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INCORPORATED

GROUNDWATER AND ENVIRONMENTAL CONSULTANTS
CENTREVILLE, MARYLAND

January 8, 2014

Mr. Dane Bauer
Diversified Building Solutions, LLC
37534 Oliver Drive
Selbyville, DE 19975

**SUBJECT: CRHC – Monthly Post-Remedial Progress Report for December 2013**

Dear Mr. Bauer:

On December 18, 2013, monitoring and recovery wells at the Chester River Hospital Center (CRHC) (see Figure 1) were gauged in accordance with the monitoring modifications detailed in MDE-Oil Control Program's letter dated September 5, 2012. Using an oil/water interface probe, Earth Data personnel gauged 46 onsite wells (see Figure 2) to determine the depth to the water-table and the presence, if any, of liquid hydrocarbons on the surface of the water-table. Using the gauging data, a water-table contour map was prepared showing the groundwater flow direction (see Figure 3).

Following the gauging, eleven wells immediately downgradient of the remediation/containment system were sampled (MW-15, MW-16, MW-19, MW-20, MW-24, MW-33, MW-34, MW-35, MW-48, MW-49 and MW-50. All eleven wells are located in and around the lower parking lot south of Brown Street.

Prior to sampling, each well was purged of at least three well volumes of water to ensure that the sample collected was representative of the water in the surrounding formation. The purge water was filtered through granular activated carbon before being discharged onsite. Using dedicated disposable bailers for each well, groundwater samples were collected in pre-labeled sample containers and immediately placed on ice in a laboratory supplied cooler while in the field. The samples were sent via courier to an EPA-approved laboratory and analyzed for total petroleum hydrocarbons – diesel range organics (TPH-DRO) using EPA Method 8015.

The water-table contour map, prepared with the gauging data collected on December 18, 2013, shows a depression in the upper parking lot (source area) created by the groundwater recovery/containment system which was reactivated on June 14, 2013.

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A measurable thickness of liquid phase hydrocarbon (fuel oil) (0.05') was found on the water-table in recovery well RW-3B during the site visit. No other well showed a detectable thickness of liquid phase hydrocarbons during the December 2013 site visit. However, a petroleum sheen or film was observed on the water-table in nine wells at the site. All nine wells were located north of Brown Street in the source area, i.e. the portion of the site impacted by liquid fuel oil. The Earth Data well gauging report and corresponding field report for the December 18, 2013 site visit may be found in Appendix A.

Of the eleven water samples collected from wells in the lower parking lot south of Brown Street, laboratory analytical results showed detectable concentrations of petroleum hydrocarbons in three wells (MW-20, MW-33 and MW-16) (Table 1). The TPH-DRO concentrations in the MW-20, MW-33 and MW-16 water samples were found to be 2.4 mg/L, 0.30 mg/L and 0.19 mg/L, respectively. No detectable concentrations of TPH-DRO were found in the samples collected from the remaining eight wells. A site map depicting the groundwater quality for the December 2013 sampling event may be found in Figure 4. The December 2013 laboratory analytical report may be found in Appendix B.

Approximately one month after reactivating the groundwater recovery/containment system, the July 2013 sampling showed detectable TPH-DRO concentrations in ten of these wells. By the August sampling, only two wells showed detectable TPH-DRO concentrations.

Copies of this report should be forwarded to MDE and the Town of Chestertown. If you have any question or require additional information, please do not hesitate to call.

Sincerely,

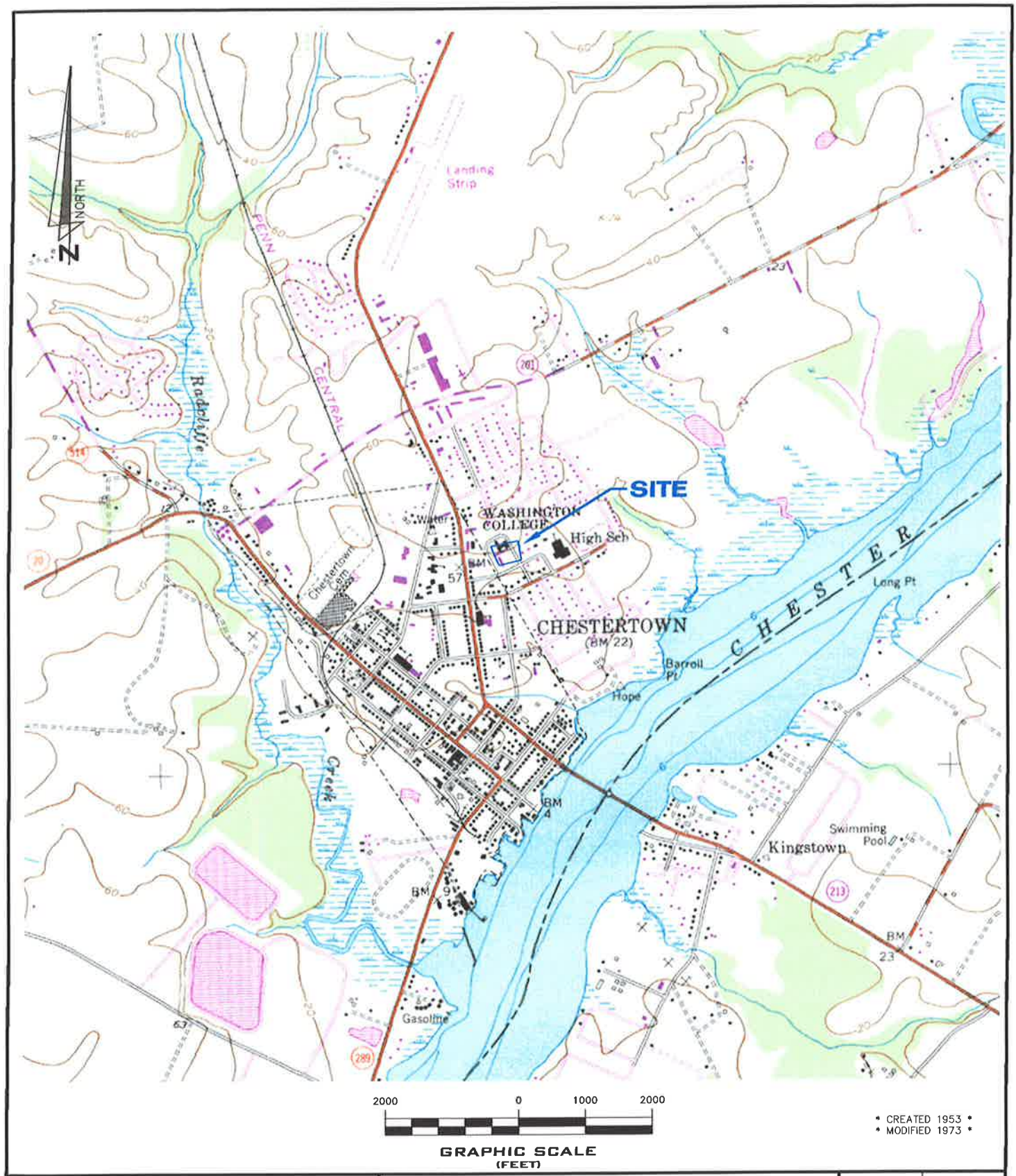
Andrew Bullen
Senior Project Manager

AJB - 2781

cc: Mr. Kunal Gangopadhyay – EBA Engineering
Mr. Mark Williams – Earth Data

Attachments

# FIGURES




J:_Job_Directories\current\2781 Hospital\CAD\Quad\USGS.dwg

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**FIGURE 1**

LOCATION MAP
FOR
**CHESTER RIVER HOSPITAL CENTER**
CHESTERTOWN, MARYLAND

| | |
|---|---|
| PROJ. MGR.: | A.BULLEN |
| DATE: | 10/31/2011 |
| SCALE: | AS SHOWN |
| EDI #: | 2781 |
| DRAWN BY: | T.COCHRUN |

PORTION OF USGS 7.5 MINUTE QUADRANGLE FOR CHESTERTOWN, MARYLAND

Figure 1 – Portion of USGS Quadrangle for Chestertown showing the location of Chester River Hospital Center – Chestertown, Maryland.

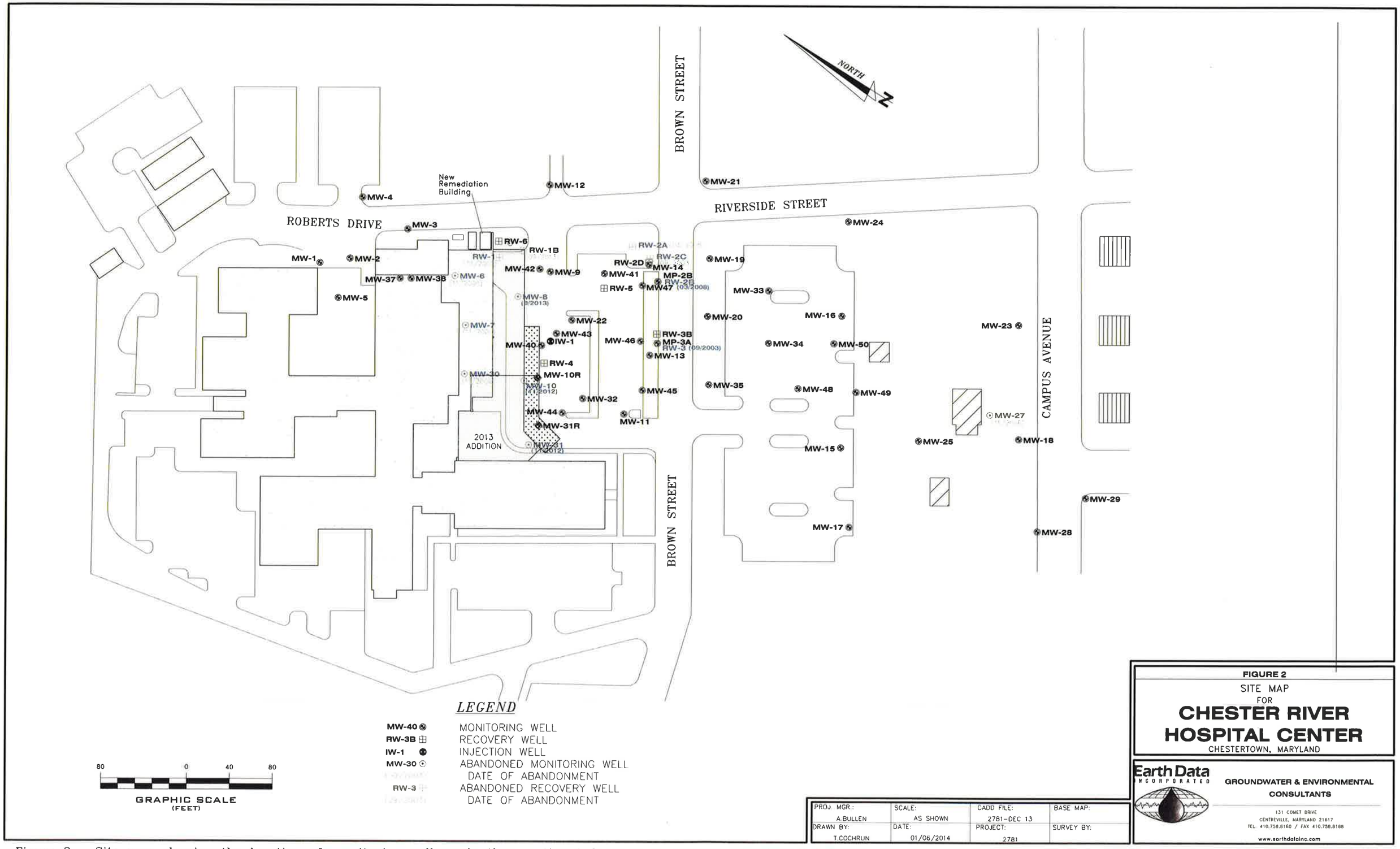


Figure 2 – Site map showing the location of monitoring wells and other pertinent features at Chester River Hospital Center, Chestertown, Maryland.

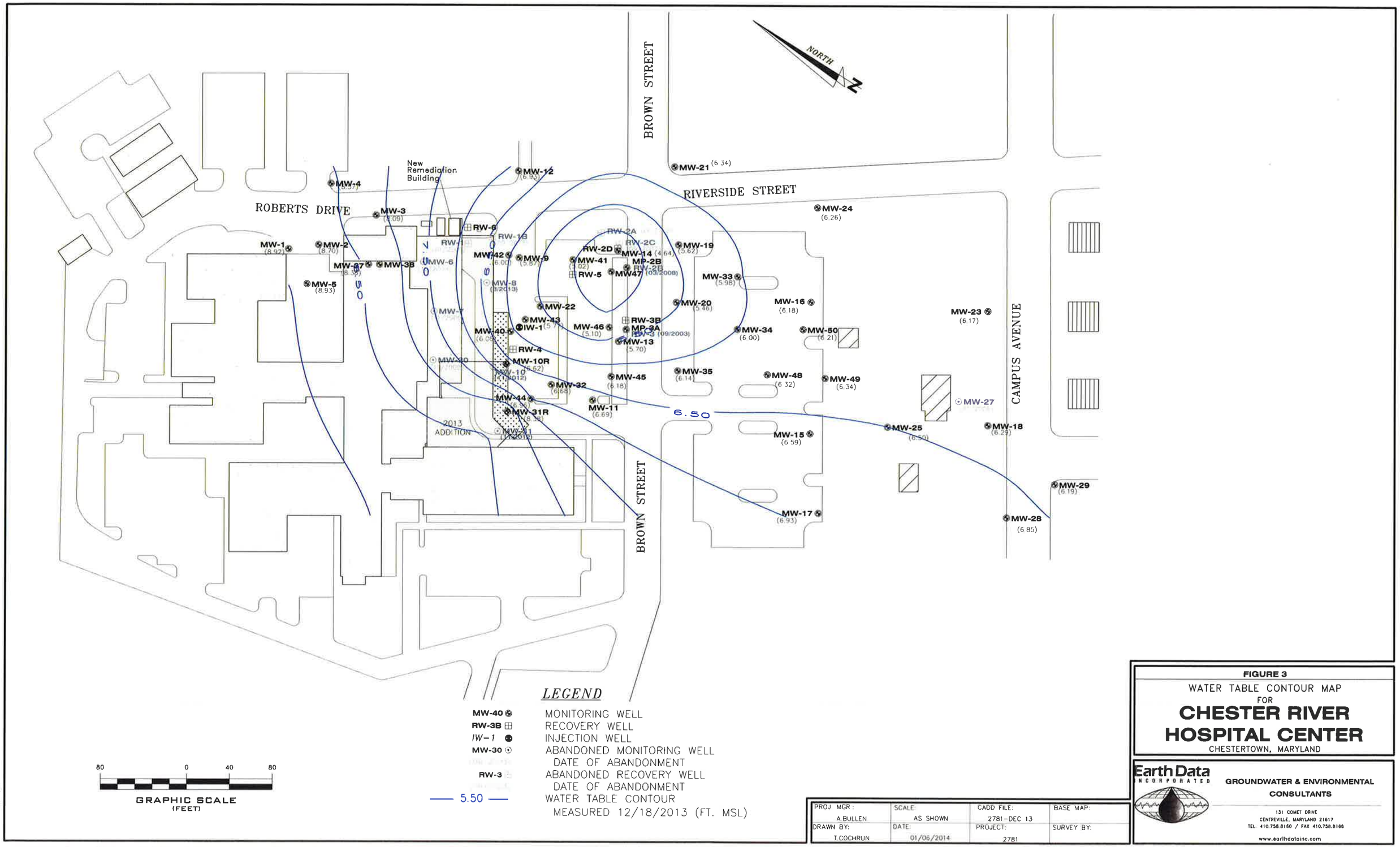


**FIGURE 3**

WATER TABLE CONTOUR MAP FOR

# CHESTER RIVER HOSPITAL CENTER

CHESTERTOWN, MARYLAND

| PROJ MGR: A.BULLEN | SCALE: AS SHOWN | CADD FILE: 2781-DEC 13 | BASE MAP: |
|---|---|---|---|
| DRAWN BY: T.COCHRUN | DATE: 01/06/2014 | PROJECT: 2781 | SURVEY BY: |

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Figure 3 – Water table contour map December 18, 2013 – Chester River Hospital Center, Chestertown, Maryland.

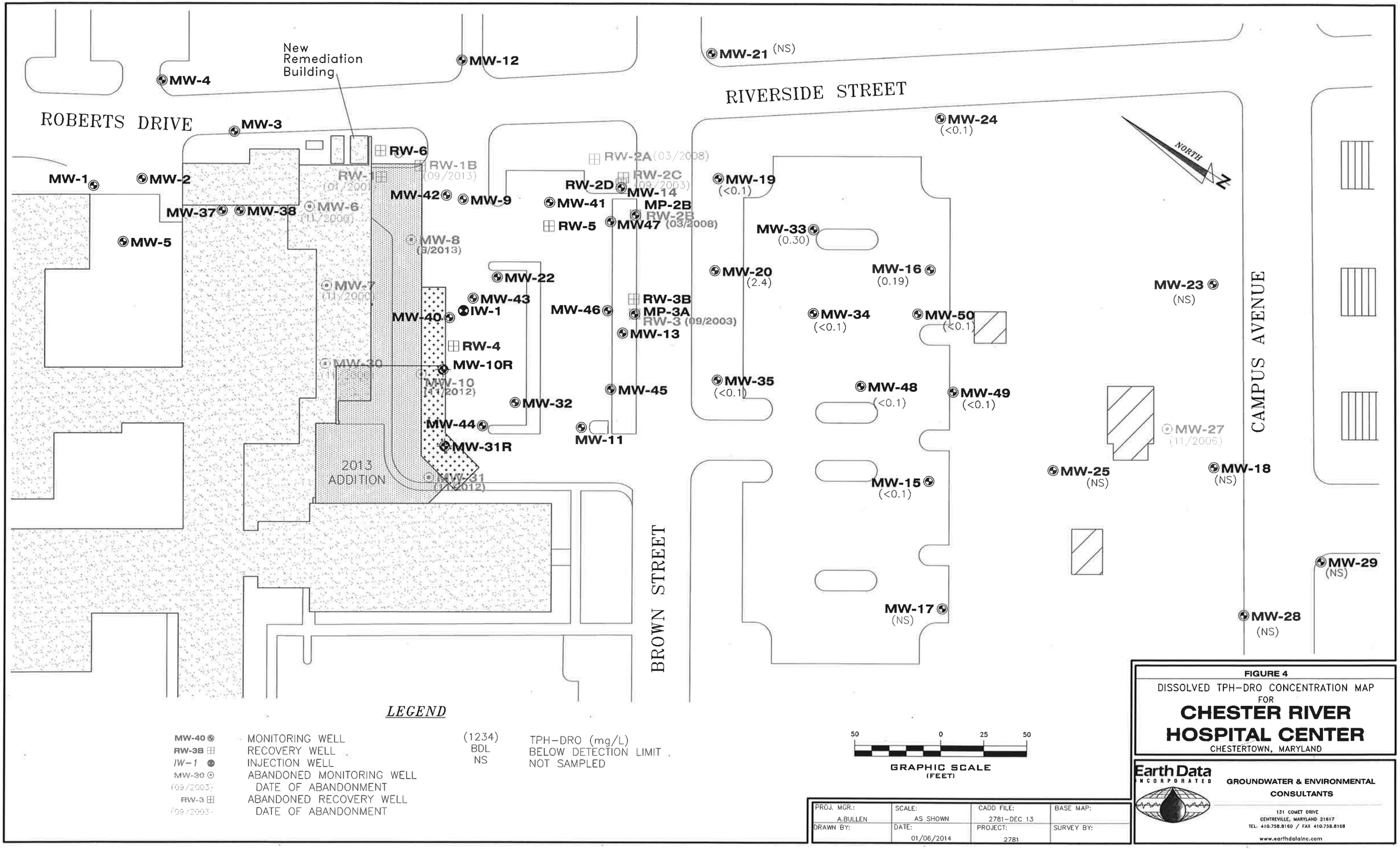


Figure 4– Water quality map showing total petroleum hydrocarbon (TPH) concentrations, December 18, 2013 Chester River Hospital Center, Chestertown, Maryland.

# TABLE

## MW-15

| | 5-Jun-12 | 27-Jul-12 | 5-Sep-12 | 1-Oct-12 | 5-Nov-12 | 4-Dec-12 | 7-Jan-13 | 5-Feb-13 | 4-Mar-13 | 8-Apr-13 | 6-May-13 | 4-Jun-13 | 24-Jul-13 | 21-Aug-13 | 24-Sep-13 | 21-Oct-13 | 19-Nov-13 | 18-Dec-13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | NS | NS | <1 | NS | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Toluene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | NS | NS | <1 | NS | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Ethylbenzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | NS | NS | <1 | NS | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Total Xylenes (ug/L) | <2 | NS | <2 | <2 | <2 | NS | NS | NS | <2 | NS | <2 | <2 | NS | NS | NS | NS | NS | NS |
| TOTAL BTEX (ug/L) | <2 | NS | <2 | <2 | <2 | <2 | NS | NS | <2 | NS | <2 | <2 | NS | NS | NS | NS | NS | NS |
| Isopropylbenzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | NS | NS | <1 | NS | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Naphthalene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | NS | NS | <1 | NS | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Acetone (ug/L) | <10 | NS | <10 | <10 | <10 | <10 | NS | NS | <10 | NS | <10 | <10 | NS | NS | NS | NS | NS | NS |
| Chloroform (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | NS | NS | <1 | NS | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Tetrachloroethene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | NS | NS | <1 | NS | <1 | <1 | NS | NS | NS | NS | NS | NS |
| TPH-DRO (mg/L) | <0.1 | NS | <0.1 | <0.1 | <0.1 | <0.1 | NS | NS | <0.1 | NS | <0.1 | **1.5** | **0.11** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| TPH-GRO (mg/L) | NS | NS | NS | <0.1 | <0.1 | <0.1 | NS | NS | <0.1 | NS | <0.1 | <0.1 | NS | NS | NS | NS | NS | NS |

## MW-16

| | 5-Jun-12 | 27-Jul-12 | 5-Sep-12 | 1-Oct-12 | 5-Nov-12 | 4-Dec-12 | 7-Jan-13 | 5-Feb-13 | 4-Mar-13 | 8-Apr-13 | 6-May-13 | 4-Jun-13 | 24-Jul-13 | 21-Aug-13 | 24-Sep-13 | 21-Oct-13 | 18-Nov-13 | 18-Dec-13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Toluene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Ethylbenzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Total Xylenes (ug/L) | <2 | NS | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| TOTAL BTEX (ug/L) | <2 | NS | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| Isopropylbenzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Naphthalene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Acetone (ug/L) | <10 | NS | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | NS | NS | NS | NS | NS | NS |
| Chloroform (ug/L) | <1 | NS | **1.9** | <1 | <1 | **1.3** | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Tetrachloroethene (ug/L) | <1 | NS | **1.1** | <1 | <1 | **1.1** | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| TPH-DRO (mg/L) | <0.1 | NS | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | **0.18** | <0.1 | <0.1 | **0.19** | **0.21** | <0.1 | <0.1 | <0.1 | <0.1 | **0.19** |
| TPH-GRO (mg/L) | NS | NS | NS | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | NS | NS | NS | NS | NS | NS |

## MW-17

| | 5-Jun-12 | 27-Jul-12 | 5-Sep-12 | 1-Oct-12 | 5-Nov-12 | 4-Dec-12 | 7-Jan-13 | 5-Feb-13 | 4-Mar-13 | 8-Apr-13 | 6-May-13 | 4-Jun-13 | 24-Jul-13 | 21-Aug-13 | 24-Sep-13 | 21-Oct-13 | 19-Nov-13 | 18-Dec-13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene (ug/L) | <1 | NS | <1 | NS | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | NS | NS | NS | NS |
| Toluene (ug/L) | <1 | NS | <1 | NS | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | NS | NS | NS | NS |
| Ethylbenzene (ug/L) | <1 | NS | <1 | NS | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | NS | NS | NS | NS |
| Total Xylenes (ug/L) | <2 | NS | <2 | NS | NS | <2 | NS | NS | <2 | <2 | NS | <2 | NS | NS | NS | NS | NS | NS |
| TOTAL BTEX (ug/L) | <2 | NS | <2 | NS | NS | <2 | NS | NS | <2 | <2 | NS | <2 | NS | NS | NS | NS | NS | NS |
| Isopropylbenzene (ug/L) | <1 | NS | <1 | NS | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | NS | NS | NS | NS |
| Naphthalene (ug/L) | <1 | NS | <1 | NS | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | NS | NS | NS | NS |
| Acetone (ug/L) | <10 | NS | <10 | NS | NS | <10 | NS | NS | <10 | <10 | NS | <10 | NS | NS | NS | NS | NS | NS |
| Chloroform (ug/L) | <1 | NS | <1 | NS | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | NS | NS | NS | NS |
| Tetrachloroethene (ug/L) | <1 | NS | <1 | NS | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | NS | NS | NS | NS |
| TPH-DRO (mg/L) | <0.1 | NS | <0.1 | NS | NS | <0.1 | NS | NS | **1.6** | <0.1 | NS | <0.1 | NS | <0.1 | NS | NS | NS | NS |
| TPH-GRO (mg/L) | NS | NS | NS | NS | NS | <0.1 | NS | NS | <0.1 | <0.1 | NS | <0.1 | NS | NS | NS | NS | NS | NS |

## MW-18

| | 5-Jun-12 | 27-Jul-12 | 5-Sep-12 | 1-Oct-12 | 5-Nov-12 | 4-Dec-12 | 7-Jan-13 | 5-Feb-13 | 4-Mar-13 | 8-Apr-13 | 6-May-13 | 4-Jun-13 | 24-Jul-13 | 21-Aug-13 | 24-Sep-13 | 21-Oct-13 | 18-Nov-13 | 18-Dec-13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene (ug/L) | <1 | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | <1 | NS | NS | NS | NS | NS | NS |
| Toluene (ug/L) | <1 | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | <1 | NS | NS | NS | NS | NS | NS |
| Ethylbenzene (ug/L) | <1 | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | <1 | NS | NS | NS | NS | NS | NS |
| Total Xylenes (ug/L) | <2 | NS | <2 | NS | NS | <2 | <2 | NS | <2 | NS | NS | <2 | NS | NS | NS | NS | NS | NS |
| TOTAL BTEX (ug/L) | <2 | NS | <2 | NS | NS | <2 | <2 | NS | <2 | NS | NS | <2 | NS | NS | NS | NS | NS | NS |
| Isopropylbenzene (ug/L) | <1 | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | <1 | NS | NS | NS | NS | NS | NS |
| Naphthalene (ug/L) | <1 | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | <1 | NS | NS | NS | NS | NS | NS |
| Acetone (ug/L) | <10 | NS | <10 | NS | NS | <10 | <10 | NS | <10 | NS | NS | <10 | NS | NS | NS | NS | NS | NS |
| Chloroform (ug/L) | <1 | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | <1 | NS | NS | NS | NS | NS | NS |
| Tetrachloroethene (ug/L) | <1 | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | <1 | NS | NS | NS | NS | NS | NS |
| TPH-DRO (mg/L) | <0.1 | NS | <0.1 | NS | NS | **0.23** | <0.1 | NS | <0.1 | NS | NS | <0.1 | NS | <0.1 | NS | NS | NS | NS |
| TPH-GRO (mg/L) | NS | NS | NS | NS | NS | <0.1 | <0.1 | NS | <0.1 | NS | NS | <0.1 | NS | NS | NS | NS | NS | NS |

## MW-19

| | 5-Jun-12 | 27-Jul-12 | 5-Sep-12 | 1-Oct-12 | 5-Nov-12 | 4-Dec-12 | 7-Jan-13 | 5-Feb-13 | 4-Mar-13 | 8-Apr-13 | 6-May-13 | 4-Jun-13 | 24-Jul-13 | 21-Aug-13 | 24-Sep-13 | 21-Oct-13 | 18-Nov-13 | 18-Dec-13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Toluene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Ethylbenzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Total Xylenes (ug/L) | <2 | NS | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| TOTAL BTEX (ug/L) | <2 | NS | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| Isopropylbenzene (ug/L) | <1 | NS | <1 | <1 | <1 | **1.1** | **2.0** | <1 | **1.7** | <1 | <1 | **1.2** | NS | NS | NS | NS | NS | NS |
| Naphthalene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | **5.1** | <1 | **1.0** | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Acetone (ug/L) | <10 | NS | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | NS | NS | NS | NS | NS | NS |
| Chloroform (ug/L) | <1 | NS | <1 | <1 | **2.8** | **1.8** | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Tetrachloroethene (ug/L) | <1 | NS | <1 | **1.1** | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| TPH-DRO (mg/L) | <0.1 | NS | <0.1 | <0.1 | <0.1 | **0.89** | <0.1 | **0.17** | **0.13** | **1.3** | **0.13** | **0.36** | **0.14** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| TPH-GRO (mg/L) | NS | NS | NS | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | NS | NS | NS | NS | NS | NS |

## MW-20

| | 5-Jun-12 | 27-Jul-12 | 5-Sep-12 | 1-Oct-12 | 5-Nov-12 | 4-Dec-12 | 7-Jan-13 | 5-Feb-13 | 4-Mar-13 | 8-Apr-13 | 6-May-13 | 4-Jun-13 | 24-Jul-13 | 21-Aug-13 | 24-Sep-13 | 21-Oct-13 | 18-Nov-13 | 18-Dec-13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene (ug/L) | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Toluene (ug/L) | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Ethylbenzene (ug/L) | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Total Xylenes (ug/L) | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| TOTAL BTEX (ug/L) | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| Isopropylbenzene (ug/L) | <1 | <1 | <1 | **2.2** | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Naphthalene (ug/L) | <1 | <1 | <1 | <1 | <1 | <1 | **2.2** | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Acetone (ug/L) | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | NS | NS | NS | NS | NS | NS |
| Chloroform (ug/L) | <1 | <1 | **1.5** | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Tetrachloroethene (ug/L) | <1 | <1 | **1.2** | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| TPH-DRO (mg/L) | **1.3** | **1.9** | **1.8** | **4.0** | **2.5** | **1.9** | **0.68** | **0.95** | **2.2** | **1.0** | **1.8** | **1.8** | **2.2** | **2.0** | **1.1** | **2.4** | **2.8** | **2.4** |
| TPH-GRO (mg/L) | NS | NS | NS | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | NS | NS | NS | NS | NS | NS |

## MW-23

| | 5-Jun-12 | 27-Jul-12 | 5-Sep-12 | 1-Oct-12 | 5-Nov-12 | 4-Dec-12 | 7-Jan-13 | 5-Feb-13 | 4-Mar-13 | 8-Apr-13 | 6-May-13 | 4-Jun-13 | 24-Jul-13 | 21-Aug-13 | 24-Sep-13 | 21-Oct-13 | 18-Nov-13 | 18-Dec-13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene (ug/L) | <1 | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | <1 | NS | NS | NS | NS | NS | NS |
| Toluene (ug/L) | <1 | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | <1 | NS | NS | NS | NS | NS | NS |
| Ethylbenzene (ug/L) | <1 | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | <1 | NS | NS | NS | NS | NS | NS |
| Total Xylenes (ug/L) | <2 | NS | <2 | NS | NS | <2 | <2 | NS | <2 | NS | NS | <2 | NS | NS | NS | NS | NS | NS |
| TOTAL BTEX (ug/L) | <2 | NS | <2 | NS | NS | <2 | <2 | NS | <2 | NS | NS | <2 | NS | NS | NS | NS | NS | NS |
| Isopropylbenzene (ug/L) | <1 | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | <1 | NS | NS | NS | NS | NS | NS |
| Naphthalene (ug/L) | <1 | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | <1 | NS | NS | NS | NS | NS | NS |
| Acetone (ug/L) | <10 | NS | <10 | NS | NS | <10 | <10 | NS | <10 | NS | NS | <10 | NS | NS | NS | NS | NS | NS |
| Chloroform (ug/L) | <1 | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | <1 | NS | NS | NS | NS | NS | NS |
| Tetrachloroethene (ug/L) | <1 | NS | <1 | NS | NS | <1 | <1 | NS | <1 | NS | NS | <1 | NS | NS | NS | NS | NS | NS |
| TPH-DRO (mg/L) | <0.1 | NS | <0.1 | NS | NS | **11** | <0.1 | NS | <0.1 | NS | NS | <0.1 | NS | <0.1 | NS | NS | NS | NS |
| TPH-GRO (mg/L) | NS | NS | NS | NS | NS | <0.1 | <0.1 | NS | <0.1 | NS | NS | <0.1 | NS | NS | NS | NS | NS | NS |

## MW-24

| | 5-Jun-12 | 27-Jul-12 | 5-Sep-12 | 1-Oct-12 | 5-Nov-12 | 4-Dec-12 | 7-Jan-13 | 5-Feb-13 | 4-Mar-13 | 8-Apr-13 | 6-May-13 | 4-Jun-13 | 24-Jul-13 | 21-Aug-13 | 24-Sep-13 | 21-Oct-13 | 18-Nov-13 | 18-Dec-13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Toluene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Ethylbenzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Total Xylenes (ug/L) | <2 | NS | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| TOTAL BTEX (ug/L) | <2 | NS | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| Isopropylbenzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Naphthalene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Acetone (ug/L) | <10 | NS | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | NS | NS | NS | NS | NS | NS |
| Chloroform (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Tetrachloroethene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | **1.1** | <1 | <1 | NS | NS | NS | NS | NS | NS |
| TPH-DRO (mg/L) | <0.1 | NS | <0.1 | <0.1 | <0.1 | **0.25** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | **0.11** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| TPH-GRO (mg/L) | NS | NS | NS | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | NS | NS | NS | NS | NS | NS |

## MW-33

| | 5-Jun-12 | 27-Jul-12 | 5-Sep-12 | 1-Oct-12 | 5-Nov-12 | 4-Dec-12 | 7-Jan-13 | 5-Feb-13 | 4-Mar-13 | 8-Apr-13 | 6-May-13 | 4-Jun-13 | 24-Jul-13 | 21-Aug-13 | 24-Sep-13 | 21-Oct-13 | 18-Nov-13 | 18-Dec-13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Toluene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Ethylbenzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Total Xylenes (ug/L) | <2 | NS | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| TOTAL BTEX (ug/L) | <2 | NS | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| Isopropylbenzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Naphthalene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Acetone (ug/L) | <10 | NS | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | NS | NS | NS | NS | NS | NS |
| Chloroform (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Tetrachloroethene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| TPH-DRO (mg/L) | <0.1 | NS | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | **0.11** | <0.1 | **0.31** | <0.1 | **0.17** | <0.1 | **0.24** | **0.30** |
| TPH-GRO (mg/L) | NS | NS | NS | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | NS | NS | NS | NS | NS | NS |

## MW-34

| | 5-Jun-12 | 27-Jul-12 | 5-Sep-12 | 1-Oct-12 | 5-Nov-12 | 4-Dec-12 | 7-Jan-13 | 5-Feb-13 | 4-Mar-13 | 8-Apr-13 | 6-May-13 | 4-Jun-13 | 24-Jul-13 | 21-Aug-13 | 24-Sep-13 | 21-Oct-13 | 18-Nov-13 | 18-Dec-13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene (ug/L) | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Toluene (ug/L) | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Ethylbenzene (ug/L) | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Total Xylenes (ug/L) | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| TOTAL BTEX (ug/L) | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| Isopropylbenzene (ug/L) | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Naphthalene (ug/L) | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Acetone (ug/L) | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | NS | NS | NS | NS | NS | NS |
| Chloroform (ug/L) | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Tetrachloroethene (ug/L) | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| TPH-DRO (mg/L) | **0.14** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | **0.14** | **0.25** | **0.13** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| TPH-GRO (mg/L) | NS | NS | NS | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | NS | NS | NS | NS | NS | NS |

## MW-35

| | 5-Jun-12 | 27-Jul-12 | 5-Sep-12 | 1-Oct-12 | 5-Nov-12 | 4-Dec-12 | 7-Jan-13 | 5-Feb-13 | 4-Mar-13 | 8-Apr-13 | 6-May-13 | 4-Jun-13 | 24-Jul-13 | 21-Aug-13 | 24-Sep-13 | 21-Oct-13 | 18-Nov-13 | 18-Dec-13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Toluene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Ethylbenzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Total Xylenes (ug/L) | <2 | NS | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| TOTAL BTEX (ug/L) | <2 | NS | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| Isopropylbenzene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Naphthalene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Acetone (ug/L) | <10 | NS | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | NS | NS | NS | NS | NS | NS |
| Chloroform (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Tetrachloroethene (ug/L) | <1 | NS | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| TPH-DRO (mg/L) | <0.1 | NS | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | **0.16** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| TPH-GRO (mg/L) | NS | NS | NS | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | NS | NS | NS | NS | NS | NS |

## MW-48

| | 8-Apr-13 | 6-May-13 | 3-Jun-13 | 24-Jul-13 | 21-Aug-13 | 24-Sep-13 | 21-Oct-13 | 18-Nov-13 | 18-Dec-13 |
|---|---|---|---|---|---|---|---|---|---|
| Benzene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Toluene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Ethylbenzene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Total Xylenes (ug/L) | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| TOTAL BTEX (ug/L) | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| Isopropylbenzene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Naphthalene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Acetone (ug/L) | <10 | <10 | <10 | NS | NS | NS | NS | NS | NS |
| Chloroform (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Tetrachloroethene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| TPH-DRO (mg/L) | <0.1 | <0.1 | <0.1 | **0.11** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| TPH-GRO (mg/L) | <0.1 | <0.1 | <0.1 | NS | NS | NS | NS | NS | NS |

## MW-49

| | 8-Apr-13 | 6-May-13 | 3-Jun-13 | 24-Jul-13 | 21-Aug-13 | 24-Sep-13 | 21-Oct-13 | 18-Nov-13 | 18-Dec-13 |
|---|---|---|---|---|---|---|---|---|---|
| Benzene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Toluene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Ethylbenzene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Total Xylenes (ug/L) | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| TOTAL BTEX (ug/L) | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| Isopropylbenzene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Naphthalene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Acetone (ug/L) | <10 | <10 | <10 | NS | NS | NS | NS | NS | NS |
| Chloroform (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Tetrachloroethene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| TPH-DRO (mg/L) | <0.1 | <0.1 | **0.22** | **0.11** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| TPH-GRO (mg/L) | <0.1 | <0.1 | <0.1 | NS | NS | NS | NS | NS | NS |

## MW-50

| | 8-Apr-13 | 6-May-13 | 3-Jun-13 | 24-Jul-13 | 21-Aug-13 | 24-Sep-13 | 21-Oct-13 | 18-Nov-13 | 18-Dec-13 |
|---|---|---|---|---|---|---|---|---|---|
| Benzene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Toluene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Ethylbenzene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Total Xylenes (ug/L) | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| TOTAL BTEX (ug/L) | <2 | <2 | <2 | NS | NS | NS | NS | NS | NS |
| Isopropylbenzene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Naphthalene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Acetone (ug/L) | <10 | <10 | <10 | NS | NS | NS | NS | NS | NS |
| Chloroform (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| Tetrachloroethene (ug/L) | <1 | <1 | <1 | NS | NS | NS | NS | NS | NS |
| TPH-DRO (mg/L) | <0.1 | <0.1 | **0.35** | **0.11** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| TPH-GRO (mg/L) | <0.1 | <0.1 | <0.1 | NS | NS | NS | NS | NS | NS |

Table 1. Summary of water quality data for selected downgradient monitoring wells at Chester River Hospital Center, Chestertown, Maryland.

# APPENDIX A

## Well Gauging Reports
## &
## Field Reports

## PETROLEUM PRODUCT / WATER - LEVEL DATA SHEET

W.O. #: 2781

PROJECT: Chester River Hospital Center
LOCATION: Chestertown, Maryland

DATE: 18-Dec-2013
WEATHER: 35 F
COLLECTED BY: RB, TT
ENTERED BY: TC

Type product: Fuel oil
Petro correction factor: 0.80

| Monitoring Point | Description of Measuring Point (ft msl) | Measuring Point Elevation (ft) | Product Depth (ft) | Water Depth (ft) | Product Thickness (ft) | Fluid Level Elevation (ft msl) | Corrected Water Elevation (ft msl) | Estimated Amount Product Recovered (gal) / NOTES: |
|---|---|---|---|---|---|---|---|---|
| MW-1 | Lip of Casing | 57.05 | | 48.13 | | 8.92 | 8.92 | |
| MW-2 | Lip of Casing | 56.37 | | 47.67 | | 8.70 | 8.70 | |
| MW-3 | Lip of Casing | 50.55 | | 42.46 | | 8.09 | 8.09 | |
| MW-4 | Lip of Casing | 53.40 | | 44.83 | | 8.57 | 8.57 | |
| MW-5 | Lip of Casing | 61.08 | | 52.15 | | 8.93 | 8.93 | |
| MW-6 | Lip of Casing | ------- | ------- | --- | ------- | ------- | ------- | well destroyed in building expansion Nov 2000 |
| MW-7 | Lip of Casing | ------- | ------- | --- | ------- | ------- | ------- | well destroyed in building expansion Nov 2000 |
| MW-8 | Lip of Casing | ------- | ------- | --- | ------- | ------- | ------- | well abandoned Jul 2013 |
| MW-9 | Lip of Casing | 46.10 | | 40.23 | | 5.87 | 5.87 | |
| MW-10 | Lip of Casing | ------- | ------- | --- | ------- | ------- | ------- | well abandoned Nov 2012 |
| MW-10R | Lip of Casing | 48.70 | | 42.08 | | 6.62 | 6.62 | |
| MW-11 | Lip of Casing | 41.49 | | 34.80 | | 6.69 | 6.69 | |
| MW-12 | Lip of Casing | 44.46 | | 37.53 | | 6.93 | 6.93 | |
| MW-13 | Lip of Casing | 41.70 | | 36.23 | | 5.47 | 5.47 | |
| MW-14 | Lip of Casing | 41.38 | | 37.02 | | 4.36 | 4.36 | |
| MW-15 | Lip of Casing | 35.01 | | 28.42 | | 6.59 | 6.59 | sampled |
| MW-16 | Lip of Casing | 35.55 | | 29.37 | | 6.18 | 6.18 | sampled |
| MW-17 | Lip of Casing | 35.49 | | 28.56 | | 6.93 | 6.93 | |
| MW-18 | Lip of Casing | 35.82 | | 29.53 | | 6.29 | 6.29 | |
| MW-19 | Lip of Casing | 38.85 | | 33.23 | | 5.62 | 5.62 | sampled |
| MW-20 | Lip of Casing | 38.72 | | 33.26 | | 5.46 | 5.46 | sampled |
| MW-21 | Lip of Casing | 38.55 | | 32.21 | | 6.34 | 6.34 | |
| MW-22 | Lip of Casing | 47.04 | | 44.96 | | 2.08 | 2.08 | SHEEN |
| MW-23 | Lip of Casing | 35.95 | | 29.78 | | 6.17 | 6.17 | |
| MW-24 | Lip of Casing | 36.56 | | 30.30 | | 6.26 | 6.26 | sampled |
| MW-25 | Lip of Casing | 36.10 | | 29.60 | | 6.50 | 6.50 | |
| MW-27 | Lip of Casing | ------- | ------- | --- | ------- | ------- | ------- | well abandoned Nov 2006 |
| MW-28 | Lip of Casing | 35.90 | | 29.05 | | 6.85 | 6.85 | |
| MW-29 | Lip of Casing | 35.15 | | 28.96 | | 6.19 | 6.19 | |
| MW-30 | Lip of Casing | ------- | ------- | --- | ------- | ------- | ------- | well destroyed in building expansion Nov 2000 |
| MW-31 | Lip of Casing | ------- | ------- | --- | ------- | ------- | ------- | well abandoned Nov 2012 |
| MW-31R | Lip of Casing | 47.40 | | 39.02 | | 8.38 | 8.38 | |
| MW-32 | Lip of Casing | 47.41 | | 40.73 | | 6.68 | 6.68 | |
| MW-33 | Lip of Casing | 36.52 | | 30.54 | | 5.98 | 5.98 | sampled |
| MW-34 | Lip of Casing | 36.64 | | 30.64 | | 6.00 | 6.00 | sampled |
| MW-35 | Lip of Casing | 38.62 | | 32.48 | | 6.14 | 6.14 | sampled |
| MW-37 | Lip of Casing | 50.54 | | 42.35 | | 8.19 | 8.19 | FILM |
| MW-38 | Lip of Casing | ------- | ------- | --- | ------- | ------- | ------- | pump stuck in well - not able to gauge |
| RW-1B | Lip of Casing | ------- | ------- | --- | ------- | ------- | ------- | well abandoned Sep 2013 |
| RW-2D | Lip of Casing | 40.54 | | 43.28 | | -2.74 | -2.74 | FILM |
| RW-3B | Lip of Casing | 39.45 | 40.95 | 41.00 | 0.05 | -1.50 | -1.51 | |
| MW-40 | Lip of Casing | 48.69 | | 42.63 | | 6.06 | 6.06 | SHEEN |
| MW-41 | Lip of Casing | 42.92 | | 37.90 | | 5.02 | 5.02 | FILM |
| RW-4 | Lip of Casing | 48.18 | | 45.56 | | 2.62 | 2.62 | FILM |
| RW-5 | Lip of Casing | 43.34 | | 42.48 | | 0.86 | 0.86 | FILM |
| RW-6 | Lip of Casing | 47.22 | | 47.55 | | -0.33 | -0.33 | |
| RW-2A | Lip of Casing | ------- | ------- | | ------- | ------- | ------- | well abandoned Mar 2008 |
| RW-2B | Lip of Casing | ------- | ------- | | ------- | ------- | ------- | well abandoned Mar 2008 |
| MP-2B | Lip of Casing | ------- | | 34.84 | | ------- | ------- | |
| RW-2C | Lip of Casing | ------- | ------- | | ------- | ------- | ------- | well abandoned Sep 2003 |
| RW-3A | Lip of Casing | ------- | ------- | | ------- | ------- | ------- | well abandoned Sep 2003 |
| MP-3A | Lip of Casing | ------- | | 34.59 | | ------- | ------- | SHEEN |
| MW-42 | Lip of Casing | 46.15 | | 40.15 | | 6.00 | 6.00 | |
| MW-43 | Lip of Casing | 47.90 | | 42.13 | | 5.77 | 5.77 | |
| MW-44 | Lip of Casing | 47.20 | | 40.24 | | 6.96 | 6.96 | |
| MW-45 | Lip of Casing | 40.91 | | 34.73 | | 6.18 | 6.18 | |
| MW-46 | Lip of Casing | 41.08 | | 36.15 | | ------- | ------- | FILM |
| MW-47 | Lip of Casing | 40.74 | | -- | | ------- | ------- | UNDER CONSTRUCTIN EQUIPMENT |
| MW-48 | Lip of Casing | 36.22 | | 29.90 | | 6.32 | 6.32 | sampled |
| MW-49 | Lip of Casing | 35.49 | | 29.15 | | 6.34 | 6.34 | sampled |
| MW-50 | Lip of Casing | 35.64 | | 29.43 | | 6.21 | 6.21 | sampled |
| IW-1 | Lip of Casing | ------- | | -- | | ------- | ------- | NO ACCESS - NOT GUAGED |

| | | | |
|---|---|---|---|
| Project Name: | **Chester River Hospital Center** | Date: | **18-Nov-2013** |
| Project #: | **2781** | Time on - site: | **8:30 AM** |
| Location: | **Chestertown, Maryland** | Weather: | **60 F** |
| Personnel present at site: | **TL, RB** | Vehicle: | **98 Ranger** |

| **Reason for site visit:** | yes | no | |
|---|---|---|---|
| Surveying | ☐ | ☑ | monthly sampling of 11 wells south of Brown St |
| Monitoring | ☑ | ☐ | |
| Sampling | ☑ | ☐ | |
| Other | ☐ | ☑ | |
| Recovery system maintenance | ☑ | ☐ | |
| Recovery system repair | ☐ | ☑ | |

| Scheduled Activities | Checklist | yes | no | n/a | Exceptions (with explanation and comments) |
|---|---|---|---|---|---|
| **Routine Monitoring** | Measured water & petroleum levels | ☑ | ☐ | ☐ | |
| | Pumped petroleum from wells | ☐ | ☑ | ☐ | |
| | Emptied petro trap | ☐ | ☐ | ☑ | |
| | Installed, replaced, or inspected wics | ☑ | ☐ | ☐ | |
| | Measured and recorded system data | ☑ | ☐ | ☐ | |
| | Surveyed well elevations | ☐ | ☑ | ☐ | |
| | Inspected system discharge at storm drain | ☑ | ☐ | ☐ | |
| **Sampling** | Groundwater sampling(note which wells were sampled on petro form) | ☑ | ☐ | ☐ | 11 wells south of Brown Street and system discharge |
| | Petroleum sampling(note which wells were sampled on petro form) | ☐ | ☑ | ☐ | |
| | Soil sampling | ☐ | ☑ | ☐ | |
| | Vapor system sampling | ☐ | ☐ | ☑ | |
| | Collected sample(s) in lab bottle(s) & chilled | ☑ | ☐ | ☐ | |
| | Filled out labels and chain-of-custody | ☑ | ☐ | ☐ | |
| **Other Activities** | Recorded amount recovered | ☐ | ☐ | ☑ | |
| | Completed site sketch | ☐ | ☐ | ☑ | |
| | Recovery system repair | ☐ | ☑ | ☐ | |
| | Completed materials and equipment form | ☑ | ☐ | ☐ | |

**Comments Observations**

Gauged all wells and checked system
Absorbent wic in MP-2B saturated - removed (0.1 gal product recovered)
Replaced bag filters

Monthly sampling of 11 downgradient wells for TPH-DRO; also sampled system discharge
MW-15 could not be accessed because it was covered by a vehicle; personnel returned to the site on 19 Nov 2013, when this well was gauged and sampled

# APPENDIX B

## Laboratory Analytical Reports

# Analytical Report for

## Earth Data, Inc

## Certificate of Analysis No.: 13121922

**Project Manager: Andrew Bullen**
**Project Name : Chester River Hospital Center**
**Project Location: Chestertown, Maryland**
**Project ID : 2781**

**December 30, 2013**

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**
**Phone: (410) 747-8770**
**Fax: (410) 788-8723**

**OFFICES:**
**6630 BALTIMORE NATIONAL PIKE**
**ROUTE 40 WEST**
**BALTIMORE, MD 21228**
**410-747-8770**
**800-932-9047**
**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

December 30, 2013

**Andrew Bullen**
**Earth Data, Inc**
131 Comet Drive
Centerville, MD 21617

Reference: PSS Work Order(s) No: **13121922**
Project Name: Chester River Hospital Center
Project Location: Chestertown, Maryland
Project ID.: 2781

Dear Andrew Bullen :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **13121922**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on January 23, 2014. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal

**Dan Prucnal**
Laboratory Manager

# Sample Summary

## Client Name: Earth Data, Inc

## Project Name: Chester River Hospital Center

**Work Order Number(s):** **13121922**

**Project ID: 2781**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 12/19/2013 at 05:15 pm

| Lab Sample Id | Sample Id | Matrix | Date/Time Collected |
|---|---|---|---|
| 13121922-001 | MW-15 | GROUND WATER | 12/18/13 15:40 |
| 13121922-002 | MW-16 | GROUND WATER | 12/18/13 12:48 |
| 13121922-003 | MW-19 | GROUND WATER | 12/18/13 13:59 |
| 13121922-004 | MW-20 | GROUND WATER | 12/18/13 14:17 |
| 13121922-005 | MW-24 | GROUND WATER | 12/18/13 12:21 |
| 13121922-006 | MW-33 | GROUND WATER | 12/18/13 13:02 |
| 13121922-007 | MW-34 | GROUND WATER | 12/18/13 13:18 |
| 13121922-008 | MW-35 | GROUND WATER | 12/18/13 13:45 |
| 13121922-009 | MW-48 | GROUND WATER | 12/18/13 14:36 |
| 13121922-010 | MW-49 | GROUND WATER | 12/18/13 15:01 |
| 13121922-011 | MW-50 | GROUND WATER | 12/18/13 15:17 |
| 13121922-012 | System Discharge | GROUND WATER | 12/18/13 15:30 |

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. The following analytical results are never reported on a dry weight basis: pH, flashpoint, moisture and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for non-potable water samples tested for compliance for Virginia Pollution Discharge Elimination System (VDPES) permits and Virginia Pollutant Abatement (VPA) permits, have a maximum holding time of 15 minutes established by 40CFR136.3.
6. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.

**Standard Flags/Abbreviations:**

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C Results Pending Final Confirmation.
E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J The target analyte was positively identified below the reporting limit but greater than the LOD.
LOD Limit of Detection. An estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte and matrix specific.
ND Not Detected at or above the reporting limit.
RL PSS Reporting Limit.
U Not detected.

# Sample Summary

## Client Name: Earth Data, Inc

## Project Name: Chester River Hospital Center

**Work Order Number(s): 13121922**

**Certifications:**

NELAP Certifications: PA 68-03330, VA 2200
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBA MWAA LD1997-0041-2015

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13121922
**Earth Data, Inc, Centerville, MD**
December 30, 2013

Project Name: Chester River Hospital Center
Project Location: Chestertown, Maryland
Project ID: 2781

**Sample ID: MW-15** **Date/Time Sampled: 12/18/2013 15:40** **PSS Sample ID: 13121922-001**
**Matrix: GROUND WATER** **Date/Time Received: 12/19/2013 17:15**

Total Petroleum Hydrocarbons - DRO Analytical Method: SW-846 8015 C Preparation Method: 3510C

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/L | 0.10 | | 1 | 12/20/13 | 12/21/13 21:31 | 1040 |

**Sample ID: MW-16** **Date/Time Sampled: 12/18/2013 12:48** **PSS Sample ID: 13121922-002**
**Matrix: GROUND WATER** **Date/Time Received: 12/19/2013 17:15**

Total Petroleum Hydrocarbons - DRO Analytical Method: SW-846 8015 C Preparation Method: 3510C

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **0.19** | mg/L | 0.10 | | 1 | 12/20/13 | 12/21/13 21:53 | 1040 |

**Sample ID: MW-19** **Date/Time Sampled: 12/18/2013 13:59** **PSS Sample ID: 13121922-003**
**Matrix: GROUND WATER** **Date/Time Received: 12/19/2013 17:15**

Total Petroleum Hydrocarbons - DRO Analytical Method: SW-846 8015 C Preparation Method: 3510C

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/L | 0.10 | | 1 | 12/20/13 | 12/21/13 22:15 | 1040 |

**Sample ID: MW-20** **Date/Time Sampled: 12/18/2013 14:17** **PSS Sample ID: 13121922-004**
**Matrix: GROUND WATER** **Date/Time Received: 12/19/2013 17:15**

Total Petroleum Hydrocarbons - DRO Analytical Method: SW-846 8015 C Preparation Method: 3510C

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **2.4** | mg/L | 0.10 | | 1 | 12/20/13 | 12/21/13 22:15 | 1040 |

**Sample ID: MW-24** **Date/Time Sampled: 12/18/2013 12:21** **PSS Sample ID: 13121922-005**
**Matrix: GROUND WATER** **Date/Time Received: 12/19/2013 17:15**

Total Petroleum Hydrocarbons - DRO Analytical Method: SW-846 8015 C Preparation Method: 3510C

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/L | 0.10 | | 1 | 12/20/13 | 12/21/13 22:38 | 1040 |

**Sample ID: MW-33** **Date/Time Sampled: 12/18/2013 13:02** **PSS Sample ID: 13121922-006**
**Matrix: GROUND WATER** **Date/Time Received: 12/19/2013 17:15**

Total Petroleum Hydrocarbons - DRO Analytical Method: SW-846 8015 C Preparation Method: 3510C

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **0.30** | mg/L | 0.10 | | 1 | 12/20/13 | 12/21/13 22:38 | 1040 |

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13121922
**Earth Data, Inc, Centerville, MD**
December 30, 2013

Project Name: Chester River Hospital Center
Project Location: Chestertown, Maryland
Project ID: 2781

**Sample ID: MW-34** **Date/Time Sampled: 12/18/2013 13:18** **PSS Sample ID: 13121922-007**
**Matrix: GROUND WATER** **Date/Time Received: 12/19/2013 17:15**

Total Petroleum Hydrocarbons - DRO Analytical Method: SW-846 8015 C Preparation Method: 3510C

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/L | 0.10 | | 1 | 12/20/13 | 12/21/13 23:00 | 1040 |

**Sample ID: MW-35** **Date/Time Sampled: 12/18/2013 13:45** **PSS Sample ID: 13121922-008**
**Matrix: GROUND WATER** **Date/Time Received: 12/19/2013 17:15**

Total Petroleum Hydrocarbons - DRO Analytical Method: SW-846 8015 C Preparation Method: 3510C

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/L | 0.10 | | 1 | 12/20/13 | 12/21/13 23:00 | 1040 |

**Sample ID: MW-48** **Date/Time Sampled: 12/18/2013 14:36** **PSS Sample ID: 13121922-009**
**Matrix: GROUND WATER** **Date/Time Received: 12/19/2013 17:15**

Total Petroleum Hydrocarbons - DRO Analytical Method: SW-846 8015 C Preparation Method: 3510C

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/L | 0.10 | | 1 | 12/20/13 | 12/21/13 23:21 | 1040 |

**Sample ID: MW-49** **Date/Time Sampled: 12/18/2013 15:01** **PSS Sample ID: 13121922-010**
**Matrix: GROUND WATER** **Date/Time Received: 12/19/2013 17:15**

Total Petroleum Hydrocarbons - DRO Analytical Method: SW-846 8015 C Preparation Method: 3510C

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/L | 0.10 | | 1 | 12/20/13 | 12/21/13 23:21 | 1040 |

**Sample ID: MW-50** **Date/Time Sampled: 12/18/2013 15:17** **PSS Sample ID: 13121922-011**
**Matrix: GROUND WATER** **Date/Time Received: 12/19/2013 17:15**

Total Petroleum Hydrocarbons - DRO Analytical Method: SW-846 8015 C Preparation Method: 3510C

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/L | 0.10 | | 1 | 12/20/13 | 12/21/13 23:43 | 1040 |

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13121922
**Earth Data, Inc, Centerville, MD**
December 30, 2013

Project Name: Chester River Hospital Center
Project Location: Chestertown, Maryland
Project ID: 2781

**Sample ID: System Discharge** **Date/Time Sampled: 12/18/2013 15:30** **PSS Sample ID: 13121922-012**
**Matrix: GROUND WATER** **Date/Time Received: 12/19/2013 17:15**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **0.10** | mg/L | 0.10 | | 1 | 12/20/13 | 12/21/13 23:43 | 1040 |

BTEX MTBE TBA Naphthalene — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| tert-Butanol | ND | ug/L | 20 | | 1 | 12/27/13 | 12/27/13 15:18 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/L | 1.0 | | 1 | 12/27/13 | 12/27/13 15:18 | 1011 |
| Benzene | ND | ug/L | 1.0 | | 1 | 12/27/13 | 12/27/13 15:18 | 1011 |
| Toluene | ND | ug/L | 1.0 | | 1 | 12/27/13 | 12/27/13 15:18 | 1011 |
| Ethylbenzene | ND | ug/L | 1.0 | | 1 | 12/27/13 | 12/27/13 15:18 | 1011 |
| m&p-Xylene | ND | ug/L | 2.0 | | 1 | 12/27/13 | 12/27/13 15:18 | 1011 |
| o-Xylene | ND | ug/L | 1.0 | | 1 | 12/27/13 | 12/27/13 15:18 | 1011 |
| Naphthalene | ND | ug/L | 1.0 | | 1 | 12/27/13 | 12/27/13 15:18 | 1011 |

# Case Narrative Summary

## Client Name: Earth Data, Inc

## Project Name: Chester River Hospital Center

Work Order Number(s): 13121922
Project ID: 2781

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

**Sample Receipt:**

Two coolers were received. All sample receipt conditions were acceptable. The temperatures observed were 3 and 4 degrees C.

**Analytical:**

**TCL Volatile Organic Compounds**

**Batch: 110915**

Surrogate exceedances identified; see surrogate summary form.

**NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.**

# Analytical Data Package Information Summary

**Work Order(s): 13121922**
Report Prepared For: Earth Data, Inc, Centerville, MD
Project Name: Chester River Hospital Center
Project Manager: Andrew Bullen

| Method | Client Sample Id | Analysis Type | Lab Sample Id | Analyst | Mtx | Prep Batch | Analytical Batch | Sampled | Prepared | Analyzed |
|---|---|---|---|---|---|---|---|---|---|---|
| **SW-846 8015 C** | MW-15 | Initial | 13121922-001 | 1040 | W | 48588 | 110877 | 12/18/2013 | 12/20/2013 17:22 | 12/21/2013 21:31 |
| | MW-16 | Initial | 13121922-002 | 1040 | W | 48588 | 110877 | 12/18/2013 | 12/20/2013 17:22 | 12/21/2013 21:53 |
| | MW-19 | Initial | 13121922-003 | 1040 | W | 48588 | 110877 | 12/18/2013 | 12/20/2013 17:22 | 12/21/2013 22:15 |
| | MW-20 | Initial | 13121922-004 | 1040 | W | 48588 | 110877 | 12/18/2013 | 12/20/2013 17:22 | 12/21/2013 22:15 |
| | MW-24 | Initial | 13121922-005 | 1040 | W | 48588 | 110877 | 12/18/2013 | 12/20/2013 17:22 | 12/21/2013 22:38 |
| | MW-33 | Initial | 13121922-006 | 1040 | W | 48588 | 110877 | 12/18/2013 | 12/20/2013 17:22 | 12/21/2013 22:38 |
| | MW-34 | Initial | 13121922-007 | 1040 | W | 48588 | 110877 | 12/18/2013 | 12/20/2013 17:22 | 12/21/2013 23:00 |
| | MW-35 | Initial | 13121922-008 | 1040 | W | 48588 | 110877 | 12/18/2013 | 12/20/2013 17:22 | 12/21/2013 23:00 |
| | MW-48 | Initial | 13121922-009 | 1040 | W | 48588 | 110877 | 12/18/2013 | 12/20/2013 17:22 | 12/21/2013 23:21 |
| | MW-49 | Initial | 13121922-010 | 1040 | W | 48588 | 110877 | 12/18/2013 | 12/20/2013 17:22 | 12/21/2013 23:21 |
| | MW-50 | Initial | 13121922-011 | 1040 | W | 48588 | 110877 | 12/18/2013 | 12/20/2013 17:22 | 12/21/2013 23:43 |
| | System Discharge | Initial | 13121922-012 | 1040 | W | 48588 | 110877 | 12/18/2013 | 12/20/2013 17:22 | 12/21/2013 23:43 |
| | 48588-1-BKS | BKS | 48588-1-BKS | 1040 | W | 48588 | 110877 | -------- | 12/20/2013 17:22 | 12/21/2013 21:09 |
| | 48588-1-BLK | BLK | 48588-1-BLK | 1040 | W | 48588 | 110877 | -------- | 12/20/2013 17:22 | 12/21/2013 21:53 |
| | 48588-1-BSD | BSD | 48588-1-BSD | 1040 | W | 48588 | 110877 | -------- | 12/20/2013 17:22 | 12/21/2013 21:31 |
| **SW-846 8260 B** | System Discharge | Initial | 13121922-012 | 1011 | W | 48671 | 110915 | 12/18/2013 | 12/27/2013 14:19 | 12/27/2013 15:18 |
| | 48671-1-BKS | BKS | 48671-1-BKS | 1011 | W | 48671 | 110915 | -------- | 12/27/2013 14:19 | 12/27/2013 09:43 |
| | 48671-1-BLK | BLK | 48671-1-BLK | 1011 | W | 48671 | 110915 | -------- | 12/27/2013 14:19 | 12/27/2013 12:45 |
| | SB-1 S | MS | 13121923-003 S | 1011 | W | 48671 | 110915 | 12/17/2013 | 12/27/2013 14:19 | 12/27/2013 19:12 |
| | SB-1 SD | MSD | 13121923-003 SD | 1011 | W | 48671 | 110915 | 12/17/2013 | 12/27/2013 14:19 | 12/27/2013 19:42 |

# Form 2 - Surrogate Recoveries

## Project Name: Chester River Hospital Center

12/30/2013

**Work Order #:** 13121922 **Project ID:** 2781

**Lab Batch #:** 110877 **Sample:** 48588-1-BKS / BKS **Matrix:** Water

**Units:** mg/L **Date Analyzed:** 12/21/2013 21:09

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| o-Terphenyl | 0.633 | 1.00 | 63 | 37-136 | |

**Lab Batch #:** 110877 **Sample:** 13121922-001 / SMP **Matrix:** Ground Water

**Units:** mg/L **Date Analyzed:** 12/21/2013 21:31

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| o-Terphenyl | 0.740 | 1.00 | 74 | 37-136 | |

**Lab Batch #:** 110877 **Sample:** 48588-1-BSD / BSD **Matrix:** Water

**Units:** mg/L **Date Analyzed:** 12/21/2013 21:31

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| o-Terphenyl | 0.707 | 1.00 | 71 | 37-136 | |

**Lab Batch #:** 110877 **Sample:** 13121922-002 / SMP **Matrix:** Ground Water

**Units:** mg/L **Date Analyzed:** 12/21/2013 21:53

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| o-Terphenyl | 0.740 | 1.00 | 74 | 37-136 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: Chester River Hospital Center

12/30/2013

**Work Order #:** 13121922 **Project ID:** 2781

**Lab Batch #:** 110877 **Sample:** 48588-1-BLK / BLK **Matrix:** Water

**Units:** mg/L **Date Analyzed:** 12/21/2013 21:53

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| o-Terphenyl | 0.548 | 1.00 | 55 | 37-136 | |

**Lab Batch #:** 110877 **Sample:** 13121922-003 / SMP **Matrix:** Ground Water

**Units:** mg/L **Date Analyzed:** 12/21/2013 22:15

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| o-Terphenyl | 0.640 | 1.00 | 64 | 37-136 | |

**Lab Batch #:** 110877 **Sample:** 13121922-004 / SMP **Matrix:** Ground Water

**Units:** mg/L **Date Analyzed:** 12/21/2013 22:15

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| o-Terphenyl | 0.900 | 1.00 | 90 | 37-136 | |

**Lab Batch #:** 110877 **Sample:** 13121922-005 / SMP **Matrix:** Ground Water

**Units:** mg/L **Date Analyzed:** 12/21/2013 22:38

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| o-Terphenyl | 0.610 | 1.00 | 61 | 37-136 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: Chester River Hospital Center

12/30/2013

**Work Order #:** 13121922 **Project ID:** 2781

**Lab Batch #:** 110877 **Sample:** 13121922-006 / SMP **Matrix:** Ground Water

**Units:** mg/L **Date Analyzed:** 12/21/2013 22:38

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| o-Terphenyl | 0.680 | 1.00 | 68 | 37-136 | |

**Lab Batch #:** 110877 **Sample:** 13121922-007 / SMP **Matrix:** Ground Water

**Units:** mg/L **Date Analyzed:** 12/21/2013 23:00

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| o-Terphenyl | 0.630 | 1.00 | 63 | 37-136 | |

**Lab Batch #:** 110877 **Sample:** 13121922-008 / SMP **Matrix:** Ground Water

**Units:** mg/L **Date Analyzed:** 12/21/2013 23:00

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| o-Terphenyl | 0.830 | 1.00 | 83 | 37-136 | |

**Lab Batch #:** 110877 **Sample:** 13121922-009 / SMP **Matrix:** Ground Water

**Units:** mg/L **Date Analyzed:** 12/21/2013 23:21

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| o-Terphenyl | 0.740 | 1.00 | 74 | 37-136 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: Chester River Hospital Center

12/30/2013

**Work Order #:** 13121922 **Project ID:** 2781

**Lab Batch #:** 110877 **Sample:** 13121922-010 / SMP **Matrix:** Ground Water

**Units:** mg/L **Date Analyzed:** 12/21/2013 23:21

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| o-Terphenyl | 0.590 | 1.00 | 59 | 37-136 | |

**Lab Batch #:** 110877 **Sample:** 13121922-011 / SMP **Matrix:** Ground Water

**Units:** mg/L **Date Analyzed:** 12/21/2013 23:43

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| o-Terphenyl | 0.700 | 1.00 | 70 | 37-136 | |

**Lab Batch #:** 110877 **Sample:** 13121922-012 / SMP **Matrix:** Ground Water

**Units:** mg/L **Date Analyzed:** 12/21/2013 23:43

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| o-Terphenyl | 0.780 | 1.00 | 78 | 37-136 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: Chester River Hospital Center

12/30/2013

**Work Order #:** 13121922 **Project ID:** 2781

**Lab Batch #:** 110915 **Sample:** 48671-1-BKS / BKS **Matrix:** Water

**Units:** ug/L **Date Analyzed:** 12/27/2013 09:43

| BTEX MTBE TBA Naphthalene Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| Dibromofluoromethane | 56.6 | 50.00 | 113 | 83-108 | * |
| Toluene-D8 | 50.5 | 50.00 | 101 | 91-105 | |
| 4-Bromofluorobenzene | 46.6 | 50.00 | 93 | 83-118 | |

**Lab Batch #:** 110915 **Sample:** 48671-1-BLK / BLK **Matrix:** Water

**Units:** ug/L **Date Analyzed:** 12/27/2013 12:45

| BTEX MTBE TBA Naphthalene Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| Dibromofluoromethane | 56.0 | 50.00 | 112 | 83-108 | * |
| Toluene-D8 | 49.2 | 50.00 | 98 | 91-105 | |
| 4-Bromofluorobenzene | 51.8 | 50.00 | 104 | 83-118 | |

**Lab Batch #:** 110915 **Sample:** 13121922-012 / SMP **Matrix:** Ground Water

**Units:** ug/L **Date Analyzed:** 12/27/2013 15:18

| BTEX MTBE TBA Naphthalene Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| Dibromofluoromethane | 57.0 | 50.00 | 114 | 83-108 | * |
| Toluene-D8 | 49.0 | 50.00 | 99 | 91-105 | |
| 4-Bromofluorobenzene | 48.0 | 50.00 | 96 | 83-118 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: Chester River Hospital Center

12/30/2013

**Work Order #:** 13121922 **Project ID:** 2781

**Lab Batch #:** 110915 **Sample:** 13121923-003 S / MS **Matrix:** Ground Water

**Units:** ug/L **Date Analyzed:** 12/27/2013 19:12

| BTEX MTBE TBA Naphthalene Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| Dibromofluoromethane | 56.6 | 50.00 | 113 | 83-108 | * |
| Toluene-D8 | 49.9 | 50.00 | 100 | 91-105 | |
| 4-Bromofluorobenzene | 48.9 | 50.00 | 98 | 83-118 | |

**Lab Batch #:** 110915 **Sample:** 13121923-003 SD / MSD **Matrix:** Ground Water

**Units:** ug/L **Date Analyzed:** 12/27/2013 19:42

| BTEX MTBE TBA Naphthalene Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| Dibromofluoromethane | 56.4 | 50.00 | 113 | 83-108 | * |
| Toluene-D8 | 49.9 | 50.00 | 100 | 91-105 | |
| 4-Bromofluorobenzene | 46.9 | 50.00 | 94 | 83-118 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Blank Summary 13121922

**Earth Data, Inc, Centerville, MD**

Chester River Hospital Center

**Analytical Method:** **SW-846 8015 C** Prep Method: SW3510C

Matrix: **WATER**

Sample Id: **48588-1-BLK** Lab Sample Id: **48588-1-BLK**

Date Analyzed: Dec-21-13 21:53 Analyst: 1040 Date Prep: Dec-20-13 17:22 Tech: 1050

Seq Number: 110877

| Parameter | Cas Number | Result | RL | LOD | Units | Flag | Dil |
|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | C10C28DRO | ND | 0.1000 | 0.04000 | mg/L | U | 1 |

# Blank Summary 13121922

**Earth Data, Inc, Centerville, MD**

Chester River Hospital Center

**Analytical Method:** **SW-846 8260 B** Prep Method: SW5030B

Matrix: **WATER**

Sample Id: **48671-1-BLK** Lab Sample Id: **48671-1-BLK**

Date Analyzed: Dec-27-13 12:45 Analyst: 1011 Seq Number: 110915 Date Prep: Dec-27-13 14:19 Tech: 1011

| Parameter | Cas Number | Result | RL | LOD | Units | Flag | Dil |
|---|---|---|---|---|---|---|---|
| tert-Butanol | 75-65-0 | ND | 20.00 | 10.00 | ug/L | U | 1 |
| Methyl-t-Butyl Ether | 1634-04-4 | ND | 1.000 | 0.5000 | ug/L | U | 1 |
| Benzene | 71-43-2 | ND | 1.000 | 0.5000 | ug/L | U | 1 |
| Toluene | 108-88-3 | ND | 1.000 | 0.5000 | ug/L | U | 1 |
| Ethylbenzene | 100-41-4 | ND | 1.000 | 0.5000 | ug/L | U | 1 |
| m&p-Xylene | 108-38-3 | ND | 2.000 | 1.000 | ug/L | U | 1 |
| o-Xylene | 95-47-6 | ND | 1.000 | 0.5000 | ug/L | U | 1 |
| Naphthalene | 91-20-3 | ND | 1.000 | 0.5000 | ug/L | U | 1 |

# Blank Spike Recovery

## Project Name: Chester River Hospital Center

**Work Order #:** 13121922 **Project ID:** 2781

**Prep Batch #:** 48671 **Date Prepared:** 12/27/2013 14:19 **Sample ID:** 48671-1-BKS **Matrix:** Water

**Lab Batch ID:** 110915 **Date Analyzed:** 12/27/2013 12:45 **Analyst:** 1011

**Reporting Units:** ug/L

| BTEX MTBE TBA Naphthalene Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags | Marginal Exceedance Limits |
|---|---|---|---|---|---|---|---|
| | | BLANK /BLANK SPIKE RECOVERY STUDY | | | | | |
| tert-Butanol | <20.00 | 50.00 | 31.79 | 64 | 43-161 | | 24-181 |
| Methyl-t-Butyl Ether | <1.000 | 50.00 | 39.36 | 79 | 74-124 | | 66-132 |
| Benzene | <1.000 | 50.00 | 49.66 | 99 | 79-129 | | 71-137 |
| Toluene | <1.000 | 50.00 | 52.12 | 104 | 79-128 | | 71-136 |
| Ethylbenzene | <1.000 | 50.00 | 49.09 | 98 | 83-128 | | 75-136 |
| m&p-Xylene | <2.000 | 100 | 90.33 | 90 | 84-129 | | 77-136 |
| o-Xylene | <1.000 | 50.00 | 46.52 | 93 | 85-129 | | 78-136 |
| Naphthalene | <1.000 | 50.00 | 35.29 | 71 | 66-161 | | 50-177 |

Blank Spike Recovery [D] = 100*(([C]-[A])/[B])

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

H= Recovery of BS,BSD or both exceeded the laboratory control limits
F = RPD exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

# LCS/LCSD Recoveries

## Project Name: Chester River Hospital Center

**Work Order #:** 13121922
**Prep Batch #:** 48588
**Lab Batch ID:** 110877
**Units:** mg/L

**Date Prepared:** 12/20/2013 17:22
**Date Analyzed:** 12/21/2013 21:09

**Sample:** 48588-1-BKS
**Method:** SW3510C / SW8015DRO

**Project ID:** 2781
**Analyst:** 1040
**Matrix:** Water

| Total Petroleum Hydrocarbons - DRO | BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
| TPH-DRO (Diesel Range Organics) | <0.1000 | 1.000 | 0.7838 | 78 | 1.000 | 0.8485 | 85 | 8 | 61-119 | 20 | |

Relative Percent Difference RPD = 200*|(D-G)/(D+G)|
Laboratory Control Sample (LCS) Percent Recovery [D] = 100*(C)/[B]
Laboratory Control Sample Duplicate (LCSD) Percent Recovery [G] = 100*(F)/[E]

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

H= Recovery of BS,BSD or both exceeded the laboratory control limits
F = RPD exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits



Final 1.000

# SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

## PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1)
*CLIENT: Earth Data Inc *OFFICE LOC. Centreville, MD
*PROJECT MGR: Andrew Bullen *PHONE NO.: (410) 758-8160
EMAIL: abullen@earthdatainc.com FAX NO.: (410) 758-8168
*PROJECT NAME: Chester River Hospital Center PROJECT NO.: 2781
SITE LOCATION: Chestertown, MD P.O. NO.:
SAMPLER(S): Phab Beam [redacted] / T. Trumbull DW CERT NO.:

PSS Work Order #: 13121922 PAGE 1 OF 2

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil L=Liquid SOL=Solid A=Air WI=Wipe

(2)

| LAB NO. | *SAMPLE IDENTIFICATION | *DATE (SAMPLED) | *TIME (SAMPLED) | MATRIX (See Codes) | No. CONTAINERS | SAMPLE TYPE C = COMP G = GRAB | Preservatives Used: HCL | Analysis/ Method Required (3) *: TPH-DRO | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| | MW-15 | [redacted] 12-18-13 | 1540 | GW | 1 | G | | X | |
| | MW-16 | 12-18-13 | 1248 | GW | 1 | G | | X | |
| | MW-19 | 12-18-13 | 1359 | GW | 1 | G | | X | |
| | MW-20 | 12-18-13 | 1417 | GW | 1 | G | | X | |
| | MW-24 | 12-18-13 | 1221 | GW | 1 | G | | X | |
| | MW-33 | 12-18-13 | 1302 | GW | 1 | G | | X | |
| | MW-34 | 12-18-13 | 1318 | GW | 1 | G | | X | |
| | MW-35 | 12-18-13 | 1345 | GW | 1 | G | | X | |
| | MW-48 | 12-18-13 | 1436 | GW | 1 | G | | X | |
| | MW-49 | 12-18-13 | 1501 | GW | 1 | G | | X | |

(5)

| Relinquished By: (1) | Date | Time | Received By: |
|---|---|---|---|
| [redacted] Robert Beam | 12-19-13 | 1545 | D. Toscano |
| Relinquished By: (2) D. Toscano | Date 12/19/13 | Time 1715 | Received By: [illegible] |
| Relinquished By: (3) | Date | Time | Received By: |
| Relinquished By: (4) | Date | Time | Received By: |

(4)
*Requested TAT (One TAT per COC): ☒ 5-Day ☐ 3-Day ☐ 2-Day ☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required: COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER _____

Special Instructions:

DW COMPLIANCE? YES ☐ EDD FORMAT TYPE _____ STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☐ WV ☐ OTHER _____

# of Coolers: 2
Custody Seal: ABS
Ice Present: PRES Temp: 3°C + 4°C
Shipping Carrier: TTE

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED

# SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

## PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1)
*CLIENT: Earth Data Inc *OFFICE LOC. Centreville MD
*PROJECT MGR: Andrew Bullen *PHONE NO.: (410) 758-8160
EMAIL: abullen@earthdatainc.com FAX NO.: (410) 758-8168
*PROJECT NAME: Chester River Hospital Center PROJECT NO.: 2781
SITE LOCATION: Chestertown MD P.O. NO.:
SAMPLER(S): Rob Beam Ted Trumbull DW CERT NO.:

PSS Work Order #: 13121922 PAGE 2 OF 2

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil L=Liquid SOL=Solid A=Air WI=Wipe

(2)

| LAB NO. | *SAMPLE IDENTIFICATION | *DATE (SAMPLED) | *TIME (SAMPLED) | MATRIX (See Codes) | No. CONTAINERS | SAMPLE TYPE C = COMP G = GRAB | TPH-DRO | BTEX | MTBE | TBA | Naphthalene | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Preservatives Used | | | | | | HCL | | | | | |
| | MW-50 | 12-18-13 | 1517 | GW | 1 | G | X | | | | | |
| | System Discharge | 12-18-13 | 1530 | GW | 4 | G | X | X | X | X | X | |

(3) Analysis/Method Required *

(4)
*Requested TAT (One TAT per COC): ☒ 5-Day ☐ 3-Day ☐ 2-Day ☐ Next Day ☐ Emergency ☐ Other
Data Deliverables Required: COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER ____
# of Coolers: 2
Custody Seal: ABS
Ice Present: PRES Temp: 3°C + 4°C
Shipping Carrier: TTE
Special Instructions:
DW COMPLIANCE? YES ☐
EDD FORMAT TYPE ____
STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☐ WV ☐ OTHER ____

(5)

| Relinquished By: | Date | Time | Received By: |
|---|---|---|---|
| (1) Robert Beam | 12-19-13 | 1545 | D Toomer |
| (2) D Toomer | " | 1745 | [illegible] |
| (3) | | | |
| (4) | | | |

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The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED

# Phase Separation Science, Inc

## Sample Receipt Checklist

| | | | |
|---|---|---|---|
| **Work Order #** | 13121922 | **Received By** | Lynn Moran |
| **Client Name** | Earth Data, Inc | **Date Received** | 12/19/2013 05:15:00 PM |
| **Project Name** | Chester River Hospital Center | **Delivered By** | Trans Time Express |
| **Project Number** | 2781 | **Tracking No** | Not Applicable |
| **Disposal Date** | 01/23/2014 | **Logged In By** | Robyn Rhudy |

**Shipping Container(s)**

| | | | |
|---|---|---|---|
| No. of Coolers | 1 | Ice | Present |
| | | Temp (deg C) | 3 |
| Custody Seal(s) Intact? | N/A | Temp Blank Present | No |
| Seal(s) Signed / Dated? | N/A | | |

**Documentation**

| | | | |
|---|---|---|---|
| | | Sampler Name | Rob Beam |
| | | MD DW Cert. No. | N/A |
| COC agrees with sample labels? | Yes | | |
| Chain of Custody | Yes | | |

**Sample Container**

| | | | |
|---|---|---|---|
| | | Custody Seal(s) Intact? | Not Applicable |
| Appropriate for Specified Analysis? | Yes | Seal(s) Signed / Dated | Not Applicable |
| Intact? | Yes | | |
| Labeled and Labels Legible? | Yes | | |

Total No. of Samples Received 12

Total No. of Containers Received 15

**Preservation**

| | | |
|---|---|---|
| Metals | (pH<2) | N/A |
| Cyanides | (pH>12) | N/A |
| Sulfide | (pH>9) | N/A |
| TOC, COD, Phenols | (pH<2) | N/A |
| TOX, TKN, NH3, Total Phos | (pH<2) | N/A |
| VOC, BTEX (VOA Vials Rcvd Preserved) | (pH<2) | Yes |
| Do VOA vials have zero headspace? | | Yes |

**Comments: (Any "No" response must be detailed in the comments section below.)**

**For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.**

Two coolers were received. All sample receipt conditions were acceptable. The temperatures observed were 3 and 4 degrees C.

Samples Inspected/Checklist Completed By: Robyn Rhudy — Date: 12/20/2013

PM Review and Approval: Lynn Moran — Date: 12/20/2013