----------------------|-----------|
| Number            | Type        | Preservative                   | Analytical Parameters |           |
| 3                 | 40 mL VOA   | HCl                            | BTEX                  |           |
| 3                 | 40 mL VOA   | HCl                            | Ethanol               |           |
| 3                 | 40 mL VOA   | HCl                            | Methane               |           |
| 3                 | 40 mL VOA   | HCl                            | Gx                    |           |
| 2                 | 1L Amber    | HCl                            | Dx                    |           |
| 1                 | 250 mL Poly | None                           | Alkalinity / Sulfate  |           |
| 1                 | 250 mL Poly | H <sub>2</sub> SO <sub>4</sub> | Nitrate / Nitrite     |           |
| 1                 | 250 mL Poly | HNO <sub>3</sub>               | Manganese             |           |

| Well Purge Data |                   |                   |               |                             |                      |                            |      |                  |                  |                           |   |
|-----------------|-------------------|-------------------|---------------|-----------------------------|----------------------|----------------------------|------|------------------|------------------|---------------------------|---|
| Time            | Volume Purged (L) | Purge Rate (mL/m) | DTW (ft btc)  | Temp. (°C)                  | Conductivity (mS/cm) | D.O. (mg/L)                | pH   | ORP (mV)         | Turbidity (NTUs) | Clarity / Color / Remarks |   |
|                 | Pump On           |                   | Initial 76.68 | -                           | ±3%                  | ±greater of 10% or 0.2mg/L | ±0.1 | ±10mv            | ±10%             | ← Stabilization Criteria  |   |
| 810             | 0                 | 380               | ↓             |                             |                      |                            |      |                  |                  | Connect Flow-through cell |   |
| 815             | 3                 | 380               |               | 14.80                       | 0.514                | 8.26                       | 7.49 | 160              | 5.3              |                           |   |
| 820             | 6                 | 500               |               | 17.15                       | 0.510                | 7.66                       | 7.52 | 119              | 4.7              |                           |   |
| 825             | 8                 | 500               |               | 17.52                       | 0.509                | 7.34                       | 7.54 | 102              | 0.0              | C                         |   |
| 830             | 11                | 500               |               | 17.45                       | 0.508                | 7.17                       | 7.55 | 98               | 0.0              | C                         |   |
| 835             | 13.5              | 500               |               | Final 76.68                 | 17.64                | 0.508                      | 7.01 | 7.55             | 96               | 0.0                       | C |
| 840             | 16                | "                 |               | 17.78                       | 0.508                | 6.88                       | 7.56 | 96               | 0.0              | C                         |   |
| 845             |                   |                   |               | SAMPLE                      |                      |                            |      |                  |                  |                           |   |
| Start Sampling  |                   |                   | 844           |                             |                      |                            |      |                  |                  |                           |   |
| End Sampling    |                   |                   | 850           | Sample Number: C-RW-01-1210 |                      |                            |      | Sample Time: 848 |                  |                           |   |

Notes: AC = almost clear      btc = below top of casing      DTW = depth to water      VC = very cloudy  
bgs = below ground surface      Cl = cloudy      C = clear      SC = slightly cloudy



**TIDEWATER MONITOR WELLS  
JUNE 2010 SAMPLING EVENT**



CH2MHILL

### Groundwater Purging and Sampling Form



**GENERAL INFORMATION**

Project Name: TIDEWATER

Well Identification: MW-1

Field Team: GREER / WILLIAMS

Date: 6-28-10

Time Arrived at Well: 16:30

Weather Conditions: SUNNY

Temperature (°F): 90°

**PURGE INFORMATION**

TD 88.28

Initial DTW (ft btc): 77.23

Purge Method: Submersible Pump

Time Begin Purging: 16:40

Purge Rate/Setting: \_\_\_\_\_

| Time  | DTW | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|-------|-----|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 16:44 | -   | 23.2      | 7.02 | 166      | 1.03                | 5.06            | 17.8      | CLOUDY                 |
| 16:49 | -   | 23.0      | 6.94 | 124      | 1.01                | 199             | 6.72      | CLOUDY                 |
| 16:54 | -   | 23.3      | 6.94 | 137      | 0.990               | 154             | 5.73      | "                      |
| 16:59 | -   | 23.4      | 6.94 | 146      | 0.980               | 91.0            | 5.60      | "                      |
| 17:02 | -   | 23.4      | 6.94 | 147      | 0.982               | 78.4            | 5.34      | "                      |
| 17:05 | -   | 23.7      | 6.95 | 149      | 0.986               | 81.3            | 4.90      | "                      |
| 17:09 | -   | 24.0      | 6.96 | 149      | 0.994               | 41.6            | 4.68      | "                      |

Sample Identification: T-MW1-0610 Sample Time: 17:10

Fe<sup>2+</sup> Field Screen Result: 0.2

Final DTW (ft btc): -

Total Vol. Purged (gallons): 3

ADDITIONAL COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





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### Groundwater Purging and Sampling Form

**GENERAL INFORMATION**

Project Name: TIDEWATER

Well Identification: MW-2

Field Team: WILLIAMS/GREER

Date: 6-29-10

Time Arrived at Well: 11:30

Weather Conditions: SUNNY

Temperature (°F): 80°

**PURGE INFORMATION**

Initial DTW (ft btc): 78.37

TD 88.23

Purge Method: Submersible Pump

Time Begin Purging: 11:40

Purge Rate/Setting: \_\_\_\_\_

| Time  | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|-------|-------|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 11:42 | 78.46 | 21.7      | 7.75 | 172      | 0.769               | *               | 13.03     | CLOUDY                 |
| 11:47 | 78.46 | 19.8      | 7.64 | 156      | 0.803               | *               | 6.47      | CLEARING               |
| 11:52 | 78.47 | 21.3      | 7.62 | 146      | 0.811               | 411             | 4.56      |                        |
| 11:57 | 78.47 | 21.3      | 7.63 | 133      | 0.809               | 153             | 3.74      |                        |
| 12:00 | 78.47 | 21.3      | 7.64 | 123      | 0.809               | 92.5            | 3.61      |                        |
|       |       |           |      |          |                     |                 |           |                        |
|       |       |           |      |          |                     |                 |           |                        |

Sample Identification: T-MW2-0610 Sample Time: 12:05

Fe<sup>2+</sup> Field Screen Result: 0.4 mg/L

Final DTW (ft btc): \_\_\_\_\_ Total Vol. Purged (gallons): 4.5

ADDITIONAL COMMENTS: \* TURBIDITY ERROR - WATER VERY TURBID

\_\_\_\_\_  
\_\_\_\_\_



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### Groundwater Purging and Sampling Form

**GENERAL INFORMATION**

Project Name: TIDEWATER Well Identification: MW-3  
 Field Team: WILLIAMS / COOPER Date: 6-29-10  
 Time Arrived at Well: 7:25  
 Weather Conditions: SUNNY Temperature (°F): 70°

**PURGE INFORMATION**

TD-89.00

Initial DTW (ft btc): 77.84 Purge Method: Submersible Pump  
 Time Begin Purging: 7:37 Purge Rate/Setting: \_\_\_\_\_

| Time        | DTW          | Temp (°C)   | pH          | ORP (mV)   | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L)    | Groundwater Color/Odor |
|-------------|--------------|-------------|-------------|------------|---------------------|-----------------|--------------|------------------------|
| <u>7:39</u> | <u>77.89</u> | <u>18.4</u> | <u>6.19</u> | <u>279</u> | <u>0.824</u>        | <u>400</u>      | <u>16.14</u> | <u>SILTY/LOUDY</u>     |
| <u>7:44</u> | <u>77.91</u> | <u>18.6</u> | <u>6.69</u> | <u>235</u> | <u>0.811</u>        | <u>363</u>      | <u>9.57</u>  |                        |
| <u>7:49</u> | <u>77.91</u> | <u>18.7</u> | <u>6.90</u> | <u>209</u> | <u>0.806</u>        | <u>362</u>      | <u>7.04</u>  |                        |
| <u>7:54</u> | <u>77.91</u> | <u>20.1</u> | <u>7.07</u> | <u>189</u> | <u>0.803</u>        | <u>235</u>      | <u>5.49</u>  |                        |
| <u>8:00</u> | <u>77.91</u> | <u>20.1</u> | <u>7.05</u> | <u>165</u> | <u>0.806</u>        | <u>229</u>      | <u>5.44</u>  |                        |
|             |              |             |             |            |                     |                 |              |                        |
|             |              |             |             |            |                     |                 |              |                        |

Sample Identification: T-MW3-0610 Sample Time: 8:05

Fe<sup>2+</sup> Field Screen Result: 0.20 mg/L

Final DTW (ft btc): 77.91 Total Vol. Purged (gallons): 6 GALLONS

ADDITIONAL COMMENTS: PID=0.0 \* PUMP RESET @ 7:53



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### Groundwater Purging and Sampling Form

#### GENERAL INFORMATION

Project Name: TIDEWATER Well Identification: MW-4  
 Field Team: GREER/WILLIAMS Date: 6-29-10  
 Time Arrived at Well: 8:35  
 Weather Conditions: SUNNY Temperature (°F): 75°

#### PURGE INFORMATION

Initial DTW (ft btc): 77.72 <sup>TD 89.27</sup> Purge Method: Submersible Pump  
 Time Begin Purging: 8:40 Purge Rate/Setting: \_\_\_\_\_

| Time | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|------|-------|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 8:44 | 77.81 | 18.8      | 7.80 | 182      | 0.795               | 347             | 18.01     | Slightly cloudy        |
| 8:49 | 77.82 | 18.5      | 7.71 | 180      | 0.796               | 204             | 9.35      |                        |
| 8:54 | 77.82 | 19.7      | 7.65 | 129      | 0.802               | 93              | 8.37      |                        |
| 8:59 | 77.82 | 21.0      | 7.62 | 119      | 0.800               | 51              | 7.70      | CLEAR                  |
| 9:02 | 77.82 | 21.2      | 7.61 | 120      | 0.800               | 43              | 7.04      |                        |
| 9:05 | 77.82 | 21.2      | 7.61 | 124      | 0.800               | 44              | 6.68      |                        |
| 9:08 | 77.82 | 21.3      | 7.62 | 126      | 0.805               | 44              | 6.57      |                        |

Sample Identification: T-MW4-0610 Sample Time: 09:05

Fe<sup>2+</sup> Field Screen Result: 0.1

Final DTW (ft btc): 77.82 Total Vol. Purged (gallons): 5

ADDITIONAL COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



## Groundwater Purging and Sampling Form

### GENERAL INFORMATION

Project Name: TIDEWATER Well Identification: MW-5  
Field Team: CORRELL/WILLIAMS Date: 6-29-10  
Time Arrived at Well: 12:50  
Weather Conditions: 12-50 SUNNY Temperature (°F): 80+

### PURGE INFORMATION

Initial DTW (ft btc): 80.48 TD 91.31 Purge Method: Submersible Pump  
Time Begin Purging: 13:00 Purge Rate/Setting: \_\_\_\_\_

| Time  | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|-------|-------|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 13:02 | 80.58 | 20.16     | 7.97 | 172      | 0.761               | 800*            | 20.45     |                        |
| 13:07 | 80.53 | 19.9      | 7.94 | 179      | 0.777               | 800*            | 9.01      |                        |
| 13:12 | 80.53 | 21.3      | 7.92 | 174      | 0.787               | 330             | 8.45      |                        |
| 13:17 | 80.53 | 22.1      | 7.92 | 164      | 0.785               | 164             | 7.47      |                        |
| 13:20 | 80.53 | 22.4      | 7.92 | 153      | 0.784               | 88.0            | 7.03      |                        |
| 13:23 | 80.53 | 22.3      | 7.92 | 144      | 0.784               | 67.5            | 6.93      |                        |
|       |       |           |      |          |                     |                 |           |                        |

Sample Identification: T-MW5-0610 Sample Time: 13:25

Fe<sup>2+</sup> Field Screen Result: 0.5 mg/L

Final DTW (ft btc): 80.53 Total Vol. Purged (gallons): 4

ADDITIONAL COMMENTS: \*TURBID WATER- BEYOND LIMITS OF HORIBA



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### Groundwater Purging and Sampling Form



**GENERAL INFORMATION**

Project Name: TIDEWATER

Well Identification: MW-6

Field Team: GREER / WILLIAMS

Date: 6-28-10

Time Arrived at Well: 18:15

Weather Conditions: SUNNY - HOT

Temperature (°F): 85°

**PURGE INFORMATION**

TD 88.41

Initial DTW (ft btc): 77.92

Purge Method: Submersible Pump

Time Begin Purging: 16:20

Purge Rate/Setting: \_\_\_\_\_

| Time  | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|-------|-------|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 16:25 | -     | 20.2      | 7.56 | 156      | 0.882               | 0.0             | 31.7      | CLOUDY                 |
| 16:30 | 77.93 | 19.84     | 7.41 | 99       | 0.881               | 404             | 11.33     | CLOUDY<br>CLEAR / NONE |
| 16:35 | 77.93 | 20.0      | 7.35 | 93       | 0.881               | 86              | 9.70      | CLEAR / NONE           |
| 16:40 | 77.93 | 19.9      | 7.29 | 99       | 0.882               | 44.7            | 9.27      |                        |
| 16:45 | 77.93 | 19.8      | 7.22 | 100      | 0.881               | 19.4            | 8.96      |                        |
| 16:48 | 77.93 | 19.9      | 7.17 | 101      | 0.881               | 18.2            | 8.86      |                        |
|       |       |           |      |          |                     |                 |           |                        |

Sample Identification: T-MW6-0610 Sample Time: 18:50

Fe<sup>2+</sup> Field Screen Result: 0.2 mg/L

Final DTW (ft btc): 77.93 Total Vol. Purged (gallons): 4 gallons

ADDITIONAL COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



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### Groundwater Purging and Sampling Form

**GENERAL INFORMATION**

Project Name: TIDEWATER

Well Identification: 11W-8

Field Team: GREEN / WILLIAMS

Date: 6-29-10

Time Arrived at Well: 17:40

Weather Conditions: SUNNY

Temperature (°F): 80°

**PURGE INFORMATION**

Initial DTW (ft btc): 82.62

TD 92.79

Purge Method: Submersible Pump

Time Begin Purging: 17:50

Purge Rate/Setting: \_\_\_\_\_

| Time | DTW | Temp (°C) | pH | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor                  |
|------|-----|-----------|----|----------|---------------------|-----------------|-----------|---|
| -    | -   | -         | -  | -        | -                   | -               | -         | <u>SWEEN / ODOR / BLACK PARTICULATE</u> |
|      |     |           |    |          |                     |                 |           |   |
|      |     |           |    |          |                     |                 |           |   |
|      |     |           |    |          |                     |                 |           |   |
|      |     |           |    |          |                     |                 |           |   |
|      |     |           |    |          |                     |                 |           |   |
|      |     |           |    |          |                     |                 |           |   |
|      |     |           |    |          |                     |                 |           |   |

Sample Identification: \_\_\_\_\_ Sample Time: \_\_\_\_\_

Fe 2+ Field Screen Result: \_\_\_\_\_

Final DTW (ft btc): \_\_\_\_\_ Total Vol. Purged (gallons): \_\_\_\_\_

ADDITIONAL COMMENTS: \* SWEEN OBSERVED FROM PUMPING. CONSULT W/ B. MARTIN - DON'T SAMPLE WELL DUE TO SWEEN.



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### Groundwater Purging and Sampling Form

**GENERAL INFORMATION**

Project Name: TIDEWATER

Well Identification: AK-4

Field Team: GREER / WILLIAMS

Date: 6-29-00

Time Arrived at Well: 16:30

Weather Conditions: SUNNY

Temperature (°F): 85

**PURGE INFORMATION**

TD: 90.27

Initial DTW (ft btc): 81.90

Purge Method: Submersible Pump

Time Begin Purging: 16:32

Purge Rate/Setting: \_\_\_\_\_

| Time  | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor                        |
|-------|-------|-----------|------|----------|---------------------|-----------------|-----------|---|
| 16:35 | 81.96 | 20.2      | 7.57 | -136     | 0.811               | 262             | 7.40      | INITIAL BLACK-TURBID<br>-SEDIMENT/PARTICULATE |
| 16:40 | 81.97 | 19.7      | 7.52 | -153     | 0.816               | 32.7            | 0.64      | CLEARING                                      |
| 16:45 | 81.97 | 21.76     | 7.53 | -155     | 0.810               | 26.5            | 0.23      |   |
| 16:50 | 81.97 | 22.9      | 7.00 | -136     | 0.808               | 25              | 0.0       | ODOR  |
|       |       |           |      |          |                     |                 |           |   |
|       |       |           |      |          |                     |                 |           |   |
|       |       |           |      |          |                     |                 |           |   |

Sample Identification: T-AR4-0610 Sample Time: 16:55

Fe 2+ Field Screen Result: 1.6 mg/L

Final DTW (ft btc): 81.97 Total Vol. Purged (gallons): \_\_\_\_\_

ADDITIONAL COMMENTS: COLLECT DUPLICATE @ T-MW11-0610 @ 07:00  
\* ODOR! \*



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### Groundwater Purging and Sampling Form

**GENERAL INFORMATION**

Project Name: TIDEWATER

Well Identification: AR-5

Field Team: GREER (WILLIAMS)

Date: 6-29-10

Time Arrived at Well: 14:40

Weather Conditions: SUNNY

Temperature (°F): 85°

**PURGE INFORMATION**

TD: 87.65

Initial DTW (ft btc): 78.52

Purge Method: Submersible Pump

Time Begin Purging: 14:47

Purge Rate/Setting: \_\_\_\_\_

| Time  | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|-------|-------|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 14:47 | 78.56 | 26.41     | 8.18 | 127      | 0.730               | *               | 13.77     |                        |
| 14:52 | 78.58 | 23.62     | 8.01 | 103      | 0.742               | *               | 9.66      |                        |
| 14:57 | 78.57 | 22.2      | 7.97 | 76       | 0.781               | 800*            | 7.40      |                        |
| 15:02 | 78.57 | 23.4      | 7.96 | 72       | 0.784               | 447             | 6.34      |                        |
| 15:09 | 78.57 | 23.2      | 7.96 | 75       | 0.784               | 216             | 6.30      |                        |
|       |       |           |      |          |                     |                 |           |                        |
|       |       |           |      |          |                     |                 |           |                        |

Sample Identification: T-AR5-0610 Sample Time: 15:10

Fe<sup>2+</sup> Field Screen Result: 0.2 mg/l

Final DTW (ft btc): 78.58

Total Vol. Purged (gallons): 45

ADDITIONAL COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





## Groundwater Purging and Sampling Form

### GENERAL INFORMATION

Project Name: TIDEWATER Well Identification: AR-6  
Field Team: COOPER WILLIAMS Date: 6-29-10  
Time Arrived at Well: 15:25  
Weather Conditions: SUNNY Temperature (°F): 85

### PURGE INFORMATION

Initial DTW (ft btc): 80.61 TD 86.84 Purge Method: Submersible Pump  
Time Begin Purging: 15:37 Purge Rate/Setting: \_\_\_\_\_

| Time  | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|-------|-------|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 15:40 | 90.67 | 24.9      | 7.77 | 116      | 0.733               | 1380            | 9.22      |                        |
| 15:45 | 90.67 | 24.2      | 7.67 | 114      | 0.734               | 259             | 2.56      |                        |
| 15:50 | 90.67 | 24.1      | 7.68 | 111      | 0.752               | 252             | 2.16      |                        |
| 15:55 | 90.67 | 22.6      | 7.69 | 107      | 0.803               | 71.0            | 2.85      | ✓                      |
| 15:58 | 90.67 | 23.7      | 7.67 | 103      | 0.803               | 41.6            | 3.73      |                        |
| 16:01 | 90.67 | 24.9      | 7.69 | 105      | 0.799               | 36.1            | 3.96      | ✓                      |
|       |       |           |      |          |                     |                 |           |                        |

Sample Identification: T-AR6-0610 Sample Time: 16:05

Fe<sup>2+</sup> Field Screen Result: 0.2 mg/L

Final DTW (ft btc): 90.67 Total Vol. Purged (gallons): 3.5

ADDITIONAL COMMENTS: PUMP SLOWED - PUSHED SILT "LOG" THROUGH, DO STARTING RISING. DO DROPPING AGAIN



## Groundwater Purging and Sampling Form

### GENERAL INFORMATION

Project Name: TIDEWATER

Well Identification: AR-7

Field Team: \_\_\_\_\_

Date: 6-29-10

Time Arrived at Well: 18:35

Weather Conditions: \_\_\_\_\_

Temperature (°F): \_\_\_\_\_

### PURGE INFORMATION

Initial DTW (ft btc): \_\_\_\_\_

Purge Method: Submersible Pump

Time Begin Purging: 18:50

Purge Rate/Setting: \_\_\_\_\_

| Time | DTW | Temp (°C) | pH | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|------|-----|-----------|----|----------|---------------------|-----------------|-----------|------------------------|
| -    | -   | -         | -  | -        | -                   | -               | -         | GREEN. ODOR - TURBID   |
|      |     |           |    |          |                     |                 |           |                        |
|      |     |           |    |          |                     |                 |           |                        |
|      |     |           |    |          |                     |                 |           |                        |
|      |     |           |    |          |                     |                 |           |                        |
|      |     |           |    |          |                     |                 |           |                        |
|      |     |           |    |          |                     |                 |           |                        |
|      |     |           |    |          |                     |                 |           |                        |

Sample Identification: \_\_\_\_\_ Sample Time: \_\_\_\_\_

Fe<sup>2+</sup> Field Screen Result: \_\_\_\_\_

Final DTW (ft btc): \_\_\_\_\_

Total Vol. Purged (gallons): \_\_\_\_\_

ADDITIONAL COMMENTS: GREEN INITIALLY + THROUGHOUT PUMPING. NO SAMPLE

\_\_\_\_\_  
\_\_\_\_\_



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### Groundwater Purging and Sampling Form

**GENERAL INFORMATION**

Project Name: TIDEWATER

Well Identification: AR-8

Field Team: WILLIAMS/GARER

Date: 6-29-10

Time Arrived at Well: 19:10

Weather Conditions: SUNNY

Temperature (°F): 70

**PURGE INFORMATION**

TD 84.02

Initial DTW (ft btc): ~~78.43~~ 78.43

Purge Method: Submersible Pump

Time Begin Purging: ~~19:18~~ 19:18

Purge Rate/Setting: \_\_\_\_\_

| Time | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor                |
|------|-------|-----------|------|----------|---------------------|-----------------|-----------|---------------------------------------|
| 1920 | 78.58 | 24.6      | 7.64 | -88      | 1.00                | 247             | 6.48      | is boiling at 19:25<br>no strong odor |
| 1925 | 78.57 | 20.0      | 7.57 | -108     | 1.09                | 135             | 1.80      |                                       |
| 1930 | 78.57 | 20.5      | 7.55 | -103     | 1.10                | 74.0            | 1.0       | NO ODOR                               |
| 1935 | 78.57 | 21.3      | 7.67 | -100     | 1.08                | 52.8            | 0.71      |                                       |
| 1938 | 78.57 | 21.9      | 7.71 | -96      | 1.00                | 60.4            | 0.60      |                                       |
|      |       |           |      |          |                     |                 |           |                                       |
|      |       |           |      |          |                     |                 |           |                                       |

Sample Identification: T-AR8-0660

Sample Time: 19:45

Fe<sup>2+</sup> Field Screen Result: 0.9 mg/L

Final DTW (ft btc): 78.57

Total Vol. Purged (gallons): \_\_\_\_\_

ADDITIONAL COMMENTS: MS/MSD COLLECTED FOR ALL ANALYSIS (3X)



## Groundwater Purging and Sampling Form

### GENERAL INFORMATION

Project Name: TIDEWATER Well Identification: AR-9  
Field Team: WILLIAMS/GREER Date: 6-29-10  
Time Arrived at Well: 9:30  
Weather Conditions: SUNNY Temperature (°F): 75

### PURGE INFORMATION

Initial DTW (ft btc): 78.46 <sup>TD 87:30</sup> Purge Method: Submersible Pump  
Time Begin Purging: 9:35 Purge Rate/Setting: \_\_\_\_\_

| Time                     | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|--------------------------|-------|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 9:40                     | 78.54 | 19.4      | 7.79 | 170      | 0.801               | 0.0             | 12.65     | CLOUDY                 |
| 9:45                     | 78.54 | 19.5      | 7.71 | 154      | 0.813               | 616             | 7.15      | CLEARING               |
| 9:50                     | 78.54 | 21.2      | 7.69 | 121      | 0.813               | 270             | 5.61      |                        |
| <del>9:55</del><br>10:00 | 78.54 | 21.2      | 7.69 | 111      | 0.812               | 205             | 4.89      |                        |
| 9:58                     | 78.54 | 21.1      | 7.70 | 110      | 0.811               | 188             | 4.77      |                        |
|                          |       |           |      |          |                     |                 |           |                        |
|                          |       |           |      |          |                     |                 |           |                        |

Sample Identification: T-AR9-0610 Sample Time: 10:05

Fe<sup>2+</sup> Field Screen Result: 0.3 mg/L

Final DTW (ft btc): 78.54 Total Vol. Purged (gallons): 5

ADDITIONAL COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



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### Groundwater Purging and Sampling Form

**GENERAL INFORMATION**

Project Name: TIDEWATER

Well Identification: AR-10

Field Team: WILLIAMS / GREER

Date: 6-29-10

Time Arrived at Well: 10:40

Weather Conditions: SUNNY

Temperature (°F): 75<sup>+</sup>

**PURGE INFORMATION**

TD: 84.48

Initial DTW (ft btc): 78.01

Purge Method: Submersible Pump

Time Begin Purging: 10:50

Purge Rate/Setting: \_\_\_\_\_

| Time  | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L)               | Groundwater Color/Odor |
|-------|-------|-----------|------|----------|---------------------|-----------------|-------------------------|------------------------|
| 10:53 | 78.08 | 23.2      | 7.81 | 190      | 0.756               | 242             | 16.76                   | SLIGHTLY CLOUDY        |
| 10:58 | 78.08 | 22.5      | 7.56 | 186      | 0.746               | 202             | 5.27                    |                        |
| 11:03 | 78.09 | 22.9      | 7.56 | 182      | 0.756               | 188             | 3.97                    |                        |
| 11:08 | 78.09 | 23.2      | 7.56 | 176      | 0.769               | 135             | 3.60                    |                        |
| 11:11 | 78.09 | 24.2      | 7.57 | 173      | 0.763               | 145             | 3.41<br><del>3.33</del> |                        |
|       |       |           |      |          |                     |                 |                         |                        |
|       |       |           |      |          |                     |                 |                         |                        |

Sample Identification: T-AR10-0610 Sample Time: 11:20

Fe<sup>2+</sup> Field Screen Result: 0.2 mg/L

Final DTW (ft btc): 78.09

Total Vol. Purged (gallons): \_\_\_\_\_

ADDITIONAL COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



# Groundwater Purging and Sampling Form



## GENERAL INFORMATION

Project Name: TIDEWATER Well Identification: AR-11  
Field Team: Greer/Williams Date: 6-28-10  
Time Arrived at Well: 15:00  
Weather Conditions: SUNNY Temperature (°F): 90°

## PURGE INFORMATION

Initial DTW (ft btc): 78.00 Purge Method: Submersible Pump  
Time Begin Purging: 15:45 Purge Rate/Setting: TO 87.07

| Time  | DTW | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|-------|-----|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 15:21 |     | 21.5      | 6.43 | 149      | 0.857               | *               | 32.15*    | CLOUDY / NO            |
| 15:26 |     | 21.1      | 7.37 | 101      | 0.856               | 79<br>79        | 11.07     | SLIGHTLY CLOUDY        |
| 15:31 |     | 20.7      | 7.32 | 99       | 0.855               | 94.2            | 8.78      |                        |
| 15:36 |     | 20.4      | 7.14 | 106      | 0.856               | 118             | 9.67      | CLEARING UP            |
| 15:39 |     | 20.1      | 7.06 | 110      | 0.855               | 109             | 9.68      |                        |
|       |     |           |      |          |                     |                 |           |                        |
|       |     |           |      |          |                     |                 |           |                        |

Sample Identification: T-AR11-06109 Sample Time: 15:45

Fe<sup>2+</sup> Field Screen Result: 0.6 mg/L

Final DTW (ft btc): \_\_\_\_\_ Total Vol. Purged (gallons): 9 GALLONS

ADDITIONAL COMMENTS: \* NO ERROR, TURS ERROR



**TIDEWATER MONITOR WELLS  
DECEMBER 2010 SAMPLING EVENT**



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### Groundwater Purging and Sampling Form

#### GENERAL INFORMATION

Project Name: TIDEWATER

Well Identification: AR-11

Field Team: ZG / HP

Date: 12-14-10

Time Arrived at Well: 13:15

Weather Conditions: WINDY, CLEAR

Temperature (°F): 40°

#### PURGE INFORMATION

STORM APPROACHING

Initial DTW (ft btc): 28.49

Purge Method: Submersible Pump

Time Begin Purging: 13:25

Purge Rate/Setting: 150L/min / 203.6 Hz

| Time  | DTW | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|-------|-----|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 13:30 | *   | 16.52     | 5.06 | 381      | 0.866               | 0.0             | 11.21     | BROWN                  |
| 13:35 | *   | 18.28     | 6.51 | 359      | 0.864               | 4.12            | 10.20     | CLEAR                  |
| 13:40 | *   | 19.08     | 7.86 | 278      | 0.863               | 75.7            | 9.28      | CLEAR                  |
| 13:45 | *   | 19.29     | 8.48 | 243      | 0.863               | 24.1            | 8.96      |                        |
| 13:50 | *   | 19.48     | 8.17 | 264      | 0.863               | 10.6            | 8.81      | CLEAR                  |
|       |     |           |      |          |                     |                 |           |                        |
|       |     |           |      |          |                     |                 |           |                        |

Sample Identification: T-AR11-1210 Sample Time: 13:40

Fe<sup>2+</sup> Field Screen Result: 0.9 Pump Setting: 202.40 Hz

Final DTW (ft btc): \* Total Vol. Purged (gallons): 6 gallons

ADDITIONAL COMMENTS: \* DTW METER NON-OPERATIONAL - NEED BATTERIES





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### Groundwater Purging and Sampling Form

#### GENERAL INFORMATION

Project Name: TIDEWATER Well Identification: MW-1  
 Field Team: GREER/PALMER Date: 12-14-2010  
 Time Arrived at Well: 14:55  
 Weather Conditions: OVERCAST, WINDY Temperature (°F): 45

#### PURGE INFORMATION

Initial DTW (ft btc): 77.72 Purge Method: Submersible Pump  
 Time Begin Purging: 15:10 Purge Rate/Setting: \_\_\_\_\_

| Time  | DTW            | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor     |
|-------|----------------|-----------|------|----------|---------------------|-----------------|-----------|----------------------------|
| 15:12 | * BELOW PUMP * | 15.67     | 6.49 | 311      | 0.979               | 229             | 8.43      | WATER BLACK W/ PARTICULATE |
| 15:17 | *              | 17.73     | 7.60 | 159      | 0.949               | 25.2            | 5.50      | BECOMING CLEARER           |
| 15:22 | *              | 18.76     | 7.99 | 143      | 0.929               | 25.0            | 6.29      | CLEAR                      |
| 15:27 | *              | 19.36     | 8.09 | 167      | 0.909               | 8.5             | 6.58      | CLEAR                      |
| 15:32 | *              | 19.17     | 8.26 | 146      | 0.904               | 2.9             | 6.72      | CLEAR                      |
|       |                |           |      |          |                     |                 |           |                            |
|       |                |           |      |          |                     |                 |           |                            |

Sample Identification: T-MW1-1210 Sample Time: 15:30

Fe<sup>2+</sup> Field Screen Result: 0.2 Pump Setting: 198.50 Hz

Final DTW (ft btc): \* Total Vol. Purged (gallons): 7.5 GAL

ADDITIONAL COMMENTS: WATER IN VAULT OVER TOC - CAP APPEARS TO SEAL AT WATER. \* WL METER MALFUNCTION - REPLACES BATTERIES - STILL NOT FUNCTIONING. NEW WL ORDERED FOR TOMORROW



### Groundwater Purging and Sampling Form

**GENERAL INFORMATION**

Project Name: TIDEWATER Well Identification: MW 6  
 Field Team: GREER/PALMER Date: 12-14-10  
 Time Arrived at Well: 16:00  
 Weather Conditions: M CLOUDY Temperature (°F): 40°

**PURGE INFORMATION**

Initial DTW (ft btc): 78.41 Purge Method: Submersible Pump  
 Time Begin Purging: 16:15 Purge Rate/Setting: \_\_\_\_\_

| Time  | DTW | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|-------|-----|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 16:19 | *   | 14.57     | 8.63 | 222      | 0.864               | 425             | 10.87     |                        |
| 16:24 | *   | 17.05     | 8.51 | 134      | 0.866               | 74.1            | 9.28      |                        |
| 16:29 | *   | 18.36     | 8.47 | 136      | 0.866               | 44.6            | 9.11      |                        |
|       |     |           |      |          |                     |                 |           |                        |
|       |     |           |      |          |                     |                 |           |                        |
|       |     |           |      |          |                     |                 |           |                        |
|       |     |           |      |          |                     |                 |           |                        |

Sample Identification: T-MW06-1210 Sample Time: 16:50

Fe<sup>2+</sup> Field Screen Result: 0.1 Pump Setting: 198.50

Final DTW (ft btc): \* Total Vol. Purged (gallons): 2.5 GALLONS

ADDITIONAL COMMENTS: \* PUMP AT LOWEST SETTING FOR FLOW, ~100 ml/min  
\* WL METER MALFUNCTION



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### Groundwater Purging and Sampling Form

#### GENERAL INFORMATION

Project Name: TIDEWATER

Well Identification: AR-10

Field Team: RG /HP

Date: 12-14-10

Time Arrived at Well: 1205

Weather Conditions: DARK

Temperature (°F): 40°

#### PURGE INFORMATION

Initial DTW (ft btc): 18.50

Purge Method: Submersible Pump

Time Begin Purging: 17:11

Purge Rate/Setting: 1000ml/min

| Time | DTW | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|------|-----|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 1715 | *   | 16.52     | 8.44 | 137      | 0.8217              | 28.5            | 6.09      | CLEAR                  |
| 1720 | *   | 18.06     | 8.42 | 125      | 0.852               | 9.0             | 6.42      | CLEAR                  |
| 1725 | *   | 18.76     | 8.68 | 121      | 0.853               | 4.6             | 6.39      | CLEAR                  |
|      |     |           |      |          |                     |                 |           |                        |
|      |     |           |      |          |                     |                 |           |                        |
|      |     |           |      |          |                     |                 |           |                        |
|      |     |           |      |          |                     |                 |           |                        |

T-AR-10-1210

Sample Identification: ~~T-AR-10-1210~~

Sample Time: 17:45

Fe<sup>2+</sup> Field Screen Result: 0.1

Pump Setting: 198.20 Hz

Final DTW (ft btc): \*

Total Vol. Purged (gallons): 5 GALL

ADDITIONAL COMMENTS: \* DTW METER MALFUNCTION



### Groundwater Purging and Sampling Form

**GENERAL INFORMATION**

Project Name: TIDEWATER

Well Identification: MW3

Field Team: GREER / PALMER

Date: 12-15-10

Time Arrived at Well: 7:45

Weather Conditions: CLEAR 40°

Temperature (°F): 40°

**PURGE INFORMATION**

Initial DTW (ft btc): 78.33

Purge Method: Submersible Pump

Time Begin Purging: 8:00

Purge Rate/Setting: \_\_\_\_\_

| Time | DTW | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|------|-----|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 8:03 | *   | 11.58     | 6.04 | 338      | 0.896               | 800             | 10.73     | CLOUDY TURBID          |
| 8:08 | *   | 16.30     | 7.29 | 193      | 0.881               | 302             | 9.61      | CLEARING               |
| 8:13 | *   | 18.32     | 7.35 | 220      | 0.881               | 170             | 9.62      | CLEAR                  |
| 8:19 | *   | 18.62     | 7.34 | 235      | 0.881               | 87              | 9.44      | CLEAR                  |
|      |     |           |      |          |                     |                 |           |                        |
|      |     |           |      |          |                     |                 |           |                        |
|      |     |           |      |          |                     |                 |           |                        |

Sample Identification: T-MW3-1210 Sample Time: 8:30

Fe<sup>2+</sup> Field Screen Result: 0.2 Pump Setting: 197.90

Final DTW (ft btc): \_\_\_\_\_ Total Vol. Purged (gallons): 4 GALLONS

ADDITIONAL COMMENTS: \* DTW MALFUNCTION - PUMP RATE @ ~ 200 ml/m  
\* MS/MSD COLLECTED \* (ONLY 4 TOTAL TPH-D)  
4 ml



### Groundwater Purging and Sampling Form

**GENERAL INFORMATION**

Project Name: TIDEWATER Well Identification: MW 2  
 Field Team: GREER / PALMER Date: 12-15-10  
 Time Arrived at Well: 9:00  
 Weather Conditions: CLEAR Temperature (°F): 40°

**PURGE INFORMATION**

Initial DTW (ft btc): 78.86 Purge Method: Submersible Pump  
 Time Begin Purging: 9:04 Purge Rate/Setting: \_\_\_\_\_

| Time | DTW | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|------|-----|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 9:05 | *   | 14.71     | 6.94 | 301      | 0.986               | 800*            | 9.97      | SLIGHTLY CLOUDY        |
| 9:10 | *   | 15.20     | 6.84 | 259      | 0.984               | 800*            | 6.37      | CLEARING               |
| 9:15 | *   | 16.11     | 6.85 | 161      | 0.968               | 325             | 5.79      |                        |
| 9:20 | *   | 17.45     | 6.86 | 176      | 0.965               | 188             | 5.62      |                        |
|      |     |           |      |          |                     |                 |           |                        |
|      |     |           |      |          |                     |                 |           |                        |
|      |     |           |      |          |                     |                 |           |                        |

Sample Identification: T-MW2-1210 Sample Time: 9:30

Fe<sup>2+</sup> Field Screen Result: 0.0501 Pump Setting: 196.80

Final DTW (ft btc): \_\_\_\_\_ Total Vol. Purged (gallons): 3.0 GALLONS

ADDITIONAL COMMENTS: \* DTW METER MALFUNCTION  
\* TURBIDITY FLASHING



### Groundwater Purging and Sampling Form

**GENERAL INFORMATION**

Project Name: TIDEWATER

Well Identification: MW 4

Field Team: COOPER / PALMER

Date: 12-15-10

Time Arrived at Well: 9:45

Weather Conditions: M. CLEAR

Temperature (°F): 40°

**PURGE INFORMATION**

Initial DTW (ft btc): 78.22

Purge Method: Submersible Pump

Time Begin Purging: 9:51

Purge Rate/Setting: \_\_\_\_\_

| Time  | DTW | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|-------|-----|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 9:53  | *   | 14.27     | 7.46 | 266      | 0.889               | 141             | 11.37     | M. CLEAR               |
| 9:58  | *   | 15.13     | 7.35 | 278      | 0.886               | 114             | 9.21      | CLEAR                  |
| 10:03 | *   | 15.30     | 7.35 | 258      | 0.885               | 76.1            | 9.00      | CLEAR                  |
| 10:08 | *   | 15.96     | 7.36 | 244      | 0.885               | 56.0            | 8.85      |                        |
|       |     |           |      |          |                     |                 |           |                        |
|       |     |           |      |          |                     |                 |           |                        |
|       |     |           |      |          |                     |                 |           |                        |

Sample Identification: 7-MW4-1210 Sample Time: 10:30

Fe<sup>2+</sup> Field Screen Result: 0.1 Pump Setting: 195-60

Final DTW (ft btc): \* Total Vol. Purged (gallons): 2.5

ADDITIONAL COMMENTS: \* DTW METER MALFUNCTION DURING PURGING

\_\_\_\_\_  
\_\_\_\_\_



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### Groundwater Purging and Sampling Form

#### GENERAL INFORMATION

Project Name: TIDEWATER Well Identification: AR-9  
 Field Team: 26 JHP Date: 12-15-10  
 Time Arrived at Well: 1100  
 Weather Conditions: OVERCAST Temperature (°F): 40°F

#### PURGE INFORMATION

Initial DTW (ft btc): 78.95 Purge Method: Submersible Pump  
 Time Begin Purging: 1135 Purge Rate/Setting: 150ml/min

| Time | DTW   | Temp (°C) | pH   | ORP (mV)               | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|------|---|-----------|------|------------------------|---------------------|-----------------|-----------|------------------------|
| 1130 | 78.92                                       | 12.52     | 7.36 | 320                    | 0.877               | H1              | 8.65      | CLEAR/NONE             |
| 1144 | 75.91                                       | 13.41     | 7.26 | 305<br><del>1100</del> | 0.881               | H1              | 6.07      | "                      |
| 1149 | <del>PUMP</del> WATER STOPPED TEMPORARILY ← |           |      |                        |                     |                 |           |                        |
| 1154 | 78.91                                       | 18.25     | 7.24 | 186                    | 0.883               | 261             | 5.85      | "                      |
| 1156 | 78.91                                       | 21.80     | 7.24 | 219                    | 0.880               | 164             | 5.85      |                        |
|      |   |           |      |                        |                     |                 |           |                        |
|      |   |           |      |                        |                     |                 |           |                        |

Sample Identification: T-AR-9-1210 Sample Time: 11:45

Fe<sup>2+</sup> Field Screen Result: 0.1 Pump Setting: 108

Final DTW (ft btc): 78.92 Total Vol. Purged (gallons): 3.0

ADDITIONAL COMMENTS: PUMP STUCK AT @ 50F - WAS RETRIEVED. NEW DTW METER ARRIVED DURING PUMPING



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### Groundwater Purging and Sampling Form

#### GENERAL INFORMATION

Project Name: TIDEWATER

Well Identification: MW-5

Field Team: RG/HP

Date: 12-15-10

Time Arrived at Well: 1245

Weather Conditions: OVERCAST

Temperature (°F): 40

#### PURGE INFORMATION

Initial DTW (ft btc): 80.82

Purge Method: Submersible Pump

Time Begin Purging: 1250

Purge Rate/Setting: \_\_\_\_\_

| Time | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|------|-------|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 1253 | 80.92 | 14.35     | 7.43 | 334      | 0.812               | 41              | 14.52     | BROWN / FAMIL?         |
| 1258 | 80.92 | 16.31     | 7.43 | 281      | 0.812               | 360             | 10.07     | CLOUDY                 |
| 1303 | 80.92 | 17.86     | 7.42 | 263      | 0.811               | 161             | 9.68      | CLOUDY                 |
| 1308 | 80.92 | 18.63     | 7.42 | 267      | 0.813               | 79.3            | 9.48      | CLOUDY                 |
|      |       |           |      |          |                     |                 |           |                        |
|      |       |           |      |          |                     |                 |           |                        |
|      |       |           |      |          |                     |                 |           |                        |

Sample Identification: T-MW-5-1210 Sample Time: 13:20

Fe<sup>2+</sup> Field Screen Result: 1.0 mg/L Pump Setting: 200

Final DTW (ft btc): 80.92 Total Vol. Purged (gallons): 3.0

ADDITIONAL COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





### Groundwater Purging and Sampling Form

**GENERAL INFORMATION**

Project Name: TIDEWATER

Well Identification: AR-5

Field Team: RG / HP

Date: 12-15-10

Time Arrived at Well: 1345

Weather Conditions: cloudy, wind

Temperature (°F): 40°

**PURGE INFORMATION**

Initial DTW (ft btc): 78.96-79.00 (2)

Purge Method: Submersible Pump

Time Begin Purging: 1350

Purge Rate/Setting: \_\_\_\_\_

| Time | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|------|-------|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 1352 | 78.96 | 13.29     | 7.60 | 172      | 0.881               | H1              | 2.67      | VERY TURBID            |
| 1357 | 78.98 | 15.60     | 7.50 | 130      | 0.879               | H1              | 7.67      | "                      |
| 1402 | 78.98 | 17.38     | 7.46 | 144      | 0.880               | 672             | 7.54      | TURBID                 |
|      |       |           |      |          |                     |                 |           |                        |
|      |       |           |      |          |                     |                 |           |                        |
|      |       |           |      |          |                     |                 |           |                        |
|      |       |           |      |          |                     |                 |           |                        |

Sample Identification: T-MW-AR5-1210 Sample Time: 1420

Fe<sup>2+</sup> Field Screen Result: 0.1 Pump Setting: 200

Final DTW (ft btc): 78.98 Total Vol. Purged (gallons): 3.0

ADDITIONAL COMMENTS: POSSIBLE PETROLEUM ODOUR - GASOLINE



### Groundwater Purging and Sampling Form

**GENERAL INFORMATION**

Project Name: TIDEWATER

Well Identification: AR-6

Field Team: PALMER/GREEN

Date: 12-15-10

Time Arrived at Well: 14:35

Weather Conditions: P SUNNY

Temperature (°F): 45

**PURGE INFORMATION**

Initial DTW (ft btc): 81.11

Purge Method: Submersible Pump

Time Begin Purging: 14:40

Purge Rate/Setting: \_\_\_\_\_

| Time  | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|-------|-------|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 14:44 | 81.07 | 15.30     | 7.18 | 180      | 0.879               | 72              | 5.21      | FAIRLY CLEAR           |
| 14:49 | 81.07 | 15.28     | 7.18 | 183      | 0.882               | 34.2            | 5.17      | CLEAR                  |
| 14:54 | 81.07 | 18.97     | 7.18 | 170      | 0.890               | 10.1            | 6.10      | "                      |
| 14:59 | 81.07 | 20.34     | 7.21 | 199      | 0.880               | 9.1             | 5.38      | "                      |
| 15:04 | 81.07 | 20.06     | 7.23 | 207      | 0.880               | 1.7             | 5.37      | "                      |
|       |       |           |      |          |                     |                 |           |                        |
|       |       |           |      |          |                     |                 |           |                        |

Sample Identification: T-AR6-1210 Sample Time: 15:00

Fe<sup>2+</sup> Field Screen Result: 0.05 Pump Setting: 200

Final DTW (ft btc): 81.07 Total Vol. Purged (gallons): 2.5

ADDITIONAL COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



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### Groundwater Purging and Sampling Form

**GENERAL INFORMATION**

Project Name: TIDEWATER

Well Identification: AR-8

Field Team: GREER/PALMER

Date: 12-15-10

Time Arrived at Well: 15:35

Weather Conditions: P SUNNY

Temperature (°F): 40°

**PURGE INFORMATION**

Initial DTW (ft btc): 78.94

Purge Method: Submersible Pump

Time Begin Purging: 15:38

Purge Rate/Setting: \_\_\_\_\_

| Time  | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|-------|-------|-----------|------|----------|---------------------|-----------------|-----------|------------------------|
| 15:40 | 78.95 | 14.97     | 7.03 | -14      | 1.23 mS             | 89              | 5.16      | M. CLEAR<br>PETRO ODOR |
| 15:45 | 78.95 | 18.00     | 7.03 | -68      | 1.11                | 12.3            | 1.46      | CLEARER                |
| 15:50 | 78.95 | 19.26     | 7.05 | -78      | 1.08                | 4.6             | 1.31      | CLEAR                  |
|       |       |           |      |          |                     |                 |           |                        |
|       |       |           |      |          |                     |                 |           |                        |
|       |       |           |      |          |                     |                 |           |                        |
|       |       |           |      |          |                     |                 |           |                        |

Sample Identification: T-AR8-1210 Sample Time: 16:00

Fe<sup>2+</sup> Field Screen Result: 2.2 Pump Setting: 20L/S

Final DTW (ft btc): 78.95 Total Vol. Purged (gallons): \_\_\_\_\_

ADDITIONAL COMMENTS: \* COLLECT FIELD DUPLICATE T-FD1-1210 @ 7:00  
PETROLEUM ODOUR - DIESEL WEATHERED? (CALL ANALYSIS)



# Groundwater Purging and Sampling Form

## GENERAL INFORMATION

Project Name: TIDEWATER Well Identification: AR-4  
Field Team: GREER/PALMER Date: 12-15-10  
Time Arrived at Well: 16:25  
Weather Conditions: M cloudy Temperature (°F): 40°

## PURGE INFORMATION

Initial DTW (ft btc): 16:30 Purge Method: Submersible Pump  
Time Begin Purging: 62:38 Purge Rate/Setting: \_\_\_\_\_

| Time | DTW   | Temp (°C)              | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor         |
|------|-------|------------------------|------|----------|---------------------|-----------------|-----------|--------------------------------|
| 1633 | 82.36 | 14.23                  | 7.27 | -100     | 0.980               | 762             | 6.17      | BLACK - PARTICULATE PETRD ODOR |
| 1638 | 82.34 | 18.33                  | 7.09 | -120     | 0.915               | 25.1            | 1.70      | BLACK HYDROCARB ODOR           |
| 1643 | 82.34 | 18.57                  | 7.08 | -121     | 0.911               | 13.2            | 1.28      | "                              |
| 1648 | 82.34 | 19.12                  | 7.10 | -120     | 0.904               | 4.8             | 1.11      | CLEAR                          |
| 1651 | 82.34 | <del>18.06</del> 19.06 | 7.11 | -118     | 0.894               | 4.3             | 1.26      | "                              |
|      |       |                        |      |          |                     |                 |           |                                |
|      |       |                        |      |          |                     |                 |           |                                |

Sample Identification: T-AR4-1210 Sample Time: 17:00

Fe<sup>2+</sup> Field Screen Result: 2.2mg/L Pump Setting: 205

Final DTW (ft btc): 82.34 Total Vol. Purged (gallons): 4.0

ADDITIONAL COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



## Groundwater Purging and Sampling Form

### GENERAL INFORMATION

Project Name: TIDEWATER Well Identification: MW-8  
Field Team: GLEER PALMER Date: 12-16-10  
Time Arrived at Well: 8:00  
Weather Conditions: P. CLOUDY Temperature (°F): 35°

### PURGE INFORMATION

Initial DTW (ft btc): 83.09 Purge Method: Submersible Pump  
Time Begin Purging: 8:13 Purge Rate/Setting: 203.00 #2

| Time | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor            |
|------|-------|-----------|------|----------|---------------------|-----------------|-----------|-----------------------------------|
| 8:14 | 83.08 | 7.89      | 5.78 | 150      | 0.840               | 692             | 6.83      | BLACK PARTICULATE<br>BROKEN SHEEN |
| 8:19 | 83.08 | 13.00     | 7.10 | -44      | 0.787               | 800*            | 3.30      | CLEARING + BLACK<br>PARTICULATE   |
| 8:24 | 83.08 | 17.37     | 7.45 | -59      | 0.825               | 199             | 3.48      | CLEARING                          |
| 8:29 | 83.08 | 18.60     | 7.55 | -56      | 0.829               | 135             | 3.66      | CLEAR                             |
|      |       |           |      |          |                     |                 |           |                                   |
|      |       |           |      |          |                     |                 |           |                                   |
|      |       |           |      |          |                     |                 |           |                                   |

Sample Identification: T-MW8-1210 Sample Time: 8:40

Fe<sup>2+</sup> Field Screen Result: 1.0 mg/L

Final DTW (ft btc): 83.08 Total Vol. Purged (gallons): 4.0

ADDITIONAL COMMENTS: PETRO ODOR - WEATHERED/DIESEL  
\*FLASHING TURBIDITY



### Groundwater Purging and Sampling Form

#### GENERAL INFORMATION

Project Name: TIDEWATER

Well Identification: MW-7

Field Team: COLEMAN/PALMER

Date: 12-16-10

Time Arrived at Well: 8:50

Weather Conditions: P. CLOUDY

Temperature (°F): 35°

#### PURGE INFORMATION

Initial DTW (ft btc): 81.33

Purge Method: Submersible Pump

Time Begin Purging: 8:55

Purge Rate/Setting: 202.50 Hz

| Time | DTW   | Temp (°C) | pH   | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor            |
|------|-------|-----------|------|----------|---------------------|-----------------|-----------|-----------------------------------|
| 8:56 | 83.15 | 10.03     | 7.84 | 107      | 0.880               | 89.2            | 9.86      | SLIGHT ORANGE COLOR TO WATER      |
| 9:01 | 83.15 | 10.85     | 7.77 | 128      | 0.881               | 60.4            | 5.65      | BECOMING CLEARER NO OBSERVED ODOR |
| 9:06 | 83.15 | 14.22     | 7.70 | 135      | 0.885               | 21.4            | 4.07      | CLEAR                             |
| 9:11 | 83.15 | 16.51     | 7.73 | 135      | 0.883               | 15.6            | 6.60      | "                                 |
| 9:16 | 83.15 | 17.44     | 7.74 | 140      | 0.879               | 12.8            | 6.48      | "                                 |
|      |       |           |      |          |                     |                 |           |                                   |
|      |       |           |      |          |                     |                 |           |                                   |

Sample Identification: T-MW7-1210 Sample Time: 9:20

Fe<sup>2+</sup> Field Screen Result: 0.2 mg/L

Final DTW (ft btc): 83.15

Total Vol. Purged (gallons): 3.0

ADDITIONAL COMMENTS: POSSIBLE VERY SLIGHT ODOR - HARD TO TELL



CH2MHILL

### Groundwater Purging and Sampling Form

#### GENERAL INFORMATION

Project Name: TIDEWATER

Well Identification: AR7

Field Team: COOPER / PALMER

Date: 12-16-10

Time Arrived at Well: 9:45

Weather Conditions: P CLOUDY

Temperature (°F): 40°

#### PURGE INFORMATION

Initial DTW (ft btc): 81.33

Purge Method: Submersible Pump

Time Begin Purging: 9:52

Purge Rate/Setting: \_\_\_\_\_

| Time | DTW | Temp (°C) | pH | ORP (mV) | Conductance (mS/cm) | Turbidity (NTU) | DO (mg/L) | Groundwater Color/Odor |
|------|-----|-----------|----|----------|---------------------|-----------------|-----------|------------------------|
| —    | —   | —         | —  | —        | —                   | —               | —         | —                      |
|      |     |           |    |          |                     |                 |           |                        |
|      |     |           |    |          |                     |                 |           |                        |
|      |     |           |    |          |                     |                 |           |                        |
|      |     |           |    |          |                     |                 |           |                        |
|      |     |           |    |          |                     |                 |           |                        |
|      |     |           |    |          |                     |                 |           |                        |
|      |     |           |    |          |                     |                 |           |                        |

Sample Identification: \_\_\_\_\_ Sample Time: \_\_\_\_\_

Fe<sup>2+</sup> Field Screen Result: \_\_\_\_\_ Pump Setting: \_\_\_\_\_

Final DTW (ft btc): \_\_\_\_\_ Total Vol. Purged (gallons): \_\_\_\_\_

ADDITIONAL COMMENTS: NO SAMPLE - SCREEN OBSERVED DURING  
PURGING. SLIGHT WEATHERED PETRO ODOR