April 30, 2018 Reference No. 11109613

Mr. David Brown
Pennsylvania Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, Pennsylvania
U.S.A. 19401

Dear Mr. Brown:

**Re: Responses to Comments – AOI 6 Remedial Investigation Report**
**Dated November 21, 2017**
**Philadelphia Energy Solutions Refining & Marketing LLC (PES)**
**Philadelphia Refinery Complex**
**3144 West Passyunk Avenue Philadelphia, PA (PHAOI-6)**

This letter is being submitted on behalf of Evergreen Resources, LLC to provide responses to comments from the Pennsylvania Department of Environmental Protection (PA DEP) Act 2 Program (Act 2) dated March 1, 2018 regarding the 2017 Remedial Investigation Report (RIR) for Area of Interest (AOI) 6 at the Philadelphia Energy Solutions complex (Site). The original comments provided by PA DEP are reproduced in *italicized text* below, with Evergreen's responses following.

***Soil***

1. *Benzene direct contact exceedances were present in samples collected from borings BH-16-025 and BH-16-037, in the area north and northeast of Tank 797. These exceedances do not appear to be delineated immediately west of these borings. We recognize that this area is part of an active process unit. Further delineation may be needed to implement a remedy.*

The benzene direct contact exceedances from boring BH-16-025 and BH-16-037 will be assessed through Risk Assessment activities as presented in the site-wide Risk Assessment Report or the site-wide Cleanup Plan. Additional sampling is anticipated to support either the Risk Assessment or the Cleanup Plan activities.

2. *The lead direct contact standard exceedance at BH-17-004 does not appear to be delineated between the bulkhead and the boring location. Further delineation may be needed to implement a remedy.*

Sample location BH-17-003 is located in the general area between BH-17-004 and the bulkhead and has lead detections at concentrations below the direct contact standard. Additionally, lead in the area between BH-17-004 and the bulkhead will be assessed through Risk Assessment activities as presented in the site-wide Risk Assessment Report or the site-wide Cleanup Plan. Additional sampling is anticipated to support either the Risk Assessment or the Cleanup Plan activities.

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REGISTERED COMPANY FOR ISO 9001 ENGINEERING DESIGN

3. *An exceedance of the benzo(a)pyrene direct contact MSC was identified in shallow soil (BH-29-06). EPA issued a new IRIS toxicological review of benzo(a)pyrene in Jan 2017. Evergreen might consider calculating a site-specific numerical value for benzo(a)pyrene or performing a risk assessment using the updated toxicological information.*

Evergreen is planning to submit a site-wide Human Health Risk Assessment for the entire Site. Evergreen will consider including benzo(a)pyrene with the updated toxicological information in the site-wide Risk Assessment.

***Groundwater & LNAPL***

4. *LNAPL is not delineated between B-39 and the river. Potential migration of LNAPL to the river should be considered as part of the fate-and-transport and surface water attainment analyses.*

Since 2007, the appearance of measurable LNAPL in B-39 has been ephemeral, only being noted in two of fourteen well gauging events. Additionally, the LNAPL in this well has been identified as highly weathered/degraded. Considering these points collectively, the LNAPL in the vicinity of B-39 is largely present as old, immobile residual which will be considered during the quantitative fate and transport and surface water attainment analysis. Additional assessment of LNAPL in this area will be conducted and included in a future Act 2 submittal.

5. *LNAPL distribution and mobility discussions (Sections 6.2 and 9.4) do not include well B-39 as indicated on Figure 16.*

LNAPL was present in B-39 in May 2016 as shown on Figure 16. However, LNAPL was not detected in this well in the two more recent gauging events in August 2016 and May 2017. Furthermore, as previously mentioned, the appearance of measurable LNAPL in B-39 has been ephemeral, only being noted in two of fourteen well gauging events since 2007. In other words, measurable LNAPL has not typically/regularly been present in this well with reference to numerous monitoring events in the last 10 years. Additionally, as noted above, the age of the LNAPL, well gauging history, and level of degradation indicate that the LNAPL in the vicinity of B-39 is largely immobile residual. However, since LNAPL has been detected in B-39, it will be considered during the quantitative fate and transport and surface water attainment analysis. Additional assessment of LNAPL in this area will be conducted and included in a future Act 2 submittal.

***Exposure Pathways***

6. *We note that there were vapor intrusion screening value exceedances for benzene and naphthalene in some buildings. An inhalation risk assessment should be performed for those receptors in future reporting.*

The vapor intrusion (VI) screening value exceedances for benzene and naphthalene will be evaluated in the site-wide Risk Assessment Report.

7. *Some reporting levels in the indoor air sample analyses exceeded applicable screening values (Table 13). Please refer to DEP's FAQs on the VI guidance for the application of PQLs to screening.*

The method TO-15 PQLs were obtained from the laboratory by requesting documentation of the lowest calibration point attained for the time of the sample analysis. This documentation is included in Attachment A to this letter. Table 13, also included in Attachment A, has been revised to present both the sample-specific practical quantitation limits (PQLs), as well as the method detection limits (MDLs). The PQL is used as the reporting limit. The samples with detected concentrations or reporting limits greater than the VI screening levels will be assessed through Risk Assessment activities as presented in the site-wide Risk Assessment Report or the site-wide Cleanup Plan. Additional VI sampling is anticipated to support either the Risk Assessment or the Cleanup Plan activities.

8. *Evergreen could consider collecting additional outdoor air samples in the area of benzene soil direct contact MSC exceedances (vicinity of Tank 797). The direct contact MSC for benzene is based on an inhalation exposure pathway.*

The benzene soil direct contact MSC exceedances (vicinity of Tank 797) will be assessed through Risk Assessment activities as presented in the site-wide Risk Assessment Report. Additional soil and ambient air sampling will be conducted to support the Risk Assessment activities.

9. *In the PNDI review, the Pennsylvania Fish and Boat Commission indicated that four threatened/endangered species may be present at AOI 6 (Appendix I). Please identify these species. There is a potentially complete exposure pathway for the species of concern, and the report notes that a habitat assessment will be performed.*

Evergreen will include the habitat assessment for ecological receptors in a future submittal.

***Tables, Figures, and Appendices***

10. *Figure 20 does not show all of the deep wells. The figure should be revised; we recommend that it depict only the deep wells rather than all AOI 6 sample locations.*

Figure 20 has been revised to present the locations of the deep wells in AOI 6, and is included in Attachment B.

11. *The AOI 6 deep wells are not listed in Table 6. Provide a corrected version with the deep well information.*

Table 6 has been revised to include the deep wells in AOI 6, and is included in Attachment B.

12. *According to Appendix F.1, there is a substantial LNAPL thickness in B-129. However, Figures 16, 17, and Figure 16 of Appendix F do not show LNAPL at this well. Provide corrections to these figures.*

As shown in Appendix F.1, LNAPL was detected in B-129 during the May 11, 2017 groundwater measurement event. LNAPL was not detected during the May 2, 2016 or the May 11, 2016 groundwater measurement events. LNAPL was detected in B-116 during the May 11, 2016 measurement event. B-116 has no history of LNAPL. Depth to water at B-116 is typically approximately 6 feet while the depth to water at B-129 is typically approximately 10 feet. During the May 11, 2016 water level measurements, the depth

to water at B-116 was recorded as 9.46 feet and the depth to water at B-129 was recorded as 5.88 feet. Given the proximity of B-116 and B-129, field measurements during May 2016 for these two wells were likely switched. Despite this mix-up in the field, the LNAPL thicknesses in Figure 17 of the RIR and Figure 16 of Appendix F were not revised. Figure 17, of the RIR, was inaccurately dated May 11, 2017 instead of May 11, 2016. The date of Figure 17 and Figure 16 of Appendix F, however, has been revised to May 11, 2016 and is included in Attachment C. The absence of LNAPL in B-116 was confirmed again via gauging on April 24, 2018.

13. *Please provide a hardcopy of Appendix F to include in our file. (It can exclude Table 3 and the appendices, and reference the CD-ROM to access them.)*

Attachment D includes a hardcopy of Appendix F without Table 3 and the appendices. Additional language has been added to reference the CD-ROM for Table 3 and the appendices.

Should you require any additional information, please do not hesitate to contact us.

Yours truly,

GHD



Colleen Costello

MT/ks/1

cc: Tiffani Doerr – Evergreen
Michael Tomka - GHD

# Attachment A
# Table 13, Lab Reports

**Table 13**

**Summary of Indoor and Outdoor Air from the Vapor Intrusion Sampling**
**AOI 6 Remedial Investigation Report**
**Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC**

| Sample Location | | | | | | | | | | | | AOI6-AA-16-001 | AOI6-AA-16-002 | AOI6-AI-16-001 | AOI6-AI-16-002 | AOI6-AI-16-003 | AOI6-AI-16-004 | AOI6-AI-16-005 | AOI6-AI-16-006 | AOI6-AI-16-007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date | | | | | | | | | | | | Outdoor 28-Mar-16 | Ambient Outdoor Near Carpenter Shop Open Area 29-Mar-16 | 475 Building 28-Mar-16 | 745 Building 28-Mar-16 | Control Room, 6627 Building 28-Mar-16 | Truck Scale House, 6636 Building 28-Mar-16 | Control Room, 739 Building 28-Mar-16 | 726 Building, Carpenter Shop 29-Mar-16 | 178 Building, Carpenter Trade Shop 29-Mar-16 |
| Sample ID | | | | | | | | | | | | IA-AOI6-OUTDOOR 739 | IA-AOI6-OUTDOOR-032916 | IA-AOI6-475 | IA-AOI6-745 | IA-AOI6-6627 | IA-AOI6-6636 | IA-AOI6-739 | IA-AOI6-726 | IA-AOI6-178 |
| Sampling Company | | | | | | | | | | | | GHD | GHD | GHD | GHD | GHD | GHD | GHD | GHD | GHD |
| Laboratory | | | | | | | | | | | | LL | ESC | LL | LL | LL | LL | LL | ESC | ESC |
| Laboratory Work Order | | | | | | | | | | | | MHF24 | L827327 | MHF24 | MHF24 | MHF24 | MHF24 | MHF24 | L827327 | L827327 |
| Laboratory Sample ID | | | | | | | | | | | | 8316897 | L827327-04 | 8316892 | 8316893 | 8316894 | 8316895 | 8316896 | L827327-02 | L827327-03 |
| **Sample Type** | **Units** | **PADEP SHS VI Screening Value a** | **1/10th PADEP SHS VI Screening Value b** | **OSHA PEL c** | **USEPA RSL d** | **USEPA RSL e** | **ACGIH TLV f** | **NIOSH REL g** | **Cal/ OSHA PEL h** | **MH Air Tox i** | **EPA Res IA j** | | | | | | | | | |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | | | |
| Benzene | µg/m$^3$ | 16 | 1.6 | 3190 | 1.6 | 1.6 | 1600 | 319.47 | 319.47 | 2.59 | 29 | **1.8 J (4.4)(0.88)$^{bde}$** | **3.95 (0.64)$^{bdei}$** | **5.5 (3.2)(0.64)$^{bdei}$** | 1.3 J (3.2)(0.64) | **36 (3.2)(0.64)$^{abdeij}$** | **2.1 J (3.2)(0.64)$^{bde}$** | **4.5 (3.2)(0.64)$^{bdei}$** | **3.46 (0.64)$^{bdei}$** | **5.05 (0.64)$^{bdei}$** |
| 1,2-Dibromoethane (EDB) | µg/m$^3$ | 4.7 | 0.47 | 202400 | 0.47 | 0.47 | 40500 | 4000 | 4000 | 0.16 | 0.2 | ND (5.6)(1.1) | ND (0.810)(0.249) | ND (4.0)(0.81) | ND (4.0)(0.81) | ND (4.0)(0.81) | ND (4.0)(0.81) | ND (4.0)(0.81) | ND (0.810)(0.249) | ND (0.810)(0.249) |
| Ethylbenzene | µg/m$^3$ | 49 | 4.9 | 435000 | 4.9 | 4.9 | 86800 | 435000 | 435000 | 0.68 | 17 | ND (6.0)(1.2) | ND (0.867)(0.219) | **1.1 J (4.3)(0.87)$^{i}$** | ND (4.3)(0.87) | **2.0 J (4.3)(0.87)$^{i}$** | **2.1 J (4.3)(0.87)$^{i}$** | **3.2 J (4.3)(0.87)$^{i}$** | ND (0.867)(0.219) | ND (0.867)(0.219) |
| Isopropylbenzene (Cumene) | µg/m$^3$ | 1800 | 180 | 245000 | 1800 | 180 | 246000 | 245000 | 245000 | 11.2 | n/v | 1.5 J (6.8)(1.4) | 1.72 (0.983) | 9.1 (4.9)(0.98) | ND (4.9)(0.98) | 7.8 (4.9)(0.98) | ND (4.9)(0.98) | 2.8 J (4.9)(0.98) | 1.45 (0.983) | 1.60 (0.983) |
| Methyl Tert-Butyl Ether | µg/m$^3$ | 470 | 47 | - | 47 | 47 | 180000 | - | 144000 | n/v | 72 | ND (5.0)(0.99) | ND (0.721)(0.182) | ND (3.6)(0.72) | ND (3.6)(0.72) | ND (3.6)(0.72) | ND (3.6)(0.72) | ND (3.6)(0.72) | ND (0.721)(0.182) | ND (0.721)(0.182) |
| Naphthalene | µg/m$^3$ | 3.6 | 0.36 | 50000 | 0.36 | 0.36 | 52000 | 50000 | 50000 | n/v | 4.8* | **4.1 J (7.2)(3.6)$^{abde}$** | ND (3.30)(0.806) | ND (5.2)(2.6) | ND (5.2)(2.6) | ND (5.2)(2.6) | ND (5.2)(2.6) | ND (5.2)(2.6) | ND (3.30)(0.806) | ND (3.30)(0.806) |
| Toluene | µg/m$^3$ | 22000 | 2200 | 754000 | 22000 | 2200 | 75400 | 375000 | 37500 | 4.52 | 144 | 2.1 J (5.2)(1.0) | 2.85 (0.753) | 3.9 (3.8)(0.75) | 2.2 J (3.8)(0.75) | **13 (3.8)(0.75)$^{i}$** | 2.6 J (3.8)(0.75) | 3.9 (3.8)(0.75) | 2.06 (0.753) | 2.57 (0.753) |
| 1,2,4-Trimethylbenzene* | µg/m$^3$ | 31 | 3.1 | - | 260 | 26 | 123000 | 125000 | 125000 | 0.38 | 6.5 | ND (6.8)(1.4) | ND (0.982)(0.237) | **1.4 J (4.9)(0.98)$^{i}$** | ND (4.9)(0.98) | **3.6 J (4.9)(0.98)$^{bi}$** | **1.1 J (4.9)(0.98)$^{i}$** | ND (4.9)(0.98) | ND (0.982)(0.237) | ND (0.982)(0.237) |
| 1,3,5-Trimethylbenzene* | µg/m$^3$ | 31 | 3.1 | - | 260 | 26 | 123000 | 125000 | 125000 | 1.12 | 19 | ND (6.8)(1.4) | ND (0.982)(0.31) | ND (4.9)(0.98) | ND (4.9)(0.98) | **1.3 J (4.9)(0.98)$^{i}$** | ND (4.9)(0.98) | ND (4.9)(0.98) | ND (0.982)(0.31) | ND (0.982)(0.31) |
| Total Xylene | µg/m$^3$ | 440 | 44 | 435000 | 440 | 44 | 434000 | 435000 | 435000 | 3.14 | 63.5 | **3.7 J (6.0)(1.2)$^{i}$** | ND (1.73)(0.41) | **4.7 J (4.3)(0.87)$^{i}$** | **3.3 J (4.3)(0.87)$^{i}$** | **11.9 (4.3)(0.87)$^{i}$** | **9.8 (4.3)(0.87)$^{i}$** | **14.1 (4.3)(0.87)$^{i}$** | ND (1.73)(0.41) | 1.76 (1.73) |

Notes:

VI-PA[A] PADEP Indoor Air Statewide Health Standard Vapor Intrusion Screening Values, Non-Residential (January 2017).

[A] Indoor Air Statewide Health Standard Vapor Intrusion Screening Values, Non-Residential.

[B] One-tenth of PADEP Indoor Air Statewide Health Standard Vapor Intrusion Screening Values, Non-Residential.

OSHA[C] Occupational Safety and Health Administration - Permissible Exposure Limits.

[C] Permissible Exposure Limits.

USEPA RSL United States Environmental Protection Agency (June 2017).

[D] Regional Screening Level for Non-residential indoor air Hazard Index of 1.

[E] Regional Screening Level for Non-residential indoor air Hazard Index of 0.1.

ACGIH TLV American Conference of Governmental Industrial Hygienists.

[F] Threshold Limit Value.

NIOSH National Institute for Occupational Safety and Health.

[G] Recommended Exposure Limits.

Cal / OSHA [H] California Division of Occupational Safety and Health - Permissible Exposure Limits for chemical contaminants.

MH Air Tox [I] Marcus Hook Air Toxics Monitor 2015, maximum value of PADEP data accessed February 5, 2016.

USEPA Res IA [J] USEPA Background Residential Indoor Air 2011, 95th percentile.

* 95th percentile value not provided, value is 90th percentile.

***4.63*[B]** Concentration exceeds the indicated standard.

1.32 Measured concentration did not exceed the indicated standard.

ND (2.4) (1.2) Analyte was not detected at a concentration greater than the practical quantitation limit. The first value in parenthesis is the practical quantitaion limit. The method detection limit is shown in the second set of parenthesis.

n/v No standard/guideline value.

J Indicates an estimated value.

**Table 13**

**Summary of Indoor and Outdoor Air from the Vapor Intrusion Sampling**
**AOI 6 Remedial Investigation Report**
**Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC**

| Sample Location | | | | | | | | | | | | AOI6-AI-16-008 | AOI6-AI-16-009 | AOI6-AI-17-01 | AOI6-AI-17-02 | AOI6-AI-17-03 | AOI6-AI-17-04 | AOI6-AI-17-05 | AOI6-AI-17-06 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date | | | | | | | | | | | | 295 Gate Building 1st Floor 29-Mar-16 | 295 Gate Building 2nd Floor 29-Mar-16 | 651 GP Training Building 3rd Floor, Fitness Center 8-Mar-17 | 651 GP Training Building 1st Floor, East 8-Mar-17 | 651 GP Training Building 1st Floor, West 8-Mar-17 | 651 GP Training Building Basement, Lunch Area 8-Mar-17 | 178 Building, Carpenter Trade Shop 9-Mar-17 | 295 Gate Building 2nd Floor 8-Mar-17 |
| Sample ID | | | | | | | | | | | | IA-AOI6-295-1 | IA-AOI6-295-2 | AOI6-AI-17-01 | AOI6-AI-17-02 | AOI6-AI-17-03 | AOI6-AI-17-04 | AOI6-AI-17-05 | AOI6-AI-17-06 |
| Sampling Company | | | | | | | | | | | | GHD | GHD | GHD | GHD | GHD | GHD | GHD | GHD |
| Laboratory | | | | | | | | | | | | ESC | ESC | LL | LL | LL | LL | PACE | PACE |
| Laboratory Work Order | | | | | | | | | | | | L827327 | L827327 | 1775150 | 1775150 | 1775150 | 1775150 | 10381753 | 10381907 |
| Laboratory Sample ID | | | | | | | | | | | | L827327-05 | L827327-06 | 8876948 | 8876950 | 8876949 | 8876953 | 10381753003 | 10381907007 |
| Sample Type | Units | PADEP SHS VI Screening Value a | 1/10th PADEP SHS VI Screening Value b | OSHA PEL c | USEPA RSL d | USEPA RSL e | ACGIH TLV f | NIOSH REL g | Cal/ OSHA PEL h | MH Air Tox i | EPA Res IA j | | | | | | | | |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | | |
| Benzene | µg/m$^3$ | 16 | 1.6 | 3190 | 1.6 | 1.6 | 1600 | 319.47 | 319.47 | 2.59 | 29 | **3.97 (0.64)$^{bdei}$** | **3.94 (0.64)$^{bdei}$** | **6.9 (3.2)(0.64)$^{bdei}$** | **6.8 (3.2)(0.64)$^{bdei}$** | **7.1 (3.2)(0.64)$^{bdei}$** | **6.4 (3.2)(0.64)$^{bdei}$** | 0.76 J (0.87)(0.16) | **2.2 (0.44)(0.16)$^{bde}$** |
| 1,2-Dibromoethane (EDB) | µg/m$^3$ | 0.2 | 0.02 | 153700 | 0.02 | 0.02 | - | 345.79 | - | n/v | n/v | ND (1.54)(0.142) | ND (1.54)(0.142) | ND (7.7)(1.5) | ND (7.7)(1.5) | ND (7.7)(1.5) | ND (7.7)(1.5) | ND (2.1)(1.0) | ND (5.2)(1.0) |
| 1,2-Dichloroethane (EDC) | µg/m$^3$ | 4.7 | 0.47 | 202400 | 0.47 | 0.47 | 40500 | 4000 | 4000 | 0.16 | 0.2 | ND (0.810)(0.249) | ND (0.810)(0.249) | ND (4.0)(0.81) | ND (4.0) 0.81) | ND (4.0)(0.81) | ND (4.0)(0.81) | ND (1.1)(0.27) | ND (0.55)(0.27) |
| Ethylbenzene | µg/m$^3$ | 49 | 4.9 | 435000 | 4.9 | 4.9 | 86800 | 435000 | 435000 | 0.68 | 17 | ND (0.867)(0.219) | **0.960 (0.867)$^{i}$** | ND (4.3)(0.87) | **0.93 J (4.3)(0.87)$^{i}$** | **1.0 J (4.3)(0.87)$^{i}$** | ND (4.3)(0.87) | **1.5 J (3.0)(0.57)$^{i}$** | **2.2 J (3.0)(0.57)$^{i}$** |
| Isopropylbenzene (Cumene) | µg/m$^3$ | 1800 | 180 | 245000 | 1800 | 180 | 246000 | 245000 | 245000 | 11.2 | n/v | ND (0.983)(0.277) | ND (0.983)(0.277) | 3.3 J (4.9)(0.98) | 2.1 J (4.9)(0.98) | 2.3 J (4.9)(0.98) | 1.5 J (4.9)(0.98) | ND (3.4)(0.18) | ND (3.4)(0.18) |
| Methyl Tert-Butyl Ether | µg/m$^3$ | 470 | 47 | - | 47 | 47 | 180000 | - | 144000 | n/v | 72 | ND (0.721)(0.182) | ND (0.721)(0.182) | ND (3.6)(0.72) | ND (3.6)(0.72) | ND (3.6)(0.72) | ND (3.6)(0.72) | ND (4.9)(0.41) | ND (4.9)(0.41) |
| Naphthalene | µg/m$^3$ | 3.6 | 0.36 | 50000 | 0.36 | 0.36 | 52000 | 50000 | 50000 | n/v | 4.8* | ND (3.30)(0.806) | ND (3.30)(0.806) | **9.6 (5.2)(2.6)$^{abdej}$** | ND (5.2)(2.6) | ND (5.2)(2.6) | ND (5.2)(2.6) | **3.3 J (3.6)(0.41)$^{bde}$** | **0.52 J (3.6)(0.41)$^{bde}$** |
| Toluene | µg/m$^3$ | 22000 | 2200 | 754000 | 22000 | 2200 | 75400 | 375000 | 37500 | 4.52 | 144 | 3.12 (0.753) | 3.11 (0.753) | 3.7 J (3.8)(0.75) | **5.2 (3.8)(0.75)$^{i}$** | 3.9 (3.8)(0.75) | 3.0 J (3.8)(0.75) | 1.7 (1.0)(0.21) | **10.4 (1.0)(0.21)$^{i}$** |
| 1,2,4-Trimethylbenzene* | µg/m$^3$ | 31 | 3.1 | - | 260 | 26 | 123000 | 125000 | 125000 | 0.38 | 6.5 | **2.18 (0.982)$^{i}$** | **2.04 (0.982)$^{i}$** | ND (4.9)(0.98) | ND (4.9)(0.98) | ND (4.9)(0.98) | ND (4.9)(0.98) | **2.0 J (3.3)(0.17)$^{i}$** | **2.8 J (3.3)(0.17)$^{i}$** |
| 1,3,5-Trimethylbenzene* | µg/m$^3$ | 31 | 3.1 | - | 260 | 26 | 123000 | 125000 | 125000 | 1.12 | 19 | ND (0.982)(0.31) | ND (0.982)(0.31) | ND (4.9)(0.98) | ND (4.9)(0.98) | ND (4.9)(0.98) | ND (4.9)(0.98) | ND (3.3)(0.25) | ND (3.3)(0.25) |
| Total Xylene | µg/m$^3$ | 440 | 44 | 435000 | 440 | 44 | 434000 | 435000 | 435000 | 3.14 | 63.5 | 2.2 (1.73) | 2.29 (1.73) | - | - | - | - | **4.5 (3.6)(1.5)$^{i}$** | **8.4 (3.6)(1.5)$^{i}$** |

Notes:

| | |
|---|---|
| VI-PA[A] | PADEP Indoor Air Statewide Health Standard Vapor Intrusion Screening Values, Non-Residential (January 2017). |
| [A] | Indoor Air Statewide Health Standard Vapor Intrusion Screening Values, Non-Residential. |
| [B] | One-tenth of PADEP Indoor Air Statewide Health Standard Vapor Intrusion Screening Values, Non-Residential. |
| OSHA[C] | Occupational Safety and Health Administration - Permissible Exposure Limits. |
| [C] | Permissible Exposure Limits. |
| USEPA RSL | United States Environmental Protection Agency (June 2017). |
| [D] | Regional Screening Level for Non-residential indoor air Hazard Index of 1. |
| [E] | Regional Screening Level for Non-residential indoor air Hazard Index of 0.1. |
| ACGIH TLV | American Conference of Governmental Industrial Hygienists. |
| [F] | Threshold Limit Value. |
| NIOSH | National Institute for Occupational Safety and Health. |
| [G] | Recommended Exposure Limits. |
| Cal / OSHA [H] | California Division of Occupational Safety and Health - Permissible Exposure Limits for chemical contaminants. |
| MH Air Tox[I] | Marcus Hook Air Toxics Monitor 2015, maximum value of PADEP data accessed February 5, 2016. |
| USEPA Res IA[J] | USEPA Background Residential Indoor Air 2011, 95th percentile. |
| * | 95th percentile value not provided, value is 90th percentile. |
| ***4.63*** [B] | Concentration exceeds the indicated standard. |
| 1.32 | Measured concentration did not exceed the indicated standard. |
| ND (2.4) (1.2) | Analyte was not detected at a concentration greater than the practical quantitation limit. The first value in parenthesis is the practical quantitaion limit. The method detection limit is shown in the second set of parenthesis. |
| n/v | No standard/guideline value. |
| J | Indicates an estimated value. |

**Table 13**

**Summary of Indoor and Outdoor Air from the Vapor Intrusion Sampling**
**AOI 6 Remedial Investigation Report**
**Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC**

| Sample Location | | | | | | | | | | | | AOI6-AI-17-07 | | AOI6-AI-17-08 | AOI6-AI-17-09 | AOI6-AI-17-10 | AOI6-AI-17-11 | AOI6-AI-17-12 | AOI6-AI-17-13 | AOI6-AI-17-14 | AOI6-AI-17-15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date | | | | | | | | | | | | 295 Gate Building 1st Floor 8-Mar-17 | 295 Gate Building 1st Floor 9-Mar-17 | 475 Building 8-Mar-17 | 650 GP Office Building Basement, Center 8-Mar-17 | 650 GP Office Building Basement, East 8-Mar-17 | 650 GP Office Building Basement, West 8-Mar-17 | 650 GP Office Building 1st Floor, Entrance 8-Mar-17 | 650 GP Office Building 1st Floor, West 8-Mar-17 | 650 GP Office Building 2nd Floor, East 8-Mar-17 | 650 GP Office Building 2nd Floor, West 9-Mar-17 |
| Sample ID | | | | | | | | | | | | AOI6-AI-17-07 | AOI6-AI-17-07R | AOI6-AI-17-08 | AOI6-AI-17-09 | AOI6-AI-17-22 | AOI6-AI-17-11 | AOI6-AI-17-12 | AOI6-AI-17-13 | AOI6-AI-17-14 | AOI6-AI-17-15 |
| Sampling Company | | | | | | | | | | | | GHD | GHD | GHD | GHD | GHD | GHD | GHD | GHD | GHD | GHD |
| Laboratory | | | | | | | | | | | | LL | PACE | LL | PACE | PACE | PACE | PACE | PACE | PACE | LL |
| Laboratory Work Order | | | | | | | | | | | | 1775150 | 10381907 | 1775150 | 10381907 | 10382287 | 10381907 | 10381907 | 10381907 | 10381907 | 1777963 |
| Laboratory Sample ID | | | | | | | | | | | | 8876951 | 10381907008 | 8876947 | 10381907001 | 10382287008 | 10381907003 | 10381907004 | 10381907005 | 10381907006 | 8889684 |
| Sample Type | Units | PADEP SHS VI Screening Value a | 1/10th PADEP SHS VI Screening Value b | OSHA PEL c | USEPA RSL d | USEPA RSL e | ACGIH TLV f | NIOSH REL g | Cal/ OSHA PEL h | MH Air Tox i | EPA Res IA j | | FIELD DUPLICATE SAMPLE | | | | | | | | |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | | | | |
| Benzene | µg/m$^3$ | 16 | 1.6 | 3190 | 1.6 | 1.6 | 1600 | 319.47 | 319.47 | 2.59 | 29 | **6.2 (3.2)(0.64)$^{bdei}$** | **8.2 (0.50)(0.19)$^{bdei}$** | **4.3 (3.2)(0.64)$^{bdei}$** | **6.4 (0.87)(0.16)$^{bdei}$** | **10.3 (0.44)(0.16)$^{bdei}$** | **8.6 (0.47)(0.18)$^{bdei}$** | **14.1 (0.58)(0.22)$^{bdei}$** | **15.8 (0.44)(0.16)$^{bdei}$** | **5.9 (0.44)(0.16)$^{bdei}$** | **3.6 (3.2)(0.64)$^{bdei}$** |
| 1,2-Dibromoethane (EDB) | µg/m$^3$ | 0.2 | 0.02 | 153700 | 0.02 | 0.02 | - | 345.79 | - | n/v | n/v | ND (7.7)(1.5) | ND (2.4)(1.2) | ND (7.7)(1.5) | ND (2.1)(1.0) | ND (2.1)(1.0) | ND (5.6)(1.1) | ND (7.0)(1.4) | ND (5.2)(1.0) | ND (5.2)(1.0) | ND (7.7)(1.5) |
| 1,2-Dichloroethane (EDC) | µg/m$^3$ | 4.7 | 0.47 | 202400 | 0.47 | 0.47 | 40500 | 4000 | 4000 | 0.16 | 0.2 | ND (4.0)(0.81) | ND (0.64)(0.32) | ND (4.0)(0.81) | ND (1.1)(0.27) | ND (0.55)(0.27) | ND (0.59)(0.30) | ND (0.74)(0.37) | ND (0.55)(0.27) | ND (0.55)(0.27) | ND (4.0)(0.81) |
| Ethylbenzene | µg/m$^3$ | 49 | 4.9 | 435000 | 4.9 | 4.9 | 86800 | 435000 | 435000 | 0.68 | 17 | ND (4.3)(0.87) | **1.7 (1.4)(0.66)$^{i}$** | ND (4.3)(0.87) | **1.5 J (3.0)(0.57)$^{i}$** | ND (1.2)(0.57) | ND (3.2)(0.61) | ND (4.0)(0.76) | ND (3.0)(0.57) | ND (3.0)(0.57) | ND (4.3)(0.87) |
| Isopropylbenzene (Cumene) | µg/m$^3$ | 1800 | 180 | 245000 | 1800 | 180 | 246000 | 245000 | 245000 | 11.2 | n/v | 2.6 J (4.9)(0.98) | ND (3.9)(0.21) | **310 (49)(0.98)$^{bei}$** | ND (3.4)(0.18) | ND (3.4)(0.18) | ND (3.6)(0.20) | ND (4.5)(0.25) | ND (3.4)(0.18) | ND (3.4)(0.18) | ND (4.9)(0.98) |
| Methyl Tert-Butyl Ether | µg/m$^3$ | 470 | 47 | - | 47 | 47 | 180000 | - | 144000 | n/v | 72 | ND (3.6)(0.72) | ND (5.7)(0.47) | ND (3.6)(0.72) | ND (4.9)(0.41) | 0.47 J (4.9)(0.41) | ND (5.3)(0.44) | ND (6.6)(0.55) | ND (4.9)(0.41) | ND (4.9)(0.41) | ND (3.6)(0.72) |
| Naphthalene | µg/m$^3$ | 3.6 | 0.36 | 50000 | 0.36 | 0.36 | 52000 | 50000 | 50000 | n/v | 4.8* | ND (5.2)(2.6) | ND (4.1)(0.47) | ND (5.2)(2.6) | **3.5 J (3.6)(0.41)$^{bde}$** | **1.6 J (3.6)(0.41)$^{bde}$** | **1.9 J (3.8)(0.44)$^{bde}$** | **1.0 J (4.8)(0.55)$^{bde}$** | **5.9 (3.6)(0.41)$^{abdej}$** | **0.74 J (3.6)(0.41)$^{bde}$** | ND (5.2)(2.6) |
| Toluene | µg/m$^3$ | 22000 | 2200 | 754000 | 22000 | 2200 | 75400 | 375000 | 37500 | 4.52 | 144 | 3.6 J (3.8)(0.75) | **7.3 (1.2)(0.24)$^{i}$** | 2.4 J (3.8)(0.75) | 2.1 (1.0)(0.21) | 2.8 (1.0)(0.21) | 3.5 (1.1)(0.22) | 4.1 (1.4)(0.28) | **5.3 (1.0)(0.21)$^{i}$** | 3.6 (1.0)(0.21) | 2.0 J (3.8)(0.75) |
| 1,2,4-Trimethylbenzene* | µg/m$^3$ | 31 | 3.1 | - | 260 | 26 | 123000 | 125000 | 125000 | 0.38 | 6.5 | ND (4.9)(0.98) | **4.4 (1.5)(0.19)$^{bi}$** | **1.2 J (4.9)(0.98)$^{i}$** | **2.1 J (3.3)(0.17)$^{i}$** | **0.58 J (3.3)(0.17)$^{i}$** | **2.5 J (3.6)(0.18)$^{i}$** | **3.0 J (4.5)(0.22)$^{i}$** | **2.4 J (3.3)(0.17)$^{i}$** | **2.6 J (3.3)(0.17)$^{i}$** | ND (4.9)(0.98) |
| 1,3,5-Trimethylbenzene* | µg/m$^3$ | 31 | 3.1 | - | 260 | 26 | 123000 | 125000 | 125000 | 1.12 | 19 | ND (4.9)(0.98) | ND (1.5)(0.28) | ND (4.9)(0.98) | ND (3.3)(0.25) | ND (1.3)(0.25) | ND (3.6)(0.26) | ND (4.5)(0.33) | ND (3.3)(0.25) | ND (3.3)(0.25) | ND (4.9)(0.98) |
| Total Xylene | µg/m$^3$ | 440 | 44 | 435000 | 440 | 44 | 434000 | 435000 | 435000 | 3.14 | 63.5 | - | **8.8 (4.1)(1.8)$^{i}$** | - | **4.8 (3.6)(1.5)$^{i}$** | ND (3.6)(1.5) | **7.7 (3.8)(1.6)$^{i}$** | **6.3 (4.8)(2.0)$^{i}$** | **7.9 (3.6)(1.5)$^{i}$** | **7.8 (3.6)(1.5)$^{i}$** | - |

Notes:

| | |
|---|---|
| VI-PA[A] | PADEP Indoor Air Statewide Health Standard Vapor Intrusion Screening Values, Non-Residential (January 2017). |
| [A] | Indoor Air Statewide Health Standard Vapor Intrusion Screening Values, Non-Residential. |
| [B] | One-tenth of PADEP Indoor Air Statewide Health Standard Vapor Intrusion Screening Values, Non-Residential. |
| OSHA[C] | Occupational Safety and Health Administration - Permissible Exposure Limits. |
| [C] | Permissible Exposure Limits. |
| USEPA RSL | United States Environmental Protection Agency (June 2017). |
| [D] | Regional Screening Level for Non-residential indoor air Hazard Index of 1. |
| [E] | Regional Screening Level for Non-residential indoor air Hazard Index of 0.1. |
| ACGIH TLV | American Conference of Governmental Industrial Hygienists. |
| [F] | Threshold Limit Value. |
| NIOSH | National Institute for Occupational Safety and Health. |
| [G] | Recommended Exposure Limits. |
| Cal / OSHA [H] | California Division of Occupational Safety and Health - Permissible Exposure Limits for chemical contaminants. |
| MH Air Tox [I] | Marcus Hook Air Toxics Monitor 2015, maximum value of PADEP data accessed February 5, 2016. |
| USEPA Res IA [J] | USEPA Background Residential Indoor Air 2011, 95th percentile. |
| * | 95th percentile value not provided, value is 90th percentile. |
| ***4.63*** **[B]** | Concentration exceeds the indicated standard. |
| 1.32 | Measured concentration did not exceed the indicated standard. |
| ND (2.4) (1.2) | Analyte was not detected at a concentration greater than the practical quantitation limit. The first value in parenthesis is the practical quantitaion limit. The method detection limit is shown in the second set of parenthesis. |
| n/v | No standard/guideline value. |
| J | Indicates an estimated value. |

**Table 13**

**Summary of Indoor and Outdoor Air from the Vapor Intrusion Sampling**
**AOI 6 Remedial Investigation Report**
**Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC**

| Sample Location | | | | | | | | | | | | AOI6-AI-17-17 | AOI6-AI-17-18 | AOI6-AI-17-19 | AOI6-AI-17-20 | AOI6-AI-17-21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Date | | | | | | | | | | | | 726 Building, Carpenter Shop 8-Mar-17 | Control Room, 739 Building 8-Mar-17 | 745 Building 8-Mar-17 | Control Room, 6627 Building 8-Mar-17 | Truck Scale House, 6636 Building 8-Mar-17 |
| Sample ID | | | | | | | | | | | | AOI6-AI-17-17 | AOI6-AI-17-18 | AOI6-AI-17-19 | AOI6-AI-17-20 | AOI6-AI-17-21 |
| Sampling Company | | | | | | | | | | | | GHD | GHD | GHD | GHD | GHD |
| Laboratory | | | | | | | | | | | | LL | LL | LL | LL | LL |
| Laboratory Work Order | | | | | | | | | | | | 1775150 | 1775150 | 1775150 | 1775150 | 1775150 |
| Laboratory Sample ID | | | | | | | | | | | | 8876957 | 8876952 | 8876958 | 8876946 | 8876956 |
| **Sample Type** | **Units** | **PADEP SHS VI Screening Value a** | **1/10th PADEP SHS VI Screening Value b** | **OSHA PEL c** | **USEPA RSL d** | **USEPA RSL e** | **ACGIH TLV f** | **NIOSH REL g** | **Cal/ OSHA PEL h** | **MH Air Tox i** | **EPA Res IA j** | | | | | |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | |
| Benzene | µg/m$^3$ | 16 | 1.6 | 3190 | 1.6 | 1.6 | 1600 | 319.47 | 319.47 | 2.59 | 29 | 1.2 J (3.2)(0.64) | **10 (3.2)(0.64)[bdei]** | 0.86 J (3.2)(0.64) | **21 (3.2)(0.64)[abdei]** | **5.0 (3.2)(0.64)[bdei]** |
| 1,2-Dibromoethane (EDB) | µg/m$^3$ | 0.2 | 0.02 | 153700 | 0.02 | 0.02 | - | 345.79 | - | n/v | n/v | ND (7.7)(1.5) | ND (7.7)(1.5) | ND (7.7)(1.5) | ND (7.7)(1.5) | ND (7.7)(1.5) |
| 1,2-Dichloroethane (EDC) | µg/m$^3$ | 4.7 | 0.47 | 202400 | 0.47 | 0.47 | 40500 | 4000 | 4000 | 0.16 | 0.2 | ND (4.0)(0.81) | ND (4.0)(0.81) | ND (4.0)(0.81) | ND (4.0)(0.81) | ND (4.0)(0.81) |
| Ethylbenzene | µg/m$^3$ | 49 | 4.9 | 435000 | 4.9 | 4.9 | 86800 | 435000 | 435000 | 0.68 | 17 | ND (4.3)(0.87) | ND (4.3)(0.87) | ND (4.3)(0.87) | **1.1 J (4.3)(0.87)[i]** | ND (4.3)(0.87) |
| Isopropylbenzene (Cumene) | µg/m$^3$ | 1800 | 180 | 245000 | 1800 | 180 | 246000 | 245000 | 245000 | 11.2 | n/v | ND (4.9)(0.98) | **15 (4.9)(0.98)[i]** | ND (4.9)(0.98) | **34 (4.9)(0.98)[i]** | 2.4 J (4.9)(0.98) |
| Methyl Tert-Butyl Ether | µg/m$^3$ | 470 | 47 | - | 47 | 47 | 180000 | - | 144000 | n/v | 72 | ND (3.6)(0.72) | ND (3.6)(0.72) | ND (3.6)(0.72) | ND (3.6)(0.72) | ND (3.6)(0.72) |
| Naphthalene | µg/m$^3$ | 3.6 | 0.36 | 50000 | 0.36 | 0.36 | 52000 | 50000 | 50000 | n/v | 4.8* | ND (5.2)(2.6) | ND (5.2)(2.6) | ND (5.2)(2.6) | ND (5.2)(2.6) | ND (5.2)(2.6) |
| Toluene | µg/m$^3$ | 22000 | 2200 | 754000 | 22000 | 2200 | 75400 | 375000 | 37500 | 4.52 | 144 | 1.4 J (3.8)(0.75) | 2.5 J (3.8)(0.75) | 1.1 J (3.8)(0.75) | 2.7 J (3.8)(0.75) | 2.7 J (3.8)(0.75) |
| 1,2,4-Trimethylbenzene* | µg/m$^3$ | 31 | 3.1 | - | 260 | 26 | 123000 | 125000 | 125000 | 0.38 | 6.5 | ND (4.9)(0.98) | ND (4.9)(0.98) | ND (4.9)(0.98) | **1.9 J (4.9)(0.98)[i]** | ND (4.9)(0.98) |
| 1,3,5-Trimethylbenzene* | µg/m$^3$ | 31 | 3.1 | - | 260 | 26 | 123000 | 125000 | 125000 | 1.12 | 19 | ND (4.9)(0.98) | ND (4.9)(0.98) | ND (4.9)(0.98) | ND (4.9)(0.98) | ND (4.9)(0.98) |
| Total Xylene | µg/m$^3$ | 440 | 44 | 435000 | 440 | 44 | 434000 | 435000 | 435000 | 3.14 | 63.5 | - | - | - | - | - |

Notes:

| | |
|---|---|
| VI-PA[A] | PADEP Indoor Air Statewide Health Standard Vapor Intrusion Screening Values, Non-Residential (January 2017). |
| [A] | Indoor Air Statewide Health Standard Vapor Intrusion Screening Values, Non-Residential. |
| [B] | One-tenth of PADEP Indoor Air Statewide Health Standard Vapor Intrusion Screening Values, Non-Residential. |
| OSHA[C] | Occupational Safety and Health Administration - Permissible Exposure Limits. |
| [C] | Permissible Exposure Limits. |
| USEPA RSL | United States Environmental Protection Agency (June 2017). |
| [D] | Regional Screening Level for Non-residential indoor air Hazard Index of 1. |
| [E] | Regional Screening Level for Non-residential indoor air Hazard Index of 0.1. |
| ACGIH TLV | American Conference of Governmental Industrial Hygienists. |
| [F] | Threshold Limit Value. |
| NIOSH | National Institute for Occupational Safety and Health. |
| [G] | Recommended Exposure Limits. |
| Cal / OSHA [H] | California Division of Occupational Safety and Health - Permissible Exposure Limits for chemical contaminants. |
| MH Air Tox [I] | Marcus Hook Air Toxics Monitor 2015, maximum value of PADEP data accessed February 5, 2016. |
| USEPA Res IA [J] | USEPA Background Residential Indoor Air 2011, 95th percentile. |
| * | 95th percentile value not provided, value is 90th percentile. |
| ***4.63*[B]** | Concentration exceeds the indicated standard. |
| 1.32 | Measured concentration did not exceed the indicated standard. |
| ND (2.4) (1.2) | Analyte was not detected at a concentration greater than the practical quantitation limit. The first value in parenthesis is the practical quantitaion limit. The method detection limit is shown in the second set of parenthesis. |
| n/v | No standard/guideline value. |
| J | Indicates an estimated value. |

# ANALYTICAL REPORT

April 09, 2018

## GHD - S/E

| | |
|---|---|
| Sample Delivery Group: | L827327 |
| Samples Received: | 04/04/2016 |
| Project Number: | 11102524 |
| Description: | Evergreen |
| Site: | PES |
| Report To: | Paul McMahon<br>2055 Niagara Falls Boulevard<br>Niagara Falls, NY 14304 |

Entire Report Reviewed By:

Mark W. Beasley
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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## IA-AOI3-018 L827327-01 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 14:55 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862542 | 1 | 04/08/16 01:59 | 04/08/16 01:59 | GLN |

## IA-AOI6-726 L827327-02 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 15:39 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862542 | 1 | 04/08/16 02:45 | 04/08/16 02:45 | GLN |

## IA-AOI6-178 L827327-03 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 15:42 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862542 | 1 | 04/08/16 03:30 | 04/08/16 03:30 | GLN |

## IA-AOI6-OUTDOOR-032916 L827327-04 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 15:45 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862542 | 1 | 04/08/16 04:14 | 04/08/16 04:14 | GLN |

## IA-AOI6-295-1 L827327-05 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 15:54 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862833 | 1 | 04/08/16 02:22 | 04/08/16 02:22 | GLN |

## IA-AOI6-295-2 L827327-06 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 15:56 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862833 | 1 | 04/08/16 03:11 | 04/08/16 03:11 | GLN |

## IA-AOI7-595 L827327-07 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 16:04 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862833 | 1 | 04/08/16 04:00 | 04/08/16 04:00 | GLN |

## IA-AOI7-450-1 L827327-08 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 16:13 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862702 | 1 | 04/07/16 19:49 | 04/07/16 19:49 | GLN |

## IA-AOI7-450-2 L827327-09 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 16:18 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862702 | 1 | 04/07/16 20:38 | 04/07/16 20:38 | GLN |

## IA-AOI7-450-3 L827327-10 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 16:21 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862702 | 1 | 04/07/16 21:29 | 04/07/16 21:29 | GLN |

## IA-AOI7-450-4 L827327-11 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 15:23 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862833 | 1 | 04/08/16 04:50 | 04/08/16 04:50 | GLN |

## IA-AOI7-450-5 L827327-12 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 15:26 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862833 | 1 | 04/08/16 05:39 | 04/08/16 05:39 | GLN |

## IA-AOI7-442 L827327-13 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 16:38 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862833 | 1 | 04/08/16 06:27 | 04/08/16 06:27 | GLN |

## IA-AOI7-711 L827327-14 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 17:20 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862833 | 1 | 04/08/16 07:17 | 04/08/16 07:17 | GLN |

## IA-AOI7-OUTDOOR L827327-15 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 17:01 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862833 | 1 | 04/08/16 08:04 | 04/08/16 08:04 | GLN |

## IA-AOI7-6622 L827327-16 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 17:30 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862833 | 1 | 04/08/16 08:55 | 04/08/16 08:55 | GLN |

## IA-AOI7-6626 L827327-17 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 17:35 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862833 | 1 | 04/08/16 09:46 | 04/08/16 09:46 | GLN |

## IA-AOI7-6625 L827327-18 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 17:42 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862833 | 1 | 04/08/16 10:33 | 04/08/16 10:33 | GLN |

## IA-AOI8-6642 L827327-19 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 08:35 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862704 | 1 | 04/08/16 01:39 | 04/08/16 01:39 | GLN |

## IA-AOI8-6641 L827327-20 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 17:57 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862704 | 1 | 04/08/16 02:31 | 04/08/16 02:31 | GLN |

## IA-AOI8-3326 L827327-21 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 18:10 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862704 | 1 | 04/08/16 03:21 | 04/08/16 03:21 | GLN |

## IA-AOI8-27 L827327-22 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 18:16 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862704 | 1 | 04/08/16 04:09 | 04/08/16 04:09 | GLN |

## IA-AOI8-27-DUP L827327-23 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 18:16 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862704 | 1 | 04/08/16 05:25 | 04/08/16 05:25 | GLN |

## IA-AOI8-OUTDOOR L827327-24 Air

Collected by: Rich Burns | Collected date/time: 03/29/16 18:30 | Received date/time: 04/04/16 09:30

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862704 | 1 | 04/08/16 06:14 | 04/08/16 06:14 | GLN |

## FIELD BLANK L827327-25 Air

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| Rich Burns | 03/29/16 00:00 | 04/04/16 09:30 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst |
|---|---|---|---|---|---|
| Volatile Organic Compounds (MS) by Method TO-15 | WG862704 | 1 | 04/08/16 07:03 | 04/08/16 07:03 | GLN |

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Mark W. Beasley
Technical Service Representative

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 1.64 | 5.25 | | 1 | WG862542 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862542 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862542 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.133 | 0.577 | J | 1 | WG862542 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | 0.230 | 1.13 | | 1 | WG862542 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862542 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862542 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 1.27 | 4.79 | | 1 | WG862542 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.250 | 1.23 | | 1 | WG862542 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862542 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.198 | 0.858 | J | 1 | WG862542 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.514 | 2.23 | | 1 | WG862542 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *104* | | | | WG862542 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 1.08 | 3.46 | | 1 | WG862542 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862542 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862542 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.0905 | 0.392 | J | 1 | WG862542 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | 0.295 | 1.45 | | 1 | WG862542 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862542 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862542 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 0.547 | 2.06 | | 1 | WG862542 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.136 | 0.669 | J | 1 | WG862542 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862542 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.114 | 0.496 | J | 1 | WG862542 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.349 | 1.51 | J | 1 | WG862542 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *98.8* | | | | WG862542 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 1.58 | 5.05 | | 1 | WG862542 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862542 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862542 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.0982 | 0.426 | J | 1 | WG862542 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | 0.324 | 1.60 | | 1 | WG862542 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862542 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862542 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 0.683 | 2.57 | | 1 | WG862542 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.152 | 0.747 | J | 1 | WG862542 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862542 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.132 | 0.572 | J | 1 | WG862542 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.405 | 1.76 | | 1 | WG862542 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *101* | | | | WG862542 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 1.24 | 3.95 | | 1 | WG862542 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862542 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862542 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.0834 | 0.361 | J | 1 | WG862542 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | 0.350 | 1.72 | | 1 | WG862542 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862542 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862542 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 0.755 | 2.85 | | 1 | WG862542 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.106 | 0.518 | J | 1 | WG862542 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862542 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.122 | 0.527 | J | 1 | WG862542 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.365 | 1.58 | J | 1 | WG862542 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *98.5* | | | | WG862542 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 1.24 | 3.97 | | 1 | WG862833 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862833 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862833 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.170 | 0.736 | J | 1 | WG862833 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | 0.153 | 0.750 | J | 1 | WG862833 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862833 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | 0.427 | 2.23 | B J | 1 | WG862833 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 0.829 | 3.12 | | 1 | WG862833 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.445 | 2.18 | | 1 | WG862833 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | 0.138 | 0.677 | J | 1 | WG862833 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.197 | 0.852 | J | 1 | WG862833 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.507 | 2.20 | | 1 | WG862833 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *97.2* | | | | WG862833 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 1.23 | 3.94 | | 1 | WG862833 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862833 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862833 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.221 | 0.960 | | 1 | WG862833 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | 0.170 | 0.837 | J | 1 | WG862833 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862833 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | 0.188 | 0.985 | B J | 1 | WG862833 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 0.826 | 3.11 | | 1 | WG862833 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.415 | 2.04 | | 1 | WG862833 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | 0.128 | 0.630 | J | 1 | WG862833 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.196 | 0.850 | J | 1 | WG862833 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.529 | 2.29 | | 1 | WG862833 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *100* | | | | WG862833 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 1.45 | 4.63 | | 1 | WG862833 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862833 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862833 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.158 | 0.686 | J | 1 | WG862833 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | 0.136 | 0.668 | J | 1 | WG862833 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862833 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | 0.298 | 1.56 | B J | 1 | WG862833 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 1.46 | 5.51 | | 1 | WG862833 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.221 | 1.09 | | 1 | WG862833 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862833 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.206 | 0.891 | | 1 | WG862833 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.573 | 2.48 | | 1 | WG862833 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *99.5* | | | | WG862833 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 0.315 | 1.00 | | 1 | WG862702 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862702 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862702 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.259 | 1.12 | | 1 | WG862702 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | U | U | | 1 | WG862702 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862702 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | 0.309 | 1.62 | J | 1 | WG862702 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 2.78 | 10.5 | | 1 | WG862702 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.214 | 1.05 | | 1 | WG862702 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | 0.105 | 0.515 | J | 1 | WG862702 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.385 | 1.67 | | 1 | WG862702 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 1.06 | 4.58 | | 1 | WG862702 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *96.7* | | | | WG862702 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 0.269 | 0.860 | | 1 | WG862702 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862702 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862702 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.174 | 0.755 | J | 1 | WG862702 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | U | U | | 1 | WG862702 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862702 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862702 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 0.835 | 3.15 | | 1 | WG862702 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.159 | 0.781 | J | 1 | WG862702 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862702 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.185 | 0.804 | J | 1 | WG862702 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.483 | 2.09 | | 1 | WG862702 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *95.5* | | | | WG862702 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 0.305 | 0.973 | | 1 | WG862702 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862702 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862702 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.0935 | 0.405 | J | 1 | WG862702 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | U | U | | 1 | WG862702 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862702 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862702 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 1.09 | 4.12 | | 1 | WG862702 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.144 | 0.706 | J | 1 | WG862702 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862702 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.130 | 0.564 | J | 1 | WG862702 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.338 | 1.47 | J | 1 | WG862702 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *97.5* | | | | WG862702 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 0.483 | 1.54 | | 1 | WG862833 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862833 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862833 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.274 | 1.19 | | 1 | WG862833 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | U | U | | 1 | WG862833 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862833 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862833 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 2.37 | 8.91 | | 1 | WG862833 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.251 | 1.23 | | 1 | WG862833 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | 0.0873 | 0.428 | J | 1 | WG862833 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.305 | 1.32 | | 1 | WG862833 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.724 | 3.14 | | 1 | WG862833 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *97.8* | | | | WG862833 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 0.622 | 1.99 | | 1 | WG862833 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862833 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862833 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.594 | 2.58 | | 1 | WG862833 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | 0.108 | 0.531 | J | 1 | WG862833 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862833 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862833 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 13.2 | 49.8 | | 1 | WG862833 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.434 | 2.13 | | 1 | WG862833 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | 0.163 | 0.799 | J | 1 | WG862833 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.662 | 2.87 | | 1 | WG862833 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 1.82 | 7.89 | | 1 | WG862833 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *97.2* | | | | WG862833 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 0.525 | 1.68 | | 1 | WG862833 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862833 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862833 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.318 | 1.38 | | 1 | WG862833 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | U | U | | 1 | WG862833 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862833 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862833 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 5.06 | 19.1 | | 1 | WG862833 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.249 | 1.22 | | 1 | WG862833 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862833 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.313 | 1.36 | | 1 | WG862833 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.838 | 3.63 | | 1 | WG862833 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *97.2* | | | | WG862833 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 0.694 | 2.22 | | 1 | WG862833 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862833 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862833 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.176 | 0.764 | J | 1 | WG862833 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | 0.116 | 0.568 | J | 1 | WG862833 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862833 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862833 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 1.04 | 3.93 | | 1 | WG862833 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.599 | 2.94 | | 1 | WG862833 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | 0.201 | 0.984 | | 1 | WG862833 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.240 | 1.04 | | 1 | WG862833 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.568 | 2.46 | | 1 | WG862833 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *99.9* | | | | WG862833 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 0.415 | 1.32 | | 1 | WG862833 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862833 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862833 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.129 | 0.558 | J | 1 | WG862833 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | U | U | | 1 | WG862833 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862833 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862833 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 1.07 | 4.05 | | 1 | WG862833 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.142 | 0.694 | J | 1 | WG862833 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862833 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.165 | 0.717 | J | 1 | WG862833 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.458 | 1.99 | | 1 | WG862833 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *97.5* | | | | WG862833 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 1.10 | 3.52 | | 1 | WG862833 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862833 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862833 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 1.14 | 4.94 | | 1 | WG862833 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | 0.259 | 1.27 | | 1 | WG862833 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | 0.0969 | 0.349 | J | 1 | WG862833 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862833 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 1.93 | 7.29 | | 1 | WG862833 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 4.41 | 21.6 | | 1 | WG862833 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | 1.39 | 6.81 | | 1 | WG862833 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 1.80 | 7.79 | | 1 | WG862833 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 3.89 | 16.9 | | 1 | WG862833 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *98.3* | | | | WG862833 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 1.05 | 3.36 | | 1 | WG862833 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862833 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862833 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.370 | 1.60 | | 1 | WG862833 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | 0.425 | 2.09 | | 1 | WG862833 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862833 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862833 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 0.811 | 3.06 | | 1 | WG862833 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.777 | 3.81 | | 1 | WG862833 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | 0.242 | 1.19 | | 1 | WG862833 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.471 | 2.04 | | 1 | WG862833 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 1.19 | 5.15 | | 1 | WG862833 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *105* | | | | WG862833 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 0.512 | 1.63 | | 1 | WG862833 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862833 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862833 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.974 | 4.22 | | 1 | WG862833 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | 0.132 | 0.648 | J | 1 | WG862833 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862833 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | 0.398 | 2.09 | B J | 1 | WG862833 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 18.9 | 71.4 | | 1 | WG862833 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 1.30 | 6.40 | | 1 | WG862833 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | 0.362 | 1.78 | | 1 | WG862833 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 1.10 | 4.75 | | 1 | WG862833 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 2.83 | 12.3 | | 1 | WG862833 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *97.7* | | | | WG862833 |

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 0.130 | 0.416 | J | 1 | WG862704 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862704 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862704 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | U | U | | 1 | WG862704 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | U | U | | 1 | WG862704 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862704 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862704 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 0.326 | 1.23 | | 1 | WG862704 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.197 | 0.965 | J | 1 | WG862704 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862704 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | U | U | | 1 | WG862704 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.133 | 0.574 | J | 1 | WG862704 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *101* | | | | WG862704 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 0.161 | 0.514 | J | 1 | WG862704 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862704 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862704 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.131 | 0.570 | J | 1 | WG862704 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | U | U | | 1 | WG862704 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862704 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862704 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 0.680 | 2.56 | | 1 | WG862704 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | 0.139 | 0.683 | J | 1 | WG862704 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862704 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.109 | 0.474 | J | 1 | WG862704 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.288 | 1.25 | J | 1 | WG862704 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *101* | | | | WG862704 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 0.134 | 0.427 | J | 1 | WG862704 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862704 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862704 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | 0.104 | 0.450 | J | 1 | WG862704 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | U | U | | 1 | WG862704 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862704 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862704 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 0.302 | 1.14 | | 1 | WG862704 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | U | U | | 1 | WG862704 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862704 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.130 | 0.564 | J | 1 | WG862704 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.410 | 1.78 | | 1 | WG862704 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *99.3* | | | | WG862704 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 0.0969 | 0.310 | J | 1 | WG862704 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862704 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862704 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | U | U | | 1 | WG862704 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | U | U | | 1 | WG862704 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862704 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862704 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 0.190 | 0.717 | J | 1 | WG862704 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | U | U | | 1 | WG862704 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862704 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | U | U | | 1 | WG862704 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.100 | 0.435 | J | 1 | WG862704 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *98.6* | | | | WG862704 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 0.179 | 0.572 | J | 1 | WG862704 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862704 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862704 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | U | U | | 1 | WG862704 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | U | U | | 1 | WG862704 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862704 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862704 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 0.268 | 1.01 | | 1 | WG862704 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | U | U | | 1 | WG862704 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862704 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | U | U | | 1 | WG862704 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.146 | 0.634 | J | 1 | WG862704 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *104* | | | | WG862704 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | 0.140 | 0.448 | J | 1 | WG862704 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862704 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862704 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | U | U | | 1 | WG862704 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | U | U | | 1 | WG862704 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862704 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862704 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | 2.19 | 8.26 | | 1 | WG862704 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | U | U | | 1 | WG862704 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862704 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | 0.0840 | 0.364 | J | 1 | WG862704 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | 0.221 | 0.959 | J | 1 | WG862704 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *97.2* | | | | WG862704 |

## Volatile Organic Compounds (MS) by Method TO-15

| Analyte | CAS # | Mol. Wt. | MDL1 ppbv | RDL1 ppbv | RDL2 ug/m3 | Result ppbv | Result ug/m3 | Qualifier | Dilution | Batch |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | 78.10 | 0.0460 | 0.200 | 0.639 | U | U | | 1 | WG862704 |
| 1,2-Dibromoethane | 106-93-4 | 188 | 0.0185 | 0.200 | 1.54 | U | U | | 1 | WG862704 |
| 1,2-Dichloroethane | 107-06-2 | 99 | 0.0616 | 0.200 | 0.810 | U | U | | 1 | WG862704 |
| Ethylbenzene | 100-41-4 | 106 | 0.0506 | 0.200 | 0.867 | U | U | | 1 | WG862704 |
| Isopropylbenzene | 98-82-8 | 120.20 | 0.0563 | 0.200 | 0.983 | U | U | | 1 | WG862704 |
| MTBE | 1634-04-4 | 88.10 | 0.0505 | 0.200 | 0.721 | U | U | | 1 | WG862704 |
| Naphthalene | 91-20-3 | 128 | 0.154 | 0.630 | 3.30 | U | U | | 1 | WG862704 |
| Toluene | 108-88-3 | 92.10 | 0.0499 | 0.200 | 0.753 | U | U | | 1 | WG862704 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120 | 0.0483 | 0.200 | 0.982 | U | U | | 1 | WG862704 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120 | 0.0631 | 0.200 | 0.982 | U | U | | 1 | WG862704 |
| o-Xylene | 95-47-6 | 106 | 0.0633 | 0.200 | 0.867 | U | U | | 1 | WG862704 |
| m&p-Xylene | 1330-20-7 | 106 | 0.0946 | 0.400 | 1.73 | U | U | | 1 | WG862704 |
| *(S) 1,4-Bromofluorobenzene* | *460-00-4* | *175* | | *60.0-140* | | *96.1* | | | | WG862704 |

## Method Blank (MB)

(MB) R3127322-3 04/07/16 13:58

| Analyte | MB Result ppbv | MB Qualifier | MB MDL ppbv | MB RDL ppbv |
|---|---|---|---|---|
| Benzene | U | | 0.0460 | 0.200 |
| 1,2-Dibromoethane | U | | 0.0185 | 0.200 |
| 1,2-Dichloroethane | U | | 0.0616 | 0.200 |
| Ethylbenzene | U | | 0.0506 | 0.200 |
| Isopropylbenzene | U | | 0.0563 | 0.200 |
| MTBE | U | | 0.0505 | 0.200 |
| Naphthalene | U | | 0.154 | 0.630 |
| Toluene | U | | 0.0499 | 0.200 |
| 1,2,4-Trimethylbenzene | U | | 0.0483 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0631 | 0.200 |
| m&p-Xylene | U | | 0.0946 | 0.400 |
| o-Xylene | U | | 0.0633 | 0.200 |
| *(S) 1,4-Bromofluorobenzene* | *97.3* | | | *60.0-140* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3127322-1 04/07/16 12:34 • (LCSD) R3127322-2 04/07/16 13:15

| Analyte | Spike Amount ppbv | LCS Result ppbv | LCSD Result ppbv | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| MTBE | 3.75 | 3.43 | 3.42 | 91.3 | 91.3 | 70.0-130 | | | 0.0600 | 25 |
| Benzene | 3.75 | 3.87 | 3.99 | 103 | 106 | 70.0-130 | | | 2.94 | 25 |
| 1,2-Dichloroethane | 3.75 | 3.85 | 3.92 | 103 | 105 | 70.0-130 | | | 1.83 | 25 |
| Toluene | 3.75 | 3.90 | 4.03 | 104 | 107 | 70.0-130 | | | 3.41 | 25 |
| 1,2-Dibromoethane | 3.75 | 3.89 | 3.97 | 104 | 106 | 70.0-130 | | | 1.92 | 25 |
| Ethylbenzene | 3.75 | 3.95 | 4.11 | 105 | 110 | 70.0-130 | | | 3.97 | 25 |
| m&p-Xylene | 7.50 | 8.00 | 8.28 | 107 | 110 | 70.0-130 | | | 3.52 | 25 |
| o-Xylene | 3.75 | 3.96 | 4.10 | 106 | 109 | 70.0-130 | | | 3.65 | 25 |
| 1,3,5-Trimethylbenzene | 3.75 | 4.11 | 4.26 | 109 | 114 | 70.0-130 | | | 3.67 | 25 |
| 1,2,4-Trimethylbenzene | 3.75 | 4.01 | 4.17 | 107 | 111 | 70.0-130 | | | 3.77 | 25 |
| Naphthalene | 3.75 | 4.22 | 4.37 | 113 | 116 | 52.0-158 | | | 3.31 | 25 |
| Isopropylbenzene | 3.75 | 3.96 | 4.13 | 106 | 110 | 70.0-130 | | | 4.13 | 25 |
| *(S) 1,4-Bromofluorobenzene* | | | | *100* | *100* | *60.0-140* | | | | |

## Method Blank (MB)

(MB) R3127081-3 04/07/16 09:22

| Analyte | MB Result ppbv | MB Qualifier | MB MDL ppbv | MB RDL ppbv |
|---|---|---|---|---|
| Benzene | U | | 0.0460 | 0.200 |
| 1,2-Dibromoethane | U | | 0.0185 | 0.200 |
| 1,2-Dichloroethane | U | | 0.0616 | 0.200 |
| Ethylbenzene | U | | 0.0506 | 0.200 |
| Isopropylbenzene | U | | 0.0563 | 0.200 |
| MTBE | U | | 0.0505 | 0.200 |
| Naphthalene | U | | 0.154 | 0.630 |
| Toluene | U | | 0.0499 | 0.200 |
| 1,2,4-Trimethylbenzene | U | | 0.0483 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0631 | 0.200 |
| m&p-Xylene | U | | 0.0946 | 0.400 |
| o-Xylene | U | | 0.0633 | 0.200 |
| *(S) 1,4-Bromofluorobenzene* | *98.0* | | | *60.0-140* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3127081-1 04/07/16 07:55 • (LCSD) R3127081-2 04/07/16 08:39

| Analyte | Spike Amount ppbv | LCS Result ppbv | LCSD Result ppbv | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| MTBE | 3.75 | 4.13 | 4.21 | 110 | 112 | 70.0-130 | | | 1.90 | 25 |
| Benzene | 3.75 | 4.11 | 4.18 | 109 | 111 | 70.0-130 | | | 1.73 | 25 |
| 1,2-Dichloroethane | 3.75 | 4.02 | 4.10 | 107 | 109 | 70.0-130 | | | 1.96 | 25 |
| Toluene | 3.75 | 4.14 | 4.21 | 110 | 112 | 70.0-130 | | | 1.57 | 25 |
| 1,2-Dibromoethane | 3.75 | 4.15 | 4.22 | 111 | 113 | 70.0-130 | | | 1.74 | 25 |
| Ethylbenzene | 3.75 | 4.19 | 4.23 | 112 | 113 | 70.0-130 | | | 1.03 | 25 |
| m&p-Xylene | 7.50 | 8.27 | 8.33 | 110 | 111 | 70.0-130 | | | 0.780 | 25 |
| o-Xylene | 3.75 | 4.19 | 4.25 | 112 | 113 | 70.0-130 | | | 1.37 | 25 |
| 1,3,5-Trimethylbenzene | 3.75 | 4.21 | 4.25 | 112 | 113 | 70.0-130 | | | 0.880 | 25 |
| 1,2,4-Trimethylbenzene | 3.75 | 4.21 | 4.27 | 112 | 114 | 70.0-130 | | | 1.41 | 25 |
| Naphthalene | 3.75 | 4.42 | 4.48 | 118 | 119 | 52.0-158 | | | 1.32 | 25 |
| Isopropylbenzene | 3.75 | 4.23 | 4.28 | 113 | 114 | 70.0-130 | | | 1.19 | 25 |
| *(S) 1,4-Bromofluorobenzene* | | | | *99.4* | *98.9* | *60.0-140* | | | | |

## Method Blank (MB)

(MB) R3127282-3 04/07/16 17:18

| Analyte | MB Result ppbv | MB Qualifier | MB MDL ppbv | MB RDL ppbv |
|---|---|---|---|---|
| Benzene | U | | 0.0460 | 0.200 |
| 1,2-Dibromoethane | U | | 0.0185 | 0.200 |
| 1,2-Dichloroethane | U | | 0.0616 | 0.200 |
| Ethylbenzene | U | | 0.0506 | 0.200 |
| Isopropylbenzene | U | | 0.0563 | 0.200 |
| MTBE | U | | 0.0505 | 0.200 |
| Naphthalene | 0.204 | | 0.154 | 0.630 |
| Toluene | U | | 0.0499 | 0.200 |
| 1,2,4-Trimethylbenzene | U | | 0.0483 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0631 | 0.200 |
| m&p-Xylene | U | | 0.0946 | 0.400 |
| o-Xylene | U | | 0.0633 | 0.200 |
| *(S) 1,4-Bromofluorobenzene* | *97.7* | | | *60.0-140* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3127282-1 04/07/16 15:44 • (LCSD) R3127282-2 04/07/16 16:30

| Analyte | Spike Amount ppbv | LCS Result ppbv | LCSD Result ppbv | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| MTBE | 3.75 | 4.04 | 4.11 | 108 | 110 | 70.0-130 | | | 1.86 | 25 |
| Benzene | 3.75 | 4.15 | 4.06 | 111 | 108 | 70.0-130 | | | 2.32 | 25 |
| 1,2-Dichloroethane | 3.75 | 4.13 | 3.99 | 110 | 106 | 70.0-130 | | | 3.48 | 25 |
| Toluene | 3.75 | 4.11 | 4.08 | 109 | 109 | 70.0-130 | | | 0.740 | 25 |
| 1,2-Dibromoethane | 3.75 | 4.30 | 4.21 | 115 | 112 | 70.0-130 | | | 2.07 | 25 |
| Ethylbenzene | 3.75 | 4.11 | 4.08 | 110 | 109 | 70.0-130 | | | 0.930 | 25 |
| m&p-Xylene | 7.50 | 8.10 | 7.95 | 108 | 106 | 70.0-130 | | | 1.82 | 25 |
| o-Xylene | 3.75 | 4.10 | 4.05 | 109 | 108 | 70.0-130 | | | 1.08 | 25 |
| 1,3,5-Trimethylbenzene | 3.75 | 4.09 | 4.06 | 109 | 108 | 70.0-130 | | | 0.600 | 25 |
| 1,2,4-Trimethylbenzene | 3.75 | 4.14 | 4.11 | 110 | 110 | 70.0-130 | | | 0.750 | 25 |
| Naphthalene | 3.75 | 4.43 | 4.24 | 118 | 113 | 52.0-158 | | | 4.51 | 25 |
| Isopropylbenzene | 3.75 | 4.11 | 4.05 | 110 | 108 | 70.0-130 | | | 1.36 | 25 |
| *(S) 1,4-Bromofluorobenzene* | | | | *104* | *102* | *60.0-140* | | | | |

## Method Blank (MB)

(MB) R3127543-3 04/08/16 01:33

| Analyte | MB Result ppbv | MB Qualifier | MB MDL ppbv | MB RDL ppbv |
|---|---|---|---|---|
| Benzene | U | | 0.0460 | 0.200 |
| 1,2-Dibromoethane | U | | 0.0185 | 0.200 |
| 1,2-Dichloroethane | U | | 0.0616 | 0.200 |
| Ethylbenzene | U | | 0.0506 | 0.200 |
| Isopropylbenzene | U | | 0.0563 | 0.200 |
| MTBE | U | | 0.0505 | 0.200 |
| Naphthalene | 0.195 | | 0.154 | 0.630 |
| Toluene | U | | 0.0499 | 0.200 |
| 1,2,4-Trimethylbenzene | U | | 0.0483 | 0.200 |
| 1,3,5-Trimethylbenzene | U | | 0.0631 | 0.200 |
| m&p-Xylene | U | | 0.0946 | 0.400 |
| o-Xylene | U | | 0.0633 | 0.200 |
| *(S) 1,4-Bromofluorobenzene* | *98.7* | | | *60.0-140* |

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3127543-1 04/08/16 00:02 • (LCSD) R3127543-2 04/08/16 00:48

| Analyte | Spike Amount ppbv | LCS Result ppbv | LCSD Result ppbv | LCS Rec. % | LCSD Rec. % | Rec. Limits % | LCS Qualifier | LCSD Qualifier | RPD % | RPD Limits % |
|---|---|---|---|---|---|---|---|---|---|---|
| MTBE | 3.75 | 3.87 | 4.06 | 103 | 108 | 70.0-130 | | | 4.79 | 25 |
| Benzene | 3.75 | 3.81 | 3.99 | 101 | 106 | 70.0-130 | | | 4.76 | 25 |
| 1,2-Dichloroethane | 3.75 | 3.86 | 4.00 | 103 | 107 | 70.0-130 | | | 3.57 | 25 |
| Toluene | 3.75 | 3.91 | 4.05 | 104 | 108 | 70.0-130 | | | 3.49 | 25 |
| 1,2-Dibromoethane | 3.75 | 3.98 | 4.17 | 106 | 111 | 70.0-130 | | | 4.74 | 25 |
| Ethylbenzene | 3.75 | 3.90 | 4.08 | 104 | 109 | 70.0-130 | | | 4.52 | 25 |
| m&p-Xylene | 7.50 | 7.87 | 8.28 | 105 | 110 | 70.0-130 | | | 5.02 | 25 |
| o-Xylene | 3.75 | 3.95 | 4.14 | 105 | 111 | 70.0-130 | | | 4.86 | 25 |
| 1,3,5-Trimethylbenzene | 3.75 | 3.89 | 4.07 | 104 | 108 | 70.0-130 | | | 4.46 | 25 |
| 1,2,4-Trimethylbenzene | 3.75 | 4.08 | 4.21 | 109 | 112 | 70.0-130 | | | 3.21 | 25 |
| Naphthalene | 3.75 | 4.72 | 4.87 | 126 | 130 | 52.0-158 | | | 3.12 | 25 |
| Isopropylbenzene | 3.75 | 4.00 | 4.15 | 107 | 111 | 70.0-130 | | | 3.83 | 25 |
| *(S) 1,4-Bromofluorobenzene* | | | | *99.5* | *100* | *60.0-140* | | | | |

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

## Abbreviations and Definitions

| | |
|---|---|
| MDL | Method Detection Limit. |
| RDL | Reported Detection Limit. |
| Rec. | Recovery. |
| RPD | Relative Percent Difference. |
| SDG | Sample Delivery Group. |
| (S) | Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media. |
| U | Not detected at the Reporting Limit (or MDL where applicable). |
| Analyte | The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported. |
| Dilution | If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor. |
| Limits | These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges. |
| Qualifier | This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable. |
| Result | The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte. |
| Case Narrative (Cn) | A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report. |
| Quality Control Summary (Qc) | This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material. |
| Sample Chain of Custody (Sc) | This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis. |
| Sample Results (Sr) | This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported. |
| Sample Summary (Ss) | This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis. |

| Qualifier | Description |
|---|---|
| B | The same analyte is found in the associated blank. |
| J | The identification of the analyte is acceptable; the reported value is an estimate. |

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

## State Accreditations

| | | | |
|---|---|---|---|
| Alabama | 40660 | Nebraska | NE-OS-15-05 |
| Alaska | 17-026 | Nevada | TN-03-2002-34 |
| Arizona | AZ0612 | New Hampshire | 2975 |
| Arkansas | 88-0469 | New Jersey–NELAP | TN002 |
| California | 2932 | New Mexico [1] | n/a |
| Colorado | TN00003 | New York | 11742 |
| Connecticut | PH-0197 | North Carolina | Env375 |
| Florida | E87487 | North Carolina [1] | DW21704 |
| Georgia | NELAP | North Carolina [3] | 41 |
| Georgia [1] | 923 | North Dakota | R-140 |
| Idaho | TN00003 | Ohio–VAP | CL0069 |
| Illinois | 200008 | Oklahoma | 9915 |
| Indiana | C-TN-01 | Oregon | TN200002 |
| Iowa | 364 | Pennsylvania | 68-02979 |
| Kansas | E-10277 | Rhode Island | LAO00356 |
| Kentucky [1 6] | 90010 | South Carolina | 84004 |
| Kentucky [2] | 16 | South Dakota | n/a |
| Louisiana | AI30792 | Tennessee [1 4] | 2006 |
| Louisiana [1] | LA180010 | Texas | T 104704245-17-14 |
| Maine | TN0002 | Texas [5] | LAB0152 |
| Maryland | 324 | Utah | TN00003 |
| Massachusetts | M-TN003 | Vermont | VT2006 |
| Michigan | 9958 | Virginia | 460132 |
| Minnesota | 047-999-395 | Washington | C847 |
| Mississippi | TN00003 | West Virginia | 233 |
| Missouri | 340 | Wisconsin | 9980939910 |
| Montana | CERT0086 | Wyoming | A2LA |

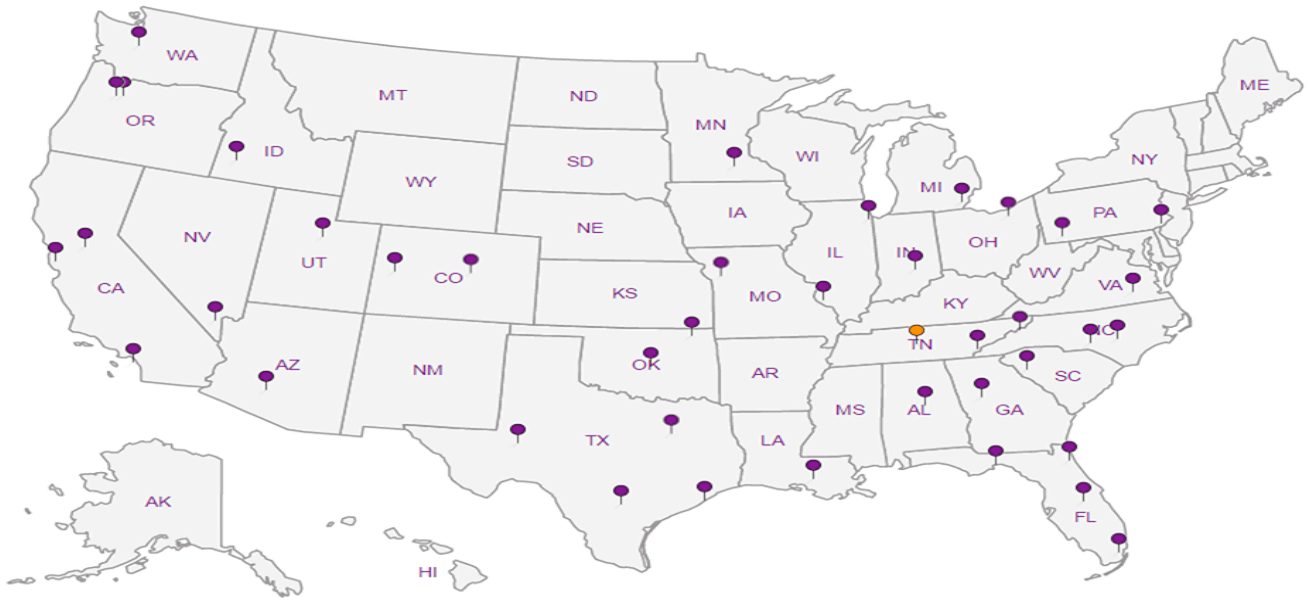
## Third Party Federal Accreditations

| | | | |
|---|---|---|---|
| A2LA – ISO 17025 | 1461.01 | AIHA-LAP,LLC EMLAP | 100789 |
| A2LA – ISO 17025 [5] | 1461.02 | DOD | 1461.01 |
| Canada | 1461.01 | USDA | P330-15-00234 |
| EPA–Crypto | TN00003 | | |

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

## Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



Chain of Custody Page 1 of 3

ESC LAB SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

**Sunoco/GHD**
2055 Niagara Falls Boulevard
Niagara Falls, NY 14304

**Billing Information:**
Paul McMahon
1755 Wittington Pl., Ste. 500
Dallas, TX 75234

Report to: Paul McMahon

Email To: Paul.McMahon@ghd.com, David.Steele@ghd.com, Richard.Burns@ghd.com

Project Description: Sunoco/Evergeen

City/State Collected: PHILA, PA

Phone: 716-297-6150
Fax:

Client Project # 11102524

Lab Project # SUNGHD-11102524

Collected by (print): RICH BURNS

Site/Facility ID # PES

P.O. #

Collected by (signature): Rich Burns

Immediately Packed on Ice N ___ Y ___

**Rush?** (Lab MUST Be Notified)
___ Same Day .....200%
___ Next Day .....100%
___ Two Day .....50%
___ Three Day .....25%

Date Results Needed

Email? ___No X_Yes
FAX? ___No ___Yes

L # L827327

Table #

Acctnum: SUNGHD
Template: T110832
Prelogin: P546860
TSR: 134 - Mark W. Beasley
PB:

Shipped Via: FedEX Standard

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | TO-15 Summa | Rem./Contaminant | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|
| IA-A013-018 | — | Air | — | 3.29.16 | 0714/1455 | 1 | X | | -01 |
| IA-A016-726 | — | Air | — | 3.29.16 | 0737/1539 | 1 | X | | -02 |
| IA-A016-178 | — | Air | — | 3.29.16 | 0743/1542 | 1 | X | | -03 |
| IA-A016-032916 OUTDOOR | — | Air | — | 3.29.16 | 0750/1545 | 1 | X | | -04 |
| IA-A016-295-1 | — | Air | — | 3.29.16 | 0802/1554 | 1 | X | | -05 |
| IA-A016-295-2 | — | Air | — | 3.29.16 | 0807/1556 | 1 | X | | -06 |
| IA-A017-595 | — | Air | — | 3.29.16 | 0821/1604 | 1 | X | | -07 |
| IA-A017-450-1 | — | Air | — | 3.29.16 | 0839/1613 | 1 | X | | -08 |
| IA-A017-450-2 | — | Air | — | 3.29.16 | 0848/1618 | 1 | X | | -09 |
| IA-A017-450-3 | — | Air | — | 3.29.16 | 0855/1621 | 1 | X | | -10 |

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other ___

6711 0733 3505 3457 3480 3468 3479 3446

pH ___ Temp ___
Flow ___ Other ___

Remarks: See SSOW for Short List TO-15
6 LARGE BOXES, 1 SMALL BOX

Hold #

| Relinquished by: (Signature) | Date: | Time: | Received by: (Signature) |
|---|---|---|---|
| Rich Burns | 4.1.16 | 1500 | FedEx |
| Relinquished by: (Signature) | Date: | Time: | Received by: (Signature) |
| Relinquished by: (Signature) | Date: | Time: | Received for lab by: (Signature) |

Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐ ___

Temp: Amb. °C Bottles Received: 25

Date: 4-4-16 Time: 0930

Condition: (lab use only) TD DK

COC Seal Intact: ___Y ___N ✓NA

pH Checked: NCF:

Chain of Custody Page 2 of 3

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L827327

Table #

Acctnum: SUNGHD
Template: T110832
Prelogin: P546860
TSR: 134 - Mark W. Beasley
PB:

Shipped Via: FedEx Standard

**Sunoco/GHD**

2055 Niagara Falls Boulevard
Niagara Falls, NY 14304

**Billing Information:**
Paul McMahon
1755 Wittington Pl., Ste. 500
Dallas, TX 75234

Report to: Paul McMahon

Email To: Paul.McMahon@ghd.com, David.Steele@ghd.com, Richard.Burns@ghd.com

Project Description: Sunoco/Evergeen

City/State Collected: PHILA, PA

Phone: 716-297-6150
Fax:

Client Project # 11102524

Lab Project # SUNGHD-11102524

Collected by (print): Rich Burns

Site/Facility ID # PES

P.O. #

Collected by (signature): Rich Burns

Immediately Packed on Ice N___ Y___

**Rush?** (Lab MUST Be Notified)
___ Same Day .....200%
___ Next Day .....100%
___ Two Day .....50%
___ Three Day .....25%

Date Results Needed

Email? ___No X_Yes
FAX? ___No ___Yes

Analysis / Container / Preservative

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | TO-15 Summa | Rem./Contaminant | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|
| IA-A017-450-4 | — | Air | — | 3.29.16 | 0858/1523 | 1 | X | | -11 |
| IA-A017-450-5 | — | Air | — | 3.29.16 | 0904/1526 | 1 | X | | -12 |
| IA-A017-442 | — | Air | — | 3.29.16 | 0919/1638 | 1 | X | | -13 |
| IA-A017-711 | — | Air | — | 3.29.16 | 0930/1720 | 1 | X | | -14 |
| IA-A017-OUTDOOR | — | Air | — | 3.29.16 | 0928/1701 | 1 | X | | -15 |
| IA-A017-6622 | — | Air | — | 3.29.16 | 0940/1730 | 1 | X | | -16 |
| IA-A017-6626 | — | Air | — | 3.29.16 | 0947/1735 | 1 | X | | -17 |
| IA-A017-6625 | — | Air | — | 3.29.16 | 0959/1742 | 1 | X | | -18 |
| IA-A018-6642 | — | Air | — | 3.29.16 | 1026/1735 | 1 | X | | -19 |
| IA-A018-6641 | — | Air | — | 3.29.16 | 1030/1757 | 1 | X | | -20 |

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

**Remarks:** see SSOW for SHORT LIST TO-15

pH _____ Temp _____

Flow _____ Other _____

Hold #

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
|---|---|---|---|
| Rich Burns | 4.1.16 | 1500 | FedEx |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) |

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: Amb. °C Bottles Received: 25

Date: 4-4-16 Time: 0930

Condition: TD (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

Page 3 of 3

**Sunoco/GHD**

2055 Niagara Falls Boulevard
Niagara Falls, NY 14304

Billing Information:
Paul McMahon
1755 Wittington Pl., Ste. 500
Dallas, TX 75234

Report to: Paul McMahon

Email To: Paul.McMahon@ghd.com, David.Steele@ghd.com, Richard.Burns@ghd.com

Project Description: Sunoco/Evergeen

City/State Collected: PHILA, PA

Phone: 716-297-6150
Fax:

Client Project # 11102524

Lab Project # SUNGHD-11102524

Collected by (print): Rich Burns

Site/Facility ID # PES

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day .....200%
___ Next Day .....100%
___ Two Day .....50%
___ Three Day .....25%

Date Results Needed

Email? ___No X_Yes
FAX? ___No ___Yes

| Sample ID | Comp/Grab | Matrix * | Depth | Date | Time | No. of Cntrs | TO-15 Summa | Rem./Contaminant | Sample # (lab only) |
|---|---|---|---|---|---|---|---|---|---|
| IA-A018-3326 | — | Air | — | 3.29.16 | 1042/1810 | 1 | X | | -21 |
| IA-A018-27 | — | Air | — | 3.29.16 | 1052/1816 | 1 | X | | -22 |
| IA-A018-27-DUP | — | Air | — | 3.29.16 | 1052/1816 | 1 | X | | -23 |
| IA-A018-OUTDOOR | — | Air | — | 3.29.16 | 1109/1830 | 1 | X | | -24 |
| | | Air | | | | 1 | X | | -25 |
| | | Air | | | | 1 | X | | -26 |
| | | Air | | | | 1 | X | | |
| | | Air | | | | 1 | X | | |
| | | Air | | | | 1 | X | | |
| | | Air | | | | 1 | X | | |
| FIELD BLANK | — | Air | — | 3.29.16 | — | 1 | X | | -25 |

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

Remarks: FIELD BLANK CAN 1792 — see SSOW FOR TO-15 SHORT LIST

pH _____ Temp _____

Flow _____ Other _____

| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
|---|---|---|---|
| Rich Burns | 4.1.16 | 1500 | FED EX |
| Relinquished by : (Signature) | Date: | Time: | Received by: (Signature) |
| Relinquished by : (Signature) | Date: | Time: | Received for lab by: (Signature) |

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: A6. °C Bottles Received: 25

Date: 4.4.16 Time: 0930

Chain of Custody

ESC LABS
YOUR LAB OF CHOICE

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L #

Table #

Acctnum: SUNGHD
Template: T110832
Prelogin: P546860
TSR: 134 - Mark W. Beasley
PB:

Shipped Via: FedEX Standard

Hold #

Condition: TD ✓ (lab use only)

COC Seal Intact: ___Y ___N ___NA

pH Checked: NCF:

L827327

# GHD Simplified Scope of Work (SSOW)/Laboratory Services Purchase Order

SSOW Ref. Code: 11102524-002

**Project Summary:**

Project Name: Sunoco/Evergeen
GHD Project No./Phase/Task: 11102524
Project Location: Philadelphia, PA
Client Name: Sunoco/Evergeen
QAPP Title:

**Database Summary:**

Database Maintained: ☑ Yes ☐ No
Database Facility Code: 11102641_MH
**Note**: Is there more than one laboratory for this event? ( SSOW__ of __ ) ☐ Yes ☐ No

FOR INTERNAL USE ONLY - CODING

**Event Summary:**

Phase/Study Title: Air Sampling
Event Description: Air Sampling
Start Date: 3/24/16
Sampling Duration: TBD
Sampling Frequency: one-time

Rush TAT: ☑ NA
Final Report & EDD TAT: 21 BD
Sample Batching: sample event
Date Bottles Required: 3/24/2016
Bottle Shipping Address: Philadelphia Energy Solutions, Central Warehouse, c/o Tim Delk, 3144 Passyunk Avenue, Philadelphia, PA 19145
Phone Number: 609-815-5829
Attention: Tim Delk

| Contacts: | Name | Address | Phone | Cell | Email |
|---|---|---|---|---|---|
| **Client Project Manager:** | | | | | |
| **Consulting Firm:** | GHD Services Inc | | | | |
| Project Manager: | David Steele | 410 Eagleview Blvd, Exton PA | 610-321-1800 | | david.steele@ghd.com |
| Project Coordinator | | | | | |
| Field Leader: | Rich Burns | 410 Eagleview Blvd, Exton PA | 610-321-1800 | | richard.burns@ghd.com |
| **Laboratory (Vendor):** | ESC | | | | dramsey@esclifesciences.com |
| Lab Project Manager: | Mark Beasley | 12065 Lebanon Road, Mt. Juliet, TN 37122 | (615) 773-9672 | (615) 330-1602 | mbeasley@esclabsciences.com |
| **Chemistry/Data Mgt. Firm:** | GHD Services, Inc. | | | | |
| Chemist : | McMahon, Paul | 2055 Niagara Falls Blvd, Niagara Falls, New York 14304 | 716-297-6150 | | |
| Database Analyst: | | | | | |

**Lab Deliverables**

EDD Format: ☐ GHD EQuIS EZEDD ☑ GHD EQuIS 4-file ☐ Other (Please Specify ) _____
Hardcopy Level Requested: ☑ GHD Standard ☐ Expanded ☐ Other (Please Specify ) _____

**Additional Reporting Requirements**

Form 1's include: ☑ MDLs ☑ PQLs ☑ J Values
TICs: ☐ Yes ☑ No
Soil Reporting: ☐ Dry ☐ Wet

**Lab Deliverables Distribution**

Rush TAT Data (email deliverable only) :
Final EDD & Result Summary ( PDF) : Per Evergreen and GHD Requirements
Final Lab Report ☑ PDF ☐ CD ☐ Hard Copy : Dave Steele, Paul McMahon

**GHD Data Review Level**

☑ Compliance ☐ Full Validation ☐ Reduced Validation ☐ 10/90-Full/Innovative ☐ Reg III Innovative ☐ Other (Please Specify ) _____

**Data Management Deliverables**

☑ EQuIS Database ☑ Cross Tab Table ☑ Flat File ☐ Databox ☐ Other (please specify): _____

**Data Management Deliverables Distribution**

Distribution List: Dave Steele

Data Management DV TAT: 2 weeks

Database Exports - Reporting down to MDL ☐ Yes ☑ No

**Comments**

Please report in ppbv and ug/m3

*** additional Final Lab Report copy (in *.pdf format) is available on GHD's MyPortal Site in the Project File folder or on Program specific SharePoint site; please contact project Chemist

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **SSOW Email Distribution List:** | david.steele@ghd.com; richard.burns@ghd.com; dramsey@esclifesciences.com; mbeasley@esclabsciences.com; ; Jennifer.Devonshire@ghd.com | | | | | | |
| **Prepared By:** | Paul McMahon | **Date:** | 3/22/2016 | **Revision No.:** | | **Revision Date:** | |

L827327

# GHD Simplified Scope of Work (SSOW)/Laboratory Services Purchase Order

SSOW Ref. Code
11102524-002

**Project Name:** Sunoco/Evergeen
**GHD Project No./Phase/Task:** 11102524
**Project Location:** Philadelphia, PA

**Phase/Study Title:** Air Sampling
**Event Description:** Air Sampling

| Parameter | CAS # | Analytes | Targeted Reporting Limits | Action Limits (if applicable) | Units |
|---|---|---|---|---|---|
| VOCs | 107-06-2 | 1,2-Dichloroethane | 0.2 | | ppbv |
| | 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | | ppbv |
| | 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | | ppbv |
| | 71-43-2 | Benzene | 0.2 | | ppbv |
| | 98-82-8 | Cumene | 0.2 | | ppbv |
| | 100-41-4 | Ethylbenzene | 0.2 | | ppbv |
| | 106-93-4 | Ethylene dibromide | 0.2 | | ppbv |
| | 1634-04-4 | Methyl tertiary butyl ether | 0.2 | | ppbv |
| | 108-88-3 | Toluene | 0.2 | | ppbv |
| | 1330-20-7 | Xylenes (total) | 0.2 | | ppbv |
| | 91-20-3 | Naphthalene | | | |

| Account: SUNGHD | | | | | | |
|---|---|---|---|---|---|---|
| Lab Sample ID | | | For Samples 1 through -18 Lowest Calibration | L827327-01 | | L827327 |
| Client Sample ID | | | | IA-AOI3-018 | | IA-AOI6- |
| Date Collected | | | | 03/29/2016 | | 03/29/20 |
| Method | Analyte | Units | | Result | Qualifier | Result |
| TO-15 | BENZENE | ppb | 0.19 | 1.64 | | 1.08 |
| TO-15 | 1,2-DIBROMOETHANE | ppb | 0.19 | <0.2 | | <0.2 |
| TO-15 | 1,2-DICHLOROETHANE | ppb | 0.19 | <0.2 | | <0.2 |
| TO-15 | ETHYLBENZENE | ppb | 0.19 | 0.133 | J | 0.0905 |
| TO-15 | ISOPROPYLBENZENE | ppb | 0.19 | 0.23 | | 0.295 |
| TO-15 | METHYL TERT-BUTYL ETHER | ppb | 0.19 | <0.2 | | <0.2 |
| TO-15 | NAPHTHALENE | ppb | 0.19 | <0.63 | | <0.63 |
| TO-15 | TOLUENE | ppb | 0.19 | 1.27 | | 0.547 |
| TO-15 | 1,2,4-TRIMETHYLBENZENE | ppb | 0.19 | 0.25 | | 0.136 |
| TO-15 | 1,3,5-TRIMETHYLBENZENE | ppb | 0.19 | <0.2 | | <0.2 |
| TO-15 | O-XYLENE | ppb | 0.19 | 0.198 | J | 0.114 |
| TO-15 | M&P-XYLENE | ppb | 0.38 | 0.514 | | 0.349 |
| TO-15 | 1,4-BROMOFLUOROBENZENE | % Rec | 4 | 104 | | 98.8 |
| **Qualifiers:B: The same analyte is found in the associated blank.J: The identification of the a** | | | | | | |

| -02 | L827327-03 | | L827327-04 | | L827327-05 | | L827327-06 | | L827327-07 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 726 | IA-AOI6-178 | | IA-AOI6-OUTDOOR | | IA-AOI6-295-1 | | IA-AOI6-295-2 | | IA-AOI7-595 | |
| 16 | 03/29/2016 | | 03/29/2016 | | 03/29/2016 | | 03/29/2016 | | 03/29/2016 | |
| Qualifier | Result | Qualifier | Result | Qualifier | Result | Qualifier | Result | Qualifier | Result | Qualifier |
| | 1.58 | | 1.24 | | 1.24 | | 1.23 | | 1.45 | |
| | <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 | |
| | <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 | |
| J | 0.0982 | J | 0.0834 | J | 0.17 | J | 0.221 | | 0.158 | J |
| | 0.324 | | 0.35 | | 0.153 | J | 0.17 | J | 0.136 | J |
| | <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 | |
| | <0.63 | | <0.63 | | 0.427 | B J | 0.188 | B J | 0.298 | B J |
| | 0.683 | | 0.755 | | 0.829 | | 0.826 | | 1.46 | |
| J | 0.152 | J | 0.106 | J | 0.445 | | 0.415 | | 0.221 | |
| | <0.2 | | <0.2 | | 0.138 | J | 0.128 | J | <0.2 | |
| J | 0.132 | J | 0.122 | J | 0.197 | J | 0.196 | J | 0.206 | |
| J | 0.405 | | 0.365 | J | 0.507 | | 0.529 | | 0.573 | |
| | 101 | | 98.5 | | 97.2 | | 100 | | 99.5 | |

**analyte is acceptable; the reported value is an estimate.**

| L827327-08 | | L827327-09 | | L827327-10 | | L827327-11 | | L827327-12 | | L82732 |
|---|---|---|---|---|---|---|---|---|---|---|
| IA-AOI7-450-1 | | IA-AOI7-450-2 | | IA-AOI7-450-3 | | IA-AOI7-450-4 | | IA-AOI7-450-5 | | IA-AOI7 |
| 03/29/2016 | | 03/29/2016 | | 03/29/2016 | | 03/29/2016 | | 03/29/2016 | | 03/29/2( |
| Result | Qualifier | Result | Qualifier | Result | Qualifier | Result | Qualifier | Result | Qualifier | Result |
| 0.315 | | 0.269 | | 0.305 | | 0.483 | | 0.622 | | 0.525 |
| <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 |
| <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 |
| 0.259 | | 0.174 | J | 0.0935 | J | 0.274 | | 0.594 | | 0.318 |
| <0.2 | | <0.2 | | <0.2 | | <0.2 | | 0.108 | J | <0.2 |
| <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 |
| 0.309 | J | <0.63 | | <0.63 | | <0.63 | | <0.63 | | <0.63 |
| 2.78 | | 0.835 | | 1.09 | | 2.37 | | 13.2 | | 5.06 |
| 0.214 | | 0.159 | J | 0.144 | J | 0.251 | | 0.434 | | 0.249 |
| 0.105 | J | <0.2 | | <0.2 | | 0.0873 | J | 0.163 | J | <0.2 |
| 0.385 | | 0.185 | J | 0.13 | J | 0.305 | | 0.662 | | 0.313 |
| 1.06 | | 0.483 | | 0.338 | J | 0.724 | | 1.82 | | 0.838 |
| 96.7 | | 95.5 | | 97.5 | | 97.8 | | 97.2 | | 97.2 |

| ⁷-13 | L827327-14 | | L827327-15 | | L827327-16 | | L827327-17 | | L827327-18 | |
|---|---|---|---|---|---|---|---|---|---|---|
| -442 | IA-AOI7-711 | | IA-AOI7-OUTDOO | | IA-AOI7-6622 | | IA-AOI7-6626 | | IA-AOI7-6625 | |
| )16 | 03/29/2016 | | 03/29/2016 | | 03/29/2016 | | 03/29/2016 | | 03/29/2016 | |
| Qualifier | Result | Qualifier | Result | Qualifier | Result | Qualifier | Result | Qualifier | Result | Qualifier |
| | 0.694 | | 0.415 | | 1.1 | | 1.05 | | 0.512 | |
| | <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 | |
| | <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 | |
| | 0.176 | J | 0.129 | J | 1.14 | | 0.37 | | 0.974 | |
| | 0.116 | J | <0.2 | | 0.259 | | 0.425 | | 0.132 | J |
| | <0.2 | | <0.2 | | 0.0969 | J | <0.2 | | <0.2 | |
| | <0.63 | | <0.63 | | <0.63 | | <0.63 | | 0.398 | B J |
| | 1.04 | | 1.07 | | 1.93 | | 0.811 | | 18.9 | |
| | 0.599 | | 0.142 | J | 4.41 | | 0.777 | | 1.3 | |
| | 0.201 | | <0.2 | | 1.39 | | 0.242 | | 0.362 | |
| | 0.24 | | 0.165 | J | 1.8 | | 0.471 | | 1.1 | |
| | 0.568 | | 0.458 | | 3.89 | | 1.19 | | 2.83 | |
| | 99.9 | | 97.5 | | 98.3 | | 105 | | 97.7 | |

| For samples -19 through -25 Lowest Calibration Point | L827327-19 | | L827327-20 | | L827327-21 | | L827327-22 | | L82732 |
|---|---|---|---|---|---|---|---|---|---|
| | IA-AOI8-6642 | | IA-AOI8-6641 | | IA-AOI8-3326 | | IA-AOI8-27 | | IA-AOI8 |
| | 03/29/2016 | | 03/29/2016 | | 03/29/2016 | | 03/29/2016 | | 03/29/20 |
| | Result | Qualifier | Result | Qualifier | Result | Qualifier | Result | Qualifier | Result |
| 0.19 | 0.13 | J | 0.161 | J | 0.134 | J | 0.0969 | J | 0.179 |
| 0.19 | <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 |
| 0.19 | <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 |
| 0.19 | <0.2 | | 0.131 | J | 0.104 | J | <0.2 | | <0.2 |
| 0.19 | <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 |
| 0.19 | <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 |
| 0.31 | <0.63 | | <0.63 | | <0.63 | | <0.63 | | <0.63 |
| 0.19 | 0.326 | | 0.68 | | 0.302 | | 0.19 | J | 0.268 |
| 0.19 | 0.197 | J | 0.139 | J | <0.2 | | <0.2 | | <0.2 |
| 0.19 | <0.2 | | <0.2 | | <0.2 | | <0.2 | | <0.2 |
| 0.19 | <0.2 | | 0.109 | J | 0.13 | J | <0.2 | | <0.2 |
| 0.31 | 0.133 | J | 0.288 | J | 0.41 | | 0.1 | J | 0.146 |
| 4 | 101 | | 101 | | 99.3 | | 98.6 | | 104 |

| ⁷-23 | L827327-24 | | L827327-25 | |
|---|---|---|---|---|
| -27-DUP | IA-AOI8-OUTDOO | | FIELD BLANK | |
| )16 | 03/29/2016 | | 03/29/2016 | |
| Qualifier | Result | Qualifier | Result | Qualifier |
| J | 0.14 | J | <0.2 | |
| | <0.2 | | <0.2 | |
| | <0.2 | | <0.2 | |
| | <0.2 | | <0.2 | |
| | <0.2 | | <0.2 | |
| | <0.2 | | <0.2 | |
| | <0.63 | | <0.63 | |
| | 2.19 | | <0.2 | |
| | <0.2 | | <0.2 | |
| | <0.2 | | <0.2 | |
| | 0.084 | J | <0.2 | |
| J | 0.221 | J | <0.4 | |
| | 97.2 | | 96.1 | |

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# ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Evergreen c/o GHD
2055 Niagara Falls Blvd.
Suite #3
Niagara Falls NY 14304

Report Date: April 10, 2018 11:25

**Project: Philadelphia Refinery**

Account #: 10177
Group Number: 1646959
SDG: MHF24
PO Number: 11102524
State of Sample Origin: PA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

| | | |
|---|---|---|
| Electronic Copy To | GHD, Inc. | Attn: Dave Steele |
| Electronic Copy To | GHD | Attn: Paul McMahon |

Respectfully Submitted,

Megan A. Moeller
Senior Specialist

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## SAMPLE INFORMATION

| Client Sample Description | Sample Collection Date/Time | ELLE# |
|---|---|---|
| IA-AOI3-TRAILER13 Air | 03/28/2016 07:47 - 03/28/2016 15:35 | 8316882 |
| IA-AOI3-OUTDOOR Air | 03/28/2016 07:58 - 03/28/2016 15:40 | 8316883 |
| IA-AOI5-625 Air | 03/28/2016 08:27 - 03/28/2016 15:57 | 8316884 |
| IA-AOI5-526-2 Air | 03/28/2016 08:45 - 03/28/2016 16:17 | 8316885 |
| IA-AOI5-526-1 Air | 03/28/2016 08:52 - 03/28/2016 17:17 | 8316886 |
| IA-AOI5-501 Air | 03/28/2016 09:04 - 03/28/2016 16:31 | 8316887 |
| IA-AOI5-GP DOCK 2 Air | 03/28/2016 09:23 - 03/28/2016 17:01 | 8316888 |
| IA-AOI5-034A/B Air | 03/28/2016 09:36 - 03/28/2016 17:30 | 8316889 |
| IA-AOI5-OUTDOOR Air | 03/28/2016 09:45 - 03/28/2016 17:08 | 8316890 |
| IA-AOI2-011 Air | 03/28/2016 10:07 - 03/28/2016 17:42 | 8316891 |
| IA-AOI6-475 Air | 03/28/2016 10:23 - 03/28/2016 18:23 | 8316892 |
| IA-AOI6-745 Air | 03/28/2016 10:33 - 03/28/2016 18:00 | 8316893 |
| IA-AOI6-6627 Air | 03/28/2016 10:42 - 03/28/2016 18:08 | 8316894 |
| IA-AOI6-6636 Air | 03/28/2016 10:57 - 03/28/2016 18:18 | 8316895 |
| IA-AOI6-739 Air | 03/28/2016 11:10 - 03/28/2016 18:33 | 8316896 |
| IA-AOI6-OUTDOOR 739 Air | 03/28/2016 11:15 - 03/28/2016 18:29 | 8316897 |

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

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**Sample Description:** **IA-AOI3-TRAILER13 Air**
**SUMMA# 1355**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 07:47 through 03/28/2016 15:35
SDG#: MHF24-01

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316882**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 1.8 J | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 4.0 | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 2.7 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | 1.2 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1610530AA | 04/15/2016 09:52 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **IA-AOI3-OUTDOOR Air**
**SUMMA# 1387**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 07:58 through 03/28/2016 15:40
SDG#: MHF24-02

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316883**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatiles in Air** | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | 71-43-2 | 1.5 J | 3.2 | 0.64 | 1 |
| 05298 | Cumene | 98-82-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | 100-41-4 | N.D. | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | 108-88-3 | 4.5 | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | n.a. | 2.7 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | 95-47-6 | 1.1 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1610530AA | 04/15/2016 10:24 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **IA-AOI5-625 Air**
**SUMMA# 1385**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 08:27 through 03/28/2016 15:57
SDG#: MHF24-03

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316884**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 1.4 J | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 9.8 | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | 1.3 J | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 3.1 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 3.4 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | 1.5 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1610530AA | 04/15/2016 10:56 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **IA-AOI5-526-2 Air**
**SUMMA# 1386**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 08:45 through 03/28/2016 16:17
SDG#: MHF24-04

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316885**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 4.3 | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 18 | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 5.0 | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 1.7 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | N.D. | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1610530AA | 04/15/2016 11:28 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **IA-AOI5-526-1 Air**
**SUMMA# 1360**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 08:52 through 03/28/2016 17:17
SDG#: MHF24-05

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316886**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 2.6 J | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 8.6 | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | 1.2 J | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 7.9 | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 2.9 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | 1.2 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1610930AA | 04/18/2016 18:06 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **IA-AOI5-501 Air**
**SUMMA# 1388**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 09:04 through 03/28/2016 16:31
SDG#: MHF24-06

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316887**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatiles in Air** | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | 71-43-2 | 4.4 | 3.2 | 0.64 | 1 |
| 05298 | Cumene | 98-82-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | 100-41-4 | 1.1 J | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | 108-88-3 | 15 | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | n.a. | 2.7 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | 95-47-6 | 1.1 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1610930AA | 04/18/2016 19:47 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **IA-AOI5-GP DOCK 2 Air**
**SUMMA# 1359**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 09:23 through 03/28/2016 17:01
SDG#: MHF24-07

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316888**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 1.8 J | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | 1.9 J | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 3.1 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | 1.1 J | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 5.3 | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | 2.4 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1610930AA | 04/18/2016 18:38 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **IA-AOI5-034A/B Air**
**SUMMA# 1381**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 09:36 through 03/28/2016 17:30
SDG#: MHF24-08

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316889**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 1.8 J | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 1.5 J | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | 1.9 J | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 4.6 | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | 12 | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | 3.2 J | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 7.6 | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | 3.5 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1610930AA | 04/18/2016 19:10 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **IA-AOI5-OUTDOOR Air**
**SUMMA# 1356**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 09:45 through 03/28/2016 17:08
SDG#: MHF24-09

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316890**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 2.4 J | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 2.5 J | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | 1.6 J | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 1.7 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 2.5 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | N.D. | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1610930AA | 04/18/2016 20:18 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **IA-AOI2-011 Air**
**SUMMA# 1357**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 10:07 through 03/28/2016 17:42
SDG#: MHF24-10

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316891**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 1.3 J | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 4.3 | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | 1.2 J | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 2.8 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | 1.1 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1610930AA | 04/18/2016 20:50 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **IA-AOI6-475 Air**
**SUMMA# 1362**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 10:23 through 03/28/2016 18:23
SDG#: MHF24-11

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316892**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 5.5 | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 9.1 | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | 1.1 J | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 3.9 | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | 1.4 J | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 3.5 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | 1.2 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1610930AA | 04/18/2016 21:22 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **IA-AOI6-745 Air**
**SUMMA# 1363**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 10:33 through 03/28/2016 18:00
SDG#: MHF24-12

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316893**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 1.3 J | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 2.2 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 2.2 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | 1.1 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1610930AA | 04/18/2016 22:02 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **IA-AOI6-6627 Air**
**SUMMA# 1361**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 10:42 through 03/28/2016 18:08
SDG#: MHF24-13

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316894**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 36 | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 7.8 | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | 2.0 J | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 13 | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | 3.6 J | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | 1.3 J | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 8.3 | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | 3.6 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1611030AA | 04/19/2016 22:31 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **IA-AOI6-6636 Air**
**SUMMA# 1384**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 10:57 through 03/28/2016 18:18
SDG#: MHF24-14

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316895**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 2.1 J | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | 2.1 J | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 2.6 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | 1.1 J | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 5.8 | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | 4.0 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1611030AA | 04/19/2016 23:35 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **IA-AOI6-739 Air**
**SUMMA# 1382**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 11:10 through 03/28/2016 18:33
SDG#: MHF24-15

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316896**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatiles in Air** | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | 71-43-2 | 4.5 | 3.2 | 0.64 | 1 |
| 05298 | Cumene | 98-82-8 | 2.8 J | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | 100-41-4 | 3.2 J | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | 108-88-3 | 3.9 | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | n.a. | 8.8 | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | 95-47-6 | 5.3 | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1611030AA | 04/20/2016 00:07 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **IA-AOI6-OUTDOOR 739 Air**
**SUMMA# 1383**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 04/04/2016 16:30
Collection Date/Time: 03/28/2016 11:15 through 03/28/2016 18:29
SDG#: MHF24-16

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8316897**
**ELLE Group #: 1646959**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 1.8 J | 4.4 | 0.88 | 1.38 |
| 05298 | Cumene | | 98-82-8 | 1.5 J | 6.8 | 1.4 | 1.38 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 11 | 2.1 | 1.38 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 5.6 | 1.1 | 1.38 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | 6.0 | 1.2 | 1.38 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 5.0 | 0.99 | 1.38 |
| 05298 | Naphthalene | | 91-20-3 | 4.1 J | 7.2 | 3.6 | 1.38 |
| 05298 | Toluene | | 108-88-3 | 2.1 J | 5.2 | 1.0 | 1.38 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 6.8 | 1.4 | 1.38 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 6.8 | 1.4 | 1.38 |
| 05298 | m/p-Xylene | | n.a. | 2.3 J | 6.0 | 1.2 | 1.38 |
| 05298 | o-Xylene | | 95-47-6 | 1.4 J | 6.0 | 1.2 | 1.38 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1611030AA | 04/20/2016 00:47 | Jacob E Bailey | 1.38 |

*=This limit was used in the evaluation of the final result

REVISED

# Quality Control Summary

Client Name: Evergreen c/o GHD
Reported: 04/10/2018 11:25

Group Number: 1646959

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

## Method Blank

| Analysis Name | Result | LOQ** | MDL |
|---|---|---|---|
| | ug/m3 | ug/m3 | ug/m3 |
| Batch number: E1610530AA | Sample number(s): 8316882-8316885 | | |
| Benzene | N.D. | 3.2 | 0.64 |
| Cumene | N.D. | 4.9 | 0.98 |
| 1,2-Dibromoethane | N.D. | 7.7 | 1.5 |
| 1,2-Dichloroethane | N.D. | 4.0 | 0.81 |
| Ethylbenzene | N.D. | 4.3 | 0.87 |
| Methyl t-Butyl Ether | N.D. | 3.6 | 0.72 |
| Naphthalene | N.D. | 5.2 | 2.1 |
| Toluene | N.D. | 3.8 | 0.75 |
| 1,2,4-Trimethylbenzene | N.D. | 4.9 | 0.98 |
| 1,3,5-Trimethylbenzene | N.D. | 4.9 | 0.98 |
| m/p-Xylene | N.D. | 4.3 | 0.87 |
| o-Xylene | N.D. | 4.3 | 0.87 |
| Batch number: E1610930AA | Sample number(s): 8316886-8316893 | | |
| Benzene | N.D. | 3.2 | 0.64 |
| Cumene | N.D. | 4.9 | 0.98 |
| 1,2-Dibromoethane | N.D. | 7.7 | 1.5 |
| 1,2-Dichloroethane | N.D. | 4.0 | 0.81 |
| Ethylbenzene | N.D. | 4.3 | 0.87 |
| Methyl t-Butyl Ether | N.D. | 3.6 | 0.72 |
| Naphthalene | N.D. | 5.2 | 2.1 |
| Toluene | N.D. | 3.8 | 0.75 |
| 1,2,4-Trimethylbenzene | N.D. | 4.9 | 0.98 |
| 1,3,5-Trimethylbenzene | N.D. | 4.9 | 0.98 |
| m/p-Xylene | N.D. | 4.3 | 0.87 |
| o-Xylene | N.D. | 4.3 | 0.87 |
| Batch number: E1611030AA | Sample number(s): 8316894-8316897 | | |
| Benzene | N.D. | 3.2 | 0.64 |
| Cumene | N.D. | 4.9 | 0.98 |
| 1,2-Dibromoethane | N.D. | 7.7 | 1.5 |
| 1,2-Dichloroethane | N.D. | 4.0 | 0.81 |
| Ethylbenzene | N.D. | 4.3 | 0.87 |
| Methyl t-Butyl Ether | N.D. | 3.6 | 0.72 |
| Naphthalene | N.D. | 5.2 | 2.1 |
| Toluene | N.D. | 3.8 | 0.75 |
| 1,2,4-Trimethylbenzene | N.D. | 4.9 | 0.98 |
| 1,3,5-Trimethylbenzene | N.D. | 4.9 | 0.98 |
| m/p-Xylene | N.D. | 4.3 | 0.87 |
| o-Xylene | N.D. | 4.3 | 0.87 |

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

# Quality Control Summary

Client Name: Evergreen c/o GHD
Reported: 04/10/2018 11:25

Group Number: 1646959

## Method Blank (continued)

| Analysis Name | Result ug/m3 | LOQ** ug/m3 | MDL ug/m3 |
|---|---|---|---|

## LCS/LCSD

| Analysis Name | LCS Spike Added ug/m3 | LCS Conc ug/m3 | LCSD Spike Added ug/m3 | LCSD Conc ug/m3 | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---|---|---|---|---|---|---|---|---|---|
| Batch number: E1610530AA | Sample number(s): 8316882-8316885 | | | | | | | | |
| Benzene | 31.95 | 30.04 | 31.95 | 30.41 | 94 | 95 | 70-130 | 1 | 25 |
| Cumene | 49.16 | 46.93 | 49.16 | 48.15 | 95 | 98 | 70-130 | 3 | 25 |
| 1,2-Dibromoethane | 76.83 | 68.68 | 76.83 | 68.98 | 89 | 90 | 65-126 | 0 | 25 |
| 1,2-Dichloroethane | 40.47 | 39.57 | 40.47 | 39.65 | 98 | 98 | 70-130 | 0 | 25 |
| Ethylbenzene | 43.42 | 40.55 | 43.42 | 40.68 | 93 | 94 | 70-130 | 0 | 25 |
| Methyl t-Butyl Ether | 36.05 | 33.16 | 36.05 | 33.48 | 92 | 93 | 52-129 | 1 | 25 |
| Naphthalene | 52.43 | 48.24 | 52.43 | 48.51 | 92 | 93 | 35-153 | 1 | 25 |
| Toluene | 37.69 | 35.65 | 37.69 | 35.88 | 95 | 95 | 70-130 | 1 | 25 |
| 1,2,4-Trimethylbenzene | 49.16 | 47.44 | 49.16 | 48.18 | 97 | 98 | 60-128 | 2 | 25 |
| 1,3,5-Trimethylbenzene | 49.16 | 48.14 | 49.16 | 49.31 | 98 | 100 | 61-132 | 2 | 25 |
| m/p-Xylene | 43.42 | 40.55 | 43.42 | 41.07 | 93 | 95 | 70-130 | 1 | 25 |
| o-Xylene | 43.42 | 42.06 | 43.42 | 42.66 | 97 | 98 | 70-130 | 1 | 25 |
| Batch number: E1610930AA | Sample number(s): 8316886-8316893 | | | | | | | | |
| Benzene | 31.95 | 32.4 | 31.95 | 32.23 | 101 | 101 | 70-130 | 1 | 25 |
| Cumene | 49.16 | 46.88 | 49.16 | 44.09 | 95 | 90 | 70-130 | 6 | 25 |
| 1,2-Dibromoethane | 76.83 | 71.53 | 76.83 | 70.17 | 93 | 91 | 65-126 | 2 | 25 |
| 1,2-Dichloroethane | 40.47 | 46.95 | 40.47 | 46.99 | 116 | 116 | 70-130 | 0 | 25 |
| Ethylbenzene | 43.42 | 41.57 | 43.42 | 40.86 | 96 | 94 | 70-130 | 2 | 25 |
| Methyl t-Butyl Ether | 36.05 | 34.09 | 36.05 | 34.01 | 95 | 94 | 52-129 | 0 | 25 |
| Naphthalene | 52.43 | 34.26 | 52.43 | 41.4 | 65 | 79 | 35-153 | 19 | 25 |
| Toluene | 37.69 | 37.03 | 37.69 | 36.62 | 98 | 97 | 70-130 | 1 | 25 |
| 1,2,4-Trimethylbenzene | 49.16 | 47.53 | 49.16 | 47.58 | 97 | 97 | 60-128 | 0 | 25 |
| 1,3,5-Trimethylbenzene | 49.16 | 46.01 | 49.16 | 46.46 | 94 | 95 | 61-132 | 1 | 25 |
| m/p-Xylene | 43.42 | 40.92 | 43.42 | 40.67 | 94 | 94 | 70-130 | 1 | 25 |
| o-Xylene | 43.42 | 41.86 | 43.42 | 41.79 | 96 | 96 | 70-130 | 0 | 25 |
| Batch number: E1611030AA | Sample number(s): 8316894-8316897 | | | | | | | | |
| Benzene | 31.95 | 31.44 | 31.95 | 30.88 | 98 | 97 | 70-130 | 2 | 25 |
| Cumene | 49.16 | 50.98 | 49.16 | 49.42 | 104 | 101 | 70-130 | 3 | 25 |
| 1,2-Dibromoethane | 76.83 | 70.97 | 76.83 | 72.33 | 92 | 94 | 65-126 | 2 | 25 |
| 1,2-Dichloroethane | 40.47 | 40.74 | 40.47 | 40.57 | 101 | 100 | 70-130 | 0 | 25 |
| Ethylbenzene | 43.42 | 43.83 | 43.42 | 43.06 | 101 | 99 | 70-130 | 2 | 25 |
| Methyl t-Butyl Ether | 36.05 | 34.13 | 36.05 | 34.58 | 95 | 96 | 52-129 | 1 | 25 |
| Naphthalene | 52.43 | 53.62 | 52.43 | 56.91 | 102 | 109 | 35-153 | 6 | 25 |
| Toluene | 37.69 | 37.69 | 37.69 | 37.69 | 100 | 100 | 70-130 | 0 | 25 |

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

# Quality Control Summary

Client Name: Evergreen c/o GHD
Group Number: 1646959
Reported: 04/10/2018 11:25

## LCS/LCSD (continued)

| Analysis Name | LCS Spike Added ug/m3 | LCS Conc ug/m3 | LCSD Spike Added ug/m3 | LCSD Conc ug/m3 | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | 49.16 | 53.26 | 49.16 | 52.92 | 108 | 108 | 60-128 | 1 | 25 |
| 1,3,5-Trimethylbenzene | 49.16 | 51.13 | 49.16 | 51.7 | 104 | 105 | 61-132 | 1 | 25 |
| m/p-Xylene | 43.42 | 44.45 | 43.42 | 44.62 | 102 | 103 | 70-130 | 0 | 25 |
| o-Xylene | 43.42 | 45.96 | 43.42 | 45.9 | 106 | 106 | 70-130 | 0 | 25 |

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

# Summa Canister Field Test Data/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 10177 Group # 1646959 For Eurofins Lancaster Laboratories Environmental use only Sample # 03160862-17 Bottle Order (SCR) #

## Client Information

Client: Evergreen | Account #:

Project Name/#: PES

Project Manager: DAVE STEELE | P.O. #:

Sampler: Rich Burns | Quote #:

Name of state where samples were collected: PA

## Turnaround Time Requested (TAT) (circle one)

Standard | Rush (specify) _____

Data Package Required? Yes / No

EDD Required? Yes / No

| | Temperature (F) Start | Temperature (F) Stop | Pressure ("Hg) Start | Pressure ("Hg) Stop |
|---|---|---|---|---|
| Ambient | | | | |
| Maximum | | | | |
| Minimum | | | | |

## Analyses Requested

EPA TO-15 | ☐ MTBE | ☐ BTEX | EPA 18 | EPA 25 (select range below) | Helium as tracer | O2/CO2 | Library Search

| Sample Identification | 3.28.16 Start Date/Time (24-hour clock) | 3.28.16 Stop Date/Time (24-hour clock) | Canister Pressure In Field ("Hg) (Start) | Canister Pressure In Field ("Hg) (Stop) | Interior Temp. (F) (Start) | Interior Temp. (F) (Stop) | Flow Reg. ID | Can ID | Can Size (L) | Controller Flowrate (mL/min) | EPA TO-15 | EPA 18 | EPA 25 | Helium as tracer | O2/CO2 | Library Search |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IA-A013-TRAILER 13 | 0747 | 1535 | -29.5 | -7 | 72.5 | 74 | 329459 | 1355 | 6 | | X | | | | | |
| IA-A013-OUTDOOR | 0758 | 1540 | -29.5 | -1 | — | — | 415364 | 1387 | 6 | | X | | | | | |
| IA-A015-625 | 0827 | 1557 | -30 | -9 | 69 | 74 | 415274 | 1385 | 6 | | X | | | | | |
| IA-A015-526-2 | 0845 | 1617 | -30 | -9 | 69 | 74 | 824844 | 1386 | 6 | | X | | | | | |
| IA-A015-526-1 | 0852 | 1717 | -30 | -10 | 63 | 70 | 710536 | 1360 | 6 | | X | | | | | |
| IA-A015-501 | 0904 | 1631 | -30 | -6.5 | 70 | 80 | 710595 | 1388 | 6 | | X | | | | | |
| IA-A015-GP DOCK 2 | 0923 | 1701 | -30 | -9 | 72 | 83 | 415275 | 1359 | 6 | | X | | | | | |
| IA-A015-034A/B | 0936 | 1730 | -30 | -7 | 68 | 70 | 824845 | 1381 | 6 | | X | | | | | |
| IA-A015-OUTDOOR | 0945 | 1708 | -30 | -7 | — | — | 333046 | 1356 | 6 | | X | | | | | |
| IA-A012-011 | 1007 | 1742 | -28.5 | -7 | 67 | 73 | 993910 | 1357 | 6 | | X | | | | | |
| IA-A012-475 + dup | 1023 | 1823 | -30 | -10+ | 68 | 71 | 809827 | 1362 | 6 | | X | | | | | |

A01-16 per PM

**Instructions/QC Requirements & Comments**

see SSOW for petroleum short LIST.

Page 1 of 2 — 6 Boxes

**EPA 25** (check one) ☐ C1 - C4 ☐ C2 - C10 ☐ C1 - C10 ☐ C4 - C10 (GRO) ☐ C2 - C4

| Canisters Shipped by: | Date/Time: | Canisters Received by: | Date/Time: | Relinquished by: | Date/Time: | Received by: | Date/Time: |
|---|---|---|---|---|---|---|---|
| [signature] 23:30 | 3/18/16 | | | | | | |
| Relinquished by: [signature] | Date/Time: 4.1.16 1545 | Received by: warehouse | Date/Time: 4.1.16 1545 | Relinquished by: | Date/Time: | Received by: | Date/Time: |
| Relinquished by: [signature] 4/1/16 0840 | Date/Time: | Received by: [signature] | Date/Time: 4/1/16 0840 | Relinquished by: [signature] | Date/Time: 4-1-1630 | Received by: [signature] | Date/Time: 4/1/16 1630 |

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7056 1

# Summa Canister Field Test Data/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 10177 Group # 1646959 For Eurofins Lancaster Laboratories Environmental use only Sample # 8316882-97 Bottle Order (SCR) # _____

## Client Information

Client: Evergreen Account #:

Project Name/#: PES

Project Manager: Dave Steele P.O. #:

Sampler: Rick Burns Quote #:

Name of state where samples were collected: PA

## Turnaround Time Requested (TAT) (circle one)

(Standard) Rush (specify) _____

Data Package Required? Yes No

EDD Required? Yes No

| | Temperature (F) Start | Temperature (F) Stop | Pressure ("Hg) Start | Pressure ("Hg) Stop |
|---|---|---|---|---|
| Ambient | | | | |
| Maximum | | | | |
| Minimum | | | | |

## Analyses Requested

| Sample Identification | 3.28.16 Start Date/Time (24-hour clock) | 3.28.16 Stop Date/Time (24-hour clock) | Canister Pressure In Field ("Hg) (Start) | Canister Pressure In Field ("Hg) (Stop) | Interior Temp. (F) (Start) | Interior Temp. (F) (Stop) | Flow Reg. ID | Can ID | Can Size (L) | Controller Flowrate (mL/min) | EPA TO-15 | EPA 18 ☐ MTBE | EPA 25 (select range below) ☐ BTEX | Helium as tracer | O2/CO2 | Library Search |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IA-A016-745 | 1033 | 1800 | -30 | -9.5 | 68 | 68 | 824836 | 1363 | 6 | | X | | | | | |
| IA-A016-6627 | 1042 | 1808 | -30 | -8 | 65 | 72 | 303421 | 1361 | 6 | | X | | | | | |
| IA-A016-6636 | 1057 | 1818 | -30 | -2 | 64 | 70 | 342379 | 1384 | 6 | | X | | | | | |
| IA-A016-739 | 1110 | 1833 | -30 | -8.5 | 66 | 67 | 410628 | 1382 | 6 | | X | | | | | |
| IA-A016-Outdoor 739 | 1115 | 1829 | -23 | -23 | — | — | 824856 | 1383 | 6 | | X | | | | | |
| | | | | | | | | | 6 | | | | | | | |
| | | | | | | | | | 6 | | | | | | | |
| | | | | | | | | | 6 | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

**Instructions/QC Requirements & Comments**

See SSOW for petroleum shortlist

Page 2 of 2

**EPA 25** (check one) ☐ C1 - C4 ☐ C2 - C10 ☐ C1 - C10 ☐ C4 - C10 (GRO) ☐ C2 - C4

| Canisters Shipped by: | Date/Time: | Canisters Received by: | Date/Time: | Relinquished by: | Date/Time: | Received by: | Date/Time: |
|---|---|---|---|---|---|---|---|
| [illegible] 23:30 | 3/18/16 | | | | | | |
| Relinquished by: Rick Burns | Date/Time: 4:46 | Received by: [illegible] | Date/Time: 4.1.16 1545 | Relinquished by: | Date/Time: | Received by: | Date/Time: |
| Relinquished by: [illegible] | Date/Time: 4/1/16 0840 | Received by: [illegible] | Date/Time: 4/1/16 1804 | Relinquished by: [illegible] | Date/Time: 4/1/16 1830 | Received by: [illegible] | Date/Time: 4/1/16 1630 |

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The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

7056 10

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# Sample Administration Receipt Documentation Log

Doc Log ID: 141573

Group Number(s): 1646959

Client: Evergreen

## Delivery and Receipt Information

| | | | |
|---|---|---|---|
| Delivery Method: | ELLE Courier | Arrival Timestamp: | 04/04/2016 16:30 |
| Number of Packages: | 6 | Number of Projects: | 1 |
| State/Province of Origin: | PA | | |

## Arrival Condition Summary

| | | | |
|---|---|---|---|
| Shipping Container Sealed: | Yes | Sample IDs on COC match Containers: | Yes |
| Custody Seal Present: | No | Sample Date/Times match COC: | No |
| Samples Chilled: | N/A | VOA Vial Headspace ≥ 6mm: | N/A |
| Paperwork Enclosed: | Yes | Total Trip Blank Qty: | 0 |
| Samples Intact: | Yes | Air Quality Samples Present: | Yes |
| Missing Samples: | No | Air Quality Flow Controllers Present: | Yes |
| Extra Samples: | No | Flow Controller Quantity: | 16 |
| Discrepancy in Container Qty on COC: | No | Air Quality Returns: | No |

*Unpacked by Patrick Engle (3472) at 17:28 on 04/04/2016*

## Sample Date/Time Discrepancy Details

| Sample ID on COC | Date/Time on Label | Comments |
|---|---|---|
| IA-A013-OUTDOOR | 3/28/2016 -- | End Time on Summa = 1535, End Time on COC = 1540 |
| IA-A012-011 | 3/28/2016 -- | End Time on Summa = 1542, End Time on COC = 1742 |



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Lancaster, PA 17605-2425

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F 717-656-2681
www.LancasterLabs.com

Quant Report

Target Revision 3.5

Data File: /chem/HP22820.i/16apr14.b/ed00474.d  Instrument ID: HP22820.i
Injection date and time: 15-APR-2016 01:04  Analyst ID: jeb07445

Method used: /chem/HP22820.i/16apr14.b/to-15.m  Sublist used: all
Calibration date and time: 15-APR-2016 08:53
Date, time and analyst ID of latest file update: 15-Apr-2016 08:53 ads07818

Sample Name: VSTD001  Lab Sample ID: VSTD001

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Concentration (ppb(v)) |
|---|---|---|---|---|---|
| 1) Propene | (1) | 1.599 | 41 | 39597 | 1.067 |
| 2) Dichlorodifluoromethane | (1) | 1.642 | 85 | 126063 | 0.915 |
| 3) Chlorodifluoromethane | (1) | 1.656 | 51 | 75702 | 1.009 |
| 4) Freon 114 | (1) | 1.771 | 85 | 143624 | 0.998 |
| 5) Chloromethane | (1) | 1.835 | 52 | 16114 | 1.101 |
| 6) Vinyl Chloride | (1) | 1.964 | 62 | 47806 | 0.925 |
| 7) 1,3-Butadiene | (1) | 2.000 | 54 | 36743 | 0.926 |
| 8) Bromomethane | (1) | 2.344 | 94 | 42592 | 0.905 |
| 9) Chloroethane | (1) | 2.466 | 64 | 28025 | 0.978 |
| 10) Bromoethene | (1) | 2.688 | 106 | 44977 | 0.868 |
| 11) Dichlorofluoromethane | (1) | 2.724 | 67 | 99540 | 0.878 |
| 12) Trichlorofluoromethane | (1) | 2.767 | 101 | 153624 | 1.026 |
| 13) Pentane | (1) | 2.867 | 43 | 99187 | 1.121 |
| 14) Ethanol | (1) | 3.096 | 45 | 23518 | 0.983 |
| 15) Freon123a | (1) | 3.204 | 67 | 125247 | 1.078 |
| 16) Acrolein | (1) | 3.340 | 56 | 21887 | 0.974 |
| 17) 1,1-Dichloroethene | (1) | 3.426 | 61 | 72591 | 0.873 |
| 18) Freon 113 | (1) | 3.440 | 103 | 99325 | 1.164 |
| 19) Acetone | (1) | 3.540 | 43 | 71068 | 0.971 |
| 20) Methyl Iodide | (1) | 3.605 | 142 | 127174 | 0.927 |
| 21) Carbon Disulfide | (1) | 3.655 | 76 | 133236 | 0.875 |
| 22) Isopropanol | (1) | 3.719 | 45 | 73813M | 0.813 |
| 24) 3-Chloropropene | (1) | 3.863 | 76 | 25974 | 0.959 |
| 23) Acetonitrile | (1) | 3.870 | 40 | 29517M | 0.882 |
| 25) Methylene Chloride | (1) | 4.006 | 84 | 49891 | 0.956 |
| 26) tert-Butyl Alcohol | (1) | 4.163 | 59 | 142016 | 1.151 |
| 29) Methyl t-Butyl Ether | (1) | 4.292 | 73 | 185306 | 1.040 |
| 28) trans-1,2-Dichloroethene | (1) | 4.292 | 61 | 65997 | 0.860 |
| 27) Acrylonitrile | (1) | 4.307 | 53 | 45857 | 0.980 |
| 30) Hexane | (1) | 4.557 | 57 | 102428 | 1.121 |
| 31) 1,1-Dichloroethane | (1) | 4.722 | 63 | 99030 | 0.977 |
| 33) Di-Isopropyl Ether | (1) | 4.779 | 45 | 199487 | 1.094 |
| 32) Vinyl Acetate | (1) | 4.787 | 86 | 21393 | 1.131 |
| 34) Ethyl Tert-Butyl Ether | (1) | 5.116 | 59 | 195021 | 1.039 |
| 35) cis-1,2-Dichloroethene | (1) | 5.259 | 61 | 68278 | 0.904 |
| 37) 2-Butanone | (1) | 5.281 | 72 | 34091 | 1.035 |
| 38) Ethyl Acetate | (1) | 5.331 | 70 | 20903 | 1.213 |
| 39) Methyl Acrylate | (1) | 5.360 | 55 | 96770 | 0.955 |

M = Compound was manually integrated.



Digitally signed by Alexander D. Sechrist
on 04/15/2016 at 09:42.
Target 3.5 esignature user ID: ads07818

Quant Report

Target Revision 3.5

Data File: /chem/HP22820.i/16apr14.b/ed00474.d  Instrument ID: HP22820.i
Injection date and time: 15-APR-2016 01:04  Analyst ID: jeb07445

Method used: /chem/HP22820.i/16apr14.b/to-15.m  Sublist used: all
Calibration date and time: 15-APR-2016 08:53
Date, time and analyst ID of latest file update: 15-Apr-2016 08:53 ads07818

Sample Name: VSTD001  Lab Sample ID: VSTD001

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Concentration (ppb(v)) |
|---|---|---|---|---|---|
| 40)*Bromochloromethane | (1) | 5.467 | 130 | 773828 | 10.000 |
| 41) Tetrahydrofuran | (1) | 5.503 | 42 | 66710 | 1.073 |
| 42) Chloroform | (1) | 5.539 | 83 | 121513 | 0.976 |
| 43) 1,1,1-Trichloroethane | (1) | 5.675 | 97 | 144074 | 1.068 |
| 44) Cyclohexane | (1) | 5.711 | 56 | 106010 | 1.102 |
| 45) Carbon Tetrachloride | (1) | 5.811 | 117 | 147272 | 1.055 |
| 46) Benzene | (2) | 5.983 | 78 | 211830 | 1.082 |
| 47) 1,2-Dichloroethane | (2) | 6.012 | 62 | 78932 | 1.002 |
| 48) Isooctane | (2) | 6.033 | 57 | 268397 | 0.998 |
| 49) Tert-Amyl Methyl Ether | (2) | 6.069 | 73 | 201234 | 1.051 |
| 50) Heptane | (2) | 6.176 | 43 | 120106 | 1.177 |
| 51)*1,4-Difluorobenzene | (2) | 6.291 | 114 | 2911482 | 10.000 |
| 52) Trichloroethene | (2) | 6.491 | 130 | 97095 | 1.053 |
| 53) Ethyl Acrylate | (2) | 6.577 | 55 | 149949 | 1.082 |
| 36) 1,2-Dichloroethene (total) | (1) | | 61 | 134275 | 1.764 |
| 54) 1,2-Dichloropropane | (2) | 6.671 | 63 | 76381 | 1.110 |
| 57) Methyl Methacrylate | (2) | 6.749 | 69 | 90793 | 1.213 |
| 55) Dibromomethane | (2) | 6.771 | 174 | 82670 | 0.996 |
| 56) 1,4-Dioxane | (2) | 6.778 | 88 | 64072 | 1.126 |
| 58) Bromodichloromethane | (2) | 6.885 | 83 | 140162 | 1.050 |
| 59) cis-1,3-Dichloropropene | (2) | 7.215 | 75 | 132518 | 1.083 |
| 60) 4-Methyl-2-Pentanone | (2) | 7.330 | 43 | 160263 | 1.160 |
| 61) Toluene | (3) | 7.466 | 91 | 285571 | 1.114 |
| 62) Octane | (3) | 7.516 | 43 | 171012 | 1.206 |
| 63) trans-1,3-Dichloropropene | (3) | 7.630 | 75 | 112631 | 1.045 |
| 65) Ethyl Methacrylate | (3) | 7.673 | 69 | 138300 | 1.083 |
| 66) 1,1,2-Trichloroethane | (3) | 7.774 | 97 | 95291 | 1.112 |
| 67) Tetrachloroethene | (3) | 7.867 | 166 | 146798 | 1.116 |
| 68) 2-Hexanone | (3) | 7.946 | 43 | 156207 | 1.100 |
| 69) Dibromochloromethane | (3) | 8.067 | 127 | 120210 | 1.053 |
| 70) 1,2-Dibromoethane | (3) | 8.160 | 107 | 144630 | 1.081 |
| 71)*Chlorobenzene-d5 | (3) | 8.497 | 117 | 2657551 | 10.000 |
| 72) Chlorobenzene | (3) | 8.519 | 112 | 242338 | 1.163 |
| 73) 1,1,1,2-Tetrachloroethane | (3) | 8.569 | 131 | 122825 | 1.107 |
| 74) Ethylbenzene | (3) | 8.583 | 91 | 394273 | 1.150 |
| 75) m/p-Xylene | (3) | 8.669 | 91 | 305882 | 1.135 |
| 76) o-Xylene | (3) | 8.970 | 91 | 301961 | 1.122 |
| 78) Styrene | (3) | 8.977 | 104 | 229031 | 1.096 |

* = Compound is an internal standard.



Digitally signed by Alexander D. Sechrist
on 04/15/2016 at 09:42.
Target 3.5 esignature user ID: ads07818

Quant Report

Target Revision 3.5

Data File: /chem/HP22820.i/16apr14.b/ed00474.d  Instrument ID: HP22820.i
Injection date and time: 15-APR-2016 01:04  Analyst ID: jeb07445

Method used: /chem/HP22820.i/16apr14.b/to-15.m  Sublist used: all
Calibration date and time: 15-APR-2016 08:53
Date, time and analyst ID of latest file update: 15-Apr-2016 08:53 ads07818

Sample Name: VSTD001  Lab Sample ID: VSTD001

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Concentration (ppb(v)) |
|---|---|---|---|---|---|
| 79) Bromoform | (3) | 9.142 | 173 | 157854 | 1.057 |
| 80) Cumene | (3) | 9.235 | 105 | 436403 | 1.120 |
| 82) 1,1,2,2-Tetrachloroethane | (3) | 9.457 | 83 | 225968 | 1.131 |
| 81) Bromobenzene | (3) | 9.478 | 156 | 152723 | 1.128 |
| 83) 1,2,3-Trichloropropane | (3) | 9.500 | 110 | 71773 | 1.140 |
| 84) n-Propylbenzene | (3) | 9.536 | 120 | 121847 | 1.077 |
| 85) 2-Chlorotoluene | (3) | 9.615 | 126 | 109397 | 1.080 |
| 86) 4-Ethyltoluene | (3) | 9.622 | 105 | 445951 | 1.131 |
| 87) 1,3,5-Trimethylbenzene | (3) | 9.665 | 105 | 356632 | 1.087 |
| 88) Alpha Methyl Styrene | (3) | 9.837 | 118 | 184041 | 1.095 |
| 89) tert-Butylbenzene | (3) | 9.915 | 119 | 343574M | 1.082 |
| 90) 1,2,4-Trimethylbenzene | (3) | 9.951 | 105 | 365340 | 1.115 |
| 91) sec-Butylbenzene | (3) | 10.080 | 105 | 520300 | 1.108 |
| 92) 1,3-Dichlorobenzene | (3) | 10.180 | 146 | 268020 | 1.126 |
| 94) p-Isopropyltoluene | (3) | 10.180 | 119 | 449459 | 1.099 |
| 93) 1,4-Dichlorobenzene | (3) | 10.252 | 146 | 275634 | 1.123 |
| 95) Benzyl Chloride | (3) | 10.352 | 91 | 332247 | 1.099 |
| 97) n-Butylbenzene | (3) | 10.496 | 91 | 428823 | 1.116 |
| 96) 1,2-Dichlorobenzene | (3) | 10.539 | 146 | 255865 | 1.117 |
| 98) Hexachloroethane | (3) | 10.725 | 117 | 127566 | 1.053 |
| 99) 1,2-Dibromo-3-chloropropane | (3) | 11.140 | 157 | 137910 | 1.050 |
| 100) 1,2,4-Trichlorobenzene | (3) | 11.756 | 180 | 247950 | 1.061 |
| 101) Hexachlorobutadiene | (3) | 11.871 | 225 | 194020 | 1.061 |
| 102) Naphthalene | (3) | 11.964 | 128 | 620551 | 1.109 |
| 64) 1,3-Dichloropropene (total) | (3) | | 75 | 245149 | 2.128 |
| 77) Xylene (total) | (3) | | 91 | 607843 | 2.257 |

M = Compound was manually integrated.



Digitally signed by Alexander D. Sechrist
on 04/15/2016 at 09:42.
Target 3.5 esignature user ID: ads07818

# Explanation of Symbols and Abbreviations

*The following defines common symbols and abbreviations used in reporting technical data:*

| | | | |
|---|---|---|---|
| **BMQL** | Below Minimum Quantitation Level | **mg** | milligram(s) |
| **C** | degrees Celsius | **mL** | milliliter(s) |
| **cfu** | colony forming units | **MPN** | Most Probable Number |
| **CP Units** | cobalt-chloroplatinate units | **N.D.** | non-detect |
| **F** | degrees Fahrenheit | **ng** | nanogram(s) |
| **g** | gram(s) | **NTU** | nephelometric turbidity units |
| **IU** | International Units | **pg/L** | picogram/liter |
| **kg** | kilogram(s) | **RL** | Reporting Limit |
| **L** | liter(s) | **TNTC** | Too Numerous To Count |
| **lb.** | pound(s) | **µg** | microgram(s) |
| **m3** | cubic meter(s) | **µL** | microliter(s) |
| **meq** | milliequivalents | **umhos/cm** | micromhos/cm |

| | |
|---|---|
| **<** | less than |
| **>** | greater than |
| **ppm** | parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas. |
| **ppb** | parts per billion |
| **Dry weight basis** | Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis. |

**Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.**

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

**WARRANTY AND LIMITS OF LIABILITY** - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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# Data Qualifiers

| Qualifier | Definition |
|---|---|
| C | Result confirmed by reanalysis |
| D1 | Indicates for dual column analyses that the result is reported from column 1 |
| D2 | Indicates for dual column analyses that the result is reported from column 2 |
| E | Concentration exceeds the calibration range |
| J (or G, I, X) | Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| P | Concentration difference between the primary and confirmation column >40%. The lower result is reported. |
| U | Analyte was not detected at the value indicated |
| V | Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference. |
| W | The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L. |
| Z | Laboratory Defined - see analysis report |

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

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# ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Evergreen c/o GHD
2055 Niagara Falls Blvd.
Suite #3
Niagara Falls NY 14304

Report Date: April 10, 2018 11:24

**Project: Philadelphia Refinery**

Account #: 10177
Group Number: 1777963
SDG: MHF81
PO Number: 11109626
State of Sample Origin: PA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

| | | |
|---|---|---|
| Electronic Copy To | GHD, Inc. | Attn: Dave Steele |
| Electronic Copy To | GHD | Attn: Paul McMahon |

Respectfully Submitted,

Megan A. Moeller
Senior Specialist

(717) 556-7261

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## SAMPLE INFORMATION

| Client Sample Description | Sample Collection Date/Time | ELLE# |
|---|---|---|
| AOI6-AI-17-15 Air | 03/09/2017 07:41 - 03/09/2017 14:55 | 8889684 |
| AOI3-AA-17-01 Air | 03/09/2017 07:26 - 03/09/2017 15:40 | 8889685 |

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

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**Sample Description:** **AOI6-AI-17-15 Air**
**SUMMA# 333**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 03/17/2017 16:25
Collection Date/Time: 03/09/2017 07:41 through 03/09/2017 14:55
SDG#: MHF81-01

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8889684**
**ELLE Group #: 1777963**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 3.6 | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 2.0 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 1.2 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | N.D. | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1708330AA | 03/25/2017 03:16 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **AOI3-AA-17-01 Air**
**SUMMA# 1395**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 03/17/2017 16:25
Collection Date/Time: 03/09/2017 07:26 through 03/09/2017 15:40
SDG#: MHF81-02

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8889685**
**ELLE Group #: 1777963**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 2.0 J | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | 0.89 J | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 5.5 | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 3.2 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | 1.2 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1708330AA | 03/25/2017 04:00 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

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# Quality Control Summary

Client Name: Evergreen c/o GHD
Reported: 04/10/2018 11:24

Group Number: 1777963

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

## Method Blank

| Analysis Name | Result ug/m3 | LOQ** ug/m3 | MDL ug/m3 |
|---|---|---|---|
| Batch number: E1708330AA | Sample number(s): 8889684-8889685 | | |
| Benzene | N.D. | 3.2 | 0.64 |
| Cumene | N.D. | 4.9 | 0.98 |
| 1,2-Dibromoethane | N.D. | 7.7 | 1.5 |
| 1,2-Dichloroethane | N.D. | 4.0 | 0.81 |
| Ethylbenzene | N.D. | 4.3 | 0.87 |
| Methyl t-Butyl Ether | N.D. | 3.6 | 0.72 |
| Naphthalene | N.D. | 5.2 | 2.1 |
| Toluene | N.D. | 3.8 | 0.75 |
| 1,2,4-Trimethylbenzene | N.D. | 4.9 | 0.98 |
| 1,3,5-Trimethylbenzene | N.D. | 4.9 | 0.98 |
| m/p-Xylene | N.D. | 4.3 | 0.87 |
| o-Xylene | N.D. | 4.3 | 0.87 |

## LCS/LCSD

| Analysis Name | LCS Spike Added ug/m3 | LCS Conc ug/m3 | LCSD Spike Added ug/m3 | LCSD Conc ug/m3 | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---|---|---|---|---|---|---|---|---|---|
| Batch number: E1708330AA | Sample number(s): 8889684-8889685 | | | | | | | | |
| Benzene | 31.95 | 33.61 | 31.95 | 33.41 | 105 | 105 | 76-123 | 1 | 25 |
| Cumene | 49.16 | 48.04 | 49.16 | 49.15 | 98 | 100 | 74-121 | 2 | 25 |
| 1,2-Dibromoethane | 76.83 | 78.64 | 76.83 | 79.08 | 102 | 103 | 73-121 | 1 | 25 |
| 1,2-Dichloroethane | 40.47 | 42.16 | 40.47 | 41.73 | 104 | 103 | 72-138 | 1 | 25 |
| Ethylbenzene | 43.42 | 42.78 | 43.42 | 43.86 | 99 | 101 | 77-117 | 2 | 25 |
| Methyl t-Butyl Ether | 36.05 | 36.84 | 36.05 | 37.19 | 102 | 103 | 71-119 | 1 | 25 |
| Naphthalene | 52.43 | 40.07 | 52.43 | 43.2 | 76 | 82 | 39-152 | 8 | 25 |
| Toluene | 37.69 | 37.18 | 37.69 | 38.24 | 99 | 101 | 78-119 | 3 | 25 |
| 1,2,4-Trimethylbenzene | 49.16 | 46.43 | 49.16 | 47.13 | 94 | 96 | 70-138 | 1 | 25 |
| 1,3,5-Trimethylbenzene | 49.16 | 46.94 | 49.16 | 48.2 | 95 | 98 | 72-130 | 3 | 25 |
| m/p-Xylene | 43.42 | 42 | 43.42 | 42.67 | 97 | 98 | 78-119 | 2 | 25 |
| o-Xylene | 43.42 | 42.64 | 43.42 | 44.23 | 98 | 102 | 78-121 | 4 | 25 |

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

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REVISED

# Quality Control Summary

Client Name: Evergreen c/o GHD
Group Number: 1777963
Reported: 04/10/2018 11:24

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

# Summa Canister Field Test Data/Chain of Custody

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Acct. # 10177 ~~6605~~ 03/09/17 3/8/17 | Group # 177963 | For Eurofins Lancaster Laboratories Environmental use only | Sample # 8889684-8889685 | Bottle Order (SCR) # _____

## Client Information

Client: GHD | Account #:

Project Name/#: Evergreen PES

Project Manager: David Steele | P.O. #:

Sampler: Donovan Young | Quote #:

Name of state where samples were collected: Pennsylvania

## Turnaround Time Requested (TAT) (circle one)

Standard | Rush (specify) _____

**Data Package Required?** Yes | No

**EDD Required?** Yes | No

| | Temperature (F) | | Pressure ("Hg) | |
|---|---|---|---|---|
| | Start | Stop | Start | Stop |
| Ambient | 50 | 69.7 | | |
| Maximum | ~~69.7~~ | | | |
| Minimum | | | | |

## Analyses Requested

EPA TO - 15 | EPA 18 | ☐ MTBE | ☐ BTEX | EPA 25 (select range below) | Helium as tracer | O2/CO2 | Library Search

| Sample Identification | Start Date/Time (24-hour clock) | Stop Date/Time (24-hour clock) | Canister Pressure in Field ("Hg) (Start) | Canister Pressure in Field ("Hg) (Stop) | Interior Temp. (F) (Start) | Interior Temp. (F) (Stop) | Flow Reg. ID | Can ID | Can Size (L) | Controller Flowrate (mL/min) |
|---|---|---|---|---|---|---|---|---|---|---|
| AOI6-AI-17-15 | 03/09/17 0741 | 03/09/17 1455 | -30 | 0.0 | 70.0 | 67 | 152710 | 333 | 6 | |
| AOI3 AA-17-01 | 03/09/17 0726 | 03/09/17 1540 | -30 | 0.0 | 58.3 | - | 710568 | 1395 | 6 | |

## Instructions/QC Requirements & Comments

PES Philadelphia Database

**EPA 25** (check one) ☐ C1 - C4 ☐ C2 - C10 ☐ C1 - C10 ☐ C4 - C10 (GRO) ☐ C2 - C4

| Canisters Shipped by: | Date/Time: | Canisters Received by: | Date/Time: | Relinquished by: | Date/Time: | Received by: | Date/Time: |
|---|---|---|---|---|---|---|---|
| Relinquished by: 03/09/17 | Date/Time: 17:00 | Received by: | Date/Time: 3-17-17 | Relinquished by: | Date/Time: 3-17-17 12:25 | Received by: | Date/Time: |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | Relinquished by: | Date/Time: | Received by: | Date/Time: 3-17-17 |

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# Sample Administration Receipt Documentation Log

Doc Log ID: 178310

Group Number(s): 177963

Client: GHD

## Delivery and Receipt Information

| | | | |
|---|---|---|---|
| Delivery Method: | ELLE Courier | Arrival Timestamp: | 03/17/2017 16:25 |
| Number of Packages: | 1 | Number of Projects: | 1 |
| State/Province of Origin: | PA | | |

## Arrival Condition Summary

| | | | |
|---|---|---|---|
| Shipping Container Sealed: | Yes | Sample IDs on COC match Containers: | Yes |
| Custody Seal Present: | No | Sample Date/Times match COC: | Yes |
| Samples Chilled: | N/A | VOA Vial Headspace ≥ 6mm: | N/A |
| Paperwork Enclosed: | Yes | Total Trip Blank Qty: | 0 |
| Samples Intact: | Yes | Air Quality Samples Present: | Yes |
| Missing Samples: | No | Air Quality Flow Controllers Present: | Yes |
| Extra Samples: | No | Flow Controller Quantity: | 2 |
| Discrepancy in Container Qty on COC: | No | Air Quality Returns: | No |

*Unpacked by Melvin Sanchez (8943) at 17:18 on 03/17/2017*



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Quant Report

Target Revision 3.5

Data File: /chem/HP22820.i/17mar20.b/ec00578.d  Instrument ID: HP22820.i
Injection date and time: 21-MAR-2017 01:41  Analyst ID: jeb07445

Method used: /chem/HP22820.i/17mar20.b/to-15.m  Sublist used: all
Calibration date and time: 21-MAR-2017 13:29
Date, time and analyst ID of latest file update: 21-Mar-2017 13:29 jeb07445

Sample Name: VSTD001  Lab Sample ID: VSTD001

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Concentration (ppb(v)) |
|---|---|---|---|---|---|
| 1) Propene | (1) | 1.599 | 41 | 19348M | 1.149 |
| 2) Dichlorodifluoromethane | (1) | 1.635 | 85 | 64058 | 0.967 |
| 3) Chlorodifluoromethane | (1) | 1.649 | 51 | 31274 | 0.987 |
| 4) Freon 114 | (1) | 1.764 | 85 | 72869 | 1.036 |
| 5) Chloromethane | (1) | 1.828 | 50 | 18737 | 1.213 |
| 6) Vinyl Chloride | (1) | 1.957 | 62 | 22957 | 0.936 |
| 7) 1,3-Butadiene | (1) | 1.993 | 54 | 17765 | 0.971 |
| 8) Bromomethane | (1) | 2.337 | 94 | 25246 | 0.964 |
| 9) Chloroethane | (1) | 2.459 | 64 | 13429 | 0.972 |
| 10) Bromoethene | (1) | 2.688 | 106 | 29664 | 0.988 |
| 11) Dichlorofluoromethane | (1) | 2.717 | 67 | 56407 | 1.038 |
| 12) Trichlorofluoromethane | (1) | 2.760 | 101 | 69270 | 0.985 |
| 13) Pentane | (1) | 2.860 | 43 | 37974 | 1.037 |
| 14) Ethanol | (1) | 3.060 | 45 | 8426 | 1.170 |
| 15) Freon123a | (1) | 3.196 | 67 | 57858 | 1.105 |
| 16) Acrolein | (1) | 3.347 | 56 | 11693 | 1.102 |
| 17) 1,1-Dichloroethene | (1) | 3.418 | 61 | 34499 | 0.918 |
| 18) Freon 113 | (1) | 3.433 | 103 | 49062 | 1.120 |
| 19) Acetone | (1) | 3.526 | 43 | 32130 | 1.096 |
| 20) Methyl Iodide | (1) | 3.598 | 142 | 80404 | 0.958 |
| 21) Carbon Disulfide | (1) | 3.655 | 76 | 68571 | 0.894 |
| 22) Isopropanol | (1) | 3.712 | 45 | 34293 | 1.145 |
| 24) 3-Chloropropene | (1) | 3.863 | 76 | 16624 | 1.278 |
| 23) Acetonitrile | (1) | 3.870 | 40 | 13153M | 1.024 |
| 25) Methylene Chloride | (1) | 4.006 | 84 | 29850 | 1.208 |
| 26) tert-Butyl Alcohol | (1) | 4.156 | 59 | 62414 | 1.166 |
| 28) trans-1,2-Dichloroethene | (1) | 4.285 | 61 | 34875 | 0.975 |
| 29) Methyl t-Butyl Ether | (1) | 4.292 | 73 | 83865 | 1.013 |
| 27) Acrylonitrile | (1) | 4.300 | 53 | 21022 | 1.046 |
| 30) Hexane | (1) | 4.557 | 57 | 52213 | 1.205 |
| 31) 1,1-Dichloroethane | (1) | 4.715 | 63 | 46378 | 0.989 |
| 33) Di-Isopropyl Ether | (1) | 4.779 | 45 | 80728 | 1.091 |
| 32) Vinyl Acetate | (1) | 4.787 | 86 | 12020 | 1.321 |
| 34) Ethyl Tert-Butyl Ether | (1) | 5.116 | 59 | 80804 | 0.977 |
| 35) cis-1,2-Dichloroethene | (1) | 5.252 | 61 | 31536 | 0.932 |
| 37) 2-Butanone | (1) | 5.288 | 72 | 19523 | 1.214 |
| 38) Ethyl Acetate | (1) | 5.331 | 70 | 8446M | 1.062 |
| 39) Methyl Acrylate | (1) | 5.360 | 55 | 43247 | 0.974 |

M = Compound was manually integrated.



Digitally signed by Jacob E. Bailey
on 03/21/2017 at 13:46.
Target 3.5 esignature user ID: jeb07445

Quant Report

Target Revision 3.5

Data File: /chem/HP22820.i/17mar20.b/ec00578.d  Instrument ID: HP22820.i
Injection date and time: 21-MAR-2017 01:41  Analyst ID: jeb07445

Method used: /chem/HP22820.i/17mar20.b/to-15.m  Sublist used: all
Calibration date and time: 21-MAR-2017 13:29
Date, time and analyst ID of latest file update: 21-Mar-2017 13:29 jeb07445

Sample Name: VSTD001  Lab Sample ID: VSTD001

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Concentration (ppb(v)) |
|---|---|---|---|---|---|
| 40)*Bromochloromethane | (1) | 5.467 | 130 | 233030 | 10.000 |
| 41) Tetrahydrofuran | (1) | 5.503 | 42 | 28110 | 1.101 |
| 42) Chloroform | (1) | 5.539 | 83 | 62740 | 1.047 |
| 43) 1,1,1-Trichloroethane | (1) | 5.675 | 97 | 72062 | 1.104 |
| 44) Cyclohexane | (1) | 5.711 | 56 | 44013 | 1.041 |
| 45) Carbon Tetrachloride | (1) | 5.811 | 117 | 70405 | 1.012 |
| 46) Benzene | (2) | 5.983 | 78 | 93360 | 0.990 |
| 47) 1,2-Dichloroethane | (2) | 6.012 | 62 | 32791 | 0.985 |
| 48) Isooctane | (2) | 6.033 | 57 | 128240 | 0.995 |
| 49) Tert-Amyl Methyl Ether | (2) | 6.069 | 73 | 90937 | 0.992 |
| 50) Heptane | (2) | 6.176 | 43 | 51781 | 1.184 |
| 51)*1,4-Difluorobenzene | (2) | 6.291 | 114 | 876002 | 10.000 |
| 52) Trichloroethene | (2) | 6.491 | 130 | 50779 | 0.968 |
| 53) Ethyl Acrylate | (2) | 6.577 | 55 | 61580 | 1.022 |
| 36) 1,2-Dichloroethene (total) | (1) | | 61 | 66411 | 1.907 |
| 54) 1,2-Dichloropropane | (2) | 6.678 | 63 | 33215 | 1.059 |
| 57) Methyl Methacrylate | (2) | 6.749 | 69 | 41001 | 1.149 |
| 55) Dibromomethane | (2) | 6.771 | 174 | 51143 | 0.989 |
| 56) 1,4-Dioxane | (2) | 6.778 | 88 | 24316 | 1.005 |
| 58) Bromodichloromethane | (2) | 6.885 | 83 | 67570 | 1.040 |
| 59) cis-1,3-Dichloropropene | (2) | 7.215 | 75 | 60353 | 1.012 |
| 60) 4-Methyl-2-Pentanone | (2) | 7.330 | 43 | 71719 | 1.268 |
| 61) Toluene | (3) | 7.466 | 91 | 153643 | 1.201 |
| 62) Octane | (3) | 7.516 | 43 | 73067 | 1.228 |
| 63) trans-1,3-Dichloropropene | (3) | 7.630 | 75 | 50748 | 1.000 |
| 65) Ethyl Methacrylate | (3) | 7.673 | 69 | 68278 | 1.104 |
| 66) 1,1,2-Trichloroethane | (3) | 7.774 | 97 | 46675 | 1.079 |
| 67) Tetrachloroethene | (3) | 7.874 | 166 | 75486 | 1.008 |
| 68) 2-Hexanone | (3) | 7.946 | 43 | 63040 | 1.189 |
| 69) Dibromochloromethane | (3) | 8.074 | 127 | 64336 | 1.021 |
| 70) 1,2-Dibromoethane | (3) | 8.168 | 107 | 71392 | 1.042 |
| 71)*Chlorobenzene-d5 | (3) | 8.497 | 117 | 859463 | 10.000 |
| 72) Chlorobenzene | (3) | 8.519 | 112 | 115502 | 1.054 |
| 73) 1,1,1,2-Tetrachloroethane | (3) | 8.576 | 131 | 62863 | 1.029 |
| 74) Ethylbenzene | (3) | 8.583 | 91 | 191589 | 1.156 |
| 75) m/p-Xylene | (3) | 8.669 | 91 | 151059 | 1.148 |
| 76) o-Xylene | (3) | 8.970 | 91 | 140966 | 1.106 |
| 78) Styrene | (3) | 8.984 | 104 | 115878 | 1.069 |

* = Compound is an internal standard.



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on 03/21/2017 at 13:46.
Target 3.5 esignature user ID: jeb07445

Quant Report

Target Revision 3.5

Data File: /chem/HP22820.i/17mar20.b/ec00578.d Instrument ID: HP22820.i
Injection date and time: 21-MAR-2017 01:41 Analyst ID: jeb07445

Method used: /chem/HP22820.i/17mar20.b/to-15.m Sublist used: all
Calibration date and time: 21-MAR-2017 13:29
Date, time and analyst ID of latest file update: 21-Mar-2017 13:29 jeb07445

Sample Name: VSTD001 Lab Sample ID: VSTD001

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Concentration (ppb(v)) |
|---|---|---|---|---|---|
| 79) Bromoform | (3) | 9.142 | 173 | 93850 | 1.038 |
| 80) Cumene | (3) | 9.235 | 105 | 205340 | 1.062 |
| 82) 1,1,2,2-Tetrachloroethane | (3) | 9.464 | 83 | 99294 | 1.160 |
| 81) Bromobenzene | (3) | 9.486 | 156 | 74702 | 1.060 |
| 83) 1,2,3-Trichloropropane | (3) | 9.507 | 110 | 32361 | 1.136 |
| 84) n-Propylbenzene | (3) | 9.543 | 120 | 61858 | 1.078 |
| 86) 4-Ethyltoluene | (3) | 9.622 | 105 | 202691 | 1.065 |
| 85) 2-Chlorotoluene | (3) | 9.622 | 126 | 60376 | 1.167 |
| 87) 1,3,5-Trimethylbenzene | (3) | 9.665 | 105 | 173983 | 1.103 |
| 88) Alpha Methyl Styrene | (3) | 9.837 | 118 | 90210M | 1.043 |
| 89) tert-Butylbenzene | (3) | 9.915 | 119 | 162042M | 1.022 |
| 90) 1,2,4-Trimethylbenzene | (3) | 9.951 | 105 | 172294 | 1.104 |
| 91) sec-Butylbenzene | (3) | 10.080 | 105 | 237984M | 1.055 |
| 92) 1,3-Dichlorobenzene | (3) | 10.188 | 146 | 119193 | 1.053 |
| 94) p-Isopropyltoluene | (3) | 10.188 | 119 | 214354 | 1.068 |
| 93) 1,4-Dichlorobenzene | (3) | 10.252 | 146 | 123396 | 1.065 |
| 95) Benzyl Chloride | (3) | 10.352 | 91 | 143039 | 1.065 |
| 97) n-Butylbenzene | (3) | 10.496 | 91 | 183774 | 1.109 |
| 96) 1,2-Dichlorobenzene | (3) | 10.539 | 146 | 111721 | 1.056 |
| 98) Hexachloroethane | (3) | 10.732 | 117 | 61709 | 1.015 |
| 99) 1,2-Dibromo-3-chloropropane | (3) | 11.133 | 157 | 58561 | 1.034 |
| 100) 1,2,4-Trichlorobenzene | (3) | 11.756 | 180 | 80641 | 0.984 |
| 101) Hexachlorobutadiene | (3) | 11.871 | 225 | 70143 | 0.994 |
| 102) Naphthalene | (3) | 11.964 | 128 | 161528 | 0.989 |
| 64) 1,3-Dichloropropene (total) | (3) | | 75 | 111101 | 2.016 |
| 77) Xylene (total) | (3) | | 91 | 292025 | 2.255 |

M = Compound was manually integrated.



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on 03/21/2017 at 13:46.
Target 3.5 esignature user ID: jeb07445

# Explanation of Symbols and Abbreviations

*The following defines common symbols and abbreviations used in reporting technical data:*

| | | | |
|---|---|---|---|
| **BMQL** | Below Minimum Quantitation Level | **mg** | milligram(s) |
| **C** | degrees Celsius | **mL** | milliliter(s) |
| **cfu** | colony forming units | **MPN** | Most Probable Number |
| **CP Units** | cobalt-chloroplatinate units | **N.D.** | non-detect |
| **F** | degrees Fahrenheit | **ng** | nanogram(s) |
| **g** | gram(s) | **NTU** | nephelometric turbidity units |
| **IU** | International Units | **pg/L** | picogram/liter |
| **kg** | kilogram(s) | **RL** | Reporting Limit |
| **L** | liter(s) | **TNTC** | Too Numerous To Count |
| **lb.** | pound(s) | **µg** | microgram(s) |
| **m3** | cubic meter(s) | **µL** | microliter(s) |
| **meq** | milliequivalents | **umhos/cm** | micromhos/cm |

| | |
|---|---|
| **<** | less than |
| **>** | greater than |
| **ppm** | parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas. |
| **ppb** | parts per billion |
| **Dry weight basis** | Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis. |

**Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.**

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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# Data Qualifiers

| Qualifier | Definition |
|---|---|
| C | Result confirmed by reanalysis |
| D1 | Indicates for dual column analyses that the result is reported from column 1 |
| D2 | Indicates for dual column analyses that the result is reported from column 2 |
| E | Concentration exceeds the calibration range |
| J (or G, I, X) | Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| P | Concentration difference between the primary and confirmation column >40%. The lower result is reported. |
| U | Analyte was not detected at the value indicated |
| V | Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference. |
| W | The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L. |
| Z | Laboratory Defined - see analysis report |
| B | Detection in the Blank |
| Q0 | LCS/LCSD Low |
| Q1 | LCS/LCSD High |
| Q2 | MS/MSD Low |
| Q3 | MS/MSD High |
| Q7 | LCS/LCSD RPD |
| Q8 | DUP RPD |
| Q9 | MS/MSD RPD |

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

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REVISED

# ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Evergreen c/o GHD
2055 Niagara Falls Blvd.
Suite #3
Niagara Falls NY 14304

Report Date: April 10, 2018 11:24

**Project: Philadelphia Refinery**

Account #: 10177
Group Number: 1775150
SDG: MHF80
PO Number: 11109626
State of Sample Origin: PA

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

| | | |
|---|---|---|
| Electronic Copy To | GHD, Inc. | Attn: Dave Steele |
| Electronic Copy To | GHD | Attn: Paul McMahon |

Respectfully Submitted,

Megan A. Moeller
Senior Specialist

(717) 556-7261

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## SAMPLE INFORMATION

| Client Sample Description | Sample Collection Date/Time | ELLE# |
|---|---|---|
| AOI6-AI-17-20 Air | 03/08/2017 08:34 - 03/08/2017 16:34 | 8876946 |
| AOI6-AI-17-08 Air | 03/08/2017 08:12 - 03/08/2017 16:12 | 8876947 |
| AOI6-AI-17-01 Air | 03/08/2017 09:11 - 03/08/2017 17:13 | 8876948 |
| AOI6-AI-17-03 Air | 03/08/2017 09:19 - 03/08/2017 17:23 | 8876949 |
| AOI6-AI-17-02 Air | 03/08/2017 09:29 - 03/08/2017 17:33 | 8876950 |
| AOI6-AI-17-07 Air | 03/08/2017 09:50 - 03/08/2017 17:50 | 8876951 |
| AOI6-AI-17-18 Air | 03/08/2017 08:18 - 03/08/2017 16:20 | 8876952 |
| AOI6-AI-17-04 Air | 03/08/2017 09:40 - 03/08/2017 17:40 | 8876953 |
| AOI6-AA-17-02 Air | 03/08/2017 10:30 - 03/08/2017 18:30 | 8876954 |
| AOI6-AA-17-01 Air | 03/08/2017 09:30 - 03/08/2017 17:30 | 8876955 |
| AOI6-AI-17-21 Air | 03/08/2017 10:06 - 03/08/2017 16:06 | 8876956 |
| AOI6-AI-17-17 Air | 03/08/2017 07:53 - 03/08/2017 15:57 | 8876957 |
| AOI6-AI-17-19 Air | 03/08/2017 08:24 - 03/08/2017 16:24 | 8876958 |

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

REVISED

**Sample Description:** **AOI6-AI-17-20 Air**
**SUMMA# 1336**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 03/09/2017 19:50
Collection Date/Time: 03/08/2017 08:34 through 03/08/2017 16:34
SDG#: MHF80-01

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8876946**
**ELLE Group #: 1775150**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 21 | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 34 | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | 1.1 J | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 2.7 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | 1.9 J | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 4.7 | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | 2.2 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1707530AA | 03/17/2017 01:28 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **AOI6-AI-17-08 Air**
**SUMMA# 1037**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 03/09/2017 19:50
Collection Date/Time: 03/08/2017 08:12 through 03/08/2017 16:12
SDG#: MHF80-02

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8876947**
**ELLE Group #: 1775150**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 4.3 | | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 310 | | 49 | 9.8 | 10 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 2.4 | J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | 1.2 | J | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 2.8 | J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | 1.0 | J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1707530AA | 03/17/2017 02:55 | Jacob E Bailey | 1 |
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1707630AA | 03/17/2017 16:13 | Jacob E Bailey | 10 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **AOI6-AI-17-01 Air**
**SUMMA# 527**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 03/09/2017 19:50
Collection Date/Time: 03/08/2017 09:11 through 03/08/2017 17:13
SDG#: MHF80-03

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8876948**
**ELLE Group #: 1775150**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 6.9 | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 3.3 J | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | 9.6 | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 3.7 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 2.1 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | N.D. | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1707530AA | 03/17/2017 03:39 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

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# Analysis Report

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**Sample Description:** **AOI6-AI-17-03 Air**
**SUMMA# 1378**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 03/09/2017 19:50
Collection Date/Time: 03/08/2017 09:19 through 03/08/2017 17:23
SDG#: MHF80-04

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8876949**
**ELLE Group #: 1775150**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 7.1 | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 2.3 J | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | 1.0 J | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 3.9 | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 2.2 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | 0.98 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1707530AA | 03/17/2017 04:23 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **AOI6-AI-17-02 Air**
**SUMMA# 1387**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 03/09/2017 19:50
Collection Date/Time: 03/08/2017 09:29 through 03/08/2017 17:33
SDG#: MHF80-05

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8876950**
**ELLE Group #: 1775150**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 6.8 | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 2.1 J | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | 0.93 J | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 5.2 | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 2.7 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | 1.0 J | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1707530AA | 03/17/2017 05:07 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **AOI6-AI-17-07 Air**
**SUMMA# 1411**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 03/09/2017 19:50
Collection Date/Time: 03/08/2017 09:50 through 03/08/2017 17:50
SDG#: MHF80-06

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8876951**
**ELLE Group #: 1775150**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 6.2 | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 2.6 J | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 3.6 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 2.1 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | N.D. | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1707530AA | 03/17/2017 05:51 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **AOI6-AI-17-18 Air**
**SUMMA# 1472**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 03/09/2017 19:50
Collection Date/Time: 03/08/2017 08:18 through 03/08/2017 16:20
SDG#: MHF80-07

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8876952**
**ELLE Group #: 1775150**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 10 | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 15 | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 2.5 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 1.2 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | N.D. | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1707530AA | 03/17/2017 06:35 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **AOI6-AI-17-04 Air**
**SUMMA# 1228**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 03/09/2017 19:50
Collection Date/Time: 03/08/2017 09:40 through 03/08/2017 17:40
SDG#: MHF80-08

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8876953**
**ELLE Group #: 1775150**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 6.4 | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 1.5 J | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 3.0 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 1.6 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | N.D. | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1707530AA | 03/17/2017 07:18 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **AOI6-AA-17-02 Air**
**SUMMA# 1521**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 03/09/2017 19:50
Collection Date/Time: 03/08/2017 10:30 through 03/08/2017 18:30
SDG#: MHF80-09

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8876954**
**ELLE Group #: 1775150**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 8.4 | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 1.7 J | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 2.5 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 1.2 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | N.D. | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1707630AA | 03/17/2017 16:57 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **AOI6-AA-17-01 Air**
**SUMMA# 1179**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 03/09/2017 19:50
Collection Date/Time: 03/08/2017 09:30 through 03/08/2017 17:30
SDG#: MHF80-10

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8876955**
**ELLE Group #: 1775150**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 3.0 J | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 1.3 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | N.D. | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | N.D. | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1707630AA | 03/17/2017 17:41 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **AOI6-AI-17-21 Air**
**SUMMA# 1189**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 03/09/2017 19:50
Collection Date/Time: 03/08/2017 10:06 through 03/08/2017 16:06
SDG#: MHF80-11

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8876956**
**ELLE Group #: 1775150**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 5.0 | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | 2.4 J | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 2.7 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 1.4 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | N.D. | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1707630AA | 03/17/2017 18:24 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **AOI6-AI-17-17 Air**
**SUMMA# 1245**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 03/09/2017 19:50
Collection Date/Time: 03/08/2017 07:53 through 03/08/2017 15:57
SDG#: MHF80-12

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8876957**
**ELLE Group #: 1775150**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 1.2 J | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 1.4 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | 0.96 J | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | N.D. | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1707630AA | 03/17/2017 19:08 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

**Sample Description:** **AOI6-AI-17-19 Air**
**SUMMA# 831**
**Philadelphia Refinery**

**Project Name:** **Philadelphia Refinery**

Submittal Date/Time: 03/09/2017 19:50
Collection Date/Time: 03/08/2017 08:24 through 03/08/2017 16:24
SDG#: MHF80-13

**Evergreen c/o GHD**
**ELLE Sample #: AQ 8876958**
**ELLE Group #: 1775150**
**Matrix: Air**

| CAT No. | Analysis Name | | CAS Number | Result | Limit of Quantitation* | Method Detection Limit | Dilution Factor |
|---|---|---|---|---|---|---|---|
| **Volatiles in Air** | | **EPA TO-15** | | **ug/m3** | **ug/m3** | **ug/m3** | |
| 05298 | Benzene | | 71-43-2 | 0.86 J | 3.2 | 0.64 | 1 |
| 05298 | Cumene | | 98-82-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,2-Dibromoethane | | 106-93-4 | N.D. | 7.7 | 1.5 | 1 |
| 05298 | 1,2-Dichloroethane | | 107-06-2 | N.D. | 4.0 | 0.81 | 1 |
| 05298 | Ethylbenzene | | 100-41-4 | N.D. | 4.3 | 0.87 | 1 |
| 05298 | Methyl t-Butyl Ether | | 1634-04-4 | N.D. | 3.6 | 0.72 | 1 |
| 05298 | Naphthalene | | 91-20-3 | N.D. | 5.2 | 2.6 | 1 |
| 05298 | Toluene | | 108-88-3 | 1.1 J | 3.8 | 0.75 | 1 |
| 05298 | 1,2,4-Trimethylbenzene | | 95-63-6 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | 1,3,5-Trimethylbenzene | | 108-67-8 | N.D. | 4.9 | 0.98 | 1 |
| 05298 | m/p-Xylene | | n.a. | N.D. | 4.3 | 0.87 | 1 |
| 05298 | o-Xylene | | 95-47-6 | N.D. | 4.3 | 0.87 | 1 |

## Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Sample Analysis Record

| CAT No. | Analysis Name | Method | Trial# | Batch# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|---|
| 05298 | TO 15 VOA Ext. List | EPA TO-15 | 1 | E1707630AA | 03/17/2017 19:52 | Jacob E Bailey | 1 |

*=This limit was used in the evaluation of the final result

REVISED

# Quality Control Summary

Client Name: Evergreen c/o GHD
Reported: 04/10/2018 11:24

Group Number: 1775150

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

## Method Blank

| Analysis Name | Result | LOQ** | MDL |
|---|---|---|---|
| | ug/m3 | ug/m3 | ug/m3 |
| Batch number: E1707530AA | Sample number(s): 8876946-8876953 | | |
| Benzene | N.D. | 3.2 | 0.64 |
| Cumene | N.D. | 4.9 | 0.98 |
| 1,2-Dibromoethane | N.D. | 7.7 | 1.5 |
| 1,2-Dichloroethane | N.D. | 4.0 | 0.81 |
| Ethylbenzene | N.D. | 4.3 | 0.87 |
| Methyl t-Butyl Ether | N.D. | 3.6 | 0.72 |
| Naphthalene | N.D. | 5.2 | 2.1 |
| Toluene | N.D. | 3.8 | 0.75 |
| 1,2,4-Trimethylbenzene | N.D. | 4.9 | 0.98 |
| 1,3,5-Trimethylbenzene | N.D. | 4.9 | 0.98 |
| m/p-Xylene | N.D. | 4.3 | 0.87 |
| o-Xylene | N.D. | 4.3 | 0.87 |
| Batch number: E1707630AA | Sample number(s): 8876947,8876954-8876958 | | |
| Benzene | N.D. | 3.2 | 0.64 |
| Cumene | N.D. | 4.9 | 0.98 |
| 1,2-Dibromoethane | N.D. | 7.7 | 1.5 |
| 1,2-Dichloroethane | N.D. | 4.0 | 0.81 |
| Ethylbenzene | N.D. | 4.3 | 0.87 |
| Methyl t-Butyl Ether | N.D. | 3.6 | 0.72 |
| Naphthalene | N.D. | 5.2 | 2.1 |
| Toluene | N.D. | 3.8 | 0.75 |
| 1,2,4-Trimethylbenzene | N.D. | 4.9 | 0.98 |
| 1,3,5-Trimethylbenzene | N.D. | 4.9 | 0.98 |
| m/p-Xylene | N.D. | 4.3 | 0.87 |
| o-Xylene | N.D. | 4.3 | 0.87 |

## LCS/LCSD

| Analysis Name | LCS Spike Added ug/m3 | LCS Conc ug/m3 | LCSD Spike Added ug/m3 | LCSD Conc ug/m3 | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---|---|---|---|---|---|---|---|---|---|
| Batch number: E1707530AA | Sample number(s): 8876946-8876953 | | | | | | | | |
| Benzene | 31.95 | 37.38 | 31.95 | 38.72 | 117 | 121 | 76-123 | 3 | 25 |
| Cumene | 49.16 | 53.63 | 49.16 | 53.87 | 109 | 110 | 74-121 | 0 | 25 |
| 1,2-Dibromoethane | 76.83 | 88.87 | 76.83 | 87.97 | 116 | 114 | 73-121 | 1 | 25 |

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

# Quality Control Summary

Client Name: Evergreen c/o GHD
Reported: 04/10/2018 11:24

Group Number: 1775150

## LCS/LCSD (continued)

| Analysis Name | LCS Spike Added ug/m3 | LCS Conc ug/m3 | LCSD Spike Added ug/m3 | LCSD Conc ug/m3 | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 40.47 | 48.94 | 40.47 | 50.66 | 121 | 125 | 72-138 | 3 | 25 |
| Ethylbenzene | 43.42 | 48.07 | 43.42 | 47.14 | 111 | 109 | 77-117 | 2 | 25 |
| Methyl t-Butyl Ether | 36.05 | 37.1 | 36.05 | 38.2 | 103 | 106 | 71-119 | 3 | 25 |
| Naphthalene | 52.43 | 61.56 | 52.43 | 60.88 | 117 | 116 | 39-152 | 1 | 25 |
| Toluene | 37.69 | 43.89 | 37.69 | 43.14 | 116 | 114 | 78-119 | 2 | 25 |
| 1,2,4-Trimethylbenzene | 49.16 | 59.66 | 49.16 | 58.36 | 121 | 119 | 70-138 | 2 | 25 |
| 1,3,5-Trimethylbenzene | 49.16 | 55.96 | 49.16 | 53.97 | 114 | 110 | 72-130 | 4 | 25 |
| m/p-Xylene | 43.42 | 47.67 | 43.42 | 47.52 | 110 | 109 | 78-119 | 0 | 25 |
| o-Xylene | 43.42 | 46.3 | 43.42 | 45.77 | 107 | 105 | 78-121 | 1 | 25 |
| Batch number: E1707630AA | Sample number(s): 8876947,8876954-8876958 | | | | | | | | |
| Benzene | 31.95 | 38.76 | 31.95 | 38.69 | 121 | 121 | 76-123 | 0 | 25 |
| Cumene | 49.16 | 53.67 | 49.16 | 52.75 | 109 | 107 | 74-121 | 2 | 25 |
| 1,2-Dibromoethane | 76.83 | 89.37 | 76.83 | 88.32 | 116 | 115 | 73-121 | 1 | 25 |
| 1,2-Dichloroethane | 40.47 | 51.16 | 40.47 | 50.75 | 126 | 125 | 72-138 | 1 | 25 |
| Ethylbenzene | 43.42 | 47.56 | 43.42 | 47.96 | 110 | 110 | 77-117 | 1 | 25 |
| Methyl t-Butyl Ether | 36.05 | 38.43 | 36.05 | 39.26 | 107 | 109 | 71-119 | 2 | 25 |
| Naphthalene | 52.43 | 61.38 | 52.43 | 62.24 | 117 | 119 | 39-152 | 1 | 25 |
| Toluene | 37.69 | 44.11 | 37.69 | 43.56 | 117 | 116 | 78-119 | 1 | 25 |
| 1,2,4-Trimethylbenzene | 49.16 | 58.1 | 49.16 | 58.21 | 118 | 118 | 70-138 | 0 | 25 |
| 1,3,5-Trimethylbenzene | 49.16 | 54.98 | 49.16 | 53.03 | 112 | 108 | 72-130 | 4 | 25 |
| m/p-Xylene | 43.42 | 48.3 | 43.42 | 48.29 | 111 | 111 | 78-119 | 0 | 25 |
| o-Xylene | 43.42 | 46.44 | 43.42 | 46.49 | 107 | 107 | 78-121 | 0 | 25 |

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

# Summa Canister Field Test Data/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 10177 Group # 1775150 Sample # 8876946-58 Bottle Order (SCR) # _____

For Eurofins Lancaster Laboratories Environmental use only

## Client Information

Client: GHD

Account #:

Project Name/#: Evergreen PES 11109626

Project Manager: David Steele

P.O. #:

Sampler: A. Camm, K. Corry

Quote #:

Name of state where samples were collected: Pennsylvania

## Turnaround Time Requested (TAT) (circle one)

Standard Rush (specify) _____

**Data Package Required?** Yes No

**EDD Required?** Yes No

| | Temperature (F) | | Pressure ("Hg) | |
|---|---|---|---|---|
| | Start | Stop | Start | Stop |
| Ambient | 52 | | | |
| Maximum | ~~60~~ 63 | | | |
| Minimum | | | | |

## Analyses Requested

EPA TO - 15 | ☐ EPA 18 ☐ MTBE ☐ BTEX | ☐ EPA 25 (select range below) | Helium as tracer | O2/CO2 | Library Search

| Sample Identification | Start Date/Time (24-hour clock) | Stop Date/Time (24-hour clock) | Canister Pressure in Field ("Hg) (Start) | Canister Pressure in Field ("Hg) (Stop) | Interior Temp. (F) (Start) | Interior Temp. (F) (Stop) | Flow Reg. ID | Can ID | Can Size (L) | Controller Flowrate (mL/min) | TO-15 | 18 | 25 | He | O2/CO2 | Lib | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AOI6-AI-17-20 | 03/08/17 0834 | 03/08/17 1634 | -30 | -1 | 68.7 | 73.8 | 675024 | 1336 | 6 | 10.4 | | | | | | | |
| AOI6-AI-17-05 | 03/08/17 0804 | 03/08/17 | -24.0 | | 74.2 | | 958119 | 1232 | 6 | 10.6 | Do not analyze | | | | | | |
| AOI6-AI-17-08 | 03/08/17 0818 | 03/08/17 1662 | -29+ | -5 | (do.1 | 75.4 | 900087 | 1037 | 6 | 10.4 | | | | | | | |
| AOI6-AI-17-01 | 03/08/17 0911 | 03/08/17 1713 | -29.5 | -4.5 | 74.6 | 77.7 | 958077 | 527 | 6 | 10.3 | | | | | | | |
| AOI6-AI-17-03 | 03/08/17 0917 | 03/08/17 1723 | -29.5 | ~~-5~~ -4 | 74.2 | 78.9 | 675037 | 1378 | 6 | 10.3 | | | | | | | |
| AOI6-AI-17-02 | 03/08/17 0924 | 03/08/17 1733 | -30.0 | -5.5 | 73.5 | 81.0 | 840487 | 1387 | 6 | 10.6 | | | | | | | |
| AOI6-AI-17-07 | 03/08/17 0950 | 03/08/17 1750 | -30.0 | -5 | 74.1 | 76.2 | 966894 | 1411 | 6 | 10.6 | | | | | | | |
| AOI6-AI-17-18 | 03/08/17 0818 | 03/08/17 1630 | -30.0 | -4 | 72.0 | | 624845 | 1472 | 6 | 10.5 | | | | | | | |
| AOI6-AI-17-04 | 03/08/17 0948 | 03/08/17 1740 | -29.5 | -5 | 71.3 | 79.5 | 701140 | 1228 | 6 | 10.4 | | | | | | | |
| AOI6-AA-17-02 | 03/08/17 1030 | 03/08/17 1830 | -30 | -6 | outside 55 | 62.3 | 966896 | 1521 | 6 | 10.5 | | | | | | | |
| | | | | | | | ~~152710~~ | ~~883~~ | ~~6~~ | ~~10.4~~ | A | | | | | | |

## Instructions/QC Requirements & Comments

PES/Philadelphia Database

**EPA 25** (check one) ☐ C1 - C4 ☐ C2 - C10 ☐ C1 - C10 ☐ C4 - C10 (GRO) ☐ C2 - C4

| Canisters Shipped by: | Date/Time: | Canisters Received by: | Date/Time: | Relinquished by: | Date/Time: | Received by: | Date/Time: |
|---|---|---|---|---|---|---|---|
| TMS 3/6/17 | 17:51 | | | | | | |
| Relinquished by: 03/09/17 | Date/Time: | Received by: | Date/Time: 3/9/17 1353 | Relinquished by: | Date/Time: 3/9/17 1550 | Received by: | Date/Time: |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | Relinquished by: | Date/Time: | Received by: | Date/Time: 3.9.17 1910 |

# Summa Canister Field Test Data/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 10177 Group # 177550 Sample # 8876946-58 Bottle Order (SCR) # _____

For Eurofins Lancaster Laboratories Environmental use only

## Client Information

Client: GHD

Account #:

Project Name/#: Evergreen PES 11609626

Project Manager: David Steele

P.O. #:

Sampler: A. Cannon K Curry

Quote #:

Name of state where samples were collected: Pennsylvania

## Turnaround Time Requested (TAT) (circle one)

Standard Rush (specify) _____

**Data Package Required?** Yes No

**EDD Required?** Yes No

| | Temperature (F) | | Pressure ("Hg) | |
|---|---|---|---|---|
| | Start | Stop | Start | Stop |
| Ambient | 52 | | | |
| Maximum | | | | |
| Minimum | | | | |

## Analyses Requested

EPA TO - 15 | EPA 18 ☐ MTBE ☐ BTEX | EPA 25 (select range below) | Helium as tracer | O2/CO2 | Library Search

| Sample Identification | Start Date/Time (24-hour clock) | Stop Date/Time (24-hour clock) | Canister Pressure in Field ("Hg) (Start) | Canister Pressure in Field ("Hg) (Stop) | Interior Temp. (F) (Start) | Interior Temp. (F) (Stop) | Flow Reg. ID | Can ID | Can Size (L) | Controller Flowrate (mL/min) | EPA TO - 15 | EPA 18 | MTBE | BTEX | EPA 25 | Helium as tracer | O2/CO2 | Library Search |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 710568 | 1395 | 6 | 10.5 | X | | | | | | | |
| AOI6-AA-17-01 | 03/03/17 0930 | 03/08/17 1730 | -30 | -4 | ambient 54.8 | 64.4 | 248310 | 1179 | 6 | 10.6 | | | | | | | | |
| AOI6-AE-17-21 | 03/08/17 1006 | 03/08/17 1646 | -29+ | -4 | 67.0 | 70.6 | 900011 | 1189 | 6 | 10.3 | | | | | | | | |
| AOI6-AI-17-17 | 03/08/17 0753 | 03/08/17 1557 | -30.0 | -9 | 72.7 | 77.6 | 344045 | 1245 | 6 | 10.5 | | | | | | | | |
| AOI6-AE-17-19 | 03/08/17 0824 | 03/08/17 1624 | -29.0 | -1 | 68.3 | 72.7 | 710538 | 831 | 6 | 10.4 | | | | | | | | |

## Instructions/QC Requirements & Comments

PES / Philadelphia Database

**EPA 25** (check one) ☐ C1 - C4 ☐ C2 - C10 ☐ C1 - C10 ☐ C4 - C10 (GRO) ☐ C2 - C4

| Canisters Shipped by: | Date/Time: | Canisters Received by: | Date/Time: | Relinquished by: | Date/Time: | Received by: | Date/Time: |
|---|---|---|---|---|---|---|---|
| Lucas Bailey 3/6/17 | 17:51 | | | | | | |
| Relinquished by: 03/09/17 | Date/Time: | Received by: | Date/Time: 3/9/17 1353 | Relinquished by: | Date/Time: 3/9/17 1950 | Received by: | Date/Time: |
| Relinquished by: | Date/Time: | Received by: | Date/Time: | Relinquished by: | Date/Time: | Received by: | Date/Time: 3/9/17 1950 |

eurofins | Lancaster Laboratories Environmental

# Sample Administration Receipt Documentation Log

Doc Log ID: 177674

Group Number(s): 1775150

Client: GHD

## Delivery and Receipt Information

| | | | |
|---|---|---|---|
| Delivery Method: | ELLE Courier | Arrival Timestamp: | 03/09/2017 19:50 |
| Number of Packages: | 5 | Number of Projects: | 1 |
| State/Province of Origin: | PA | | |

## Arrival Condition Summary

| | | | |
|---|---|---|---|
| Shipping Container Sealed: | Yes | Sample IDs on COC match Containers: | Yes |
| Custody Seal Present: | No | Sample Date/Times match COC: | Yes |
| Samples Chilled: | N/A | VOA Vial Headspace ≥ 6mm: | N/A |
| Paperwork Enclosed: | Yes | Total Trip Blank Qty: | 0 |
| Samples Intact: | Yes | Air Quality Samples Present: | Yes |
| Missing Samples: | No | Air Quality Flow Controllers Present: | Yes |
| Extra Samples: | No | Flow Controller Quantity: | 14 |
| Discrepancy in Container Qty on COC: | No | Air Quality Returns: | Yes |
| | | Summa Canisters: | 1232 |

*Unpacked by Timothy Cubberley (6520) at 05:35 on 03/10/2017*



2425 New Holland Pike
Lancaster, PA 17605-2425



T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Quant Report

Target Revision 3.5

Data File: /chem/HP22820.i/17mar13.b/ec00354.d Instrument ID: HP22820.i
Injection date and time: 13-MAR-2017 15:56 Analyst ID: jeb07445

Method used: /chem/HP22820.i/17mar13.b/to-15.m Sublist used: all
Calibration date and time: 13-MAR-2017 18:38
Date, time and analyst ID of latest file update: 13-Mar-2017 18:38 jeb07445

Sample Name: VSTD001 Lab Sample ID: VSTD001

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Concentration (ppb(v)) |
|---|---|---|---|---|---|
| 1) Propene | (1) | 1.606 | 41 | 21533 | 1.000 |
| 2) Dichlorodifluoromethane | (1) | 1.635 | 85 | 77902 | 1.000 |
| 3) Chlorodifluoromethane | (1) | 1.656 | 51 | 42993 | 1.000 |
| 4) Freon 114 | (1) | 1.771 | 85 | 77286 | 1.000 |
| 5) Chloromethane | (1) | 1.835 | 50 | 27259 | 1.000 |
| 6) Vinyl Chloride | (1) | 1.957 | 62 | 27443 | 1.000 |
| 7) 1,3-Butadiene | (1) | 2.000 | 54 | 18466 | 1.000 |
| 8) Bromomethane | (1) | 2.344 | 94 | 34836 | 1.000 |
| 9) Chloroethane | (1) | 2.473 | 64 | 15561 | 1.000 |
| 10) Bromoethene | (1) | 2.688 | 106 | 25111 | 1.000 |
| 11) Dichlorofluoromethane | (1) | 2.731 | 67 | 61517 | 1.000 |
| 12) Trichlorofluoromethane | (1) | 2.766 | 101 | 78236 | 1.000 |
| 13) Pentane | (1) | 2.867 | 43 | 38633 | 1.000 |
| 14) Ethanol | (1) | 3.074 | 45 | 8045 | 1.000 |
| 15) Freon123a | (1) | 3.196 | 67 | 56836 | 1.000 |
| 16) Acrolein | (1) | 3.339 | 56 | 8085 | 1.000 |
| 17) 1,1-Dichloroethene | (1) | 3.425 | 61 | 40383 | 1.000 |
| 18) Freon 113 | (1) | 3.433 | 103 | 42775 | 1.000 |
| 19) Acetone | (1) | 3.533 | 43 | 48105M | 1.000 |
| 20) Methyl Iodide | (1) | 3.604 | 142 | 38067 | 1.000 |
| 21) Carbon Disulfide | (1) | 3.655 | 76 | 76639 | 1.000 |
| 22) Isopropanol | (1) | 3.712 | 45 | 37779 | 1.130 |
| 24) 3-Chloropropene | (1) | 3.862 | 76 | 12241 | 1.120 |
| 23) Acetonitrile | (1) | 3.884 | 40 | 23518 | 1.000 |
| 25) Methylene Chloride | (1) | 4.013 | 84 | 26091 | 1.120 |
| 26) tert-Butyl Alcohol | (1) | 4.156 | 59 | 46818 | 1.120 |
| 28) trans-1,2-Dichloroethene | (1) | 4.292 | 61 | 37482 | 1.000 |
| 29) Methyl t-Butyl Ether | (1) | 4.292 | 73 | 69197 | 1.000 |
| 27) Acrylonitrile | (1) | 4.306 | 53 | 19799 | 1.000 |
| 30) Hexane | (1) | 4.557 | 57 | 35327 | 1.000 |
| 31) 1,1-Dichloroethane | (1) | 4.722 | 63 | 49049 | 1.000 |
| 32) Vinyl Acetate | (1) | 4.779 | 86 | 7061 | 1.130 |
| 33) Di-Isopropyl Ether | (1) | 4.779 | 45 | 71877 | 1.000 |
| 34) Ethyl Tert-Butyl Ether | (1) | 5.116 | 59 | 67418 | 1.000 |
| 35) cis-1,2-Dichloroethene | (1) | 5.252 | 61 | 35206 | 1.000 |
| 37) 2-Butanone | (1) | 5.288 | 72 | 14158 | 1.000 |
| 38) Ethyl Acetate | (1) | 5.331 | 70 | 7017 | 1.000 |
| 39) Methyl Acrylate | (1) | 5.367 | 55 | 37037 | 1.000 |

M = Compound was manually integrated.



Digitally signed by Alexander D. Sechrist
on 03/14/2017 at 08:38.
Target 3.5 esignature user ID: ads07818

Quant Report

Target Revision 3.5

Data File: /chem/HP22820.i/17mar13.b/ec00354.d Instrument ID: HP22820.i
Injection date and time: 13-MAR-2017 15:56 Analyst ID: jeb07445

Method used: /chem/HP22820.i/17mar13.b/to-15.m Sublist used: all
Calibration date and time: 13-MAR-2017 18:38
Date, time and analyst ID of latest file update: 13-Mar-2017 18:38 jeb07445

Sample Name: VSTD001 Lab Sample ID: VSTD001

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Concentration (ppb(v)) |
|---|---|---|---|---|---|
| 40)*Bromochloromethane | (1) | 5.467 | 130 | 211361 | 10.000 |
| 41) Tetrahydrofuran | (1) | 5.503 | 42 | 24472 | 1.000 |
| 42) Chloroform | (1) | 5.539 | 83 | 61485 | 1.000 |
| 43) 1,1,1-Trichloroethane | (1) | 5.675 | 97 | 58216 | 1.000 |
| 44) Cyclohexane | (1) | 5.710 | 56 | 38850 | 1.000 |
| 45) Carbon Tetrachloride | (1) | 5.811 | 117 | 57426 | 1.000 |
| 46) Benzene | (2) | 5.990 | 78 | 85518 | 1.000 |
| 47) 1,2-Dichloroethane | (2) | 6.011 | 62 | 38685 | 1.000 |
| 48) Isooctane | (2) | 6.033 | 57 | 114745 | 1.000 |
| 49) Tert-Amyl Methyl Ether | (2) | 6.069 | 73 | 68389 | 1.000 |
| 50) Heptane | (2) | 6.176 | 43 | 38679 | 1.000 |
| 51)*1,4-Difluorobenzene | (2) | 6.291 | 114 | 801401 | 10.000 |
| 52) Trichloroethene | (2) | 6.491 | 130 | 41020 | 1.000 |
| 53) Ethyl Acrylate | (2) | 6.577 | 55 | 42204 | 1.000 |
| 36) 1,2-Dichloroethene (total) | (1) | | 61 | 72688 | 2.000 |
| 54) 1,2-Dichloropropane | (2) | 6.677 | 63 | 29416 | 1.000 |
| 57) Methyl Methacrylate | (2) | 6.749 | 69 | 23143 | 1.000 |
| 55) Dibromomethane | (2) | 6.771 | 174 | 38514 | 1.000 |
| 56) 1,4-Dioxane | (2) | 6.778 | 88 | 18235 | 1.000 |
| 58) Bromodichloromethane | (2) | 6.885 | 83 | 55327 | 1.000 |
| 59) cis-1,3-Dichloropropene | (2) | 7.215 | 75 | 42379 | 1.000 |
| 60) 4-Methyl-2-Pentanone | (2) | 7.329 | 43 | 41716 | 1.000 |
| 61) Toluene | (3) | 7.465 | 91 | 95326 | 1.000 |
| 62) Octane | (3) | 7.516 | 43 | 51996 | 1.000 |
| 63) trans-1,3-Dichloropropene | (3) | 7.630 | 75 | 35385 | 1.000 |
| 65) Ethyl Methacrylate | (3) | 7.673 | 69 | 33396 | 1.000 |
| 66) 1,1,2-Trichloroethane | (3) | 7.773 | 97 | 35104 | 1.000 |
| 67) Tetrachloroethene | (3) | 7.867 | 166 | 55835 | 1.000 |
| 68) 2-Hexanone | (3) | 7.945 | 43 | 41955 | 1.000 |
| 69) Dibromochloromethane | (3) | 8.074 | 127 | 38757 | 1.000 |
| 70) 1,2-Dibromoethane | (3) | 8.167 | 107 | 50109 | 1.000 |
| 71)*Chlorobenzene-d5 | (3) | 8.497 | 117 | 785284 | 10.000 |
| 72) Chlorobenzene | (3) | 8.518 | 112 | 83068 | 1.000 |
| 73) 1,1,1,2-Tetrachloroethane | (3) | 8.576 | 131 | 40790 | 1.000 |
| 74) Ethylbenzene | (3) | 8.583 | 91 | 115025 | 1.000 |
| 75) m/p-Xylene | (3) | 8.669 | 91 | 88329 | 1.000 |
| 76) o-Xylene | (3) | 8.970 | 91 | 82593 | 1.000 |
| 78) Styrene | (3) | 8.984 | 104 | 49067 | 1.000 |

* = Compound is an internal standard.



Digitally signed by Alexander D. Sechrist
on 03/14/2017 at 08:38.
Target 3.5 esignature user ID: ads07818

Quant Report

Target Revision 3.5

Data File: /chem/HP22820.i/17mar13.b/ec00354.d  Instrument ID: HP22820.i
Injection date and time: 13-MAR-2017 15:56  Analyst ID: jeb07445

Method used: /chem/HP22820.i/17mar13.b/to-15.m  Sublist used: all
Calibration date and time: 13-MAR-2017 18:38
Date, time and analyst ID of latest file update: 13-Mar-2017 18:38 jeb07445

Sample Name: VSTD001  Lab Sample ID: VSTD001

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Concentration (ppb(v)) |
|---|---|---|---|---|---|
| 79) Bromoform | (3) | 9.142 | 173 | 42276 | 1.000 |
| 80) Cumene | (3) | 9.242 | 105 | 114050 | 1.000 |
| 82) 1,1,2,2-Tetrachloroethane | (3) | 9.471 | 83 | 63964 | 1.000 |
| 81) Bromobenzene | (3) | 9.493 | 156 | 44325 | 1.000 |
| 83) 1,2,3-Trichloropropane | (3) | 9.514 | 110 | 21386 | 1.000 |
| 84) n-Propylbenzene | (3) | 9.550 | 120 | 34033 | 1.000 |
| 86) 4-Ethyltoluene | (3) | 9.629 | 105 | 111089M | 1.000 |
| 85) 2-Chlorotoluene | (3) | 9.629 | 126 | 32360 | 1.000 |
| 87) 1,3,5-Trimethylbenzene | (3) | 9.672 | 105 | 89451M | 1.000 |
| 88) Alpha Methyl Styrene | (3) | 9.851 | 118 | 30410 | 1.000 |
| 89) tert-Butylbenzene | (3) | 9.929 | 119 | 94950M | 1.000 |
| 90) 1,2,4-Trimethylbenzene | (3) | 9.965 | 105 | 87227 | 1.000 |
| 91) sec-Butylbenzene | (3) | 10.094 | 105 | 131884 | 1.000 |
| 92) 1,3-Dichlorobenzene | (3) | 10.194 | 146 | 71996 | 1.000 |
| 94) p-Isopropyltoluene | (3) | 10.194 | 119 | 101098 | 1.000 |
| 93) 1,4-Dichlorobenzene | (3) | 10.259 | 146 | 76039 | 1.000 |
| 95) Benzyl Chloride | (3) | 10.366 | 91 | 47882 | 1.000 |
| 97) n-Butylbenzene | (3) | 10.510 | 91 | 89496 | 1.000 |
| 96) 1,2-Dichlorobenzene | (3) | 10.553 | 146 | 65839 | 1.000 |
| 98) Hexachloroethane | (3) | 10.739 | 117 | 29051 | 1.000 |
| 99) 1,2-Dibromo-3-chloropropane | (3) | 11.147 | 157 | 23136 | 1.000 |
| 100) 1,2,4-Trichlorobenzene | (3) | 11.763 | 180 | 44840 | 1.000 |
| 101) Hexachlorobutadiene | (3) | 11.878 | 225 | 42373 | 1.000 |
| 102) Naphthalene | (3) | 11.971 | 128 | 70318 | 1.000 |
| 64) 1,3-Dichloropropene (total) | (3) | | 75 | 77764 | 2.000 |
| 77) Xylene (total) | (3) | | 91 | 170922 | 2.000 |

M = Compound was manually integrated.



Digitally signed by Alexander D. Sechrist
on 03/14/2017 at 08:38.
Target 3.5 esignature user ID: ads07818

# Explanation of Symbols and Abbreviations

*The following defines common symbols and abbreviations used in reporting technical data:*

| | | | |
|---|---|---|---|
| **BMQL** | Below Minimum Quantitation Level | **mg** | milligram(s) |
| **C** | degrees Celsius | **mL** | milliliter(s) |
| **cfu** | colony forming units | **MPN** | Most Probable Number |
| **CP Units** | cobalt-chloroplatinate units | **N.D.** | non-detect |
| **F** | degrees Fahrenheit | **ng** | nanogram(s) |
| **g** | gram(s) | **NTU** | nephelometric turbidity units |
| **IU** | International Units | **pg/L** | picogram/liter |
| **kg** | kilogram(s) | **RL** | Reporting Limit |
| **L** | liter(s) | **TNTC** | Too Numerous To Count |
| **lb.** | pound(s) | **µg** | microgram(s) |
| **m3** | cubic meter(s) | **µL** | microliter(s) |
| **meq** | milliequivalents | **umhos/cm** | micromhos/cm |

| | |
|---|---|
| **<** | less than |
| **>** | greater than |
| **ppm** | parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas. |
| **ppb** | parts per billion |
| **Dry weight basis** | Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis. |

**Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.**

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

**WARRANTY AND LIMITS OF LIABILITY** - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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# Data Qualifiers

| Qualifier | Definition |
|---|---|
| C | Result confirmed by reanalysis |
| D1 | Indicates for dual column analyses that the result is reported from column 1 |
| D2 | Indicates for dual column analyses that the result is reported from column 2 |
| E | Concentration exceeds the calibration range |
| J (or G, I, X) | Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL) |
| P | Concentration difference between the primary and confirmation column >40%. The lower result is reported. |
| U | Analyte was not detected at the value indicated |
| V | Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference. |
| W | The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L. |
| Z | Laboratory Defined - see analysis report |
| B | Detection in the Blank |
| Q0 | LCS/LCSD Low |
| Q1 | LCS/LCSD High |
| Q2 | MS/MSD Low |
| Q3 | MS/MSD High |
| Q7 | LCS/LCSD RPD |
| Q8 | DUP RPD |
| Q9 | MS/MSD RPD |

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

**Pace Analytical Services, LLC**
1700 Elm Street - Suite 200
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(612)607-1700

April 16, 2018

David Steele
GHD
410 Eagleview Blvd.
Exton, PA 19341

RE: Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

Dear David Steele:
Enclosed are the analytical results for sample(s) received by the laboratory between March 17, 2017 and March 20, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised on April, 16, 2018 to include Calibration Point Reference data table. No data was modified.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nathan Boberg
nathan.boberg@pacelabs.com
(612)607-6407
Project Manager

Enclosures

cc: Paul McMahon, GHD



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# CERTIFICATIONS

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

**Minnesota Certification IDs**

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #:MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon NwTPH Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970



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## SAMPLE SUMMARY

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **10382287001** | **AOI5-AI-17-01** | Air | 03/10/17 14:42 | 03/17/17 10:10 |
| **10382287002** | **AOI5-AI-17-02** | Air | 03/10/17 15:07 | 03/17/17 10:10 |
| **10382287003** | **AOI5-AI-17-03** | Air | 03/10/17 14:50 | 03/17/17 10:10 |
| **10382287004** | **AOI5-AI-17-04** | Air | 03/10/17 14:46 | 03/17/17 10:10 |
| **10382287005** | **AOI5-AI-17-06** | Air | 03/10/17 15:04 | 03/17/17 10:10 |
| **10382287006** | **AOI5-AI-17-05** | Air | 03/10/17 14:35 | 03/17/17 10:10 |
| **10382287007** | **AOI5-AI-17-07** | Air | 03/10/17 14:44 | 03/17/17 10:10 |
| **10382287008** | **AOI6-AI-17-22** | Air | 03/08/17 17:12 | 03/17/17 10:10 |
| **10382287009** | **AOI2-AI-17-01** | Air | 03/10/17 15:30 | 03/17/17 10:10 |
| **10382287010** | **AOI2-AI-17-08** | Air | 03/10/17 16:11 | 03/17/17 10:10 |
| **10382287011** | **AOI2-AI-17-10** | Air | 03/10/17 15:42 | 03/17/17 10:10 |
| **10382287012** | **AOI2-AI-17-03** | Air | 03/10/17 15:58 | 03/17/17 10:10 |
| **10382287013** | **AOI2-AI-17-07** | Air | 03/10/17 16:07 | 03/17/17 10:10 |
| **10382287014** | **AOI2-AI-17-04** | Air | 03/10/17 15:55 | 03/17/17 10:10 |
| **10382287015** | **AOI2-AI-17-16** | Air | 03/10/17 16:21 | 03/17/17 10:10 |
| **10382287016** | **AOI2-AI-17-17** | Air | 03/10/17 16:27 | 03/17/17 10:10 |
| **10382287017** | **AOI2-AI-17-06** | Air | 03/10/17 16:02 | 03/17/17 10:10 |
| **10382287018** | **AOI3-AI-17-09** | Air | 03/10/17 13:35 | 03/17/17 10:10 |
| **10382287019** | **Unused Can #0852** | Air | | 03/20/17 09:15 |
| **10382287020** | **Unused Can #0102** | Air | | 03/20/17 09:15 |
| **10382287021** | **Unused Can #0071** | Air | | 03/20/17 09:15 |

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|---|---|---|---|---|
| 10382287001 | AOI5-AI-17-01 | TO-15 | EMC | 13 |
| 10382287002 | AOI5-AI-17-02 | TO-15 | EMC | 13 |
| 10382287003 | AOI5-AI-17-03 | TO-15 | EMC | 13 |
| 10382287004 | AOI5-AI-17-04 | TO-15 | EMC | 13 |
| 10382287005 | AOI5-AI-17-06 | TO-15 | EMC | 13 |
| 10382287006 | AOI5-AI-17-05 | TO-15 | EMC | 13 |
| 10382287007 | AOI5-AI-17-07 | TO-15 | EMC | 13 |
| 10382287008 | AOI6-AI-17-22 | TO-15 | EMC | 13 |
| 10382287009 | AOI2-AI-17-01 | TO-15 | EMC | 13 |
| 10382287010 | AOI2-AI-17-08 | TO-15 | EMC | 13 |
| 10382287011 | AOI2-AI-17-10 | TO-15 | EMC | 13 |
| 10382287012 | AOI2-AI-17-03 | TO-15 | EMC | 13 |
| 10382287013 | AOI2-AI-17-07 | TO-15 | EMC | 13 |
| 10382287014 | AOI2-AI-17-04 | TO-15 | EMC | 13 |
| 10382287015 | AOI2-AI-17-16 | TO-15 | EMC | 13 |
| 10382287016 | AOI2-AI-17-17 | TO-15 | EMC | 13 |
| 10382287017 | AOI2-AI-17-06 | TO-15 | EMC | 13 |
| 10382287018 | AOI3-AI-17-09 | TO-15 | EMC | 13 |



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## ANALYTICAL RESULTS

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

**Sample: AOI5-AI-17-01** **Lab ID: 10382287001** Collected: 03/10/17 14:42 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **19.4** | ug/m3 | 0.61 | 0.23 | 1.88 | | 03/22/17 21:22 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.5** | ug/m3 | 7.3 | 1.5 | 1.88 | | 03/22/17 21:22 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.39** | ug/m3 | 0.77 | 0.39 | 1.88 | | 03/22/17 21:22 | 107-06-2 | |
| Ethylbenzene | **5.2** | ug/m3 | 4.1 | 0.80 | 1.88 | | 03/22/17 21:22 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.26** | ug/m3 | 4.7 | 0.26 | 1.88 | | 03/22/17 21:22 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.57** | ug/m3 | 6.9 | 0.57 | 1.88 | | 03/22/17 21:22 | 1634-04-4 | |
| Naphthalene | **1.4J** | ug/m3 | 5.0 | 0.57 | 1.88 | | 03/22/17 21:22 | 91-20-3 | |
| Toluene | **3.1** | ug/m3 | 1.4 | 0.29 | 1.88 | | 03/22/17 21:22 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **3.1J** | ug/m3 | 4.7 | 0.24 | 1.88 | | 03/22/17 21:22 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.34** | ug/m3 | 4.7 | 0.34 | 1.88 | | 03/22/17 21:22 | 108-67-8 | |
| Xylene (Total) | **30.4** | ug/m3 | 5.0 | 2.1 | 1.88 | | 03/22/17 21:22 | 1330-20-7 | |
| m&p-Xylene | **19.9** | ug/m3 | 8.3 | 1.5 | 1.88 | | 03/22/17 21:22 | 179601-23-1 | |
| o-Xylene | **10.5** | ug/m3 | 4.1 | 0.66 | 1.88 | | 03/22/17 21:22 | 95-47-6 | |

**Sample: AOI5-AI-17-02** **Lab ID: 10382287002** Collected: 03/10/17 15:07 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **7.0** | ug/m3 | 0.48 | 0.18 | 1.49 | | 03/22/17 22:19 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 5.8 | 1.2 | 1.49 | | 03/22/17 22:19 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.31** | ug/m3 | 0.61 | 0.31 | 1.49 | | 03/22/17 22:19 | 107-06-2 | |
| Ethylbenzene | **2.4J** | ug/m3 | 3.3 | 0.63 | 1.49 | | 03/22/17 22:19 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.21** | ug/m3 | 3.7 | 0.21 | 1.49 | | 03/22/17 22:19 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.45** | ug/m3 | 5.5 | 0.45 | 1.49 | | 03/22/17 22:19 | 1634-04-4 | |
| Naphthalene | **0.78J** | ug/m3 | 4.0 | 0.45 | 1.49 | | 03/22/17 22:19 | 91-20-3 | |
| Toluene | **4.1** | ug/m3 | 1.1 | 0.23 | 1.49 | | 03/22/17 22:19 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **2.6J** | ug/m3 | 3.7 | 0.19 | 1.49 | | 03/22/17 22:19 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.27** | ug/m3 | 3.7 | 0.27 | 1.49 | | 03/22/17 22:19 | 108-67-8 | |
| Xylene (Total) | **9.0** | ug/m3 | 3.9 | 1.7 | 1.49 | | 03/22/17 22:19 | 1330-20-7 | |
| m&p-Xylene | **6.2J** | ug/m3 | 6.6 | 1.2 | 1.49 | | 03/22/17 22:19 | 179601-23-1 | |
| o-Xylene | **2.9J** | ug/m3 | 3.3 | 0.52 | 1.49 | | 03/22/17 22:19 | 95-47-6 | |

**Sample: AOI5-AI-17-03** **Lab ID: 10382287003** Collected: 03/10/17 14:50 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **7.3** | ug/m3 | 0.50 | 0.19 | 1.55 | | 03/22/17 23:16 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 6.1 | 1.2 | 1.55 | | 03/22/17 23:16 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.32** | ug/m3 | 0.64 | 0.32 | 1.55 | | 03/22/17 23:16 | 107-06-2 | |
| Ethylbenzene | **2.9J** | ug/m3 | 3.4 | 0.66 | 1.55 | | 03/22/17 23:16 | 100-41-4 | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

**Sample: AOI5-AI-17-03** **Lab ID: 10382287003** Collected: 03/10/17 14:50 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Isopropylbenzene (Cumene) | **<0.21** | ug/m3 | 3.9 | 0.21 | 1.55 | | 03/22/17 23:16 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.47** | ug/m3 | 5.7 | 0.47 | 1.55 | | 03/22/17 23:16 | 1634-04-4 | |
| Naphthalene | **0.79J** | ug/m3 | 4.1 | 0.47 | 1.55 | | 03/22/17 23:16 | 91-20-3 | |
| Toluene | **11.7** | ug/m3 | 1.2 | 0.24 | 1.55 | | 03/22/17 23:16 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **3.6J** | ug/m3 | 3.9 | 0.19 | 1.55 | | 03/22/17 23:16 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **3.1J** | ug/m3 | 3.9 | 0.28 | 1.55 | | 03/22/17 23:16 | 108-67-8 | |
| Xylene (Total) | **11.7** | ug/m3 | 4.1 | 1.8 | 1.55 | | 03/22/17 23:16 | 1330-20-7 | |
| m&p-Xylene | **8.1** | ug/m3 | 6.8 | 1.2 | 1.55 | | 03/22/17 23:16 | 179601-23-1 | |
| o-Xylene | **3.6** | ug/m3 | 3.4 | 0.54 | 1.55 | | 03/22/17 23:16 | 95-47-6 | |

**Sample: AOI5-AI-17-04** **Lab ID: 10382287004** Collected: 03/10/17 14:46 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **6.2** | ug/m3 | 0.48 | 0.18 | 1.49 | | 03/29/17 21:01 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 2.3 | 1.2 | 1.49 | | 03/29/17 21:01 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.31** | ug/m3 | 0.61 | 0.31 | 1.49 | | 03/29/17 21:01 | 107-06-2 | |
| Ethylbenzene | **8.0** | ug/m3 | 1.3 | 0.63 | 1.49 | | 03/29/17 21:01 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **36.6** | ug/m3 | 3.7 | 0.21 | 1.49 | | 03/29/17 21:01 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.52J** | ug/m3 | 5.5 | 0.45 | 1.49 | | 03/29/17 21:01 | 1634-04-4 | |
| Naphthalene | **2.1J** | ug/m3 | 4.0 | 0.45 | 1.49 | | 03/29/17 21:01 | 91-20-3 | |
| Toluene | **87.7** | ug/m3 | 1.1 | 0.23 | 1.49 | | 03/29/17 21:01 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **425** | ug/m3 | 74.4 | 3.7 | 29.8 | | 03/30/17 12:16 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **186** | ug/m3 | 1.5 | 0.27 | 1.49 | | 03/29/17 21:01 | 108-67-8 | |
| Xylene (Total) | **95.9** | ug/m3 | 3.9 | 1.7 | 1.49 | | 03/29/17 21:01 | 1330-20-7 | |
| m&p-Xylene | **45.2** | ug/m3 | 2.6 | 1.2 | 1.49 | | 03/29/17 21:01 | 179601-23-1 | |
| o-Xylene | **50.7** | ug/m3 | 1.3 | 0.52 | 1.49 | | 03/29/17 21:01 | 95-47-6 | |

**Sample: AOI5-AI-17-06** **Lab ID: 10382287005** Collected: 03/10/17 15:04 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **6.2** | ug/m3 | 0.50 | 0.19 | 1.55 | | 03/29/17 21:29 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 2.4 | 1.2 | 1.55 | | 03/29/17 21:29 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.32** | ug/m3 | 0.64 | 0.32 | 1.55 | | 03/29/17 21:29 | 107-06-2 | |
| Ethylbenzene | **0.75J** | ug/m3 | 1.4 | 0.66 | 1.55 | | 03/29/17 21:29 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **3.3J** | ug/m3 | 3.9 | 0.21 | 1.55 | | 03/29/17 21:29 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.57J** | ug/m3 | 5.7 | 0.47 | 1.55 | | 03/29/17 21:29 | 1634-04-4 | |
| Naphthalene | **1.8J** | ug/m3 | 4.1 | 0.47 | 1.55 | | 03/29/17 21:29 | 91-20-3 | |
| Toluene | **2.7** | ug/m3 | 1.2 | 0.24 | 1.55 | | 03/29/17 21:29 | 108-88-3 | |

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## ANALYTICAL RESULTS

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

**Sample: AOI5-AI-17-06** **Lab ID: 10382287005** Collected: 03/10/17 15:04 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| 1,2,4-Trimethylbenzene | **0.94J** | ug/m3 | 3.9 | 0.19 | 1.55 | | 03/30/17 12:44 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **0.36J** | ug/m3 | 1.5 | 0.28 | 1.55 | | 03/29/17 21:29 | 108-67-8 | |
| Xylene (Total) | **<1.8** | ug/m3 | 4.1 | 1.8 | 1.55 | | 03/29/17 21:29 | 1330-20-7 | |
| m&p-Xylene | **1.9J** | ug/m3 | 2.7 | 1.2 | 1.55 | | 03/29/17 21:29 | 179601-23-1 | |
| o-Xylene | **0.92J** | ug/m3 | 1.4 | 0.54 | 1.55 | | 03/29/17 21:29 | 95-47-6 | |

**Sample: AOI5-AI-17-05** **Lab ID: 10382287006** Collected: 03/10/17 14:35 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **1.2** | ug/m3 | 0.48 | 0.18 | 1.49 | | 03/29/17 21:57 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 2.3 | 1.2 | 1.49 | | 03/29/17 21:57 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.31** | ug/m3 | 0.61 | 0.31 | 1.49 | | 03/29/17 21:57 | 107-06-2 | |
| Ethylbenzene | **0.85J** | ug/m3 | 1.3 | 0.63 | 1.49 | | 03/29/17 21:57 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **7.9** | ug/m3 | 3.7 | 0.21 | 1.49 | | 03/29/17 21:57 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.48J** | ug/m3 | 5.5 | 0.45 | 1.49 | | 03/29/17 21:57 | 1634-04-4 | |
| Naphthalene | **1.6J** | ug/m3 | 4.0 | 0.45 | 1.49 | | 03/29/17 21:57 | 91-20-3 | |
| Toluene | **6.7** | ug/m3 | 1.1 | 0.23 | 1.49 | | 03/29/17 21:57 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **0.93J** | ug/m3 | 3.7 | 0.19 | 1.49 | | 03/29/17 21:57 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **0.30J** | ug/m3 | 1.5 | 0.27 | 1.49 | | 03/29/17 21:57 | 108-67-8 | |
| Xylene (Total) | **<1.7** | ug/m3 | 3.9 | 1.7 | 1.49 | | 03/29/17 21:57 | 1330-20-7 | |
| m&p-Xylene | **2.2J** | ug/m3 | 2.6 | 1.2 | 1.49 | | 03/29/17 21:57 | 179601-23-1 | |
| o-Xylene | **0.91J** | ug/m3 | 1.3 | 0.52 | 1.49 | | 03/29/17 21:57 | 95-47-6 | |

**Sample: AOI5-AI-17-07** **Lab ID: 10382287007** Collected: 03/10/17 14:44 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **6.2** | ug/m3 | 0.50 | 0.19 | 1.55 | | 03/29/17 22:24 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 2.4 | 1.2 | 1.55 | | 03/29/17 22:24 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.32** | ug/m3 | 0.64 | 0.32 | 1.55 | | 03/29/17 22:24 | 107-06-2 | |
| Ethylbenzene | **<0.66** | ug/m3 | 1.4 | 0.66 | 1.55 | | 03/29/17 22:24 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.21** | ug/m3 | 3.9 | 0.21 | 1.55 | | 03/29/17 22:24 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.55J** | ug/m3 | 5.7 | 0.47 | 1.55 | | 03/29/17 22:24 | 1634-04-4 | |
| Naphthalene | **1.0J** | ug/m3 | 4.1 | 0.47 | 1.55 | | 03/29/17 22:24 | 91-20-3 | |
| Toluene | **3.3** | ug/m3 | 1.2 | 0.24 | 1.55 | | 03/29/17 22:24 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **0.72J** | ug/m3 | 3.9 | 0.19 | 1.55 | | 03/29/17 22:24 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.28** | ug/m3 | 1.5 | 0.28 | 1.55 | | 03/29/17 22:24 | 108-67-8 | |
| Xylene (Total) | **<1.8** | ug/m3 | 4.1 | 1.8 | 1.55 | | 03/29/17 22:24 | 1330-20-7 | |
| m&p-Xylene | **1.5J** | ug/m3 | 2.7 | 1.2 | 1.55 | | 03/29/17 22:24 | 179601-23-1 | |

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## ANALYTICAL RESULTS

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

**Sample: AOI5-AI-17-07** **Lab ID: 10382287007** Collected: 03/10/17 14:44 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| o-Xylene | **0.67J** | ug/m3 | 1.4 | 0.54 | 1.55 | | 03/29/17 22:24 | 95-47-6 | |

**Sample: AOI6-AI-17-22** **Lab ID: 10382287008** Collected: 03/08/17 17:12 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **10.3** | ug/m3 | 0.44 | 0.16 | 1.34 | | 03/29/17 20:33 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.0** | ug/m3 | 2.1 | 1.0 | 1.34 | | 03/29/17 20:33 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.27** | ug/m3 | 0.55 | 0.27 | 1.34 | | 03/29/17 20:33 | 107-06-2 | |
| Ethylbenzene | **<0.57** | ug/m3 | 1.2 | 0.57 | 1.34 | | 03/29/17 20:33 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.18** | ug/m3 | 3.4 | 0.18 | 1.34 | | 03/29/17 20:33 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.47J** | ug/m3 | 4.9 | 0.41 | 1.34 | | 03/29/17 20:33 | 1634-04-4 | |
| Naphthalene | **1.6J** | ug/m3 | 3.6 | 0.41 | 1.34 | | 03/29/17 20:33 | 91-20-3 | |
| Toluene | **2.8** | ug/m3 | 1.0 | 0.21 | 1.34 | | 03/29/17 20:33 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **0.58J** | ug/m3 | 3.3 | 0.17 | 1.34 | | 03/29/17 20:33 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.25** | ug/m3 | 1.3 | 0.25 | 1.34 | | 03/29/17 20:33 | 108-67-8 | |
| Xylene (Total) | **<1.5** | ug/m3 | 3.6 | 1.5 | 1.34 | | 03/29/17 20:33 | 1330-20-7 | |
| m&p-Xylene | **1.6J** | ug/m3 | 2.4 | 1.1 | 1.34 | | 03/29/17 20:33 | 179601-23-1 | |
| o-Xylene | **0.67J** | ug/m3 | 1.2 | 0.47 | 1.34 | | 03/29/17 20:33 | 95-47-6 | |

**Sample: AOI2-AI-17-01** **Lab ID: 10382287009** Collected: 03/10/17 15:30 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **0.90J** | ug/m3 | 0.94 | 0.35 | 2.88 | | 03/29/17 23:21 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<2.2** | ug/m3 | 4.5 | 2.2 | 2.88 | | 03/29/17 23:21 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.59** | ug/m3 | 1.2 | 0.59 | 2.88 | | 03/29/17 23:21 | 107-06-2 | |
| Ethylbenzene | **2.6** | ug/m3 | 2.5 | 1.2 | 2.88 | | 03/29/17 23:21 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.40** | ug/m3 | 7.2 | 0.40 | 2.88 | | 03/29/17 23:21 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.87** | ug/m3 | 10.6 | 0.87 | 2.88 | | 03/29/17 23:21 | 1634-04-4 | |
| Naphthalene | **1.5J** | ug/m3 | 7.7 | 0.88 | 2.88 | | 03/29/17 23:21 | 91-20-3 | |
| Toluene | **10.4** | ug/m3 | 2.2 | 0.44 | 2.88 | | 03/29/17 23:21 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **2.2J** | ug/m3 | 7.2 | 0.36 | 2.88 | | 03/29/17 23:21 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **0.76J** | ug/m3 | 2.9 | 0.53 | 2.88 | | 03/29/17 23:21 | 108-67-8 | |
| Xylene (Total) | **14.1** | ug/m3 | 7.6 | 3.3 | 2.88 | | 03/29/17 23:21 | 1330-20-7 | |
| m&p-Xylene | **10.2** | ug/m3 | 5.1 | 2.3 | 2.88 | | 03/29/17 23:21 | 179601-23-1 | |
| o-Xylene | **3.9** | ug/m3 | 2.5 | 1.0 | 2.88 | | 03/29/17 23:21 | 95-47-6 | |

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## ANALYTICAL RESULTS

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

**Sample: AOI2-AI-17-08** **Lab ID: 10382287010** Collected: 03/10/17 16:11 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **0.48J** | ug/m3 | 0.48 | 0.18 | 1.49 | | 03/29/17 23:48 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 2.3 | 1.2 | 1.49 | | 03/29/17 23:48 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.31** | ug/m3 | 0.61 | 0.31 | 1.49 | | 03/29/17 23:48 | 107-06-2 | |
| Ethylbenzene | **<0.63** | ug/m3 | 1.3 | 0.63 | 1.49 | | 03/29/17 23:48 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.21** | ug/m3 | 3.7 | 0.21 | 1.49 | | 03/29/17 23:48 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.46J** | ug/m3 | 5.5 | 0.45 | 1.49 | | 03/29/17 23:48 | 1634-04-4 | |
| Naphthalene | **1.4J** | ug/m3 | 4.0 | 0.45 | 1.49 | | 03/29/17 23:48 | 91-20-3 | |
| Toluene | **3.6** | ug/m3 | 1.1 | 0.23 | 1.49 | | 03/29/17 23:48 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **6.9** | ug/m3 | 3.7 | 0.19 | 1.49 | | 03/29/17 23:48 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **1.7** | ug/m3 | 1.5 | 0.27 | 1.49 | | 03/29/17 23:48 | 108-67-8 | |
| Xylene (Total) | **<1.7** | ug/m3 | 3.9 | 1.7 | 1.49 | | 03/29/17 23:48 | 1330-20-7 | |
| m&p-Xylene | **1.3J** | ug/m3 | 2.6 | 1.2 | 1.49 | | 03/29/17 23:48 | 179601-23-1 | |
| o-Xylene | **0.94J** | ug/m3 | 1.3 | 0.52 | 1.49 | | 03/29/17 23:48 | 95-47-6 | |

**Sample: AOI2-AI-17-10** **Lab ID: 10382287011** Collected: 03/10/17 15:42 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **0.54** | ug/m3 | 0.50 | 0.19 | 1.55 | | 03/30/17 01:07 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 2.4 | 1.2 | 1.55 | | 03/30/17 01:07 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.32** | ug/m3 | 0.64 | 0.32 | 1.55 | | 03/30/17 01:07 | 107-06-2 | |
| Ethylbenzene | **0.71J** | ug/m3 | 1.4 | 0.66 | 1.55 | | 03/30/17 01:07 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.21** | ug/m3 | 3.9 | 0.21 | 1.55 | | 03/30/17 01:07 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.75J** | ug/m3 | 5.7 | 0.47 | 1.55 | | 03/30/17 01:07 | 1634-04-4 | |
| Naphthalene | **0.68J** | ug/m3 | 4.1 | 0.47 | 1.55 | | 03/30/17 01:07 | 91-20-3 | |
| Toluene | **3.9** | ug/m3 | 1.2 | 0.24 | 1.55 | | 03/30/17 01:07 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **0.53J** | ug/m3 | 3.9 | 0.19 | 1.55 | | 03/30/17 01:07 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.28** | ug/m3 | 1.5 | 0.28 | 1.55 | | 03/30/17 01:07 | 108-67-8 | |
| Xylene (Total) | **<1.8** | ug/m3 | 4.1 | 1.8 | 1.55 | | 03/30/17 01:07 | 1330-20-7 | |
| m&p-Xylene | **1.8J** | ug/m3 | 2.7 | 1.2 | 1.55 | | 03/30/17 01:07 | 179601-23-1 | |
| o-Xylene | **0.70J** | ug/m3 | 1.4 | 0.54 | 1.55 | | 03/30/17 01:07 | 95-47-6 | |

**Sample: AOI2-AI-17-03** **Lab ID: 10382287012** Collected: 03/10/17 15:58 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **0.92** | ug/m3 | 0.50 | 0.19 | 1.55 | | 03/30/17 01:35 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 2.4 | 1.2 | 1.55 | | 03/30/17 01:35 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.32** | ug/m3 | 0.64 | 0.32 | 1.55 | | 03/30/17 01:35 | 107-06-2 | |
| Ethylbenzene | **9.7** | ug/m3 | 1.4 | 0.66 | 1.55 | | 03/30/17 01:35 | 100-41-4 | |

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## ANALYTICAL RESULTS

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

**Sample: AOI2-AI-17-03** **Lab ID: 10382287012** Collected: 03/10/17 15:58 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Isopropylbenzene (Cumene) | **<0.21** | ug/m3 | 3.9 | 0.21 | 1.55 | | 03/30/17 01:35 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.52J** | ug/m3 | 5.7 | 0.47 | 1.55 | | 03/30/17 01:35 | 1634-04-4 | |
| Naphthalene | **0.64J** | ug/m3 | 4.1 | 0.47 | 1.55 | | 03/30/17 01:35 | 91-20-3 | |
| Toluene | **3.1** | ug/m3 | 1.2 | 0.24 | 1.55 | | 03/30/17 01:35 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **0.82J** | ug/m3 | 3.9 | 0.19 | 1.55 | | 03/30/17 01:35 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **0.32J** | ug/m3 | 1.5 | 0.28 | 1.55 | | 03/30/17 01:35 | 108-67-8 | |
| Xylene (Total) | **44.0** | ug/m3 | 4.1 | 1.8 | 1.55 | | 03/30/17 01:35 | 1330-20-7 | |
| m&p-Xylene | **34.9** | ug/m3 | 2.7 | 1.2 | 1.55 | | 03/30/17 01:35 | 179601-23-1 | |
| o-Xylene | **9.1** | ug/m3 | 1.4 | 0.54 | 1.55 | | 03/30/17 01:35 | 95-47-6 | |

**Sample: AOI2-AI-17-07** **Lab ID: 10382287013** Collected: 03/10/17 16:07 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **8.4** | ug/m3 | 0.52 | 0.20 | 1.61 | | 03/30/17 02:03 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 2.5 | 1.2 | 1.61 | | 03/30/17 02:03 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.33** | ug/m3 | 0.66 | 0.33 | 1.61 | | 03/30/17 02:03 | 107-06-2 | |
| Ethylbenzene | **5.6** | ug/m3 | 1.4 | 0.68 | 1.61 | | 03/30/17 02:03 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.22** | ug/m3 | 4.0 | 0.22 | 1.61 | | 03/30/17 02:03 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.55J** | ug/m3 | 5.9 | 0.49 | 1.61 | | 03/30/17 02:03 | 1634-04-4 | |
| Naphthalene | **0.86J** | ug/m3 | 4.3 | 0.49 | 1.61 | | 03/30/17 02:03 | 91-20-3 | |
| Toluene | **124** | ug/m3 | 1.2 | 0.25 | 1.61 | | 03/30/17 02:03 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **3.0J** | ug/m3 | 4.0 | 0.20 | 1.61 | | 03/30/17 02:03 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **1.1J** | ug/m3 | 1.6 | 0.29 | 1.61 | | 03/30/17 02:03 | 108-67-8 | |
| Xylene (Total) | **24.7** | ug/m3 | 4.3 | 1.8 | 1.61 | | 03/30/17 02:03 | 1330-20-7 | |
| m&p-Xylene | **18.8** | ug/m3 | 2.8 | 1.3 | 1.61 | | 03/30/17 02:03 | 179601-23-1 | |
| o-Xylene | **5.9** | ug/m3 | 1.4 | 0.57 | 1.61 | | 03/30/17 02:03 | 95-47-6 | |

**Sample: AOI2-AI-17-04** **Lab ID: 10382287014** Collected: 03/10/17 15:55 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **1.2** | ug/m3 | 0.50 | 0.19 | 1.55 | | 03/30/17 02:31 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 2.4 | 1.2 | 1.55 | | 03/30/17 02:31 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.32** | ug/m3 | 0.64 | 0.32 | 1.55 | | 03/30/17 02:31 | 107-06-2 | |
| Ethylbenzene | **11.0** | ug/m3 | 1.4 | 0.66 | 1.55 | | 03/30/17 02:31 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.21** | ug/m3 | 3.9 | 0.21 | 1.55 | | 03/30/17 02:31 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.51J** | ug/m3 | 5.7 | 0.47 | 1.55 | | 03/30/17 02:31 | 1634-04-4 | |
| Naphthalene | **0.60J** | ug/m3 | 4.1 | 0.47 | 1.55 | | 03/30/17 02:31 | 91-20-3 | |
| Toluene | **3.4** | ug/m3 | 1.2 | 0.24 | 1.55 | | 03/30/17 02:31 | 108-88-3 | |

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## ANALYTICAL RESULTS

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

**Sample: AOI2-AI-17-04** **Lab ID: 10382287014** Collected: 03/10/17 15:55 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| 1,2,4-Trimethylbenzene | **0.77J** | ug/m3 | 3.9 | 0.19 | 1.55 | | 03/30/17 02:31 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.28** | ug/m3 | 1.5 | 0.28 | 1.55 | | 03/30/17 02:31 | 108-67-8 | |
| Xylene (Total) | **49.9** | ug/m3 | 4.1 | 1.8 | 1.55 | | 03/30/17 02:31 | 1330-20-7 | |
| m&p-Xylene | **39.5** | ug/m3 | 2.7 | 1.2 | 1.55 | | 03/30/17 02:31 | 179601-23-1 | |
| o-Xylene | **10.4** | ug/m3 | 1.4 | 0.54 | 1.55 | | 03/30/17 02:31 | 95-47-6 | |

**Sample: AOI2-AI-17-16** **Lab ID: 10382287015** Collected: 03/10/17 16:21 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **2.0** | ug/m3 | 0.48 | 0.18 | 1.49 | | 03/30/17 03:04 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 2.3 | 1.2 | 1.49 | | 03/30/17 03:04 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.31** | ug/m3 | 0.61 | 0.31 | 1.49 | | 03/30/17 03:04 | 107-06-2 | |
| Ethylbenzene | **1.1J** | ug/m3 | 1.3 | 0.63 | 1.49 | | 03/30/17 03:04 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.21** | ug/m3 | 3.7 | 0.21 | 1.49 | | 03/30/17 03:04 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.97J** | ug/m3 | 5.5 | 0.45 | 1.49 | | 03/30/17 03:04 | 1634-04-4 | |
| Naphthalene | **5.9** | ug/m3 | 4.0 | 0.45 | 1.49 | | 03/30/17 03:04 | 91-20-3 | |
| Toluene | **14.4** | ug/m3 | 1.1 | 0.23 | 1.49 | | 03/30/17 03:04 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **1.9J** | ug/m3 | 3.7 | 0.19 | 1.49 | | 03/30/17 03:04 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **0.46J** | ug/m3 | 1.5 | 0.27 | 1.49 | | 03/30/17 03:04 | 108-67-8 | |
| Xylene (Total) | **5.0** | ug/m3 | 3.9 | 1.7 | 1.49 | | 03/30/17 03:04 | 1330-20-7 | |
| m&p-Xylene | **3.6** | ug/m3 | 2.6 | 1.2 | 1.49 | | 03/30/17 03:04 | 179601-23-1 | |
| o-Xylene | **1.5** | ug/m3 | 1.3 | 0.52 | 1.49 | | 03/30/17 03:04 | 95-47-6 | |

**Sample: AOI2-AI-17-17** **Lab ID: 10382287016** Collected: 03/10/17 16:27 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **1.3** | ug/m3 | 0.50 | 0.19 | 1.55 | | 03/30/17 03:32 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 2.4 | 1.2 | 1.55 | | 03/30/17 03:32 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.32** | ug/m3 | 0.64 | 0.32 | 1.55 | | 03/30/17 03:32 | 107-06-2 | |
| Ethylbenzene | **4.5** | ug/m3 | 1.4 | 0.66 | 1.55 | | 03/30/17 03:32 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.21** | ug/m3 | 3.9 | 0.21 | 1.55 | | 03/30/17 03:32 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.84J** | ug/m3 | 5.7 | 0.47 | 1.55 | | 03/30/17 03:32 | 1634-04-4 | |
| Naphthalene | **43.7** | ug/m3 | 4.1 | 0.47 | 1.55 | | 03/30/17 03:32 | 91-20-3 | |
| Toluene | **4.6** | ug/m3 | 1.2 | 0.24 | 1.55 | | 03/30/17 03:32 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **42.5** | ug/m3 | 3.9 | 0.19 | 1.55 | | 03/30/17 03:32 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **11.3** | ug/m3 | 1.5 | 0.28 | 1.55 | | 03/30/17 03:32 | 108-67-8 | |
| Xylene (Total) | **29.0** | ug/m3 | 4.1 | 1.8 | 1.55 | | 03/30/17 03:32 | 1330-20-7 | |
| m&p-Xylene | **21.8** | ug/m3 | 2.7 | 1.2 | 1.55 | | 03/30/17 03:32 | 179601-23-1 | |

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# ANALYTICAL RESULTS

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

**Sample: AOI2-AI-17-17** **Lab ID: 10382287016** Collected: 03/10/17 16:27 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| o-Xylene | **7.2** | ug/m3 | 1.4 | 0.54 | 1.55 | | 03/30/17 03:32 | 95-47-6 | |

**Sample: AOI2-AI-17-06** **Lab ID: 10382287017** Collected: 03/10/17 16:02 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **3.9** | ug/m3 | 0.52 | 0.20 | 1.61 | | 03/30/17 04:00 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 2.5 | 1.2 | 1.61 | | 03/30/17 04:00 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.33** | ug/m3 | 0.66 | 0.33 | 1.61 | | 03/30/17 04:00 | 107-06-2 | |
| Ethylbenzene | **15.1** | ug/m3 | 1.4 | 0.68 | 1.61 | | 03/30/17 04:00 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.22** | ug/m3 | 4.0 | 0.22 | 1.61 | | 03/30/17 04:00 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.59J** | ug/m3 | 5.9 | 0.49 | 1.61 | | 03/30/17 04:00 | 1634-04-4 | |
| Naphthalene | **15.0** | ug/m3 | 4.3 | 0.49 | 1.61 | | 03/30/17 04:00 | 91-20-3 | |
| Toluene | **81.9** | ug/m3 | 1.2 | 0.25 | 1.61 | | 03/30/17 04:00 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **13.9** | ug/m3 | 4.0 | 0.20 | 1.61 | | 03/30/17 04:00 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **4.3** | ug/m3 | 1.6 | 0.29 | 1.61 | | 03/30/17 04:00 | 108-67-8 | |
| Xylene (Total) | **72.4** | ug/m3 | 4.3 | 1.8 | 1.61 | | 03/30/17 04:00 | 1330-20-7 | |
| m&p-Xylene | **58.4** | ug/m3 | 2.8 | 1.3 | 1.61 | | 03/30/17 04:00 | 179601-23-1 | |
| o-Xylene | **14.0** | ug/m3 | 1.4 | 0.57 | 1.61 | | 03/30/17 04:00 | 95-47-6 | |

**Sample: AOI3-AI-17-09** **Lab ID: 10382287018** Collected: 03/10/17 13:35 Received: 03/17/17 10:10 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **1.0** | ug/m3 | 0.44 | 0.16 | 1.34 | | 03/29/17 20:05 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.0** | ug/m3 | 2.1 | 1.0 | 1.34 | | 03/29/17 20:05 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.27** | ug/m3 | 0.55 | 0.27 | 1.34 | | 03/29/17 20:05 | 107-06-2 | |
| Ethylbenzene | **<0.57** | ug/m3 | 1.2 | 0.57 | 1.34 | | 03/29/17 20:05 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.18** | ug/m3 | 3.4 | 0.18 | 1.34 | | 03/29/17 20:05 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.48J** | ug/m3 | 4.9 | 0.41 | 1.34 | | 03/29/17 20:05 | 1634-04-4 | |
| Naphthalene | **1.6J** | ug/m3 | 3.6 | 0.41 | 1.34 | | 03/29/17 20:05 | 91-20-3 | |
| Toluene | **2.9** | ug/m3 | 1.0 | 0.21 | 1.34 | | 03/29/17 20:05 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **1.1J** | ug/m3 | 3.3 | 0.17 | 1.34 | | 03/29/17 20:05 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **0.46J** | ug/m3 | 1.3 | 0.25 | 1.34 | | 03/29/17 20:05 | 108-67-8 | |
| Xylene (Total) | **<1.5** | ug/m3 | 3.6 | 1.5 | 1.34 | | 03/29/17 20:05 | 1330-20-7 | |
| m&p-Xylene | **2.2J** | ug/m3 | 2.4 | 1.1 | 1.34 | | 03/29/17 20:05 | 179601-23-1 | |
| o-Xylene | **1.0J** | ug/m3 | 1.2 | 0.47 | 1.34 | | 03/29/17 20:05 | 95-47-6 | |

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## QUALITY CONTROL DATA

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

QC Batch: 465212 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10382287001, 10382287002, 10382287003

METHOD BLANK: 2543547 Matrix: Air
Associated Lab Samples: 10382287001, 10382287002, 10382287003

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | <0.12 | 2.5 | 0.12 | 03/22/17 20:54 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | <0.77 | 3.9 | 0.77 | 03/22/17 20:54 | |
| 1,2-Dichloroethane | ug/m3 | <0.20 | 0.41 | 0.20 | 03/22/17 20:54 | |
| 1,3,5-Trimethylbenzene | ug/m3 | <0.18 | 2.5 | 0.18 | 03/22/17 20:54 | |
| Benzene | ug/m3 | <0.12 | 0.32 | 0.12 | 03/22/17 20:54 | |
| Ethylbenzene | ug/m3 | <0.42 | 2.2 | 0.42 | 03/22/17 20:54 | |
| Isopropylbenzene (Cumene) | ug/m3 | <0.14 | 2.5 | 0.14 | 03/22/17 20:54 | |
| m&p-Xylene | ug/m3 | <0.79 | 4.4 | 0.79 | 03/22/17 20:54 | |
| Methyl-tert-butyl ether | ug/m3 | <0.30 | 3.7 | 0.30 | 03/22/17 20:54 | |
| Naphthalene | ug/m3 | <0.30 | 2.7 | 0.30 | 03/22/17 20:54 | |
| o-Xylene | ug/m3 | <0.35 | 2.2 | 0.35 | 03/22/17 20:54 | |
| Toluene | ug/m3 | <0.15 | 0.77 | 0.15 | 03/22/17 20:54 | |
| Xylene (Total) | ug/m3 | <1.1 | 2.6 | 1.1 | 03/22/17 20:54 | |

LABORATORY CONTROL SAMPLE: 2543548

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 51.5 | 35.9 | 70 | 70-136 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | 83.6 | 60.9 | 73 | 70-130 | |
| 1,2-Dichloroethane | ug/m3 | 44 | 40.9 | 93 | 70-130 | |
| 1,3,5-Trimethylbenzene | ug/m3 | 51.5 | 35.8 | 70 | 70-133 | |
| Benzene | ug/m3 | 34.7 | 32.5 | 94 | 70-130 | |
| Ethylbenzene | ug/m3 | 47.7 | 34.0 | 71 | 70-134 | |
| Isopropylbenzene (Cumene) | ug/m3 | 51.5 | 36.8 | 71 | 70-140 | |
| m&p-Xylene | ug/m3 | 47.7 | 35.7 | 75 | 70-130 | |
| Methyl-tert-butyl ether | ug/m3 | 38.8 | 38.9 | 100 | 66-148 | |
| Naphthalene | ug/m3 | 56 | 35.1 | 63 | 53-150 | |
| o-Xylene | ug/m3 | 47.2 | 33.1 | 70 | 70-130 | |
| Toluene | ug/m3 | 41.4 | 32.9 | 80 | 70-130 | |
| Xylene (Total) | ug/m3 | 94.9 | 68.8 | 72 | 70-141 | |

SAMPLE DUPLICATE: 2543549

| Parameter | Units | 10382287001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 3.1J | 3.2J | | 25 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | <1.5 | <1.5 | | 25 | |
| 1,2-Dichloroethane | ug/m3 | <0.39 | <0.39 | | 25 | |
| 1,3,5-Trimethylbenzene | ug/m3 | <0.34 | <0.34 | | 25 | |

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## QUALITY CONTROL DATA

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

SAMPLE DUPLICATE: 2543549

| Parameter | Units | 10382287001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/m3 | 19.4 | 18.8 | 3 | 25 | |
| Ethylbenzene | ug/m3 | 5.2 | 5.1 | 2 | 25 | |
| Isopropylbenzene (Cumene) | ug/m3 | <0.26 | <0.26 | | 25 | |
| m&p-Xylene | ug/m3 | 19.9 | 19.8 | 1 | 25 | |
| Methyl-tert-butyl ether | ug/m3 | <0.57 | <0.57 | | 25 | |
| Naphthalene | ug/m3 | 1.4J | <0.57 | | 25 | |
| o-Xylene | ug/m3 | 10.5 | 10.3 | 2 | 25 | |
| Toluene | ug/m3 | 3.1 | 3.2 | 1 | 25 | |
| Xylene (Total) | ug/m3 | 30.4 | 30.1 | 1 | 25 | |

SAMPLE DUPLICATE: 2543550

| Parameter | Units | 10382287002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 2.6J | 2.6J | | 25 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | <1.2 | <1.2 | | 25 | |
| 1,2-Dichloroethane | ug/m3 | <0.31 | <0.31 | | 25 | |
| 1,3,5-Trimethylbenzene | ug/m3 | <0.27 | <0.27 | | 25 | |
| Benzene | ug/m3 | 7.0 | 7.4 | 5 | 25 | |
| Ethylbenzene | ug/m3 | 2.4J | 2.5J | | 25 | |
| Isopropylbenzene (Cumene) | ug/m3 | <0.21 | <0.21 | | 25 | |
| m&p-Xylene | ug/m3 | 6.2J | 6.3J | | 25 | |
| Methyl-tert-butyl ether | ug/m3 | <0.45 | <0.45 | | 25 | |
| Naphthalene | ug/m3 | 0.78J | <0.45 | | 25 | |
| o-Xylene | ug/m3 | 2.9J | 2.8J | | 25 | |
| Toluene | ug/m3 | 4.1 | 4.3 | 5 | 25 | |
| Xylene (Total) | ug/m3 | 9.0 | 9.2 | 1 | 25 | |

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## QUALITY CONTROL DATA

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

QC Batch: 466173 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10382287004, 10382287005, 10382287006, 10382287007, 10382287008, 10382287009, 10382287010, 10382287011, 10382287012, 10382287013, 10382287014, 10382287015, 10382287016, 10382287017, 10382287018

METHOD BLANK: 2547889 Matrix: Air
Associated Lab Samples: 10382287004, 10382287005, 10382287006, 10382287007, 10382287008, 10382287009, 10382287010, 10382287011, 10382287012, 10382287013, 10382287014, 10382287015, 10382287016, 10382287017, 10382287018

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | <0.12 | 2.5 | 0.12 | 03/29/17 16:32 | MN |
| 1,2-Dibromoethane (EDB) | ug/m3 | <0.77 | 1.6 | 0.77 | 03/29/17 16:32 | |
| 1,2-Dichloroethane | ug/m3 | <0.20 | 0.41 | 0.20 | 03/29/17 16:32 | |
| 1,3,5-Trimethylbenzene | ug/m3 | <0.18 | 1.0 | 0.18 | 03/29/17 16:32 | |
| Benzene | ug/m3 | <0.12 | 0.32 | 0.12 | 03/29/17 16:32 | |
| Ethylbenzene | ug/m3 | <0.42 | 0.88 | 0.42 | 03/29/17 16:32 | |
| Isopropylbenzene (Cumene) | ug/m3 | <0.14 | 2.5 | 0.14 | 03/29/17 16:32 | |
| m&p-Xylene | ug/m3 | <0.79 | 1.8 | 0.79 | 03/29/17 16:32 | |
| Methyl-tert-butyl ether | ug/m3 | <0.30 | 3.7 | 0.30 | 03/29/17 16:32 | |
| Naphthalene | ug/m3 | <0.30 | 2.7 | 0.30 | 03/29/17 16:32 | |
| o-Xylene | ug/m3 | <0.35 | 0.88 | 0.35 | 03/29/17 16:32 | |
| Toluene | ug/m3 | <0.15 | 0.77 | 0.15 | 03/29/17 16:32 | |
| Xylene (Total) | ug/m3 | <1.1 | 2.6 | 1.1 | 03/29/17 16:32 | |

LABORATORY CONTROL SAMPLE: 2547890

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 51.5 | 52.1 | 101 | 70-136 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | 83.6 | 77.7 | 93 | 70-130 | |
| 1,2-Dichloroethane | ug/m3 | 44 | 43.6 | 99 | 70-130 | |
| 1,3,5-Trimethylbenzene | ug/m3 | 51.5 | 53.1 | 103 | 70-133 | |
| Benzene | ug/m3 | 34.7 | 34.0 | 98 | 70-130 | |
| Ethylbenzene | ug/m3 | 47.7 | 46.0 | 96 | 70-134 | |
| Isopropylbenzene (Cumene) | ug/m3 | 51.5 | 54.8 | 107 | 70-140 | |
| m&p-Xylene | ug/m3 | 47.7 | 46.4 | 97 | 70-130 | |
| Methyl-tert-butyl ether | ug/m3 | 38.8 | 35.6 | 92 | 66-148 | |
| Naphthalene | ug/m3 | 56 | 63.2 | 113 | 53-150 | |
| o-Xylene | ug/m3 | 47.2 | 44.7 | 95 | 70-130 | |
| Toluene | ug/m3 | 41.4 | 36.4 | 88 | 70-130 | |
| Xylene (Total) | ug/m3 | 94.9 | 91.2 | 96 | 70-141 | |

SAMPLE DUPLICATE: 2548339

| Parameter | Units | 10382287007 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 0.72J | 0.62J | | 25 | |

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## QUALITY CONTROL DATA

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

SAMPLE DUPLICATE: 2548339

| Parameter | Units | 10382287007 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2-Dibromoethane (EDB) | ug/m3 | <1.2 | <1.2 | | 25 | |
| 1,2-Dichloroethane | ug/m3 | <0.32 | <0.32 | | 25 | |
| 1,3,5-Trimethylbenzene | ug/m3 | <0.28 | <0.28 | | 25 | |
| Benzene | ug/m3 | 6.2 | 6.2 | 1 | 25 | |
| Ethylbenzene | ug/m3 | <0.66 | <0.66 | | 25 | |
| Isopropylbenzene (Cumene) | ug/m3 | <0.21 | <0.21 | | 25 | |
| m&p-Xylene | ug/m3 | 1.5J | 1.4J | | 25 | |
| Methyl-tert-butyl ether | ug/m3 | 0.55J | 0.50J | | 25 | |
| Naphthalene | ug/m3 | 1.0J | 0.85J | | 25 | |
| o-Xylene | ug/m3 | 0.67J | 0.66J | | 25 | |
| Toluene | ug/m3 | 3.3 | 3.2 | 2 | 25 | |
| Xylene (Total) | ug/m3 | <1.8 | <1.8 | | 25 | |

SAMPLE DUPLICATE: 2548340

| Parameter | Units | 10382287010 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 6.9 | 7.1 | 3 | 25 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | <1.2 | <1.2 | | 25 | |
| 1,2-Dichloroethane | ug/m3 | <0.31 | <0.31 | | 25 | |
| 1,3,5-Trimethylbenzene | ug/m3 | 1.7 | 1.6 | 2 | 25 | |
| Benzene | ug/m3 | 0.48J | 0.54 | | 25 | |
| Ethylbenzene | ug/m3 | <0.63 | <0.63 | | 25 | |
| Isopropylbenzene (Cumene) | ug/m3 | <0.21 | <0.21 | | 25 | |
| m&p-Xylene | ug/m3 | 1.3J | 1.4J | | 25 | |
| Methyl-tert-butyl ether | ug/m3 | 0.46J | <0.45 | | 25 | |
| Naphthalene | ug/m3 | 1.4J | 1.2J | | 25 | |
| o-Xylene | ug/m3 | 0.94J | 0.91J | | 25 | |
| Toluene | ug/m3 | 3.6 | 3.5 | 2 | 25 | |
| Xylene (Total) | ug/m3 | <1.7 | <1.7 | | 25 | |

**Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.**

## REPORT OF LABORATORY ANALYSIS

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**Pace Analytical Services, LLC**
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

# QUALIFIERS

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

## DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## ANALYTE QUALIFIERS

| | |
|---|---|
| MN | The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule. |



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Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10382287

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **10382287001** | **AOI5-AI-17-01** | TO-15 | 465212 | | |
| **10382287002** | **AOI5-AI-17-02** | TO-15 | 465212 | | |
| **10382287003** | **AOI5-AI-17-03** | TO-15 | 465212 | | |
| **10382287004** | **AOI5-AI-17-04** | TO-15 | 466173 | | |
| **10382287005** | **AOI5-AI-17-06** | TO-15 | 466173 | | |
| **10382287006** | **AOI5-AI-17-05** | TO-15 | 466173 | | |
| **10382287007** | **AOI5-AI-17-07** | TO-15 | 466173 | | |
| **10382287008** | **AOI6-AI-17-22** | TO-15 | 466173 | | |
| **10382287009** | **AOI2-AI-17-01** | TO-15 | 466173 | | |
| **10382287010** | **AOI2-AI-17-08** | TO-15 | 466173 | | |
| **10382287011** | **AOI2-AI-17-10** | TO-15 | 466173 | | |
| **10382287012** | **AOI2-AI-17-03** | TO-15 | 466173 | | |
| **10382287013** | **AOI2-AI-17-07** | TO-15 | 466173 | | |
| **10382287014** | **AOI2-AI-17-04** | TO-15 | 466173 | | |
| **10382287015** | **AOI2-AI-17-16** | TO-15 | 466173 | | |
| **10382287016** | **AOI2-AI-17-17** | TO-15 | 466173 | | |
| **10382287017** | **AOI2-AI-17-06** | TO-15 | 466173 | | |
| **10382287018** | **AOI3-AI-17-09** | TO-15 | 466173 | | |



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# AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10382287

26303

Page: 1 of 2

**Section A** Required Client Information:

Company: GHD
Address: 410 Eagleview Blvd Suite 110
Exton, Pennsylvania
Email To: David Steele
Phone: 610-321-1800 Fax:
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: David Steele
Copy To: Paul McMahon
Purchase Order No.:
Project Name: Evergreen PES
Project Number: 11109626

**Section C** Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: UST / Superfund / Emissions / Clean Air Act / Voluntary Clean Up / Dry Clean / RCRA / Other

Location of Sampling by State

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level II. III. IV. Other

Method: PM10, 3C- Fixed Gas (%), TO-3, TO-3M (Methane), TO-4 (PCBs), TO-13 (PAH), TO-14, TO-15, TO15 Short List*

**Section D** Required Client Information

**AIR SAMPLE ID**
Sample IDs MUST BE UNIQUE

Valid Media Codes

| MEDIA | CODE |
|---|---|
| Tedlar Bag | TB |
| 1 Liter Summa Can | 1LC |
| 6 Liter Summa Can | 6LC |
| Low Volume Puff | LVP |
| High Volume Puff | HVP |
| Other | PM10 |

| ITEM # | Section D Required Client Information AIR SAMPLE ID | MEDIA CODE | PID Reading (Client only) | COLLECTED COMPOSITE START END/GRAB DATE | TIME | COMPOSITE - DATE | TIME | Canister Pressure (Initial Field - psig) | Canister Pressure (Final Field - psig) | Summa Can Number | Flow Control Number | PM10 | 3C- Fixed Gas (%) | TO-3 | TO-3M (Methane) | TO-4 (PCBs) | TO-13 (PAH) | TO-14 | TO-15 | TO15 Short List* | Pace Lab ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | AOI5-AI-17-01 | | | 03-10-17 | 0641 | 03-10-17 | 1442 | -30+ | -4 | 832 | 0532 | | | | | | | | | X | 001 |
| 2 | AOI5-AI-17-02 | | | 03-10-17 | 0707 | 03-10-17 | 1507 | -30+ | -4 | 108 | 0224 | | | | | | | | | X | 002 |
| 3 | AOI5-AI-17-03 | | | 03-10-17 | 0650 | 03-10-17 | 1450 | -30+ | -5 | 92 | 1060 | | | | | | | | | X | 003 |
| 4 | AOI5-AI-17-04 | | | 03-10-17 | 0645 | 03-10-17 | 1446 | -29 | -5 | 1250 | 1032 | | | | | | | | | X | 004 |
| 5 | AOI5-AI-17-06 | | | 03-10-17 | 0704 | 03-10-17 | 1504 | -30+ | -5 | 85 | 1016 | | | | | | | | | X | 005 |
| 6 | AOI5-AI-17-05 | | | 03-10-17 | 0632 | 03-10-17 | 1435 | -30+ | -4 | 2017 | 0105 | | | | | | | | | X | 006 |
| 7 | AOI5-AI-17-07 | | | 03-10-17 | 0644 | 03-10-17 | 1444 | -27+ | -4 | 2042 | 0370 | | | | | | | | | X | 007 |
| 8 | AOI6-AI-17-22 | | | 03-08-17 | 0919 | 03-08-17 | 1712 | -30+ | 0.0 | 854 | 2122 | | | | | | | | | X | 008 |
| 9 | AOI2-AI-17-01 | | | ~~03-08-17~~ 03-10-17 | 0730 | 03-10-17 | 1530 | -30 | -16+ | 143 | 0407 | | | | | | | | | X | 009 |
| 10 | AOI2-AI-17-08 | | | 03-10-17 | 0748 | 03-10-17 | 1611 | -29 | -3 | 1207 | 1079 | | | | | | | | | X | 010 |
| 11 | AOI2-AI-17-10 | | | 03-10-17 | 0742 | 03-10-17 | 1542 | -29 | -4 | 1044 | 1063 | | | | | | | | | X | 011 |
| 12 | AOI2-AI-17-03 | | | 03-10-17 | 0758 | 03-10-17 | 1558 | -28.5 | -4+ | 86 | 0435 | | | | | | | | | X | 012 |

Comments :

| RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---|---|---|---|---|---|
| [signature] | 3/13/17 | 1345 | [signature] | 3/13/17 | 1345 |
| [signature] | 3/13/17 | 1445 | [signature] | 3/17/17 | 1010 |
| | | | | | |
| | | | | | |

SAMPLE CONDITIONS

| Temp in °C | Received on Ice | Custody Sealed Cooler | Samples Intact |
|---|---|---|---|
| | Y/N | Y/N | Y/N |
| | Y/N | Y/N | Y/N |
| | Y/N | Y/N | Y/N |
| | Y/N | Y/N | Y/N |

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY)

ORIGINAL



1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386 FC046Rev.01, 03Feb2010

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# AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

26264



**Section A** Required Client Information:

Company: GHD
Address: 410 Eagleview Blvd Suite 110
Exton, Pennsylvania
Email To:
Phone: 610-321-4800 Fax:
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: David Steele
Copy To: Paul McMahon
Purchase Order No.:
Project Name: Evergreen PES
Project Number: 11109626

**Section C** Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State:

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level II. III. IV. Other

'Section D Required Client Information

**AIR SAMPLE ID**
Sample IDs MUST BE UNIQUE

Valid Media Codes

| MEDIA | CODE |
|---|---|
| Tedlar Bag | TB |
| 1 Liter Summa Can | 1LC |
| 6 Liter Summa Can | 6LC |
| Low Volume Puff | LVP |
| High Volume Puff | HVP |
| Other | PM10 |

Method: PM10 | 3C: Fixed Gas (%) | TO-3 | TO-3M (Methane) | TO-4 (PCBs) | TO-13 (PAH) | TO-14 | TO-15 | TO15 Short List*

| ITEM # | Sample ID | MEDIA CODE | PID Reading (Client only) | COLLECTED COMPOSITE START END/GRAB DATE | TIME | COMPOSITE END/GRAB DATE | TIME | Canister Pressure (Initial Field - psig) | Canister Pressure (Final Field - psig) | Summa Can Number | Flow Control Number | TO-15 | Pace Lab ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ~~AOI1-01~~ AOI1-01 | | | 03-10-17 | | 03-10-17 | | | | | | X | Do Not Analyze |
| 2 | ~~AOI2-AI-17-08~~ | | | | | | | | | | | | /AC |
| 3 | AOI2-AI-17-07 | | | 031017 | 0707 | 031017 | 1607 | -28 | -6 | 2673 | 00096 | X | 013 |
| 4 | AOI2-AI-1704 | | | 031017 | 0755 | 031017 | 1555 | -30 | -5 | 117 | 00060 | X | 014 |
| 5 | AOI2-AI-17-16 | | | 031017 | 0821 | 031017 | 1621 | -24 | -3 | 1265 | 02433 | X | 015 |
| 6 | AOI2-AI-1717 | | | 031017 | 0827 | 031017 | 1627 | -29 | -7 | 2391 | 03247 | X | 016 |
| 7 | AOI2-AI-17-06 | | | 031017 | 0802 | 031017 | 1602 | -30 | -5 | 1061 | 12766 | X | 017 |
| 8 | AOI3-AI-17-09 | | | 03-10-17 | 0604 | 031017 | 1335 | -27 | 0.0 | 3403 | 02072 | X | 018 |
| 9 | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |

Comments:

| RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---|---|---|---|---|---|
| | 3/13/17 | 1345 | | 3/13/17 | 1345 |
| | 3/13/17 | 1435 | | 3/10/17 | 1010 |

SAMPLE CONDITIONS

| Temp in °C | Received on Ice | Custody Sealed Cooler | Samples Intact |
|---|---|---|---|
| | Y/N | Y/N | Y/N |
| | Y/N | Y/N | Y/N |
| | Y/N | Y/N | Y/N |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY)

ORIGINAL

| Pace Analytical | Document Name: Air Sample Condition Upon Receipt | Document Revised: 26APR2016 Page 1 of 1 |
|---|---|---|
| | Document No.: F-MN-A-106-rev.11 | Issuing Authority: Pace Minnesota Quality Office |

**Air Sample Condition Upon Receipt**

Client Name: GHD

Project #: **WO# : 10382287**



10382287

Courier: [X] Fed Ex [ ] UPS [ ] Speedee [ ] Client [ ] Commercial [ ] Pace [ ] Other:

Tracking Number: 78 589924 2083, 2061, 2050, 2040, 2039, 2072, 78589466 2671, 2719, 2708, 2682, 2693

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present? [ ] Yes [X] No Seals Intact? [ ] Yes [X] No

Packing Material: [ ] Bubble Wrap [ ] Bubble Bags [X] Foam [ ] None [ ] Tin Can [ ] Other: Temp Blank rec: [ ] Yes [X] No

Temp. (TO17 and TO13 samples only) (°C): — Corrected Temp (°C): — Thermom. Used: [ ] B88A912167504 [ ] B88A0143310098 [ ] 151401163 [ ] 151401164

Temp should be above freezing to 6°C Correction Factor: — Date & Initials of Person Examining Contents: EJL 3/17/17

Type of ice Received [ ] Blue [ ] Wet [X] None

| | | | | Comments: |
|---|---|---|---|---|
| Chain of Custody Present? | [X] Yes | [ ] No | [ ] N/A | 1. |
| Chain of Custody Filled Out? | [X] Yes | [ ] No | [ ] N/A | 2. |
| Chain of Custody Relinquished? | [X] Yes | [ ] No | [ ] N/A | 3. |
| Sampler Name and/or Signature on COC? | [X] Yes | [ ] No | [ ] N/A | 4. |
| Samples Arrived within Hold Time? | [X] Yes | [ ] No | [ ] N/A | 5. |
| Short Hold Time Analysis (<72 hr)? | [ ] Yes | [X] No | [ ] N/A | 6. |
| Rush Turn Around Time Requested? | [ ] Yes | [X] No | [ ] N/A | 7. |
| Sufficient Volume? | [X] Yes | [ ] No | [ ] N/A | 8. |
| Correct Containers Used? | [X] Yes | [ ] No | [ ] N/A | 9. |
| -Pace Containers Used? | [X] Yes | [ ] No | [ ] N/A | |
| Containers Intact? | [X] Yes | [ ] No | [ ] N/A | 10. |
| Media: Air Can Airbag Filter TDT Passive | | | | 11. |
| Sample Labels Match COC? | [ ] Yes | [X] No | [ ] N/A | 12. NO ID/Date/Time on cans |

Samples Received:

| Canisters | | | Canisters | | |
|---|---|---|---|---|---|
| Sample Number | Can ID | Flow Controller ID | Sample Number | Can ID | Flow Controller ID |
| A0I5-AI-17-01 | 822 | | A0I2-AI-17-10 | | |
| * 11-02 | | | * 11-03 | | |
| * 11-03 | | | A0I1-01 EJL 3/10 | | |
| 11-04 | | | A0I2-AI-17-07 | | |
| 11-05 | | | * 11-04 | | |
| * 11-06 | | | 11-16 | | |
| 11-07 | | | 11-17 | | |
| * A0I6-AI-17-22 | | * | 11-06 | | |
| * A0I2-AI-17-01 | | | * A0I3-AI-17-09 | | * |
| 11-08 | | | | | |

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? [ ] Yes [ ] No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

| Pace Analytical | Document Name: Air Sample Condition Upon Receipt | Document Revised: 26APR2016 Page 1 of 1 |
|---|---|---|
| | Document No.: F-MN-A-106-rev.11 | Issuing Authority: Pace Minnesota Quality Office |

**Air Sample Condition Upon Receipt** **Client Name:** **Project #:**

Courier: ☐Fed Ex ☐UPS ☐Speedee ☐Client ☐Commercial ☐Pace ☐Other:_____

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☐Yes ☐No Seals Intact? ☐Yes ☐No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐Bubble Wrap ☐Bubble Bags ☐Foam ☐None ☐Tin Can ☐Other:_____ Temp Blank rec: ☐Yes ☐No

Temp. (TO17 and TO13 samples only) (°C): _____ Corrected Temp (°C): _____ Thermom. Used: ☐B88A912167504 ☐B88A0143310098 ☐151401163 ☐151401164

Temp should be above freezing to 6°C Correction Factor: _____ Date & Initials of Person Examining Contents: _____

Type of ice Received ☐Blue ☐Wet ☐None

| | | | | Comments: |
|---|---|---|---|---|
| Chain of Custody Present? | ☐Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out? | ☐Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished? | ☐Yes | ☐No | ☐N/A | 3. |
| Sampler Name and/or Signature on COC? | ☐Yes | ☐No | ☐N/A | 4. |
| Samples Arrived within Hold Time? | ☐Yes | ☐No | ☐N/A | 5. |
| Short Hold Time Analysis (<72 hr)? | ☐Yes | ☐No | ☐N/A | 6. |
| Rush Turn Around Time Requested? | ☐Yes | ☐No | ☐N/A | 7. |
| Sufficient Volume? | ☐Yes | ☐No | ☐N/A | 8. |
| Correct Containers Used? | ☐Yes | ☐No | ☐N/A | 9. |
| -Pace Containers Used? | ☐Yes | ☐No | ☐N/A | |
| Containers Intact? | ☐Yes | ☐No | ☐N/A | 10. |
| Media: Air Can Airbag Filter TDT Passive | | | | 11. |
| Sample Labels Match COC? | ☐Yes | ☐No | ☐N/A | 12. |

Samples Received:

| Canisters | | | Canisters | | |
|---|---|---|---|---|---|
| Sample Number | Can ID | Flow Controller ID | Sample Number | Can ID | Flow Controller ID |
| Unused | Pace0852 | 0097 | | | |
| " | 0102 | 0069 | | | |
| " | 0098 | | | | |
| " | 0096 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

CLIENT NOTIFICATION/RESOLUTION Field Data Required? ☐Yes ☐No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Nathan Boberg Date: 3/20/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

| Pace Analytical® | Document Name: **Pace RL vs. Low Calibration Point Reference Sheet** | Date Revised: 11Apr2018<br>Page 1 of 1 |
|---|---|---|
| | Document Number: A174 Rev.00 | Issuing Authority: Pace Minnesota Quality Office |

| Compound ID | CAS# | MW | PRL (ppbv) | Low Cal Standard (ppbv) | PRL (ug/m) | Low Cal Standard (ug/m3) |
|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 71-55-6 | 133.41 | 0.2 | 0.1 | 1.11 | 0.55 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 167.85 | 0.1 | 0.1 | 0.70 | 0.70 |
| 1,1,2-Trichloroethane | 79-00-5 | 133.41 | 0.1 | 0.1 | 0.55 | 0.55 |
| 1,1,2-Trichlorotrifluoroethane (Freon-113) | 76-13-1 | 187.38 | 0.2 | 0.1 | 1.56 | 0.78 |
| 1,1-Dichloroethane | 75-34-3 | 98.96 | 0.2 | 0.1 | 0.82 | 0.41 |
| 1,1-Dichloroethene | 75-35-4 | 96.94 | 0.2 | 0.1 | 0.81 | 0.40 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 181.45 | 0.5 | 0.1 | 3.77 | 0.75 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120.20 | 0.2 | 0.1 | 1.00 | 0.50 |
| 1,2-Dibromoethane | 106-93-4 | 187.87 | 0.2 | 0.1 | 1.56 | 0.78 |
| 1,2-Dichlorobenzene | 95-50-1 | 147.00 | 0.2 | 0.1 | 1.22 | 0.61 |
| 1,2-Dichloroethane | 107-06-2 | 98.96 | 0.1 | 0.1 | 0.41 | 0.41 |
| 1,2-Dichloropropane | 78-87-5 | 112.99 | 0.2 | 0.1 | 0.94 | 0.47 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120.20 | 0.2 | 0.1 | 1.00 | 0.50 |
| 1,3-Butadiene | 106-99-0 | 54.09 | 0.2 | 0.1 | 0.45 | 0.22 |
| 1,3-Dichlorobenzene | 541-73-1 | 147.00 | 0.2 | 0.1 | 1.22 | 0.61 |
| 1,4-Dichlorobenzene | 106-46-7 | 147.00 | 0.2 | 0.1 | 1.22 | 0.61 |
| 2-Butanone (MEK) | 78-93-3 | 72.11 | 1 | 0.1 | 3.00 | 0.30 |
| 2-Hexanone | 591-78-6 | 100.16 | 1 | 0.1 | 4.16 | 0.42 |
| 2-Propanol | 67-63-0 | 60.10 | 1 | 0.5 | 2.50 | 1.25 |
| 4-Ethyltoluene | 622-96-8 | 120.19 | 0.2 | 0.1 | 1.00 | 0.50 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 100.16 | 1 | 0.1 | 4.16 | 0.42 |
| Acetone | 67-64-1 | 58.08 | 1 | 0.5 | 2.41 | 1.21 |
| Benzene | 71-43-2 | 78.11 | 0.1 | 0.1 | 0.32 | 0.32 |
| Benzyl Chloride | 100-44-7 | 126.58 | 0.2 | 0.1 | 1.05 | 0.53 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Bromodichloromethane | 75-27-4 | 163.83 | 0.2 | 0.1 | 1.36 | 0.68 |
| Bromoform | 75-25-2 | 252.73 | 0.2 | 0.1 | 2.10 | 1.05 |
| Bromomethane | 74-83-9 | 94.94 | 0.2 | 0.1 | 0.79 | 0.39 |
| Carbon Disulfide | 75-15-0 | 76.14 | 0.2 | 0.1 | 0.63 | 0.32 |
| Carbon tetrachloride | 56-23-5 | 153.82 | 0.1 | 0.1 | 0.64 | 0.64 |
| Chlorobenzene | 108-90-7 | 112.56 | 0.2 | 0.1 | 0.94 | 0.47 |
| Chloroethane | 75-00-3 | 64.52 | 0.2 | 0.1 | 0.54 | 0.27 |
| Chloroform | 67-66-3 | 119.38 | 0.1 | 0.1 | 0.50 | 0.50 |
| Chloromethane | 74-87-3 | 50.49 | 0.2 | 0.1 | 0.42 | 0.21 |
| cis-1,2-Dichloroethene | 156-59-2 | 96.94 | 0.2 | 0.1 | 0.81 | 0.40 |
| cis-1,3-Dichloropropene | 10061-01-5 | 110.97 | 0.2 | 0.1 | 0.92 | 0.46 |
| Cyclohexane | 110-82-7 | 84.16 | 0.2 | 0.1 | 0.70 | 0.35 |
| Dibromochloromethane | 124-48-1 | 208.28 | 0.2 | 0.1 | 1.73 | 0.87 |
| Dichlorodifluoromethane | 75-71-8 | 120.91 | 0.2 | 0.1 | 1.01 | 0.50 |
| Dichlorotetrafluoroethane (Freon-114) | 76-14-2 | 170.92 | 0.2 | 0.1 | 1.42 | 0.71 |
| Ethanol | 64-17-5 | 46.07 | 0.5 | 0.5 | 0.96 | 0.96 |
| Ethyl Acetate | 141-78-6 | 88.11 | 0.2 | 0.1 | 0.73 | 0.37 |
| Ethyl Benzene | 100-41-4 | 106.17 | 0.2 | 0.1 | 0.88 | 0.44 |
| Hexachlorobutadiene | 87-68-3 | 260.76 | 0.2 | 0.1 | 2.17 | 1.08 |
| m&p-Xylene | 106-42-3 | 106.17 | 0.4 | 0.2 | 1.77 | 0.88 |
| Methyl Tert Butyl Ether | 1634-04-4 | 88.15 | 1 | 0.1 | 3.66 | 0.37 |
| Methylene chloride | 75-0902 | 84.93 | 1 | 0.5 | 3.53 | 1.77 |
| Naphthalene | 91-20-3 | 128.10 | 0.5 | 0.1 | 2.66 | 0.53 |
| n-Heptane | 142-82-5 | 100.20 | 0.2 | 0.1 | 0.83 | 0.42 |
| n-Hexane | 110-54-3 | 86.18 | 0.2 | 0.1 | 0.72 | 0.36 |
| o-Xylene | 95-47-6 | 106.17 | 0.2 | 0.1 | 0.88 | 0.44 |
| Propylene | 115-07-1 | 42.08 | 0.2 | 0.1 | 0.35 | 0.17 |
| Styrene | 100-42-5 | 104.15 | 0.2 | 0.1 | 0.87 | 0.43 |
| Tetrachloroethene | 127-18-4 | 165.83 | 0.1 | 0.1 | 0.69 | 0.69 |
| Tetrahydrofuran | 109-99-9 | 72.11 | 0.2 | 0.1 | 0.60 | 0.30 |
| Toluene | 108-88-3 | 92.14 | 0.2 | 0.1 | 0.77 | 0.38 |
| trans-1,2-dichloroethene | 156-60-5 | 96.94 | 0.2 | 0.1 | 0.81 | 0.40 |

| | | | | | | |
|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | 10061-02-6 | 110.97 | 0.2 | 0.1 | 0.92 | 0.46 |
| Trichloroethene | 79-01-6 | 131.39 | 0.1 | 0.1 | 0.55 | 0.55 |
| Trichlorofluoromethane | 75-69-4 | 137.37 | 0.2 | 0.1 | 1.14 | 0.57 |
| Vinyl Acetate | 108-05-4 | 86.09 | 0.2 | 0.1 | 0.72 | 0.36 |
| Vinyl chloride | 75-01-4 | 62.50 | 0.1 | 0.1 | 0.26 | 0.26 |
| | | | | | 0.00 | 0.00 |
| 1,2,3-Trimethylbenzene | 526-73-8 | 120.19 | 0.2 | 0.1 | 1.00 | 0.50 |
| Chlorodifluoromethane | 75-45-6 | 86.47 | 0.2 | 0.1 | 0.72 | 0.36 |
| Di-isopropyl ether | 108-20-3 | 102.17 | 1 | 0.1 | 4.25 | 0.42 |
| Ether Tert-Butyl Ether | 637-92-3 | 102.17 | 1 | 0.1 | 4.25 | 0.42 |
| Isopentane | 78-78-4 | 72.15 | 0.2 | 0.1 | 0.60 | 0.30 |
| Methylcyclohexane | 108-87-2 | 98.19 | 0.2 | 0.1 | 0.82 | 0.41 |
| Methyl Methacrylate | 80-62-6 | 100.18 | 0.2 | 0.1 | 0.83 | 0.42 |
| p-isopropyltoluene | 99-87-6 | 134.22 | 0.2 | 0.1 | 1.12 | 0.56 |
| Tert Amyl Methyl Ether | 994-05-8 | 102.17 | 1 | 0.1 | 4.25 | 0.42 |
| Tert-Butyl Benzene | 98-06-6 | 134.22 | 0.2 | 0.1 | 1.12 | 0.56 |
| 1,4-Dioxane | 123-91-1 | 88.11 | 1 | 0.25 | 3.66 | 0.92 |
| 2,2,4-Trimethylpentane | 540-84-1 | 114.22 | 0.5 | 0.1 | 2.37 | 0.47 |
| Acrolein | 107-02-8 | 56.10 | 0.5 | 0.25 | 1.17 | 0.58 |
| Acrylonitrile | 107-13-1 | 53.06 | 0.5 | 0.25 | 1.10 | 0.55 |
| Allyl Chloride | 107-05-1 | 76.49 | 0.5 | 0.1 | 1.59 | 0.32 |
| N-Butylbenzene | 104-51-8 | 134.22 | 0.5 | 0.1 | 2.79 | 0.56 |
| N-Propylbenzene | 103-65-1 | 120.19 | 0.5 | 0.1 | 2.50 | 0.50 |
| Sec- Butylbenzene | 135-98-8 | 134.22 | 0.5 | 0.1 | 2.79 | 0.56 |
| Tert Butyl Alcohol (TBA) | 75-65-0 | 74.12 | 1 | 0.1 | 3.08 | 0.31 |
| Vinyl Bromide | 593-60-2 | 106.95 | 1 | 0.1 | 4.45 | 0.44 |
| Isopropylbenzene | 98-82-8 | 120.19 | 0.5 | 0.1 | 2.50 | 0.50 |

**Pace Analytical Services, LLC**
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April 13, 2018

David Steele
GHD
410 Eagleview Blvd.
Exton, PA 19341

RE: Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

Dear David Steele:
Enclosed are the analytical results for sample(s) received by the laboratory on March 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised on April 13,2018, to include PQL and MDL tables.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nathan Boberg
nathan.boberg@pacelabs.com
(612)607-6407
Project Manager

Enclosures

cc: Paul McMahon, GHD



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## CERTIFICATIONS

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

**Minnesota Certification IDs**

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #:MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon NwTPH Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970



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## SAMPLE SUMMARY

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **10381907001** | **AOI6-AI-17-09** | Air | 03/08/17 16:03 | 03/14/17 10:30 |
| **10381907002** | **AOI6-AI-17-10** | Air | 03/08/17 15:37 | 03/14/17 10:30 |
| **10381907003** | **AOI6-AI-17-11** | Air | 03/08/17 16:27 | 03/14/17 10:30 |
| **10381907004** | **AOI6-AI-17-12** | Air | 03/08/17 16:38 | 03/14/17 10:30 |
| **10381907005** | **AOI6-AI-17-13** | Air | 03/08/17 16:34 | 03/14/17 10:30 |
| **10381907006** | **AOI6-AI-17-14** | Air | 03/08/17 17:08 | 03/14/17 10:30 |
| **10381907007** | **AOI6-AI-17-06** | Air | 03/08/17 17:55 | 03/14/17 10:30 |
| **10381907008** | **AOI6-AI-17-07R** | Air | 03/09/17 16:57 | 03/14/17 10:30 |
| **10381907009** | **AOI3-AI-17-01** | Air | 03/09/17 14:56 | 03/14/17 10:30 |
| **10381907010** | **AOI3-AI-17-02** | Air | 03/09/17 15:05 | 03/14/17 10:30 |
| **10381907011** | **AOI3-AI-17-03** | Air | 03/09/17 14:58 | 03/14/17 10:30 |
| **10381907012** | **AOI3-AI-17-04** | Air | 03/09/17 15:07 | 03/14/17 10:30 |
| **10381907013** | **AOI3-AI-17-05** | Air | 03/09/17 14:46 | 03/14/17 10:30 |
| **10381907014** | **AOI3-AI-17-06** | Air | 03/09/17 15:03 | 03/14/17 10:30 |
| **10381907015** | **AOI3-AI-17-07** | Air | 03/09/17 14:48 | 03/14/17 10:30 |
| **10381907016** | **AOI3-AI-17-08** | Air | 03/09/17 16:05 | 03/14/17 10:30 |
| **10381907017** | **AOI4-AI-17-01** | Air | 03/09/17 16:40 | 03/14/17 10:30 |
| **10381907018** | **AOI4-AA-17-01** | Air | 03/09/17 16:42 | 03/14/17 10:30 |
| **10381907019** | **AOI8-AI-17-09** | Air | 03/09/17 16:10 | 03/14/17 10:30 |
| **10381907020** | **AOI8-AI-17-10** | Air | 03/09/17 16:17 | 03/14/17 10:30 |
| **10381907021** | **AOI8-AI-17-11** | Air | 03/09/17 16:42 | 03/14/17 10:30 |



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## SAMPLE ANALYTE COUNT

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|---|---|---|---|---|
| **10381907001** | **AOI6-AI-17-09** | TO-15 | MLS | 13 |
| **10381907003** | **AOI6-AI-17-11** | TO-15 | EMC | 13 |
| **10381907004** | **AOI6-AI-17-12** | TO-15 | EMC | 13 |
| **10381907005** | **AOI6-AI-17-13** | TO-15 | EMC | 13 |
| **10381907006** | **AOI6-AI-17-14** | TO-15 | EMC | 13 |
| **10381907007** | **AOI6-AI-17-06** | TO-15 | EMC | 13 |
| **10381907008** | **AOI6-AI-17-07R** | TO-15 | EMC | 13 |
| **10381907009** | **AOI3-AI-17-01** | TO-15 | EMC | 13 |
| **10381907010** | **AOI3-AI-17-02** | TO-15 | EMC | 13 |
| **10381907011** | **AOI3-AI-17-03** | TO-15 | EMC | 13 |
| **10381907012** | **AOI3-AI-17-04** | TO-15 | EMC | 13 |
| **10381907013** | **AOI3-AI-17-05** | TO-15 | EMC | 13 |
| **10381907014** | **AOI3-AI-17-06** | TO-15 | EMC | 13 |
| **10381907015** | **AOI3-AI-17-07** | TO-15 | EMC | 13 |
| **10381907016** | **AOI3-AI-17-08** | TO-15 | EMC | 13 |
| **10381907017** | **AOI4-AI-17-01** | TO-15 | EMC | 13 |
| **10381907018** | **AOI4-AA-17-01** | TO-15 | EMC | 13 |
| **10381907019** | **AOI8-AI-17-09** | TO-15 | EMC | 13 |
| **10381907020** | **AOI8-AI-17-10** | TO-15 | EMC | 13 |
| **10381907021** | **AOI8-AI-17-11** | TO-15 | EMC | 13 |

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

**Date:** April 13, 2018

During validation it was noted that sample ID AO16-AI-17-10 may have been contaminated and resutls cannot be included within final results.



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# PROJECT NARRATIVE

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

**Method:** **TO-15**
**Description:** TO15 MSV AIR
**Client:** GHD-CA
**Date:** April 13, 2018

**General Information:**
20 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**
The samples were analyzed within the method required hold times with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**
All criteria were within method requirements with any exceptions noted below.

QC Batch: 464884

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- LCS (Lab ID: 2541577)
  - Naphthalene

**Continuing Calibration:**
All criteria were within method requirements with any exceptions noted below.

QC Batch: 465257

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 2543664)
  - 1,2-Dichloroethane

**Internal Standards:**
All internal standards were within QC limits with any exceptions noted below.

**Method Blank:**
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**
All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Duplicate Sample:**
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

**Additional Comments:**

Analyte Comments:

QC Batch: 465212

C0: Result confirmed by second analysis.

- AOI3-AI-17-08 (Lab ID: 10381907016)
  - Toluene

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

**Sample: AOI6-AI-17-09** **Lab ID: 10381907001** Collected: 03/08/17 16:03 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **6.4** | ug/m3 | 0.87 | 0.16 | 1.34 | | 03/22/17 17:44 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.0** | ug/m3 | 2.1 | 1.0 | 1.34 | | 03/22/17 17:44 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.27** | ug/m3 | 1.1 | 0.27 | 1.34 | | 03/22/17 17:44 | 107-06-2 | |
| Ethylbenzene | **1.5J** | ug/m3 | 3.0 | 0.57 | 1.34 | | 03/22/17 17:44 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.18** | ug/m3 | 3.4 | 0.18 | 1.34 | | 03/22/17 17:44 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.41** | ug/m3 | 4.9 | 0.41 | 1.34 | | 03/22/17 17:44 | 1634-04-4 | |
| Naphthalene | **3.5J** | ug/m3 | 3.6 | 0.41 | 1.34 | | 03/22/17 17:44 | 91-20-3 | |
| Toluene | **2.1** | ug/m3 | 1.0 | 0.21 | 1.34 | | 03/22/17 17:44 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **2.1J** | ug/m3 | 3.3 | 0.17 | 1.34 | | 03/22/17 17:44 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.25** | ug/m3 | 3.3 | 0.25 | 1.34 | | 03/22/17 17:44 | 108-67-8 | |
| Xylene (Total) | **4.8** | ug/m3 | 3.6 | 1.5 | 1.34 | | 03/22/17 17:44 | 1330-20-7 | |
| m&p-Xylene | **3.2** | ug/m3 | 2.4 | 1.1 | 1.34 | | 03/22/17 17:44 | 179601-23-1 | |
| o-Xylene | **1.6J** | ug/m3 | 3.0 | 0.47 | 1.34 | | 03/22/17 17:44 | 95-47-6 | |

**Sample: AOI6-AI-17-11** **Lab ID: 10381907003** Collected: 03/08/17 16:27 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **8.6** | ug/m3 | 0.47 | 0.18 | 1.44 | | 03/23/17 03:28 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.1** | ug/m3 | 5.6 | 1.1 | 1.44 | | 03/23/17 03:28 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.30** | ug/m3 | 0.59 | 0.30 | 1.44 | | 03/23/17 03:28 | 107-06-2 | |
| Ethylbenzene | **<0.61** | ug/m3 | 3.2 | 0.61 | 1.44 | | 03/23/17 03:28 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.20** | ug/m3 | 3.6 | 0.20 | 1.44 | | 03/23/17 03:28 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.44** | ug/m3 | 5.3 | 0.44 | 1.44 | | 03/23/17 03:28 | 1634-04-4 | |
| Naphthalene | **1.9J** | ug/m3 | 3.8 | 0.44 | 1.44 | | 03/23/17 03:28 | 91-20-3 | |
| Toluene | **3.5** | ug/m3 | 1.1 | 0.22 | 1.44 | | 03/23/17 03:28 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **2.5J** | ug/m3 | 3.6 | 0.18 | 1.44 | | 03/23/17 03:28 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.26** | ug/m3 | 3.6 | 0.26 | 1.44 | | 03/23/17 03:28 | 108-67-8 | |
| Xylene (Total) | **7.7** | ug/m3 | 3.8 | 1.6 | 1.44 | | 03/23/17 03:28 | 1330-20-7 | |
| m&p-Xylene | **5.2J** | ug/m3 | 6.4 | 1.1 | 1.44 | | 03/23/17 03:28 | 179601-23-1 | |
| o-Xylene | **2.5J** | ug/m3 | 3.2 | 0.51 | 1.44 | | 03/23/17 03:28 | 95-47-6 | |

**Sample: AOI6-AI-17-12** **Lab ID: 10381907004** Collected: 03/08/17 16:38 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **14.1** | ug/m3 | 0.58 | 0.22 | 1.8 | | 03/23/17 03:56 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.4** | ug/m3 | 7.0 | 1.4 | 1.8 | | 03/23/17 03:56 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.37** | ug/m3 | 0.74 | 0.37 | 1.8 | | 03/23/17 03:56 | 107-06-2 | |
| Ethylbenzene | **<0.76** | ug/m3 | 4.0 | 0.76 | 1.8 | | 03/23/17 03:56 | 100-41-4 | |

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

**Sample: AOI6-AI-17-12** **Lab ID: 10381907004** Collected: 03/08/17 16:38 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Isopropylbenzene (Cumene) | **<0.25** | ug/m3 | 4.5 | 0.25 | 1.8 | | 03/23/17 03:56 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.55** | ug/m3 | 6.6 | 0.55 | 1.8 | | 03/23/17 03:56 | 1634-04-4 | |
| Naphthalene | **1.0J** | ug/m3 | 4.8 | 0.55 | 1.8 | | 03/23/17 03:56 | 91-20-3 | |
| Toluene | **4.1** | ug/m3 | 1.4 | 0.28 | 1.8 | | 03/23/17 03:56 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **3.0J** | ug/m3 | 4.5 | 0.22 | 1.8 | | 03/23/17 03:56 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.33** | ug/m3 | 4.5 | 0.33 | 1.8 | | 03/23/17 03:56 | 108-67-8 | |
| Xylene (Total) | **6.3** | ug/m3 | 4.8 | 2.0 | 1.8 | | 03/23/17 03:56 | 1330-20-7 | |
| m&p-Xylene | **6.3J** | ug/m3 | 7.9 | 1.4 | 1.8 | | 03/23/17 03:56 | 179601-23-1 | |
| o-Xylene | **<0.63** | ug/m3 | 4.0 | 0.63 | 1.8 | | 03/23/17 03:56 | 95-47-6 | |

**Sample: AOI6-AI-17-13** **Lab ID: 10381907005** Collected: 03/08/17 16:34 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **15.8** | ug/m3 | 0.44 | 0.16 | 1.34 | | 03/23/17 04:26 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.0** | ug/m3 | 5.2 | 1.0 | 1.34 | | 03/23/17 04:26 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.27** | ug/m3 | 0.55 | 0.27 | 1.34 | | 03/23/17 04:26 | 107-06-2 | |
| Ethylbenzene | **<0.57** | ug/m3 | 3.0 | 0.57 | 1.34 | | 03/23/17 04:26 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.18** | ug/m3 | 3.4 | 0.18 | 1.34 | | 03/23/17 04:26 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.41** | ug/m3 | 4.9 | 0.41 | 1.34 | | 03/23/17 04:26 | 1634-04-4 | |
| Naphthalene | **5.9** | ug/m3 | 3.6 | 0.41 | 1.34 | | 03/23/17 04:26 | 91-20-3 | |
| Toluene | **5.3** | ug/m3 | 1.0 | 0.21 | 1.34 | | 03/23/17 04:26 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **2.4J** | ug/m3 | 3.3 | 0.17 | 1.34 | | 03/23/17 04:26 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.25** | ug/m3 | 3.3 | 0.25 | 1.34 | | 03/23/17 04:26 | 108-67-8 | |
| Xylene (Total) | **7.9** | ug/m3 | 3.6 | 1.5 | 1.34 | | 03/23/17 04:26 | 1330-20-7 | |
| m&p-Xylene | **5.4J** | ug/m3 | 5.9 | 1.1 | 1.34 | | 03/23/17 04:26 | 179601-23-1 | |
| o-Xylene | **2.5J** | ug/m3 | 3.0 | 0.47 | 1.34 | | 03/23/17 04:26 | 95-47-6 | |

**Sample: AOI6-AI-17-14** **Lab ID: 10381907006** Collected: 03/08/17 17:08 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **5.9** | ug/m3 | 0.44 | 0.16 | 1.34 | | 03/23/17 04:55 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.0** | ug/m3 | 5.2 | 1.0 | 1.34 | | 03/23/17 04:55 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.27** | ug/m3 | 0.55 | 0.27 | 1.34 | | 03/23/17 04:55 | 107-06-2 | |
| Ethylbenzene | **<0.57** | ug/m3 | 3.0 | 0.57 | 1.34 | | 03/23/17 04:55 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.18** | ug/m3 | 3.4 | 0.18 | 1.34 | | 03/23/17 04:55 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.41** | ug/m3 | 4.9 | 0.41 | 1.34 | | 03/23/17 04:55 | 1634-04-4 | |
| Naphthalene | **0.74J** | ug/m3 | 3.6 | 0.41 | 1.34 | | 03/23/17 04:55 | 91-20-3 | |
| Toluene | **3.6** | ug/m3 | 1.0 | 0.21 | 1.34 | | 03/23/17 04:55 | 108-88-3 | |

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## ANALYTICAL RESULTS

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

**Sample: AOI6-AI-17-14** **Lab ID: 10381907006** Collected: 03/08/17 17:08 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| 1,2,4-Trimethylbenzene | **2.6J** | ug/m3 | 3.3 | 0.17 | 1.34 | | 03/23/17 04:55 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.25** | ug/m3 | 3.3 | 0.25 | 1.34 | | 03/23/17 04:55 | 108-67-8 | |
| Xylene (Total) | **7.8** | ug/m3 | 3.6 | 1.5 | 1.34 | | 03/23/17 04:55 | 1330-20-7 | |
| m&p-Xylene | **5.3J** | ug/m3 | 5.9 | 1.1 | 1.34 | | 03/23/17 04:55 | 179601-23-1 | |
| o-Xylene | **2.5J** | ug/m3 | 3.0 | 0.47 | 1.34 | | 03/23/17 04:55 | 95-47-6 | |

**Sample: AOI6-AI-17-06** **Lab ID: 10381907007** Collected: 03/08/17 17:55 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **2.2** | ug/m3 | 0.44 | 0.16 | 1.34 | | 03/23/17 05:25 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.0** | ug/m3 | 5.2 | 1.0 | 1.34 | | 03/23/17 05:25 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.27** | ug/m3 | 0.55 | 0.27 | 1.34 | | 03/23/17 05:25 | 107-06-2 | |
| Ethylbenzene | **2.2J** | ug/m3 | 3.0 | 0.57 | 1.34 | | 03/23/17 05:25 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.18** | ug/m3 | 3.4 | 0.18 | 1.34 | | 03/23/17 05:25 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.41** | ug/m3 | 4.9 | 0.41 | 1.34 | | 03/23/17 05:25 | 1634-04-4 | |
| Naphthalene | **0.52J** | ug/m3 | 3.6 | 0.41 | 1.34 | | 03/23/17 05:25 | 91-20-3 | |
| Toluene | **10.4** | ug/m3 | 1.0 | 0.21 | 1.34 | | 03/23/17 05:25 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **2.8J** | ug/m3 | 3.3 | 0.17 | 1.34 | | 03/23/17 05:25 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.25** | ug/m3 | 3.3 | 0.25 | 1.34 | | 03/23/17 05:25 | 108-67-8 | |
| Xylene (Total) | **8.4** | ug/m3 | 3.6 | 1.5 | 1.34 | | 03/23/17 05:25 | 1330-20-7 | |
| m&p-Xylene | **5.7J** | ug/m3 | 5.9 | 1.1 | 1.34 | | 03/23/17 05:25 | 179601-23-1 | |
| o-Xylene | **2.7J** | ug/m3 | 3.0 | 0.47 | 1.34 | | 03/23/17 05:25 | 95-47-6 | |

**Sample: AOI6-AI-17-07R** **Lab ID: 10381907008** Collected: 03/09/17 16:57 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **8.2** | ug/m3 | 0.50 | 0.19 | 1.55 | | 03/21/17 15:31 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | ND | ug/m3 | 2.4 | 1.2 | 1.55 | | 03/21/17 15:31 | 106-93-4 | |
| 1,2-Dichloroethane | ND | ug/m3 | 0.64 | 0.32 | 1.55 | | 03/21/17 15:31 | 107-06-2 | |
| Ethylbenzene | **1.7** | ug/m3 | 1.4 | 0.66 | 1.55 | | 03/21/17 15:31 | 100-41-4 | |
| Isopropylbenzene (Cumene) | ND | ug/m3 | 3.9 | 0.21 | 1.55 | | 03/21/17 15:31 | 98-82-8 | |
| Methyl-tert-butyl ether | ND | ug/m3 | 5.7 | 0.47 | 1.55 | | 03/21/17 15:31 | 1634-04-4 | |
| Naphthalene | ND | ug/m3 | 4.1 | 0.47 | 1.55 | | 03/21/17 15:31 | 91-20-3 | |
| Toluene | **7.3** | ug/m3 | 1.2 | 0.24 | 1.55 | | 03/21/17 15:31 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **4.4** | ug/m3 | 1.5 | 0.19 | 1.55 | | 03/21/17 15:31 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | ND | ug/m3 | 1.5 | 0.28 | 1.55 | | 03/21/17 15:31 | 108-67-8 | |
| Xylene (Total) | **8.8** | ug/m3 | 4.1 | 1.8 | 1.55 | | 03/21/17 15:31 | 1330-20-7 | |
| m&p-Xylene | **6.4** | ug/m3 | 2.7 | 1.2 | 1.55 | | 03/21/17 15:31 | 179601-23-1 | |

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## ANALYTICAL RESULTS

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

**Sample: AOI6-AI-17-07R** **Lab ID: 10381907008** Collected: 03/09/17 16:57 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| o-Xylene | **2.4** | ug/m3 | 1.4 | 0.54 | 1.55 | | 03/21/17 15:31 | 95-47-6 | |

**Sample: AOI3-AI-17-01** **Lab ID: 10381907009** Collected: 03/09/17 14:56 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **3.7** | ug/m3 | 0.45 | 0.17 | 1.39 | | 03/23/17 14:13 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.1** | ug/m3 | 5.4 | 1.1 | 1.39 | | 03/23/17 14:13 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.28** | ug/m3 | 0.57 | 0.28 | 1.39 | | 03/23/17 14:13 | 107-06-2 | |
| Ethylbenzene | **2.3J** | ug/m3 | 3.1 | 0.59 | 1.39 | | 03/23/17 14:13 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.19** | ug/m3 | 3.5 | 0.19 | 1.39 | | 03/23/17 14:13 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.48J** | ug/m3 | 5.1 | 0.42 | 1.39 | | 03/23/17 14:13 | 1634-04-4 | |
| Naphthalene | **1.9J** | ug/m3 | 3.7 | 0.42 | 1.39 | | 03/23/17 14:13 | 91-20-3 | |
| Toluene | **5.2** | ug/m3 | 1.1 | 0.21 | 1.39 | | 03/23/17 14:13 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **2.6J** | ug/m3 | 3.5 | 0.17 | 1.39 | | 03/23/17 14:13 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.25** | ug/m3 | 3.5 | 0.25 | 1.39 | | 03/23/17 14:13 | 108-67-8 | |
| Xylene (Total) | **8.7** | ug/m3 | 3.7 | 1.6 | 1.39 | | 03/23/17 14:13 | 1330-20-7 | |
| m&p-Xylene | **6.0J** | ug/m3 | 6.1 | 1.1 | 1.39 | | 03/23/17 14:13 | 179601-23-1 | |
| o-Xylene | **2.7J** | ug/m3 | 3.1 | 0.49 | 1.39 | | 03/23/17 14:13 | 95-47-6 | |

**Sample: AOI3-AI-17-02** **Lab ID: 10381907010** Collected: 03/09/17 15:05 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **7.5** | ug/m3 | 0.44 | 0.16 | 1.34 | | 03/23/17 14:42 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.0** | ug/m3 | 5.2 | 1.0 | 1.34 | | 03/23/17 14:42 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.27** | ug/m3 | 0.55 | 0.27 | 1.34 | | 03/23/17 14:42 | 107-06-2 | |
| Ethylbenzene | **3.2** | ug/m3 | 3.0 | 0.57 | 1.34 | | 03/23/17 14:42 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.18** | ug/m3 | 3.4 | 0.18 | 1.34 | | 03/23/17 14:42 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.57J** | ug/m3 | 4.9 | 0.41 | 1.34 | | 03/23/17 14:42 | 1634-04-4 | |
| Naphthalene | **1.4J** | ug/m3 | 3.6 | 0.41 | 1.34 | | 03/23/17 14:42 | 91-20-3 | |
| Toluene | **21.9** | ug/m3 | 1.0 | 0.21 | 1.34 | | 03/23/17 14:42 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **3.8** | ug/m3 | 3.3 | 0.17 | 1.34 | | 03/23/17 14:42 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **3.0J** | ug/m3 | 3.3 | 0.25 | 1.34 | | 03/23/17 14:42 | 108-67-8 | |
| Xylene (Total) | **14.5** | ug/m3 | 3.6 | 1.5 | 1.34 | | 03/23/17 14:42 | 1330-20-7 | |
| m&p-Xylene | **10.4** | ug/m3 | 5.9 | 1.1 | 1.34 | | 03/23/17 14:42 | 179601-23-1 | |
| o-Xylene | **4.1** | ug/m3 | 3.0 | 0.47 | 1.34 | | 03/23/17 14:42 | 95-47-6 | |

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## ANALYTICAL RESULTS

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

**Sample: AOI3-AI-17-03** **Lab ID: 10381907011** Collected: 03/09/17 14:58 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **7.1** | ug/m3 | 0.48 | 0.18 | 1.49 | | 03/23/17 15:10 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 5.8 | 1.2 | 1.49 | | 03/23/17 15:10 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.31** | ug/m3 | 0.61 | 0.31 | 1.49 | | 03/23/17 15:10 | 107-06-2 | |
| Ethylbenzene | **3.3J** | ug/m3 | 3.3 | 0.63 | 1.49 | | 03/23/17 15:10 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.21** | ug/m3 | 3.7 | 0.21 | 1.49 | | 03/23/17 15:10 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.47J** | ug/m3 | 5.5 | 0.45 | 1.49 | | 03/23/17 15:10 | 1634-04-4 | |
| Naphthalene | **1.4J** | ug/m3 | 4.0 | 0.45 | 1.49 | | 03/23/17 15:10 | 91-20-3 | |
| Toluene | **15.2** | ug/m3 | 1.1 | 0.23 | 1.49 | | 03/23/17 15:10 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **4.0** | ug/m3 | 3.7 | 0.19 | 1.49 | | 03/23/17 15:10 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **3.3J** | ug/m3 | 3.7 | 0.27 | 1.49 | | 03/23/17 15:10 | 108-67-8 | |
| Xylene (Total) | **14.5** | ug/m3 | 3.9 | 1.7 | 1.49 | | 03/23/17 15:10 | 1330-20-7 | |
| m&p-Xylene | **10.3** | ug/m3 | 6.6 | 1.2 | 1.49 | | 03/23/17 15:10 | 179601-23-1 | |
| o-Xylene | **4.2** | ug/m3 | 3.3 | 0.52 | 1.49 | | 03/23/17 15:10 | 95-47-6 | |

**Sample: AOI3-AI-17-04** **Lab ID: 10381907012** Collected: 03/09/17 15:07 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **6.1** | ug/m3 | 0.44 | 0.16 | 1.34 | | 03/23/17 15:37 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.0** | ug/m3 | 5.2 | 1.0 | 1.34 | | 03/23/17 15:37 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.27** | ug/m3 | 0.55 | 0.27 | 1.34 | | 03/23/17 15:37 | 107-06-2 | |
| Ethylbenzene | **3.1** | ug/m3 | 3.0 | 0.57 | 1.34 | | 03/23/17 15:37 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.18** | ug/m3 | 3.4 | 0.18 | 1.34 | | 03/23/17 15:37 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.56J** | ug/m3 | 4.9 | 0.41 | 1.34 | | 03/23/17 15:37 | 1634-04-4 | |
| Naphthalene | **1.3J** | ug/m3 | 3.6 | 0.41 | 1.34 | | 03/23/17 15:37 | 91-20-3 | |
| Toluene | **18.3** | ug/m3 | 1.0 | 0.21 | 1.34 | | 03/23/17 15:37 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **3.5** | ug/m3 | 3.3 | 0.17 | 1.34 | | 03/23/17 15:37 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **2.9J** | ug/m3 | 3.3 | 0.25 | 1.34 | | 03/23/17 15:37 | 108-67-8 | |
| Xylene (Total) | **12.9** | ug/m3 | 3.6 | 1.5 | 1.34 | | 03/23/17 15:37 | 1330-20-7 | |
| m&p-Xylene | **9.1** | ug/m3 | 5.9 | 1.1 | 1.34 | | 03/23/17 15:37 | 179601-23-1 | |
| o-Xylene | **3.8** | ug/m3 | 3.0 | 0.47 | 1.34 | | 03/23/17 15:37 | 95-47-6 | |

**Sample: AOI3-AI-17-05** **Lab ID: 10381907013** Collected: 03/09/17 14:46 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **6.3** | ug/m3 | 0.45 | 0.17 | 1.39 | | 03/23/17 16:05 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.1** | ug/m3 | 5.4 | 1.1 | 1.39 | | 03/23/17 16:05 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.28** | ug/m3 | 0.57 | 0.28 | 1.39 | | 03/23/17 16:05 | 107-06-2 | |
| Ethylbenzene | **3.0J** | ug/m3 | 3.1 | 0.59 | 1.39 | | 03/23/17 16:05 | 100-41-4 | |

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## ANALYTICAL RESULTS

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

**Sample: AOI3-AI-17-05** **Lab ID: 10381907013** Collected: 03/09/17 14:46 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Isopropylbenzene (Cumene) | **<0.19** | ug/m3 | 3.5 | 0.19 | 1.39 | | 03/23/17 16:05 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.65J** | ug/m3 | 5.1 | 0.42 | 1.39 | | 03/23/17 16:05 | 1634-04-4 | |
| Naphthalene | **1.4J** | ug/m3 | 3.7 | 0.42 | 1.39 | | 03/23/17 16:05 | 91-20-3 | |
| Toluene | **18.9** | ug/m3 | 1.1 | 0.21 | 1.39 | | 03/23/17 16:05 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **3.7** | ug/m3 | 3.5 | 0.17 | 1.39 | | 03/23/17 16:05 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **3.0J** | ug/m3 | 3.5 | 0.25 | 1.39 | | 03/23/17 16:05 | 108-67-8 | |
| Xylene (Total) | **13.1** | ug/m3 | 3.7 | 1.6 | 1.39 | | 03/23/17 16:05 | 1330-20-7 | |
| m&p-Xylene | **9.2** | ug/m3 | 6.1 | 1.1 | 1.39 | | 03/23/17 16:05 | 179601-23-1 | |
| o-Xylene | **3.8** | ug/m3 | 3.1 | 0.49 | 1.39 | | 03/23/17 16:05 | 95-47-6 | |

**Sample: AOI3-AI-17-06** **Lab ID: 10381907014** Collected: 03/09/17 15:03 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **5.7** | ug/m3 | 0.44 | 0.16 | 1.34 | | 03/23/17 16:33 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.0** | ug/m3 | 5.2 | 1.0 | 1.34 | | 03/23/17 16:33 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.27** | ug/m3 | 0.55 | 0.27 | 1.34 | | 03/23/17 16:33 | 107-06-2 | |
| Ethylbenzene | **2.8J** | ug/m3 | 3.0 | 0.57 | 1.34 | | 03/23/17 16:33 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.18** | ug/m3 | 3.4 | 0.18 | 1.34 | | 03/23/17 16:33 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.68J** | ug/m3 | 4.9 | 0.41 | 1.34 | | 03/23/17 16:33 | 1634-04-4 | |
| Naphthalene | **0.92J** | ug/m3 | 3.6 | 0.41 | 1.34 | | 03/23/17 16:33 | 91-20-3 | |
| Toluene | **17.9** | ug/m3 | 1.0 | 0.21 | 1.34 | | 03/23/17 16:33 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **2.8J** | ug/m3 | 3.3 | 0.17 | 1.34 | | 03/23/17 16:33 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **2.7J** | ug/m3 | 3.3 | 0.25 | 1.34 | | 03/23/17 16:33 | 108-67-8 | |
| Xylene (Total) | **11.8** | ug/m3 | 3.6 | 1.5 | 1.34 | | 03/23/17 16:33 | 1330-20-7 | |
| m&p-Xylene | **8.4** | ug/m3 | 5.9 | 1.1 | 1.34 | | 03/23/17 16:33 | 179601-23-1 | |
| o-Xylene | **3.4** | ug/m3 | 3.0 | 0.47 | 1.34 | | 03/23/17 16:33 | 95-47-6 | |

**Sample: AOI3-AI-17-07** **Lab ID: 10381907015** Collected: 03/09/17 14:48 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **2.2** | ug/m3 | 0.50 | 0.19 | 1.55 | | 03/21/17 16:26 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | ND | ug/m3 | 2.4 | 1.2 | 1.55 | | 03/21/17 16:26 | 106-93-4 | |
| 1,2-Dichloroethane | ND | ug/m3 | 0.64 | 0.32 | 1.55 | | 03/21/17 16:26 | 107-06-2 | |
| Ethylbenzene | ND | ug/m3 | 1.4 | 0.66 | 1.55 | | 03/21/17 16:26 | 100-41-4 | |
| Isopropylbenzene (Cumene) | ND | ug/m3 | 3.9 | 0.21 | 1.55 | | 03/21/17 16:26 | 98-82-8 | |
| Methyl-tert-butyl ether | ND | ug/m3 | 5.7 | 0.47 | 1.55 | | 03/21/17 16:26 | 1634-04-4 | |
| Naphthalene | ND | ug/m3 | 4.1 | 0.47 | 1.55 | | 03/21/17 16:26 | 91-20-3 | |
| Toluene | **5.9** | ug/m3 | 1.2 | 0.24 | 1.55 | | 03/21/17 16:26 | 108-88-3 | |

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## ANALYTICAL RESULTS

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

**Sample: AOI3-AI-17-07** **Lab ID: 10381907015** Collected: 03/09/17 14:48 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| 1,2,4-Trimethylbenzene | **1.9** | ug/m3 | 1.5 | 0.19 | 1.55 | | 03/21/17 16:26 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | ND | ug/m3 | 1.5 | 0.28 | 1.55 | | 03/21/17 16:26 | 108-67-8 | |
| Xylene (Total) | **5.5** | ug/m3 | 4.1 | 1.8 | 1.55 | | 03/21/17 16:26 | 1330-20-7 | |
| m&p-Xylene | **4.1** | ug/m3 | 2.7 | 1.2 | 1.55 | | 03/21/17 16:26 | 179601-23-1 | |
| o-Xylene | **1.4** | ug/m3 | 1.4 | 0.54 | 1.55 | | 03/21/17 16:26 | 95-47-6 | |

**Sample: AOI3-AI-17-08** **Lab ID: 10381907016** Collected: 03/09/17 16:05 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **1.6** | ug/m3 | 0.68 | 0.25 | 2.08 | | 03/23/17 00:14 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.6** | ug/m3 | 8.1 | 1.6 | 2.08 | | 03/23/17 00:14 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.43** | ug/m3 | 0.85 | 0.43 | 2.08 | | 03/23/17 00:14 | 107-06-2 | |
| Ethylbenzene | **<0.88** | ug/m3 | 4.6 | 0.88 | 2.08 | | 03/23/17 00:14 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.29** | ug/m3 | 5.2 | 0.29 | 2.08 | | 03/23/17 00:14 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.63** | ug/m3 | 7.6 | 0.63 | 2.08 | | 03/23/17 00:14 | 1634-04-4 | |
| Naphthalene | **1.2J** | ug/m3 | 5.5 | 0.63 | 2.08 | | 03/23/17 00:14 | 91-20-3 | |
| Toluene | **5.1** | ug/m3 | 1.6 | 0.32 | 2.08 | | 03/23/17 00:14 | 108-88-3 | C0 |
| 1,2,4-Trimethylbenzene | **3.6J** | ug/m3 | 5.2 | 0.26 | 2.08 | | 03/23/17 00:14 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.38** | ug/m3 | 5.2 | 0.38 | 2.08 | | 03/23/17 00:14 | 108-67-8 | |
| Xylene (Total) | **7.2** | ug/m3 | 5.5 | 2.4 | 2.08 | | 03/23/17 00:14 | 1330-20-7 | |
| m&p-Xylene | **7.2J** | ug/m3 | 9.2 | 1.6 | 2.08 | | 03/23/17 00:14 | 179601-23-1 | |
| o-Xylene | **<0.73** | ug/m3 | 4.6 | 0.73 | 2.08 | | 03/23/17 00:14 | 95-47-6 | |

**Sample: AOI4-AI-17-01** **Lab ID: 10381907017** Collected: 03/09/17 16:40 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **3.0** | ug/m3 | 0.50 | 0.19 | 1.55 | | 03/23/17 00:42 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 6.1 | 1.2 | 1.55 | | 03/23/17 00:42 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.32** | ug/m3 | 0.64 | 0.32 | 1.55 | | 03/23/17 00:42 | 107-06-2 | |
| Ethylbenzene | **2.4J** | ug/m3 | 3.4 | 0.66 | 1.55 | | 03/23/17 00:42 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.21** | ug/m3 | 3.9 | 0.21 | 1.55 | | 03/23/17 00:42 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.47** | ug/m3 | 5.7 | 0.47 | 1.55 | | 03/23/17 00:42 | 1634-04-4 | |
| Naphthalene | **0.97J** | ug/m3 | 4.1 | 0.47 | 1.55 | | 03/23/17 00:42 | 91-20-3 | |
| Toluene | **3.6** | ug/m3 | 1.2 | 0.24 | 1.55 | | 03/23/17 00:42 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **3.5J** | ug/m3 | 3.9 | 0.19 | 1.55 | | 03/23/17 00:42 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.28** | ug/m3 | 3.9 | 0.28 | 1.55 | | 03/23/17 00:42 | 108-67-8 | |
| Xylene (Total) | **9.2** | ug/m3 | 4.1 | 1.8 | 1.55 | | 03/23/17 00:42 | 1330-20-7 | |
| m&p-Xylene | **6.2J** | ug/m3 | 6.8 | 1.2 | 1.55 | | 03/23/17 00:42 | 179601-23-1 | |

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## ANALYTICAL RESULTS

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

**Sample: AOI4-AI-17-01** **Lab ID: 10381907017** Collected: 03/09/17 16:40 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| o-Xylene | **3.0J** | ug/m3 | 3.4 | 0.54 | 1.55 | | 03/23/17 00:42 | 95-47-6 | |

**Sample: AOI4-AA-17-01** **Lab ID: 10381907018** Collected: 03/09/17 16:42 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **2.4** | ug/m3 | 0.50 | 0.19 | 1.55 | | 03/23/17 01:11 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 6.1 | 1.2 | 1.55 | | 03/23/17 01:11 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.32** | ug/m3 | 0.64 | 0.32 | 1.55 | | 03/23/17 01:11 | 107-06-2 | |
| Ethylbenzene | **<0.66** | ug/m3 | 3.4 | 0.66 | 1.55 | | 03/23/17 01:11 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.21** | ug/m3 | 3.9 | 0.21 | 1.55 | | 03/23/17 01:11 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.47** | ug/m3 | 5.7 | 0.47 | 1.55 | | 03/23/17 01:11 | 1634-04-4 | |
| Naphthalene | **0.63J** | ug/m3 | 4.1 | 0.47 | 1.55 | | 03/23/17 01:11 | 91-20-3 | |
| Toluene | **3.1** | ug/m3 | 1.2 | 0.24 | 1.55 | | 03/23/17 01:11 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **2.7J** | ug/m3 | 3.9 | 0.19 | 1.55 | | 03/23/17 01:11 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.28** | ug/m3 | 3.9 | 0.28 | 1.55 | | 03/23/17 01:11 | 108-67-8 | |
| Xylene (Total) | **5.4** | ug/m3 | 4.1 | 1.8 | 1.55 | | 03/23/17 01:11 | 1330-20-7 | |
| m&p-Xylene | **5.4J** | ug/m3 | 6.8 | 1.2 | 1.55 | | 03/23/17 01:11 | 179601-23-1 | |
| o-Xylene | **<0.54** | ug/m3 | 3.4 | 0.54 | 1.55 | | 03/23/17 01:11 | 95-47-6 | |

**Sample: AOI8-AI-17-09** **Lab ID: 10381907019** Collected: 03/09/17 16:10 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **4.7** | ug/m3 | 0.45 | 0.17 | 1.39 | | 03/23/17 17:01 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.1** | ug/m3 | 5.4 | 1.1 | 1.39 | | 03/23/17 17:01 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.28** | ug/m3 | 0.57 | 0.28 | 1.39 | | 03/23/17 17:01 | 107-06-2 | |
| Ethylbenzene | **2.7J** | ug/m3 | 3.1 | 0.59 | 1.39 | | 03/23/17 17:01 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.19** | ug/m3 | 3.5 | 0.19 | 1.39 | | 03/23/17 17:01 | 98-82-8 | |
| Methyl-tert-butyl ether | **0.46J** | ug/m3 | 5.1 | 0.42 | 1.39 | | 03/23/17 17:01 | 1634-04-4 | |
| Naphthalene | **1.7J** | ug/m3 | 3.7 | 0.42 | 1.39 | | 03/23/17 17:01 | 91-20-3 | |
| Toluene | **9.9** | ug/m3 | 1.1 | 0.21 | 1.39 | | 03/23/17 17:01 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **3.2J** | ug/m3 | 3.5 | 0.17 | 1.39 | | 03/23/17 17:01 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **2.8J** | ug/m3 | 3.5 | 0.25 | 1.39 | | 03/23/17 17:01 | 108-67-8 | |
| Xylene (Total) | **11.2** | ug/m3 | 3.7 | 1.6 | 1.39 | | 03/23/17 17:01 | 1330-20-7 | |
| m&p-Xylene | **7.7** | ug/m3 | 6.1 | 1.1 | 1.39 | | 03/23/17 17:01 | 179601-23-1 | |
| o-Xylene | **3.4** | ug/m3 | 3.1 | 0.49 | 1.39 | | 03/23/17 17:01 | 95-47-6 | |

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## ANALYTICAL RESULTS

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

**Sample: AOI8-AI-17-10** **Lab ID: 10381907020** Collected: 03/09/17 16:17 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **0.60** | ug/m3 | 0.48 | 0.18 | 1.49 | | 03/23/17 01:39 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 5.8 | 1.2 | 1.49 | | 03/23/17 01:39 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.31** | ug/m3 | 0.61 | 0.31 | 1.49 | | 03/23/17 01:39 | 107-06-2 | |
| Ethylbenzene | **<0.63** | ug/m3 | 3.3 | 0.63 | 1.49 | | 03/23/17 01:39 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.21** | ug/m3 | 3.7 | 0.21 | 1.49 | | 03/23/17 01:39 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.45** | ug/m3 | 5.5 | 0.45 | 1.49 | | 03/23/17 01:39 | 1634-04-4 | |
| Naphthalene | **0.79J** | ug/m3 | 4.0 | 0.45 | 1.49 | | 03/23/17 01:39 | 91-20-3 | |
| Toluene | **2.0** | ug/m3 | 1.1 | 0.23 | 1.49 | | 03/23/17 01:39 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **2.8J** | ug/m3 | 3.7 | 0.19 | 1.49 | | 03/23/17 01:39 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.27** | ug/m3 | 3.7 | 0.27 | 1.49 | | 03/23/17 01:39 | 108-67-8 | |
| Xylene (Total) | **5.0** | ug/m3 | 3.9 | 1.7 | 1.49 | | 03/23/17 01:39 | 1330-20-7 | |
| m&p-Xylene | **5.0J** | ug/m3 | 6.6 | 1.2 | 1.49 | | 03/23/17 01:39 | 179601-23-1 | |
| o-Xylene | **<0.52** | ug/m3 | 3.3 | 0.52 | 1.49 | | 03/23/17 01:39 | 95-47-6 | |

**Sample: AOI8-AI-17-11** **Lab ID: 10381907021** Collected: 03/09/17 16:42 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **0.60** | ug/m3 | 0.48 | 0.18 | 1.49 | | 03/23/17 02:08 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 5.8 | 1.2 | 1.49 | | 03/23/17 02:08 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.31** | ug/m3 | 0.61 | 0.31 | 1.49 | | 03/23/17 02:08 | 107-06-2 | |
| Ethylbenzene | **<0.63** | ug/m3 | 3.3 | 0.63 | 1.49 | | 03/23/17 02:08 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.21** | ug/m3 | 3.7 | 0.21 | 1.49 | | 03/23/17 02:08 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.45** | ug/m3 | 5.5 | 0.45 | 1.49 | | 03/23/17 02:08 | 1634-04-4 | |
| Naphthalene | **<0.45** | ug/m3 | 4.0 | 0.45 | 1.49 | | 03/23/17 02:08 | 91-20-3 | |
| Toluene | **2.2** | ug/m3 | 1.1 | 0.23 | 1.49 | | 03/23/17 02:08 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **2.4J** | ug/m3 | 3.7 | 0.19 | 1.49 | | 03/23/17 02:08 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.27** | ug/m3 | 3.7 | 0.27 | 1.49 | | 03/23/17 02:08 | 108-67-8 | |
| Xylene (Total) | **<1.7** | ug/m3 | 3.9 | 1.7 | 1.49 | | 03/23/17 02:08 | 1330-20-7 | |
| m&p-Xylene | **<1.2** | ug/m3 | 6.6 | 1.2 | 1.49 | | 03/23/17 02:08 | 179601-23-1 | |
| o-Xylene | **<0.52** | ug/m3 | 3.3 | 0.52 | 1.49 | | 03/23/17 02:08 | 95-47-6 | |

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## QUALITY CONTROL DATA

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

QC Batch: 464884
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10381907008, 10381907015

METHOD BLANK: 2541576
Matrix: Air
Associated Lab Samples: 10381907008, 10381907015

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | ND | 1.0 | 0.12 | 03/21/17 09:38 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | ND | 1.6 | 0.77 | 03/21/17 09:38 | |
| 1,2-Dichloroethane | ug/m3 | ND | 0.41 | 0.20 | 03/21/17 09:38 | |
| 1,3,5-Trimethylbenzene | ug/m3 | ND | 1.0 | 0.18 | 03/21/17 09:38 | |
| Benzene | ug/m3 | ND | 0.32 | 0.12 | 03/21/17 09:38 | |
| Ethylbenzene | ug/m3 | ND | 0.88 | 0.42 | 03/21/17 09:38 | |
| Isopropylbenzene (Cumene) | ug/m3 | ND | 2.5 | 0.14 | 03/21/17 09:38 | |
| m&p-Xylene | ug/m3 | ND | 1.8 | 0.79 | 03/21/17 09:38 | |
| Methyl-tert-butyl ether | ug/m3 | ND | 3.7 | 0.30 | 03/21/17 09:38 | |
| Naphthalene | ug/m3 | ND | 2.7 | 0.30 | 03/21/17 09:38 | |
| o-Xylene | ug/m3 | ND | 0.88 | 0.35 | 03/21/17 09:38 | |
| Toluene | ug/m3 | ND | 0.77 | 0.15 | 03/21/17 09:38 | |
| Xylene (Total) | ug/m3 | ND | 2.6 | 1.1 | 03/21/17 09:38 | |

LABORATORY CONTROL SAMPLE: 2541577

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 50 | 60.4 | 121 | 75-136 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | 78.1 | 92.6 | 119 | 75-128 | |
| 1,2-Dichloroethane | ug/m3 | 41.1 | 41.6 | 101 | 75-130 | |
| 1,3,5-Trimethylbenzene | ug/m3 | 50 | 60.3 | 121 | 75-133 | |
| Benzene | ug/m3 | 32.5 | 34.6 | 107 | 75-129 | |
| Ethylbenzene | ug/m3 | 44.1 | 53.5 | 121 | 75-134 | |
| Isopropylbenzene (Cumene) | ug/m3 | 50 | 57.6 | 115 | 75-140 | |
| m&p-Xylene | ug/m3 | 88.3 | 104 | 118 | 75-129 | |
| Methyl-tert-butyl ether | ug/m3 | 91.6 | 96.6 | 105 | 66-148 | |
| Naphthalene | ug/m3 | 53.3 | 45.3 | 85 | 53-150 | SS |
| o-Xylene | ug/m3 | 44.1 | 50.5 | 114 | 75-129 | |
| Toluene | ug/m3 | 38.3 | 43.2 | 113 | 75-129 | |
| Xylene (Total) | ug/m3 | 132 | 154 | 117 | 72-141 | |

SAMPLE DUPLICATE: 2542457

| Parameter | Units | 10381907008 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 4.4 | 4.4 | 0 | 25 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | ND | ND | | 25 | |
| 1,2-Dichloroethane | ug/m3 | ND | ND | | 25 | |
| 1,3,5-Trimethylbenzene | ug/m3 | ND | ND | | 25 | |

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(612)607-1700

## QUALITY CONTROL DATA

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

SAMPLE DUPLICATE: 2542457

| Parameter | Units | 10381907008 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/m3 | 8.2 | 8.5 | 4 | 25 | |
| Ethylbenzene | ug/m3 | 1.7 | 1.7 | 1 | 25 | |
| Isopropylbenzene (Cumene) | ug/m3 | ND | ND | | 25 | |
| m&p-Xylene | ug/m3 | 6.4 | 6.3 | 2 | 25 | |
| Methyl-tert-butyl ether | ug/m3 | ND | ND | | 25 | |
| Naphthalene | ug/m3 | ND | ND | | 25 | |
| o-Xylene | ug/m3 | 2.4 | 2.5 | 5 | 25 | |
| Toluene | ug/m3 | 7.3 | 7.5 | 3 | 25 | |
| Xylene (Total) | ug/m3 | 8.8 | 8.8 | 0 | 25 | |

SAMPLE DUPLICATE: 2542458

| Parameter | Units | 10381907015 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 1.9 | 1.7 | 11 | 25 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | ND | ND | | 25 | |
| 1,2-Dichloroethane | ug/m3 | ND | ND | | 25 | |
| 1,3,5-Trimethylbenzene | ug/m3 | ND | .72J | | 25 | |
| Benzene | ug/m3 | 2.2 | 2.2 | 3 | 25 | |
| Ethylbenzene | ug/m3 | ND | 1J | | 25 | |
| Isopropylbenzene (Cumene) | ug/m3 | ND | ND | | 25 | |
| m&p-Xylene | ug/m3 | 4.1 | 3.9 | 5 | 25 | |
| Methyl-tert-butyl ether | ug/m3 | ND | ND | | 25 | |
| Naphthalene | ug/m3 | ND | ND | | 25 | |
| o-Xylene | ug/m3 | 1.4 | ND | | 25 | |
| Toluene | ug/m3 | 5.9 | 5.9 | 1 | 25 | |
| Xylene (Total) | ug/m3 | 5.5 | 3.9J | | 25 | |

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## QUALITY CONTROL DATA

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

QC Batch: 465212 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10381907003, 10381907004, 10381907005, 10381907006, 10381907007, 10381907016, 10381907017, 10381907018, 10381907020, 10381907021

METHOD BLANK: 2543547 Matrix: Air
Associated Lab Samples: 10381907003, 10381907004, 10381907005, 10381907006, 10381907007, 10381907016, 10381907017, 10381907018, 10381907020, 10381907021

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | <0.12 | 2.5 | 0.12 | 03/22/17 20:54 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | <0.77 | 3.9 | 0.77 | 03/22/17 20:54 | |
| 1,2-Dichloroethane | ug/m3 | <0.20 | 0.41 | 0.20 | 03/22/17 20:54 | |
| 1,3,5-Trimethylbenzene | ug/m3 | <0.18 | 2.5 | 0.18 | 03/22/17 20:54 | |
| Benzene | ug/m3 | <0.12 | 0.32 | 0.12 | 03/22/17 20:54 | |
| Ethylbenzene | ug/m3 | <0.42 | 2.2 | 0.42 | 03/22/17 20:54 | |
| Isopropylbenzene (Cumene) | ug/m3 | <0.14 | 2.5 | 0.14 | 03/22/17 20:54 | |
| m&p-Xylene | ug/m3 | <0.79 | 4.4 | 0.79 | 03/22/17 20:54 | |
| Methyl-tert-butyl ether | ug/m3 | <0.30 | 3.7 | 0.30 | 03/22/17 20:54 | |
| Naphthalene | ug/m3 | <0.30 | 2.7 | 0.30 | 03/22/17 20:54 | |
| o-Xylene | ug/m3 | <0.35 | 2.2 | 0.35 | 03/22/17 20:54 | |
| Toluene | ug/m3 | <0.15 | 0.77 | 0.15 | 03/22/17 20:54 | |
| Xylene (Total) | ug/m3 | <1.1 | 2.6 | 1.1 | 03/22/17 20:54 | |

LABORATORY CONTROL SAMPLE: 2543548

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 51.5 | 35.9 | 70 | 70-136 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | 83.6 | 60.9 | 73 | 70-130 | |
| 1,2-Dichloroethane | ug/m3 | 44 | 40.9 | 93 | 70-130 | |
| 1,3,5-Trimethylbenzene | ug/m3 | 51.5 | 35.8 | 70 | 70-133 | |
| Benzene | ug/m3 | 34.7 | 32.5 | 94 | 70-130 | |
| Ethylbenzene | ug/m3 | 47.7 | 34.0 | 71 | 70-134 | |
| Isopropylbenzene (Cumene) | ug/m3 | 51.5 | 36.8 | 71 | 70-140 | |
| m&p-Xylene | ug/m3 | 47.7 | 35.7 | 75 | 70-130 | |
| Methyl-tert-butyl ether | ug/m3 | 38.8 | 38.9 | 100 | 66-148 | |
| Naphthalene | ug/m3 | 56 | 35.1 | 63 | 53-150 | |
| o-Xylene | ug/m3 | 47.2 | 33.1 | 70 | 70-130 | |
| Toluene | ug/m3 | 41.4 | 32.9 | 80 | 70-130 | |
| Xylene (Total) | ug/m3 | 94.9 | 68.8 | 72 | 70-141 | |

SAMPLE DUPLICATE: 2543549

| Parameter | Units | 10382287001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 3.1J | 3.2J | | 25 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | <1.5 | <1.5 | | 25 | |
| 1,2-Dichloroethane | ug/m3 | <0.39 | <0.39 | | 25 | |

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## QUALITY CONTROL DATA

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

SAMPLE DUPLICATE: 2543549

| Parameter | Units | 10382287001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 1,3,5-Trimethylbenzene | ug/m3 | <0.34 | <0.34 | | 25 | |
| Benzene | ug/m3 | 19.4 | 18.8 | 3 | 25 | |
| Ethylbenzene | ug/m3 | 5.2 | 5.1 | 2 | 25 | |
| Isopropylbenzene (Cumene) | ug/m3 | <0.26 | <0.26 | | 25 | |
| m&p-Xylene | ug/m3 | 19.9 | 19.8 | 1 | 25 | |
| Methyl-tert-butyl ether | ug/m3 | <0.57 | <0.57 | | 25 | |
| Naphthalene | ug/m3 | 1.4J | <0.57 | | 25 | |
| o-Xylene | ug/m3 | 10.5 | 10.3 | 2 | 25 | |
| Toluene | ug/m3 | 3.1 | 3.2 | 1 | 25 | |
| Xylene (Total) | ug/m3 | 30.4 | 30.1 | 1 | 25 | |

SAMPLE DUPLICATE: 2543550

| Parameter | Units | 10382287002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 2.6J | 2.6J | | 25 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | <1.2 | <1.2 | | 25 | |
| 1,2-Dichloroethane | ug/m3 | <0.31 | <0.31 | | 25 | |
| 1,3,5-Trimethylbenzene | ug/m3 | <0.27 | <0.27 | | 25 | |
| Benzene | ug/m3 | 7.0 | 7.4 | 5 | 25 | |
| Ethylbenzene | ug/m3 | 2.4J | 2.5J | | 25 | |
| Isopropylbenzene (Cumene) | ug/m3 | <0.21 | <0.21 | | 25 | |
| m&p-Xylene | ug/m3 | 6.2J | 6.3J | | 25 | |
| Methyl-tert-butyl ether | ug/m3 | <0.45 | <0.45 | | 25 | |
| Naphthalene | ug/m3 | 0.78J | <0.45 | | 25 | |
| o-Xylene | ug/m3 | 2.9J | 2.8J | | 25 | |
| Toluene | ug/m3 | 4.1 | 4.3 | 5 | 25 | |
| Xylene (Total) | ug/m3 | 9.0 | 9.2 | 1 | 25 | |

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## QUALITY CONTROL DATA

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

QC Batch: 465254 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10381907001

METHOD BLANK: 2543655 Matrix: Air
Associated Lab Samples: 10381907001

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | <0.12 | 2.5 | 0.12 | 03/22/17 14:21 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | <0.77 | 1.6 | 0.77 | 03/22/17 14:21 | |
| 1,2-Dichloroethane | ug/m3 | <0.20 | 0.82 | 0.20 | 03/22/17 14:21 | |
| 1,3,5-Trimethylbenzene | ug/m3 | <0.18 | 2.5 | 0.18 | 03/22/17 14:21 | |
| Benzene | ug/m3 | <0.12 | 0.65 | 0.12 | 03/22/17 14:21 | |
| Ethylbenzene | ug/m3 | <0.42 | 2.2 | 0.42 | 03/22/17 14:21 | |
| Isopropylbenzene (Cumene) | ug/m3 | <0.14 | 2.5 | 0.14 | 03/22/17 14:21 | |
| m&p-Xylene | ug/m3 | <0.79 | 1.8 | 0.79 | 03/22/17 14:21 | |
| Methyl-tert-butyl ether | ug/m3 | <0.30 | 3.7 | 0.30 | 03/22/17 14:21 | |
| Naphthalene | ug/m3 | 2.6J | 2.7 | 0.30 | 03/22/17 14:21 | |
| o-Xylene | ug/m3 | <0.35 | 2.2 | 0.35 | 03/22/17 14:21 | |
| Toluene | ug/m3 | <0.15 | 0.77 | 0.15 | 03/22/17 14:21 | |
| Xylene (Total) | ug/m3 | <1.1 | 2.6 | 1.1 | 03/22/17 14:21 | |

LABORATORY CONTROL SAMPLE: 2543656

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 50 | 42.3 | 85 | 70-136 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | 78.1 | 85.9 | 110 | 70-130 | |
| 1,2-Dichloroethane | ug/m3 | 41.1 | 31.0 | 75 | 70-130 | |
| 1,3,5-Trimethylbenzene | ug/m3 | 50 | 43.3 | 87 | 70-133 | |
| Benzene | ug/m3 | 32.5 | 24.2 | 75 | 70-130 | |
| Ethylbenzene | ug/m3 | 44.1 | 38.1 | 86 | 70-134 | |
| Isopropylbenzene (Cumene) | ug/m3 | 50 | 58.8 | 118 | 70-140 | |
| m&p-Xylene | ug/m3 | 88.3 | 78.5 | 89 | 70-130 | |
| Methyl-tert-butyl ether | ug/m3 | 91.6 | 68.2 | 74 | 66-148 | |
| Naphthalene | ug/m3 | 53.3 | 47.5 | 89 | 53-150 | |
| o-Xylene | ug/m3 | 44.1 | 37.6 | 85 | 70-130 | |
| Toluene | ug/m3 | 38.3 | 34.6 | 90 | 70-130 | |
| Xylene (Total) | ug/m3 | 132 | 116 | 88 | 70-141 | |

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## QUALITY CONTROL DATA

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

QC Batch: 465257 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10381907009, 10381907010, 10381907011, 10381907012, 10381907013, 10381907014, 10381907019

METHOD BLANK: 2543663 Matrix: Air
Associated Lab Samples: 10381907009, 10381907010, 10381907011, 10381907012, 10381907013, 10381907014, 10381907019

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | <0.12 | 2.5 | 0.12 | 03/23/17 11:43 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | <0.77 | 3.9 | 0.77 | 03/23/17 11:43 | |
| 1,2-Dichloroethane | ug/m3 | <0.20 | 0.41 | 0.20 | 03/23/17 11:43 | |
| 1,3,5-Trimethylbenzene | ug/m3 | <0.18 | 2.5 | 0.18 | 03/23/17 11:43 | |
| Benzene | ug/m3 | <0.12 | 0.32 | 0.12 | 03/23/17 11:43 | |
| Ethylbenzene | ug/m3 | <0.42 | 2.2 | 0.42 | 03/23/17 11:43 | |
| Isopropylbenzene (Cumene) | ug/m3 | <0.14 | 2.5 | 0.14 | 03/23/17 11:43 | |
| m&p-Xylene | ug/m3 | <0.79 | 4.4 | 0.79 | 03/23/17 11:43 | |
| Methyl-tert-butyl ether | ug/m3 | <0.30 | 3.7 | 0.30 | 03/23/17 11:43 | |
| Naphthalene | ug/m3 | <0.30 | 2.7 | 0.30 | 03/23/17 11:43 | |
| o-Xylene | ug/m3 | <0.35 | 2.2 | 0.35 | 03/23/17 11:43 | |
| Toluene | ug/m3 | <0.15 | 0.77 | 0.15 | 03/23/17 11:43 | |
| Xylene (Total) | ug/m3 | <1.1 | 2.6 | 1.1 | 03/23/17 11:43 | |

LABORATORY CONTROL SAMPLE: 2543664

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 50 | 53.9 | 108 | 70-136 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | 78.1 | 82.6 | 106 | 70-130 | |
| 1,2-Dichloroethane | ug/m3 | 41.1 | 53.5 | 130 | 70-130 | CH |
| 1,3,5-Trimethylbenzene | ug/m3 | 50 | 54.2 | 109 | 70-133 | |
| Benzene | ug/m3 | 32.5 | 40.4 | 124 | 70-130 | |
| Ethylbenzene | ug/m3 | 44.1 | 46.6 | 106 | 70-134 | |
| Isopropylbenzene (Cumene) | ug/m3 | 50 | 54.7 | 110 | 70-140 | |
| m&p-Xylene | ug/m3 | 88.3 | 91.4 | 104 | 70-130 | |
| Methyl-tert-butyl ether | ug/m3 | 91.6 | 111 | 121 | 66-148 | |
| Naphthalene | ug/m3 | 53.3 | 61.3 | 115 | 53-150 | |
| o-Xylene | ug/m3 | 44.1 | 46.2 | 105 | 70-130 | |
| Toluene | ug/m3 | 38.3 | 39.7 | 104 | 70-130 | |
| Xylene (Total) | ug/m3 | 132 | 138 | 104 | 70-141 | |

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# QUALIFIERS

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

## DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## ANALYTE QUALIFIERS

| | |
|---|---|
| C0 | Result confirmed by second analysis. |
| CH | The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high. |
| SS | This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value. |



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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 11109626-04 PES Indoor Air-Revised Report
Pace Project No.: 10381907

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **10381907001** | **AOI6-AI-17-09** | TO-15 | 465254 | | |
| **10381907003** | **AOI6-AI-17-11** | TO-15 | 465212 | | |
| **10381907004** | **AOI6-AI-17-12** | TO-15 | 465212 | | |
| **10381907005** | **AOI6-AI-17-13** | TO-15 | 465212 | | |
| **10381907006** | **AOI6-AI-17-14** | TO-15 | 465212 | | |
| **10381907007** | **AOI6-AI-17-06** | TO-15 | 465212 | | |
| **10381907008** | **AOI6-AI-17-07R** | TO-15 | 464884 | | |
| **10381907009** | **AOI3-AI-17-01** | TO-15 | 465257 | | |
| **10381907010** | **AOI3-AI-17-02** | TO-15 | 465257 | | |
| **10381907011** | **AOI3-AI-17-03** | TO-15 | 465257 | | |
| **10381907012** | **AOI3-AI-17-04** | TO-15 | 465257 | | |
| **10381907013** | **AOI3-AI-17-05** | TO-15 | 465257 | | |
| **10381907014** | **AOI3-AI-17-06** | TO-15 | 465257 | | |
| **10381907015** | **AOI3-AI-17-07** | TO-15 | 464884 | | |
| **10381907016** | **AOI3-AI-17-08** | TO-15 | 465212 | | |
| **10381907017** | **AOI4-AI-17-01** | TO-15 | 465212 | | |
| **10381907018** | **AOI4-AA-17-01** | TO-15 | 465212 | | |
| **10381907019** | **AOI8-AI-17-09** | TO-15 | 465257 | | |
| **10381907020** | **AOI8-AI-17-10** | TO-15 | 465212 | | |
| **10381907021** | **AOI8-AI-17-11** | TO-15 | 465212 | | |



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# AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

26267

Page: 1 of 2

**Section A** Required Client Information:

Company: GHD
Address: 410 Eagleview Blvd, #110, Exton, PA 19341
Email To: David.Steele@ghd.com
Phone: 610 321 1800 Fax:
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: David Steele
Copy To:
Purchase Order No.: 11109626-04
Project Name: PES Indoor Air Sampling
Project Number: 11109626-04

**Section C** Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State:

Reporting Units: ug/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level: II.___ III.___ IV.___ Other___

'Section D Required Client Information

**AIR SAMPLE ID**
Sample IDs MUST BE UNIQUE

Valid Media Codes

| MEDIA | CODE |
|---|---|
| Tedlar Bag | TB |
| 1 Liter Summa Can | 1LC |
| 6 Liter Summa Can | 6LC |
| Low Volume Puff | LVP |
| High Volume Puff | HVP |
| Other | PM10 |

Method: PM10 | 3C- Fixed Gas (%) | TO-3 | TO-3M (Methane) | TO-4 (PCBs) | TO-13 (PAH) | TO-14 | TO-15 | TO15 Short List*

| ITEM # | AIR SAMPLE ID | MEDIA CODE | PID Reading (Client only) | COLLECTED COMPOSITE START END/GRAB DATE | TIME | COMPOSITE - DATE | TIME | Canister Pressure (Initial Field - psig) | Canister Pressure (Final Field - psig) | Summa Can Number | Flow Control Number | TO15 Short List* | Pace Lab ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | AOI6-AI-17-09 | 6LC | | 3-8-17 | 0803 | 3-8-17 | 1603 | -30† | 5.0 | 0868 | 0102 4 | ✓ | 10381907 w1 |
| 2 | AOI6-AI-17-10 | 6LC | | 3-8-17 | 0818 | 3-8-17 | 1537 | -27 | 0.0 | 0865 | 0091 1 | ✓ | w2 |
| 3 | AOI6-AI-17-11 | 6LC | | 3-8-17 | 0827 | 3-8-17 | 1627 | -30 | 3.5 | 3419 | 0116 1 | ✓ | w3 |
| 4 | AOI6-AI-17-12 | 6LC | | 3-8-17 | 0842 | 3-8-17 | 1638 | -29.5 | 0.0 | 1628 | 0141 9 | ✓ | w4 |
| 5 | AOI6-AI-17-13 | 6LC | | 3-8-17 | 0834 | 3-8-17 | 1634 | -30 | 1.0 | 3406 | 0091 6 | ✓ | w5 |
| 6 | AOI6-AI-17-14 | 6LC | | 3-8-17 | 0900 | 3-8-17 | 1708 | -30 | 2.0 | 0862 | 0451 2 | ✓ | w6 |
| 7 | ~~AOI6-AI-17-22~~ FCR | ~~6LC~~ | | ~~3-8-17~~ | ~~0814~~ | ~~3-8-17~~ | ~~1712~~ | ~~-30†~~ | ~~0.0~~ | ~~0854~~ | ~~0121 2~~ | ✓ | |
| 8 | AOI6-AI-17-06 | 6LC | | 3-8-17 | 0955 | 3-8-17 | 1755 | -29.0 | 0.0 | 3420 | 0116 7 | ✓ | w7 |
| 9 | AOI6-AI-17-07R | 6LC | | 3-9-17 | 0857 | 3-9-17 | 1657 | ~~-30†~~ -4 | 1.3 | 5018 | 0304 | ✓ | w8 |
| 10 | AOI3-AI-17-01 | 6LC | | 3-9-17 | 0656 | 3-9-17 | 1456 | -30† | -6† | 0852 | 0090 5 | ✓ | w9 |
| 11 | AOI3-AI-17-02 | 6LC | | 3-9-17 | 0705 | 3-9-17 | 1505 | -30† | -2 | 3813 | 0212 6 | ✓ | w10 |
| 12 | AOI3-AI-17-03 | 6LC | | 3-9-17 | 0658 | 3-9-17 | 1458 | -30† | -7† | 3814 | 0453 2 | ✓ | w11 |

FCR

Comments:
Benzene, Toluene, Ethylbenzene, Xylenes (o-, m-, p- isomers), Cumene, Naphthalene, MTBE, 1,2,4 Trimethylbenzene, 1,3,5-Trimethylbenzene, 1,2-Dibromoethane, 1,2-Dichloroethane

ORIGINAL

| RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---|---|---|---|---|---|
| | 3/10/17 | 1215 | | 3/10/17 | 1215 |
| | 3/14/17 | 1330 | | 3/14/17 | 0970 |

SAMPLE CONDITIONS

| Temp in °C | Received on Ice Y/N | Custody Sealed Cooler Y/N | Samples Intact Y/N |
|---|---|---|---|
| | Y/N | Y/N | Y/N |
| 4W3 | Y/N | Y/N | Y/N |
| | Y/N | Y/N | Y/N |
| | Y/N | Y/N | Y/N |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Donovan Young
SIGNATURE of SAMPLER:
DATE Signed (MM / DD / YY): 03/08/17

Pace Analytical®
www.pacelabs.com

# AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

26302

Page: 2 of 2

**Section A** Required Client Information:

Company: GHD
Address: 410 Eagleview Blvd, #110, Exton, PA 19341
Email To: David.Steele@ghd.com
Phone: 610-321-8805 Fax:
Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: David Steele
Copy To:
Purchase Order No.: 11109626-04
Project Name: PES Indoor Air Sampling
Project Number: 11109626-04

**Section C** Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State:

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level: II. III. IV. Other

'Section D Required Client Information

**AIR SAMPLE ID**
Sample IDs MUST BE UNIQUE

Valid Media Codes: Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

Method: PM10 | 3C- Fixed Gas (%) | TO-3 | TO-3M (Methane) | TO-4 (PCBs) | TO-13 (PAH) | TO-14 | TO-15 | TO15 Short List*

| ITEM # | AIR SAMPLE ID | MEDIA CODE | PID Reading (Client only) | COLLECTED COMPOSITE START END/GRAB DATE | TIME | COMPOSITE - DATE | TIME | Canister Pressure (Initial Field - psig) | Canister Pressure (Final Field - psig) | Summa Can Number | Flow Control Number | TO-15 | Pace Lab ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | AOI3-AI-17-04 | 6LC | | 3-9-17 | 0707 | 3-9-17 | 1507 | -30† | -4† | 08633 | 01029 | ✓ | 012 |
| 2 | AOI3-AI-17-05 | 6LC | | 3-9-17 | 0707 | 3-9-17 | 1446 | -29 | 0.0 | 08533 | 02076 | ✓ | 013 |
| 3 | AOI3-AI-17-06 | 6LC | | 3-9-17 | 0703 | 3-9-17 | 1503 | -30† | -2 | 08666 | 02131 | ✓ | 014 |
| 4 | AOI3-AI-17-07 | 6LC | | 3-9-17 | 0648 | 3-9-17 | 1448 | -30† | -4† | 16488 F/C | 03007 | ✓ | 015 |
| 5 | AOI3-AI-17-08 | 6LC | | 3-9-17 | 0757 | 3-9-17 | 1608 | -30 | -4 | 31738 F/C | 03622 | ✓ | 016 |
| 6 | ~~AOI3-AI-17-01~~ | 6LC | | 3-9-17 | 0840 | | | | | | | ✓ | ~~017~~ |
| 7 | ~~AOI6-AI-17-15~~ | 6LC | | 3-9-17 | 0820 | | | | | | | ✓ | ~~018~~ |
| 8 | AOI4-AI-17-01 | 6LC | | 3-9-17 | 0840 | 3-9-17 | 1640 | -29 | -5 | 13398 F/C | 10114 | ✓ | 017 |
| 9 | AOI4-AA-17-01 | 6LC | | 3-9-17 | 0842 | 3-9-17 | 1642 | -30† | -5 | 13444 F/C | 05144 | ✓ | ~~020~~ 016 |
| 10 | AOI8-AI-17-09 | 6LC | | 3-9-17 | 0759 | 3-9-17 | 1610 | -30† | -5.5 | 16690 | 01077 | ✓ | ~~2~~ 019 |
| 11 | AOI8-AI-17-10 | 6LC | | 3-9-17 | 0811 | 3-9-17 | 1617 | -30 | -4 | 01533 | 03122 | ✓ | 020 |
| 12 | AOI8-AI-17-11 | 6LC | | 3-9-17 | 0838 | 3-9-17 | 1642 | -30 | -4 | 00974 | 00447 | ✓ | 021 |

Comments :

| RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---|---|---|---|---|---|
| | 3/10/17 | 1215 | | 3/10/17 | 1215 |
| | 3/14/17 | 1330 | | 3/14/17 | 10:30 |
| | | | | | |
| | | | | | |

SAMPLE CONDITIONS

| | Temp in °C | Received on Ice Y/N | Custody Sealed Cooler Y/N | Samples Intact Y/N |
|---|---|---|---|---|
| | | Y/N | Y/N | Y/N |
| AMB | | Y/N | Y/N | Y/N |
| | | Y/N | Y/N | Y/N |
| | | Y/N | Y/N | Y/N |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY)

ORIGINAL

| Pace Analytical | Document Name: Air Sample Condition Upon Receipt | Document Revised: 26APR2016 Page 1 of 1 |
|---|---|---|
| | Document No.: F-MN-A-106-rev.11 | Issuing Authority: Pace Minnesota Quality Office |

**Air Sample Condition Upon Receipt**

**Client Name:** GHD

**Project #:** WO#: 10381907

10381907

**Courier:** [X] Fed Ex [ ] UPS [ ] Speedee [ ] Client [ ] Commercial [ ] Pace [ ] Other:

**Tracking Number:** 7858 6984 7161; 5926; 7150, 7140, 7172 5917, 7139, 7128, 5940, 5939, 5906

**Custody Seal on Cooler/Box Present?** [ ] Yes [X] No **Seals Intact?** [ ] Yes [X] No

Optional: Proj. Due Date: Proj. Name:

**Packing Material:** [ ] Bubble Wrap [ ] Bubble Bags [X] Foam [ ] None [ ] Tin Can [ ] Other: **Temp Blank rec:** [ ] Yes [X] No

**Temp. (TO17 and TO13 samples only) (°C):** — **Corrected Temp (°C):** — **Thermom. Used:** [ ] B88A912167504 [ ] B88A0143310098 [ ] 151401163 [ ] 151401164

Temp should be above freezing to 6°C **Correction Factor:** AMB **Date & Initials of Person Examining Contents:** CLH 3/14/17

**Type of ice Received** [ ] Blue [ ] Wet [ ] None

| | | | | Comments: |
|---|---|---|---|---|
| Chain of Custody Present? | [X] Yes | [ ] No | [ ] N/A | 1. |
| Chain of Custody Filled Out? | [X] Yes | [ ] No | [ ] N/A | 2. |
| Chain of Custody Relinquished? | [X] Yes | [ ] No | [ ] N/A | 3. |
| Sampler Name and/or Signature on COC? | [ ] Yes | [ ] No | [ ] N/A | 4. |
| Samples Arrived within Hold Time? | [ ] Yes | [ ] No | [ ] N/A | 5. |
| **Short Hold Time Analysis (<72 hr)?** | [ ] Yes | [X] No | [ ] N/A | 6. |
| **Rush Turn Around Time Requested?** | [ ] Yes | [X] No | [ ] N/A | 7. |
| Sufficient Volume? | [X] Yes | [ ] No | [ ] N/A | 8. |
| Correct Containers Used? | [X] Yes | [ ] No | [ ] N/A | 9. |
| -Pace Containers Used? | [X] Yes | [ ] No | [ ] N/A | |
| Containers Intact? | [X] Yes | [ ] No | [ ] N/A | 10. |
| Media: Air Can Airbag Filter TDT Passive | | | | 11. |
| Sample Labels Match COC? | [X] Yes | [ ] No | [ ] N/A | 12. Part of order received 3/15/17 1090 |

Samples Received: FF, FT

| Canisters | | | Canisters | | |
|---|---|---|---|---|---|
| Sample Number | Can ID | Flow Controller ID | Sample Number | Can ID | Flow Controller ID |
| AOI6-AI-17-09 | *0868 | *01024 | AOI3-AI-17-03 | *3814 | *04332 |
| " 10 | *0865 | *00911 | " " 04 | *0863 | *01029 |
| " 11 | *3419 | *01161 | 05 | *0853 | *02076 |
| " 12 | *1626 | *01419 | 06 | *0866 | *02131 |
| " 13 | *3406 | *00916 | 07 | *2836 | 0307 |
| " 14 | *862 | *04512 | 08 | *1373 | 0362 |
| " 06 | *3420 | *01167 | AOI4-AI-17-01 | *~~0857~~ 1339 | ~~00905~~ 1014 |
| " 07R | *1350 | 0304 | AA-01 | *~~1339~~ 1344 | ~~1014~~ 0514 |
| AOI3 " 01 | 0852 | *00905 | AOI6-09 | CLH 3/14/17 ~~*0153~~ 1669 | *~~FC0312~~ 01077 |
| " 02 | *3813 | *02126 | " 10 | *0153 | FC 0312 |

**CLIENT NOTIFICATION/RESOLUTION** **Field Data Required?** [ ] Yes [ ] No

Person Contacted: Date/Time:

Comments/Resolution:

**Project Manager Review:** Nathan Boberg **Date:** 3/16/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

| Pace Analytical | Document Name: Air Sample Condition Upon Receipt | Document Revised: 26APR2016 Page 1 of 1 |
|---|---|---|
| | Document No.: F-MN-A-106-rev.11 | Issuing Authority: Pace Minnesota Quality Office |

**Air Sample Condition Upon Receipt** **Client Name:** **Project #:**

**Courier:** ☐Fed Ex ☐UPS ☐Speedee ☐Client ☐Commercial ☐Pace ☐Other:_____

**Tracking Number:** _____

**Custody Seal on Cooler/Box Present?** ☐Yes ☐No **Seals Intact?** ☐Yes ☐No

**Optional:** Proj. Due Date: Proj. Name:

**Packing Material:** ☐Bubble Wrap ☐Bubble Bags ☐Foam ☐None ☐Tin Can ☐Other:_____ **Temp Blank rec:** ☐Yes ☐No

**Temp. (TO17 and TO13 samples only) (°C):** _____ **Corrected Temp (°C):** _____ **Thermom. Used:** ☐B88A912167504 ☐B88A0143310098 ☐151401163 ☐151401164

Temp should be above freezing to 6°C **Correction Factor:** _____ **Date & Initials of Person Examining Contents:** _____

**Type of ice Received** ☐Blue ☐Wet ☐None

| | | | | Comments: |
|---|---|---|---|---|
| Chain of Custody Present? | ☐Yes | ☐No | ☐N/A | 1. |
| Chain of Custody Filled Out? | ☐Yes | ☐No | ☐N/A | 2. |
| Chain of Custody Relinquished? | ☐Yes | ☐No | ☐N/A | 3. |
| Sampler Name and/or Signature on COC? | ☐Yes | ☐No | ☐N/A | 4. |
| Samples Arrived within Hold Time? | ☐Yes | ☐No | ☐N/A | 5. |
| **Short Hold Time Analysis (<72 hr)?** | ☐Yes | ☐No | ☐N/A | 6. |
| **Rush Turn Around Time Requested?** | ☐Yes | ☐No | ☐N/A | 7. |
| Sufficient Volume? | ☐Yes | ☐No | ☐N/A | 8. |
| Correct Containers Used? | ☐Yes | ☐No | ☐N/A | 9. |
| -Pace Containers Used? | ☐Yes | ☐No | ☐N/A | |
| Containers Intact? | ☐Yes | ☐No | ☐N/A | 10. |
| Media: Air Can Airbag Filter TDT Passive | | | | 11. |
| Sample Labels Match COC? | ☐Yes | ☐No | ☐N/A | 12. |

Samples Received:

| Canisters | | | Canisters | | |
|---|---|---|---|---|---|
| Sample Number | Can ID | Flow Controller ID | Sample Number | Can ID | Flow Controller ID |
| AOI8 -AP-1711 | # 0097 | FC0047 | | | |
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**CLIENT NOTIFICATION/RESOLUTION** **Field Data Required?** ☐Yes ☐No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

**Project Manager Review:** Nathan Boberg **Date:** 3/16/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

| Pace Analytical® | Document Name: **Pace RL vs. Low Calibration Point Reference Sheet** | Date Revised: 11Apr2018<br>Page 1 of 1 |
|---|---|---|
| | Document Number: A174 Rev.00 | Issuing Authority: Pace Minnesota Quality Office |

| Compound ID | CAS# | MW | PRL (ppbv) | Low Cal Standard (ppbv) | PRL (ug/m) | Low Cal Standard (ug/m3) |
|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 71-55-6 | 133.41 | 0.2 | 0.1 | 1.11 | 0.55 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 167.85 | 0.1 | 0.1 | 0.70 | 0.70 |
| 1,1,2-Trichloroethane | 79-00-5 | 133.41 | 0.1 | 0.1 | 0.55 | 0.55 |
| 1,1,2-Trichlorotrifluoroethane (Freon-113) | 76-13-1 | 187.38 | 0.2 | 0.1 | 1.56 | 0.78 |
| 1,1-Dichloroethane | 75-34-3 | 98.96 | 0.2 | 0.1 | 0.82 | 0.41 |
| 1,1-Dichloroethene | 75-35-4 | 96.94 | 0.2 | 0.1 | 0.81 | 0.40 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 181.45 | 0.5 | 0.1 | 3.77 | 0.75 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120.20 | 0.2 | 0.1 | 1.00 | 0.50 |
| 1,2-Dibromoethane | 106-93-4 | 187.87 | 0.2 | 0.1 | 1.56 | 0.78 |
| 1,2-Dichlorobenzene | 95-50-1 | 147.00 | 0.2 | 0.1 | 1.22 | 0.61 |
| 1,2-Dichloroethane | 107-06-2 | 98.96 | 0.1 | 0.1 | 0.41 | 0.41 |
| 1,2-Dichloropropane | 78-87-5 | 112.99 | 0.2 | 0.1 | 0.94 | 0.47 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120.20 | 0.2 | 0.1 | 1.00 | 0.50 |
| 1,3-Butadiene | 106-99-0 | 54.09 | 0.2 | 0.1 | 0.45 | 0.22 |
| 1,3-Dichlorobenzene | 541-73-1 | 147.00 | 0.2 | 0.1 | 1.22 | 0.61 |
| 1,4-Dichlorobenzene | 106-46-7 | 147.00 | 0.2 | 0.1 | 1.22 | 0.61 |
| 2-Butanone (MEK) | 78-93-3 | 72.11 | 1 | 0.1 | 3.00 | 0.30 |
| 2-Hexanone | 591-78-6 | 100.16 | 1 | 0.1 | 4.16 | 0.42 |
| 2-Propanol | 67-63-0 | 60.10 | 1 | 0.5 | 2.50 | 1.25 |
| 4-Ethyltoluene | 622-96-8 | 120.19 | 0.2 | 0.1 | 1.00 | 0.50 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 100.16 | 1 | 0.1 | 4.16 | 0.42 |
| Acetone | 67-64-1 | 58.08 | 1 | 0.5 | 2.41 | 1.21 |
| Benzene | 71-43-2 | 78.11 | 0.1 | 0.1 | 0.32 | 0.32 |
| Benzyl Chloride | 100-44-7 | 126.58 | 0.2 | 0.1 | 1.05 | 0.53 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Bromodichloromethane | 75-27-4 | 163.83 | 0.2 | 0.1 | 1.36 | 0.68 |
| Bromoform | 75-25-2 | 252.73 | 0.2 | 0.1 | 2.10 | 1.05 |
| Bromomethane | 74-83-9 | 94.94 | 0.2 | 0.1 | 0.79 | 0.39 |
| Carbon Disulfide | 75-15-0 | 76.14 | 0.2 | 0.1 | 0.63 | 0.32 |
| Carbon tetrachloride | 56-23-5 | 153.82 | 0.1 | 0.1 | 0.64 | 0.64 |
| Chlorobenzene | 108-90-7 | 112.56 | 0.2 | 0.1 | 0.94 | 0.47 |
| Chloroethane | 75-00-3 | 64.52 | 0.2 | 0.1 | 0.54 | 0.27 |
| Chloroform | 67-66-3 | 119.38 | 0.1 | 0.1 | 0.50 | 0.50 |
| Chloromethane | 74-87-3 | 50.49 | 0.2 | 0.1 | 0.42 | 0.21 |
| cis-1,2-Dichloroethene | 156-59-2 | 96.94 | 0.2 | 0.1 | 0.81 | 0.40 |
| cis-1,3-Dichloropropene | 10061-01-5 | 110.97 | 0.2 | 0.1 | 0.92 | 0.46 |
| Cyclohexane | 110-82-7 | 84.16 | 0.2 | 0.1 | 0.70 | 0.35 |
| Dibromochloromethane | 124-48-1 | 208.28 | 0.2 | 0.1 | 1.73 | 0.87 |
| Dichlorodifluoromethane | 75-71-8 | 120.91 | 0.2 | 0.1 | 1.01 | 0.50 |
| Dichlorotetrafluoroethane (Freon-114) | 76-14-2 | 170.92 | 0.2 | 0.1 | 1.42 | 0.71 |
| Ethanol | 64-17-5 | 46.07 | 0.5 | 0.5 | 0.96 | 0.96 |
| Ethyl Acetate | 141-78-6 | 88.11 | 0.2 | 0.1 | 0.73 | 0.37 |
| Ethyl Benzene | 100-41-4 | 106.17 | 0.2 | 0.1 | 0.88 | 0.44 |
| Hexachlorobutadiene | 87-68-3 | 260.76 | 0.2 | 0.1 | 2.17 | 1.08 |
| m&p-Xylene | 106-42-3 | 106.17 | 0.4 | 0.2 | 1.77 | 0.88 |
| Methyl Tert Butyl Ether | 1634-04-4 | 88.15 | 1 | 0.1 | 3.66 | 0.37 |
| Methylene chloride | 75-0902 | 84.93 | 1 | 0.5 | 3.53 | 1.77 |
| Naphthalene | 91-20-3 | 128.10 | 0.5 | 0.1 | 2.66 | 0.53 |
| n-Heptane | 142-82-5 | 100.20 | 0.2 | 0.1 | 0.83 | 0.42 |
| n-Hexane | 110-54-3 | 86.18 | 0.2 | 0.1 | 0.72 | 0.36 |
| o-Xylene | 95-47-6 | 106.17 | 0.2 | 0.1 | 0.88 | 0.44 |
| Propylene | 115-07-1 | 42.08 | 0.2 | 0.1 | 0.35 | 0.17 |
| Styrene | 100-42-5 | 104.15 | 0.2 | 0.1 | 0.87 | 0.43 |
| Tetrachloroethene | 127-18-4 | 165.83 | 0.1 | 0.1 | 0.69 | 0.69 |
| Tetrahydrofuran | 109-99-9 | 72.11 | 0.2 | 0.1 | 0.60 | 0.30 |
| Toluene | 108-88-3 | 92.14 | 0.2 | 0.1 | 0.77 | 0.38 |
| trans-1,2-dichloroethene | 156-60-5 | 96.94 | 0.2 | 0.1 | 0.81 | 0.40 |

| | | | | | | |
|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | 10061-02-6 | 110.97 | 0.2 | 0.1 | 0.92 | 0.46 |
| Trichloroethene | 79-01-6 | 131.39 | 0.1 | 0.1 | 0.55 | 0.55 |
| Trichlorofluoromethane | 75-69-4 | 137.37 | 0.2 | 0.1 | 1.14 | 0.57 |
| Vinyl Acetate | 108-05-4 | 86.09 | 0.2 | 0.1 | 0.72 | 0.36 |
| Vinyl chloride | 75-01-4 | 62.50 | 0.1 | 0.1 | 0.26 | 0.26 |
| | | | | | 0.00 | 0.00 |
| 1,2,3-Trimethylbenzene | 526-73-8 | 120.19 | 0.2 | 0.1 | 1.00 | 0.50 |
| Chlorodifluoromethane | 75-45-6 | 86.47 | 0.2 | 0.1 | 0.72 | 0.36 |
| Di-isopropyl ether | 108-20-3 | 102.17 | 1 | 0.1 | 4.25 | 0.42 |
| Ether Tert-Butyl Ether | 637-92-3 | 102.17 | 1 | 0.1 | 4.25 | 0.42 |
| Isopentane | 78-78-4 | 72.15 | 0.2 | 0.1 | 0.60 | 0.30 |
| Methylcyclohexane | 108-87-2 | 98.19 | 0.2 | 0.1 | 0.82 | 0.41 |
| Methyl Methacrylate | 80-62-6 | 100.18 | 0.2 | 0.1 | 0.83 | 0.42 |
| p-isopropyltoluene | 99-87-6 | 134.22 | 0.2 | 0.1 | 1.12 | 0.56 |
| Tert Amyl Methyl Ether | 994-05-8 | 102.17 | 1 | 0.1 | 4.25 | 0.42 |
| Tert-Butyl Benzene | 98-06-6 | 134.22 | 0.2 | 0.1 | 1.12 | 0.56 |
| 1,4-Dioxane | 123-91-1 | 88.11 | 1 | 0.25 | 3.66 | 0.92 |
| 2,2,4-Trimethylpentane | 540-84-1 | 114.22 | 0.5 | 0.1 | 2.37 | 0.47 |
| Acrolein | 107-02-8 | 56.10 | 0.5 | 0.25 | 1.17 | 0.58 |
| Acrylonitrile | 107-13-1 | 53.06 | 0.5 | 0.25 | 1.10 | 0.55 |
| Allyl Chloride | 107-05-1 | 76.49 | 0.5 | 0.1 | 1.59 | 0.32 |
| N-Butylbenzene | 104-51-8 | 134.22 | 0.5 | 0.1 | 2.79 | 0.56 |
| N-Propylbenzene | 103-65-1 | 120.19 | 0.5 | 0.1 | 2.50 | 0.50 |
| Sec- Butylbenzene | 135-98-8 | 134.22 | 0.5 | 0.1 | 2.79 | 0.56 |
| Tert Butyl Alcohol (TBA) | 75-65-0 | 74.12 | 1 | 0.1 | 3.08 | 0.31 |
| Vinyl Bromide | 593-60-2 | 106.95 | 1 | 0.1 | 4.45 | 0.44 |
| Isopropylbenzene | 98-82-8 | 120.19 | 0.5 | 0.1 | 2.50 | 0.50 |

**Pace Analytical Services, LLC**
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

April 13, 2018

David Steele
GHD
410 Eagleview Blvd.
Exton, PA 19341

RE: Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10381753

Dear David Steele:
Enclosed are the analytical results for sample(s) received by the laboratory on March 14, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised on April 13,2018, to include PQL and MDL tables.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nathan Boberg
nathan.boberg@pacelabs.com
(612)607-6407
Project Manager

Enclosures

cc: Paul McMahon, GHD



This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

**Pace Analytical Services, LLC**
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

# CERTIFICATIONS

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10381753

**Minnesota Certification IDs**

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #:MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon NwTPH Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970



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## SAMPLE SUMMARY

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10381753

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **10381753001** | **AOI8-AI-17-12** | Air | 03/09/17 16:33 | 03/14/17 10:30 |
| **10381753002** | **AOI8-AA-17-03** | Air | 03/09/17 16:50 | 03/14/17 10:30 |
| **10381753003** | **AOI6-AI-17-05** | Air | 03/09/17 15:29 | 03/14/17 10:30 |



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## SAMPLE ANALYTE COUNT

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10381753

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|---|---|---|---|---|
| **10381753001** | **AOI8-AI-17-12** | TO-15 | MJL | 13 |
| **10381753002** | **AOI8-AA-17-03** | TO-15 | MJL | 13 |
| **10381753003** | **AOI6-AI-17-05** | TO-15 | MLS | 13 |

## REPORT OF LABORATORY ANALYSIS

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# ANALYTICAL RESULTS

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10381753

**Sample: AOI8-AI-17-12** **Lab ID: 10381753001** Collected: 03/09/17 16:33 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **1.4** | ug/m3 | 1.0 | 0.19 | 1.55 | | 03/21/17 23:14 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.2** | ug/m3 | 2.4 | 1.2 | 1.55 | | 03/21/17 23:14 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.32** | ug/m3 | 1.3 | 0.32 | 1.55 | | 03/21/17 23:14 | 107-06-2 | |
| Ethylbenzene | **1.8J** | ug/m3 | 3.4 | 0.66 | 1.55 | | 03/21/17 23:14 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.21** | ug/m3 | 3.9 | 0.21 | 1.55 | | 03/21/17 23:14 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.47** | ug/m3 | 5.7 | 0.47 | 1.55 | | 03/21/17 23:14 | 1634-04-4 | |
| Naphthalene | **3.7J** | ug/m3 | 4.1 | 0.47 | 1.55 | | 03/21/17 23:14 | 91-20-3 | |
| Toluene | **3.6** | ug/m3 | 1.2 | 0.24 | 1.55 | | 03/21/17 23:14 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **2.6J** | ug/m3 | 3.9 | 0.19 | 1.55 | | 03/21/17 23:14 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **2.2J** | ug/m3 | 3.9 | 0.28 | 1.55 | | 03/21/17 23:14 | 108-67-8 | |
| Xylene (Total) | **6.0** | ug/m3 | 4.1 | 1.8 | 1.55 | | 03/21/17 23:14 | 1330-20-7 | |
| m&p-Xylene | **4.0** | ug/m3 | 2.7 | 1.2 | 1.55 | | 03/21/17 23:14 | 179601-23-1 | |
| o-Xylene | **2.0J** | ug/m3 | 3.4 | 0.54 | 1.55 | | 03/21/17 23:14 | 95-47-6 | |

**Sample: AOI8-AA-17-03** **Lab ID: 10381753002** Collected: 03/09/17 16:50 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **1.2J** | ug/m3 | 1.7 | 0.33 | 2.69 | | 03/21/17 23:52 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<2.1** | ug/m3 | 4.2 | 2.1 | 2.69 | | 03/21/17 23:52 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.55** | ug/m3 | 2.2 | 0.55 | 2.69 | | 03/21/17 23:52 | 107-06-2 | |
| Ethylbenzene | **2.6J** | ug/m3 | 5.9 | 1.1 | 2.69 | | 03/21/17 23:52 | 100-41-4 | |
| Isopropylbenzene (Cumene) | **<0.37** | ug/m3 | 6.7 | 0.37 | 2.69 | | 03/21/17 23:52 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.82** | ug/m3 | 9.9 | 0.82 | 2.69 | | 03/21/17 23:52 | 1634-04-4 | |
| Naphthalene | **<0.82** | ug/m3 | 7.2 | 0.82 | 2.69 | | 03/21/17 23:52 | 91-20-3 | |
| Toluene | **1.3J** | ug/m3 | 2.1 | 0.41 | 2.69 | | 03/21/17 23:52 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **3.6J** | ug/m3 | 6.7 | 0.34 | 2.69 | | 03/21/17 23:52 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.49** | ug/m3 | 6.7 | 0.49 | 2.69 | | 03/21/17 23:52 | 108-67-8 | |
| Xylene (Total) | **<3.1** | ug/m3 | 7.1 | 3.1 | 2.69 | | 03/21/17 23:52 | 1330-20-7 | |
| m&p-Xylene | **4.6J** | ug/m3 | 4.8 | 2.1 | 2.69 | | 03/21/17 23:52 | 179601-23-1 | |
| o-Xylene | **2.5J** | ug/m3 | 5.9 | 0.94 | 2.69 | | 03/21/17 23:52 | 95-47-6 | |

**Sample: AOI6-AI-17-05** **Lab ID: 10381753003** Collected: 03/09/17 15:29 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Benzene | **0.76J** | ug/m3 | 0.87 | 0.16 | 1.34 | | 03/22/17 17:14 | 71-43-2 | |
| 1,2-Dibromoethane (EDB) | **<1.0** | ug/m3 | 2.1 | 1.0 | 1.34 | | 03/22/17 17:14 | 106-93-4 | |
| 1,2-Dichloroethane | **<0.27** | ug/m3 | 1.1 | 0.27 | 1.34 | | 03/22/17 17:14 | 107-06-2 | |
| Ethylbenzene | **1.5J** | ug/m3 | 3.0 | 0.57 | 1.34 | | 03/22/17 17:14 | 100-41-4 | |

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## ANALYTICAL RESULTS

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10381753

**Sample: AOI6-AI-17-05** **Lab ID: 10381753003** Collected: 03/09/17 15:29 Received: 03/14/17 10:30 Matrix: Air

| Parameters | Results | Units | PQL | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|---|
| **TO15 MSV AIR** | Analytical Method: TO-15 | | | | | | | | |
| Isopropylbenzene (Cumene) | **<0.18** | ug/m3 | 3.4 | 0.18 | 1.34 | | 03/22/17 17:14 | 98-82-8 | |
| Methyl-tert-butyl ether | **<0.41** | ug/m3 | 4.9 | 0.41 | 1.34 | | 03/22/17 17:14 | 1634-04-4 | |
| Naphthalene | **3.3J** | ug/m3 | 3.6 | 0.41 | 1.34 | | 03/22/17 17:14 | 91-20-3 | |
| Toluene | **1.7** | ug/m3 | 1.0 | 0.21 | 1.34 | | 03/22/17 17:14 | 108-88-3 | |
| 1,2,4-Trimethylbenzene | **2.0J** | ug/m3 | 3.3 | 0.17 | 1.34 | | 03/22/17 17:14 | 95-63-6 | |
| 1,3,5-Trimethylbenzene | **<0.25** | ug/m3 | 3.3 | 0.25 | 1.34 | | 03/22/17 17:14 | 108-67-8 | |
| Xylene (Total) | **4.5** | ug/m3 | 3.6 | 1.5 | 1.34 | | 03/22/17 17:14 | 1330-20-7 | |
| m&p-Xylene | **3.0** | ug/m3 | 2.4 | 1.1 | 1.34 | | 03/22/17 17:14 | 179601-23-1 | |
| o-Xylene | **1.5J** | ug/m3 | 3.0 | 0.47 | 1.34 | | 03/22/17 17:14 | 95-47-6 | |

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## QUALITY CONTROL DATA

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10381753

QC Batch: 464861 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10381753001, 10381753002

METHOD BLANK: 2541460 Matrix: Air
Associated Lab Samples: 10381753001, 10381753002

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | <0.12 | 2.5 | 0.12 | 03/21/17 08:59 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | <0.77 | 1.6 | 0.77 | 03/21/17 08:59 | |
| 1,2-Dichloroethane | ug/m3 | <0.20 | 0.82 | 0.20 | 03/21/17 08:59 | |
| 1,3,5-Trimethylbenzene | ug/m3 | <0.18 | 2.5 | 0.18 | 03/21/17 08:59 | |
| Benzene | ug/m3 | <0.12 | 0.65 | 0.12 | 03/21/17 08:59 | |
| Ethylbenzene | ug/m3 | <0.42 | 2.2 | 0.42 | 03/21/17 08:59 | |
| Isopropylbenzene (Cumene) | ug/m3 | <0.14 | 2.5 | 0.14 | 03/21/17 08:59 | |
| m&p-Xylene | ug/m3 | <0.79 | 1.8 | 0.79 | 03/21/17 08:59 | |
| Methyl-tert-butyl ether | ug/m3 | <0.30 | 3.7 | 0.30 | 03/21/17 08:59 | |
| Naphthalene | ug/m3 | 2.2J | 2.7 | 0.30 | 03/21/17 08:59 | |
| o-Xylene | ug/m3 | <0.35 | 2.2 | 0.35 | 03/21/17 08:59 | |
| Toluene | ug/m3 | <0.15 | 0.77 | 0.15 | 03/21/17 08:59 | |
| Xylene (Total) | ug/m3 | <1.1 | 2.6 | 1.1 | 03/21/17 08:59 | |

LABORATORY CONTROL SAMPLE: 2541461

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 50 | 48.5 | 97 | 75-136 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | 78.1 | 97.9 | 125 | 75-128 | |
| 1,2-Dichloroethane | ug/m3 | 41.1 | 35.1 | 85 | 75-130 | |
| 1,3,5-Trimethylbenzene | ug/m3 | 50 | 48.9 | 98 | 75-133 | |
| Benzene | ug/m3 | 32.5 | 27.5 | 85 | 75-129 | |
| Ethylbenzene | ug/m3 | 44.1 | 43.4 | 98 | 75-134 | |
| Isopropylbenzene (Cumene) | ug/m3 | 50 | 66.3 | 133 | 75-140 | CH |
| m&p-Xylene | ug/m3 | 88.3 | 87.9 | 100 | 75-129 | |
| Methyl-tert-butyl ether | ug/m3 | 91.6 | 72.7 | 79 | 66-148 | |
| Naphthalene | ug/m3 | 53.3 | 53.4 | 100 | 53-150 | SS |
| o-Xylene | ug/m3 | 44.1 | 42.8 | 97 | 75-129 | |
| Toluene | ug/m3 | 38.3 | 38.7 | 101 | 75-129 | |
| Xylene (Total) | ug/m3 | 132 | 131 | 99 | 72-141 | |

SAMPLE DUPLICATE: 2542381

| Parameter | Units | 10381970006 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | ND | 2.2J | | 25 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | ND | <1.2 | | 25 | |
| 1,2-Dichloroethane | ug/m3 | ND | <0.31 | | 25 | |
| 1,3,5-Trimethylbenzene | ug/m3 | ND | 2.1J | | 25 | |

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## QUALITY CONTROL DATA

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10381753

SAMPLE DUPLICATE: 2542381

| Parameter | Units | 10381970006 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| Benzene | ug/m3 | ND | 0.92J | | 25 | |
| Ethylbenzene | ug/m3 | ND | 1.5J | | 25 | |
| Isopropylbenzene (Cumene) | ug/m3 | ND | <0.21 | | 25 | |
| m&p-Xylene | ug/m3 | 2.9 | 2.9 | 1 | 25 | |
| Methyl-tert-butyl ether | ug/m3 | ND | <0.45 | | 25 | |
| Naphthalene | ug/m3 | ND | 3.4J | | 25 | |
| o-Xylene | ug/m3 | ND | 1.7J | | 25 | |
| Toluene | ug/m3 | ND | 0.75J | | 25 | |
| Xylene (Total) | ug/m3 | 4.6 | 4.6 | 0 | 25 | |

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## QUALITY CONTROL DATA

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10381753

QC Batch: 465254 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10381753003

METHOD BLANK: 2543655 Matrix: Air
Associated Lab Samples: 10381753003

| Parameter | Units | Blank Result | Reporting Limit | MDL | Analyzed | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | <0.12 | 2.5 | 0.12 | 03/22/17 14:21 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | <0.77 | 1.6 | 0.77 | 03/22/17 14:21 | |
| 1,2-Dichloroethane | ug/m3 | <0.20 | 0.82 | 0.20 | 03/22/17 14:21 | |
| 1,3,5-Trimethylbenzene | ug/m3 | <0.18 | 2.5 | 0.18 | 03/22/17 14:21 | |
| Benzene | ug/m3 | <0.12 | 0.65 | 0.12 | 03/22/17 14:21 | |
| Ethylbenzene | ug/m3 | <0.42 | 2.2 | 0.42 | 03/22/17 14:21 | |
| Isopropylbenzene (Cumene) | ug/m3 | <0.14 | 2.5 | 0.14 | 03/22/17 14:21 | |
| m&p-Xylene | ug/m3 | <0.79 | 1.8 | 0.79 | 03/22/17 14:21 | |
| Methyl-tert-butyl ether | ug/m3 | <0.30 | 3.7 | 0.30 | 03/22/17 14:21 | |
| Naphthalene | ug/m3 | 2.6J | 2.7 | 0.30 | 03/22/17 14:21 | |
| o-Xylene | ug/m3 | <0.35 | 2.2 | 0.35 | 03/22/17 14:21 | |
| Toluene | ug/m3 | <0.15 | 0.77 | 0.15 | 03/22/17 14:21 | |
| Xylene (Total) | ug/m3 | <1.1 | 2.6 | 1.1 | 03/22/17 14:21 | |

LABORATORY CONTROL SAMPLE: 2543656

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ug/m3 | 50 | 42.3 | 85 | 70-136 | |
| 1,2-Dibromoethane (EDB) | ug/m3 | 78.1 | 85.9 | 110 | 70-130 | |
| 1,2-Dichloroethane | ug/m3 | 41.1 | 31.0 | 75 | 70-130 | |
| 1,3,5-Trimethylbenzene | ug/m3 | 50 | 43.3 | 87 | 70-133 | |
| Benzene | ug/m3 | 32.5 | 24.2 | 75 | 70-130 | |
| Ethylbenzene | ug/m3 | 44.1 | 38.1 | 86 | 70-134 | |
| Isopropylbenzene (Cumene) | ug/m3 | 50 | 58.8 | 118 | 70-140 | |
| m&p-Xylene | ug/m3 | 88.3 | 78.5 | 89 | 70-130 | |
| Methyl-tert-butyl ether | ug/m3 | 91.6 | 68.2 | 74 | 66-148 | |
| Naphthalene | ug/m3 | 53.3 | 47.5 | 89 | 53-150 | |
| o-Xylene | ug/m3 | 44.1 | 37.6 | 85 | 70-130 | |
| Toluene | ug/m3 | 38.3 | 34.6 | 90 | 70-130 | |
| Xylene (Total) | ug/m3 | 132 | 116 | 88 | 70-141 | |

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# QUALIFIERS

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10381753

## DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## ANALYTE QUALIFIERS

| | |
|---|---|
| CH | The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high. |
| SS | This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value. |



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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 11109626 Evergreen PES-Revised Report
Pace Project No.: 10381753

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **10381753001** | **AOI8-AI-17-12** | TO-15 | 464861 | | |
| **10381753002** | **AOI8-AA-17-03** | TO-15 | 464861 | | |
| **10381753003** | **AOI6-AI-17-05** | TO-15 | 465254 | | |



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# AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10356753

26265

Page: 1 of 1

**Section A** Required Client Information:

Company: GHD

Address: 410 Eagleview Blvd Suite 110
Exton, Pennsylvania

Email To: David.Steele@ghd.com

Phone: 610-321-1800 Fax:

Requested Due Date/TAT:

**Section B** Required Project Information:

Report To: David Steele

Copy To: Paul McMahon

Purchase Order No.:

Project Name: Evergreen PES

Project Number: 11109626

**Section C** Invoice Information:

Attention:

Company Name:

Address:

Pace Quote Reference:

Pace Project Manager/Sales Rep.

Pace Profile #:

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level: II. III. IV. Other

'Section D Required Client Information

**AIR SAMPLE ID**

Sample IDs MUST BE UNIQUE

Valid Media Codes

| MEDIA | CODE |
|---|---|
| Tedlar Bag | TB |
| 1 Liter Summa Can | 1LC |
| 6 Liter Summa Can | 6LC |
| Low Volume Puff | LVP |
| High Volume Puff | HVP |
| Other | PM10 |

| ITEM # | AIR SAMPLE ID | MEDIA CODE | PID Reading (Client only) | COLLECTED COMPOSITE START END/GRAB DATE | COLLECTED COMPOSITE START END/GRAB TIME | COLLECTED COMPOSITE END DATE | COLLECTED COMPOSITE END TIME | Canister Pressure (Initial Field - psig) | Canister Pressure (Final Field - psig) | Summa Can Number | Flow Control Number | Method: PM10 | 3C: Fixed Gas (%) | TO-3 | TO-3M (Methane) | TO-4 (PCBs) | TO-13 (PAH) | TO-14 | TO-15 | TO15 Short List* | Pace Lab ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | AOI8-AI-1712 | 6LC | | 3-9-17 | 0830 | 3-9-17 | 1433 | -27 | -5 | 0129 | 1055 | | | | | | | | X | | 001 |
| 2 | AOI8-AA-17-03 | 6LC | | 3-9-17 | 0846 | 3-9-17 | 1650 | -30 | -14 | 0177 | 0278 | | | | | | | | X | | 002 |
| 3 | AOI8-AI-17-05 | 6LC | | 3-9-17 | 737 | 3-9-17 | 1529 | -29 | -1 | 0834 | 02057 | | | | | | | | | | 003 |
| 4 | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | |

Comments :

| RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---|---|---|---|---|---|
| | 3/10/17 | 1215 | | 3/10/17 | 1215 |
| | 3/10/17 | 1330 | | 3/14/17 | 1020 |
| | | | | | |
| | | | | | |

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY)

SAMPLE CONDITIONS

| | | | |
|---|---|---|---|
| | Y/N | Y/N | Y/N |
| AMB | Y/N | Y/N | Y/N |
| | Y/N | Y/N | Y/N |
| | Y/N | Y/N | Y/N |
| Temp in °C | Received on Ice | Custody Sealed Cooler | Samples Intact |

ORIGINAL

| Pace Analytical | Document Name: Air Sample Condition Upon Receipt | Document Revised: 26APR2016 Page 1 of 1 |
|---|---|---|
| | Document No.: F-MN-A-106-rev.11 | Issuing Authority: Pace Minnesota Quality Office |

**Air Sample Condition Upon Receipt**

**Client Name:** GHD

**Project #:** WO# : 10381753

10381753

**Courier:** ☑ Fed Ex ☐ UPS ☐ Speedee ☐ Client ☐ Commercial ☐ Pace ☐ Other:

**Tracking Number:** 7856 6984 7161; 5928; 7150; 715

**Custody Seal on Cooler/Box Present?** ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No

Optional: Proj. Due Date: Proj. Name:

**Packing Material:** ☐ Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Tin Can ☐ Other: **Temp Blank rec:** ☐ Yes ☑ No

**Temp. (TO17 and TO13 samples only) (°C):** **Corrected Temp (°C):** **Thermom. Used:** ☐ B88A912167504 ☐ B88A0143310098 ☐ 151401163 ☐ 151401164

Temp should be above freezing to 6°C **Correction Factor:** AMB **Date & Initials of Person Examining Contents:** CJ 3/14/17

**Type of ice Received** ☐ Blue ☐ Wet ☐ None

| | | | | Comments: |
|---|---|---|---|---|
| Chain of Custody Present? | ☑ Yes | ☐ No | ☐ N/A | 1. |
| Chain of Custody Filled Out? | ☑ Yes | ☐ No | ☐ N/A | 2. |
| Chain of Custody Relinquished? | ☑ Yes | ☐ No | ☐ N/A | 3. |
| Sampler Name and/or Signature on COC? | ☑ Yes | ☐ No | ☐ N/A | 4. |
| Samples Arrived within Hold Time? | ☑ Yes | ☐ No | ☐ N/A | 5. |
| **Short Hold Time Analysis (<72 hr)?** | ☐ Yes | ☑ No | ☐ N/A | 6. |
| **Rush Turn Around Time Requested?** | ☐ Yes | ☑ No | ☐ N/A | 7. |
| Sufficient Volume? | ☑ Yes | ☐ No | ☐ N/A | 8. |
| Correct Containers Used? | ☑ Yes | ☐ No | ☐ N/A | 9. |
| -Pace Containers Used? | ☑ Yes | ☐ No | ☐ N/A | |
| Containers Intact? | ☑ Yes | ☐ No | ☐ N/A | 10. |
| Media: Air Can Airbag Filter TDT Passive | | | | 11. |
| Sample Labels Match COC? | ☑ Yes | ☐ No | ☐ N/A | 12. |

Samples Received:

| Canisters | | | Canisters | | |
|---|---|---|---|---|---|
| Sample Number | Can ID | Flow Controller ID | Sample Number | Can ID | Flow Controller ID |
| A0I8-AI-17-12 | 0129 | 1055 | | | |
| " " -03 | 0177 | 0278 | | | |
| A0I6-AI-05 | 0834 | 02057 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**CLIENT NOTIFICATION/RESOLUTION** **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

**Project Manager Review:** Nathan Boberg **Date:** 3/15/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

| Pace Analytical® | Document Name: **Pace RL vs. Low Calibration Point Reference Sheet** | Date Revised: 11Apr2018<br>Page 1 of 1 |
|---|---|---|
| | Document Number: A174 Rev.00 | Issuing Authority: Pace Minnesota Quality Office |

| Compound ID | CAS# | MW | PRL (ppbv) | Low Cal Standard (ppbv) | PRL (ug/m) | Low Cal Standard (ug/m3) |
|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 71-55-6 | 133.41 | 0.2 | 0.1 | 1.11 | 0.55 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 167.85 | 0.1 | 0.1 | 0.70 | 0.70 |
| 1,1,2-Trichloroethane | 79-00-5 | 133.41 | 0.1 | 0.1 | 0.55 | 0.55 |
| 1,1,2-Trichlorotrifluoroethane (Freon-113) | 76-13-1 | 187.38 | 0.2 | 0.1 | 1.56 | 0.78 |
| 1,1-Dichloroethane | 75-34-3 | 98.96 | 0.2 | 0.1 | 0.82 | 0.41 |
| 1,1-Dichloroethene | 75-35-4 | 96.94 | 0.2 | 0.1 | 0.81 | 0.40 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 181.45 | 0.5 | 0.1 | 3.77 | 0.75 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 120.20 | 0.2 | 0.1 | 1.00 | 0.50 |
| 1,2-Dibromoethane | 106-93-4 | 187.87 | 0.2 | 0.1 | 1.56 | 0.78 |
| 1,2-Dichlorobenzene | 95-50-1 | 147.00 | 0.2 | 0.1 | 1.22 | 0.61 |
| 1,2-Dichloroethane | 107-06-2 | 98.96 | 0.1 | 0.1 | 0.41 | 0.41 |
| 1,2-Dichloropropane | 78-87-5 | 112.99 | 0.2 | 0.1 | 0.94 | 0.47 |
| 1,3,5-Trimethylbenzene | 108-67-8 | 120.20 | 0.2 | 0.1 | 1.00 | 0.50 |
| 1,3-Butadiene | 106-99-0 | 54.09 | 0.2 | 0.1 | 0.45 | 0.22 |
| 1,3-Dichlorobenzene | 541-73-1 | 147.00 | 0.2 | 0.1 | 1.22 | 0.61 |
| 1,4-Dichlorobenzene | 106-46-7 | 147.00 | 0.2 | 0.1 | 1.22 | 0.61 |
| 2-Butanone (MEK) | 78-93-3 | 72.11 | 1 | 0.1 | 3.00 | 0.30 |
| 2-Hexanone | 591-78-6 | 100.16 | 1 | 0.1 | 4.16 | 0.42 |
| 2-Propanol | 67-63-0 | 60.10 | 1 | 0.5 | 2.50 | 1.25 |
| 4-Ethyltoluene | 622-96-8 | 120.19 | 0.2 | 0.1 | 1.00 | 0.50 |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 100.16 | 1 | 0.1 | 4.16 | 0.42 |
| Acetone | 67-64-1 | 58.08 | 1 | 0.5 | 2.41 | 1.21 |
| Benzene | 71-43-2 | 78.11 | 0.1 | 0.1 | 0.32 | 0.32 |
| Benzyl Chloride | 100-44-7 | 126.58 | 0.2 | 0.1 | 1.05 | 0.53 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Bromodichloromethane | 75-27-4 | 163.83 | 0.2 | 0.1 | 1.36 | 0.68 |
| Bromoform | 75-25-2 | 252.73 | 0.2 | 0.1 | 2.10 | 1.05 |
| Bromomethane | 74-83-9 | 94.94 | 0.2 | 0.1 | 0.79 | 0.39 |
| Carbon Disulfide | 75-15-0 | 76.14 | 0.2 | 0.1 | 0.63 | 0.32 |
| Carbon tetrachloride | 56-23-5 | 153.82 | 0.1 | 0.1 | 0.64 | 0.64 |
| Chlorobenzene | 108-90-7 | 112.56 | 0.2 | 0.1 | 0.94 | 0.47 |
| Chloroethane | 75-00-3 | 64.52 | 0.2 | 0.1 | 0.54 | 0.27 |
| Chloroform | 67-66-3 | 119.38 | 0.1 | 0.1 | 0.50 | 0.50 |
| Chloromethane | 74-87-3 | 50.49 | 0.2 | 0.1 | 0.42 | 0.21 |
| cis-1,2-Dichloroethene | 156-59-2 | 96.94 | 0.2 | 0.1 | 0.81 | 0.40 |
| cis-1,3-Dichloropropene | 10061-01-5 | 110.97 | 0.2 | 0.1 | 0.92 | 0.46 |
| Cyclohexane | 110-82-7 | 84.16 | 0.2 | 0.1 | 0.70 | 0.35 |
| Dibromochloromethane | 124-48-1 | 208.28 | 0.2 | 0.1 | 1.73 | 0.87 |
| Dichlorodifluoromethane | 75-71-8 | 120.91 | 0.2 | 0.1 | 1.01 | 0.50 |
| Dichlorotetrafluoroethane (Freon-114) | 76-14-2 | 170.92 | 0.2 | 0.1 | 1.42 | 0.71 |
| Ethanol | 64-17-5 | 46.07 | 0.5 | 0.5 | 0.96 | 0.96 |
| Ethyl Acetate | 141-78-6 | 88.11 | 0.2 | 0.1 | 0.73 | 0.37 |
| Ethyl Benzene | 100-41-4 | 106.17 | 0.2 | 0.1 | 0.88 | 0.44 |
| Hexachlorobutadiene | 87-68-3 | 260.76 | 0.2 | 0.1 | 2.17 | 1.08 |
| m&p-Xylene | 106-42-3 | 106.17 | 0.4 | 0.2 | 1.77 | 0.88 |
| Methyl Tert Butyl Ether | 1634-04-4 | 88.15 | 1 | 0.1 | 3.66 | 0.37 |
| Methylene chloride | 75-0902 | 84.93 | 1 | 0.5 | 3.53 | 1.77 |
| Naphthalene | 91-20-3 | 128.10 | 0.5 | 0.1 | 2.66 | 0.53 |
| n-Heptane | 142-82-5 | 100.20 | 0.2 | 0.1 | 0.83 | 0.42 |
| n-Hexane | 110-54-3 | 86.18 | 0.2 | 0.1 | 0.72 | 0.36 |
| o-Xylene | 95-47-6 | 106.17 | 0.2 | 0.1 | 0.88 | 0.44 |
| Propylene | 115-07-1 | 42.08 | 0.2 | 0.1 | 0.35 | 0.17 |
| Styrene | 100-42-5 | 104.15 | 0.2 | 0.1 | 0.87 | 0.43 |
| Tetrachloroethene | 127-18-4 | 165.83 | 0.1 | 0.1 | 0.69 | 0.69 |
| Tetrahydrofuran | 109-99-9 | 72.11 | 0.2 | 0.1 | 0.60 | 0.30 |
| Toluene | 108-88-3 | 92.14 | 0.2 | 0.1 | 0.77 | 0.38 |
| trans-1,2-dichloroethene | 156-60-5 | 96.94 | 0.2 | 0.1 | 0.81 | 0.40 |

| | | | | | | |
|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | 10061-02-6 | 110.97 | 0.2 | 0.1 | 0.92 | 0.46 |
| Trichloroethene | 79-01-6 | 131.39 | 0.1 | 0.1 | 0.55 | 0.55 |
| Trichlorofluoromethane | 75-69-4 | 137.37 | 0.2 | 0.1 | 1.14 | 0.57 |
| Vinyl Acetate | 108-05-4 | 86.09 | 0.2 | 0.1 | 0.72 | 0.36 |
| Vinyl chloride | 75-01-4 | 62.50 | 0.1 | 0.1 | 0.26 | 0.26 |
| | | | | | 0.00 | 0.00 |
| 1,2,3-Trimethylbenzene | 526-73-8 | 120.19 | 0.2 | 0.1 | 1.00 | 0.50 |
| Chlorodifluoromethane | 75-45-6 | 86.47 | 0.2 | 0.1 | 0.72 | 0.36 |
| Di-isopropyl ether | 108-20-3 | 102.17 | 1 | 0.1 | 4.25 | 0.42 |
| Ether Tert-Butyl Ether | 637-92-3 | 102.17 | 1 | 0.1 | 4.25 | 0.42 |
| Isopentane | 78-78-4 | 72.15 | 0.2 | 0.1 | 0.60 | 0.30 |
| Methylcyclohexane | 108-87-2 | 98.19 | 0.2 | 0.1 | 0.82 | 0.41 |
| Methyl Methacrylate | 80-62-6 | 100.18 | 0.2 | 0.1 | 0.83 | 0.42 |
| p-isopropyltoluene | 99-87-6 | 134.22 | 0.2 | 0.1 | 1.12 | 0.56 |
| Tert Amyl Methyl Ether | 994-05-8 | 102.17 | 1 | 0.1 | 4.25 | 0.42 |
| Tert-Butyl Benzene | 98-06-6 | 134.22 | 0.2 | 0.1 | 1.12 | 0.56 |
| 1,4-Dioxane | 123-91-1 | 88.11 | 1 | 0.25 | 3.66 | 0.92 |
| 2,2,4-Trimethylpentane | 540-84-1 | 114.22 | 0.5 | 0.1 | 2.37 | 0.47 |
| Acrolein | 107-02-8 | 56.10 | 0.5 | 0.25 | 1.17 | 0.58 |
| Acrylonitrile | 107-13-1 | 53.06 | 0.5 | 0.25 | 1.10 | 0.55 |
| Allyl Chloride | 107-05-1 | 76.49 | 0.5 | 0.1 | 1.59 | 0.32 |
| N-Butylbenzene | 104-51-8 | 134.22 | 0.5 | 0.1 | 2.79 | 0.56 |
| N-Propylbenzene | 103-65-1 | 120.19 | 0.5 | 0.1 | 2.50 | 0.50 |
| Sec- Butylbenzene | 135-98-8 | 134.22 | 0.5 | 0.1 | 2.79 | 0.56 |
| Tert Butyl Alcohol (TBA) | 75-65-0 | 74.12 | 1 | 0.1 | 3.08 | 0.31 |
| Vinyl Bromide | 593-60-2 | 106.95 | 1 | 0.1 | 4.45 | 0.44 |
| Isopropylbenzene | 98-82-8 | 120.19 | 0.5 | 0.1 | 2.50 | 0.50 |

# Attachment B
# Figure 20, Table 6




GHD Limited
651 Colby Drive
Waterloo Ontario N2V 1C2 Canada
**T** 519 884 0510 **F** 519 884 0525 **W** www.ghd.com

Source: Aerial: Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

0 150 300 450
Feet

Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

**Legend**

- 2016 Groundwater Sample (Did not Exceed MSC)
- 2016 Groundwater Sample (Exceeds MSC)
- 2016 RI Groundwater Sample
- Water Table Monitoring Well
- Recovery Well
- Deep Monitoring Well
- Damaged Monitoring Well
- Destroyed Monitoring Well
- Monitoring Well (Unable to Locate)
- Piezometer
- 2016 RI Soil Sample
- 2017 RI Soil Sample
- Historical Soil Sample
- 2016 RI (Not Sampled)
- 2016 RI (Attempted Sample Location)
- Air Sample
- Bulkhead
- Tank
- Solid Waste Management Unit
- Area Of Interest

Original Size
**ANSI D**

Bar is one inch on original size drawing
0 1"

Project : 11109613

Date: Apr 2, 2018

# EVERGREEN RESOURCES MANAGEMENT
# AOI-6 PHILADELPHIA REFINERY OPERATIONS
# DEEP GROUNDWATER RESULTS – MAY 2016

Figure No.

# FIGURE 20

GIS File: Q:\GIS\PROJECTS\11109000s\11109613\Layouts\002\11109613-00(002)GIS-OT020.mxd

**Table 6**

**Existing Well Summary**
**AOI 6 Remedial Investigation Report**
**Philadelphia Refinery Operations, a Series of Evergreen Resources Group, LLC**

| AOI | Well ID | Former Well ID[2] | Well Status | Disposition of Well | Northing[3] | Easting[3] | Well Type[4] | Well Classification/ Hydrostratigraphic Unit[5] | Soil Boring Log Available (Y/N) | Construction Detail Available (Y/N) | Date of Well Completion | Well Construction Details[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Well Completion Depth (ft/bgs)[6] | Well Diameter (in)[7] | Top of Inner Casing Elevation (ft msl) (NAVD88)[8] | Ground Surface Elevation (ft msl) (NAVD88)[8] | Top of Screen Elev (ft msl) (NAVD88)[8] | Bottom of Screen Elevation (ft msl) (NAVD88)[8] | Depth to Screen (ft bgs)[8] | Screen Length (ft)[9] |
| AOI 6 | B-115 | | | | 218058.703 | 2682824.9 | MW | Shallow | | | | | | 7.5 | 4.88 | | | | |
| AOI 6 | B-116 | | | | 217899.153 | 2682925 | MW | Shallow | | | | | | 5.07 | 6.33 | | | | |
| AOI 6 | B-117 | | | | 217678.393 | 2682499.4 | MW | Shallow | | | | | | 5.97 | 8.89 | | | | |
| AOI 6 | B-123 | | | | 217145.729 | 2681457.9 | MW | Shallow | | | | | | 10.76 | 7.61 | | | | |
| AOI 6 | B-124 | | | | 216810.937 | 2681316.4 | RW | Shallow | Y | Y | 9/21/1992 | 15 | 4 | 8.97 | 5.91 | 0.91 | -9.09 | 5 | 10 |
| AOI 6 | B-125 | | | | 216828.873 | 2681099.2 | MW | Shallow | | | | | | 8.51 | 5.25 | | | | |
| AOI 6 | B-126 | | | | 217022.175 | 2680973.6 | MW | Shallow | | | | | | 8.51 | 5.52 | | | | |
| AOI 6 | B-129 | | | | 217874.097 | 2683017.7 | MW | Shallow | Y | Y | 8/20/1992 | 15 | 4 | 8.02 | 6.33 | 1.33 | -8.67 | 5 | 10 |
| AOI 6 | B-130 | | | | 217397.337 | 2680131.2 | MW | Shallow | Y | Y | 8/20/1992 | 16 | 4 | 9.69 | 8.11 | 3.11 | -6.89 | 5 | 10 |
| AOI 6 | B-131 | | | | 216460.204 | 2680692.6 | MW | Shallow | Y | Y | 8/20/1992 | 14 | 4 | 8.72 | 6.2 | 2.2 | -7.8 | 4 | 10 |
| AOI 6 | B-132 | | | | 217350.988 | 2681170.9 | MW | Shallow | Y | Y | 8/28/2001 | 11 | 4 | 6.87 | 2.27 | 1.27 | -8.73 | 1 | 10 |
| AOI 6 | B-132D | | | | 216098.267 | 2680856.8 | MW | Deep | Y | Y | 3/7/2001 | 85 | 2 | 10.55 | 8.12 | -66.88 | -76.88 | 75 | 10 |
| AOI 6 | B-133 | | | | 217307.146 | 2681206.8 | RW | Shallow | Y | Y | 8/28/2001 | 11 | | 7.33 | 3.3 | 2.3 | -7.7 | 1 | 10 |
| AOI 6 | B-133D | | | | 216723.25 | 2681722.5 | MW | Deep | Y | Y | 3/5/2001 | 65 | 2 | 8.6 | 6.1 | -48.9 | -58.9 | 55 | 10 |
| AOI 6 | B-134 | | | | 217285.225 | 2681162.9 | RW | Shallow | Y | Y | 8/28/2001 | 11 | | 6.52 | 3.38 | 2.38 | -7.62 | 1 | 10 |
| AOI 6 | B-134D | | | | 216764.146 | 2681037.3 | MW | Deep | Y | Y | 3/5/2001 | 79 | 2 | 8.12 | 5.45 | -63.55 | -73.55 | 69 | 10 |
| AOI 6 | B-135 | | | | 217329.067 | 2681137 | MW | Shallow | Y | Y | 8/28/2001 | 11 | | 6.38 | 3.31 | 2.31 | -7.69 | 1 | 10 |
| AOI 6 | B-136 | | | | 217259.319 | 2681252.6 | RW | Shallow | Y | Y | 8/29/2001 | 12 | | 9.15 | 6.31 | 4.31 | -5.69 | 2 | 10 |
| AOI 6 | B-137 | | | | 217187.578 | 2681298.4 | RW | Shallow | Y | Y | 8/29/2001 | 12 | | 8.73 | 6.22 | 4.22 | -5.78 | 2 | 10 |
| AOI 6 | B-138 | | | | 217137.758 | 2681330.3 | RW | Shallow | Y | Y | 8/29/2001 | 12 | | 9.33 | 6.06 | 4.06 | -5.94 | 2 | 10 |
| AOI 6 | B-139 | | Damaged | Casing damaged | 217339.031 | 2681270.5 | RW | Shallow | Y | Y | 8/29/2001 | 12 | | 9.4 | 6.93 | 4.93 | -5.07 | 2 | 10 |
| AOI 6 | B-140 | | Destroyed | | 217269.283 | 2681316.4 | RW | Shallow | Y | Y | 8/29/2001 | 12 | | 10.14 | 7.39 | 5.39 | -4.61 | 2 | 10 |
| AOI 6 | B-141 | | Damaged | new riser required | 217229.427 | 2681380.2 | MW | Shallow | Y | Y | 8/30/2001 | 12 | | 8.69 | 7.75 | 5.75 | -4.25 | 2 | 10 |
| AOI 6 | B-142 | | | | 217177.614 | 2681208.8 | RW | Shallow | Y | Y | 8/29/2001 | 12 | | 9.74 | 6.81 | 4.81 | -5.19 | 2 | 10 |
| AOI 6 | B-143 | | | | 217207.506 | 2681159 | RW | Shallow | Y | Y | 8/29/2001 | 12 | | 8.98 | 6.36 | 4.36 | -5.64 | 2 | 10 |
| AOI 6 | B-144 | | | | 217133.772 | 2681234.7 | MW | Shallow | Y | Y | 8/30/2001 | 12 | | 9.02 | 6.16 | 4.16 | -5.84 | 2 | 10 |
| AOI 6 | B-145 | | | | 217085.945 | 2681362.2 | MW | Shallow | Y | Y | 8/30/2001 | 12 | | 9.81 | 7.16 | 5.16 | -4.84 | 2 | 10 |
| AOI 6 | B-146 | | Unable to Locate | | 217211.491 | 2681455.9 | MW | Shallow | Y | Y | 8/30/2001 | 12 | | 7.77 | 7.8 | 5.8 | -4.2 | 2 | 10 |
| AOI 6 | B-147 | | | | 217145.729 | 2681125.1 | RW | Shallow | Y | Y | 8/30/2001 | 12 | | 8.9 | 6.6 | 4.6 | -5.4 | 2 | 10 |
| AOI 6 | B-148 | MW-1 | | | 217443.977 | 2681076.9 | MW | Shallow | Y | N | 9/17/2002 | 11 | | 7.22 | 5.19 | 4.19 | -5.81 | 1 | 10 |
| AOI 6 | B-149 | MW-2 | | | 217436.203 | 2680999.2 | MW | Shallow | Y | Y | 9/17/2002 | 11 | | 7.74 | 5.8 | 4.8 | -5.2 | 1 | 10 |
| AOI 6 | B-150 | MW-3 | | | 217480.252 | 2680965.5 | MW | Shallow | Y | Y | 9/16/2002 | 11 | | 7.8 | 5.83 | 4.83 | -5.17 | 1 | 10 |
| AOI 6 | B-151 | | | | 217738.379 | 2680728.9 | MW | Shallow | Y | Y | 2/23/2006 | 13 | 4 | 7.735 | 5.77 | 3.77 | -4.23 | 2 | 8 |
| AOI 6 | B-152 | | | | 217848.398 | 2680602.5 | MW | Shallow | Y | Y | 2/27/2006 | 10 | 4 | 5.036 | 5.5 | 3.5 | -4.5 | 2 | 8 |
| AOI 6 | B-153 | | | | 217475.27 | 2680101.7 | MW | Shallow | Y | Y | 2/24/2006 | 10 | 4 | 6.367 | 6.67 | 4.67 | -3.33 | 2 | 8 |
| AOI 6 | B-154 | | | | 217552.437 | 2680926.8 | MW | Shallow | Y | Y | 2/23/2006 | 13 | 4 | 8.68 | 6.43 | 4.43 | -3.57 | 2 | 8 |
| AOI 6 | B-155 | | | | 217399.88 | 2680974.7 | MW | Shallow | Y | Y | 2/24/2006 | 13 | 4 | 8.541 | 6.54 | 4.54 | -3.46 | 2 | 8 |
| AOI 6 | B-156 | | | | 217365.5 | 2680904.1 | MW | Shallow | Y | Y | 2/23/2006 | 13 | 4 | 8.856 | 6.65 | 4.65 | -3.35 | 2 | 8 |

**Table 6**

**Existing Well Summary**
**AOI 6 Remedial Investigation Report**
**Philadelphia Refinery Operations, a Series of Evergreen Resources Group, LLC**

| AOI | Well ID | Former Well ID[2] | Well Status | Disposition of Well | Northing[3] | Easting[3] | Well Type[4] | Well Classification/ Hydrostratigraphic Unit[5] | Soil Boring Log Available (Y/N) | Construction Detail Available (Y/N) | Date of Well Completion | Well Construction Details[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Well Completion Depth (ft/bgs)[6] | Well Diameter (in)[7] | Top of Inner Casing Elevation (ft msl) (NAVD88)[8] | Ground Surface Elevation (ft msl) (NAVD88)[8] | Top of Screen Elev (ft msl) (NAVD88)[8] | Bottom of Screen Elevation (ft msl) (NAVD88)[8] | Depth to Screen (ft bgs)[8] | Screen Length (ft)[9] |
| AOI 6 | B-157 | | Unable to Locate | | 217194.811 | 2680880.6 | MW | Shallow | Y | Y | 2/22/2006 | 12 | 4 | 4.924 | 5.26 | 3.26 | -6.74 | 2 | 10 |
| AOI 6 | B-158 | | | | 217966.981 | 2679968.9 | MW | Shallow | Y | Y | 2/22/2006 | 12 | 4 | 8.209 | 8.66 | 6.66 | -3.34 | 2 | 10 |
| AOI 6 | B-159 | | Destroyed | | 217268.172 | 2681614.1 | MW | Shallow | Y | Y | 4/20/2006 | 10 | 4 | 6.1924 | 8.51 | 3.9193 | -1.49 | 5 | 8 |
| AOI 6 | B-160 | | | | 217370.65 | 2681839.8 | MW | Shallow | Y | Y | 2/27/2006 | 10 | 4 | 8.532 | 8.95 | 6.95 | -1.05 | 2 | 8 |
| AOI 6 | B-161 | | | | 216894.044 | 2681270.4 | MW | Shallow | Y | Y | 2/21/2006 | 15 | 4 | 8.3 | 6.98 | 4.98 | -5.02 | 2 | 10 |
| AOI 6 | B-162 | | | | 217903.199 | 2682803.5 | MW | Shallow | Y | Y | 2/20/2006 | 18 | 4 | 7.589 | 4.93 | 2.93 | -10.07 | 2 | 13 |
| AOI 6 | B-163 | | | | 217531.251 | 2681198.8 | MW | Shallow | Y | Y | 2/28/2006 | 10 | 4 | 7.452 | 7.68 | 5.68 | -2.32 | 2 | 8 |
| AOI 6 | B-164 | | | | 216480.287 | 2680585.2 | MW | Shallow | Y | Y | 2/21/2006 | 15 | 4 | 8.822 | 5.86 | 3.86 | -6.14 | 2 | 10 |
| AOI 6 | B-165 | | | | 217152.414 | 2680186.5 | MW | Shallow | N | N | 12/31/1999 | | | 5.79 | 6.07 | | | | |
| AOI 6 | B-166 | | | Shallow | 217408.526 | 2682932.2 | MW | Shallow | N | N | 12/31/1999 | | | 7.47 | 7.89 | | | | |
| AOI 6 | B-167 | | | Shallow | 217814.189 | 2683187.9 | MW | Shallow | N | N | 12/31/1999 | | | 6.73 | 7.21 | | | | |
| AOI 6 | B-168 | | | | 217494.926 | 2680069.6 | MW | Shallow | N | N | 12/31/1999 | | | 6.46 | 6.77 | | | | |
| AOI 6 | B-169 | | | | 217416.456 | 2680092.2 | MW | Shallow | N | N | 12/31/1999 | | | 6.12 | 6.47 | | | | |
| AOI 6 | B-170 | | | Shallow | 217350.272 | 2680110.6 | MW | Shallow | N | N | 12/31/1999 | | | 0.04 | 0.15 | | | | |
| AOI 6 | B-171 | | Reserved | | | | MW | | | | | | | | | | | | |
| AOI 6 | B-172 | | | | 217412.384 | 2680736.1 | MW | Shallow | Y | Y | 4/7/2016 | 10 | 4 | 8.01 | 5.15 | 3.15 | -4.85 | 2 | 8 |
| AOI 6 | B-173 | | | | 216650.661 | 2681020.8 | MW | Shallow | Y | Y | 4/6/2016 | 12 | 4 | 8.18 | 5.7 | 3.7 | -6.3 | 2 | 10 |
| AOI 6 | B-174 | | | | 216387.568 | 2681059.3 | MW | Shallow | Y | Y | 4/8/2016 | 12 | 4 | 8.3 | 5.5 | 3.5 | -6.5 | 2 | 10 |
| AOI 6 | B-175 | | | | 216862.933 | 2681336.1 | MW | Shallow | Y | Y | 4/7/2016 | 12 | 4 | 8.77 | 5.9 | 3.9 | -6.1 | 2 | 10 |
| AOI 6 | B-39 | | | | 216614.006 | 2680589.9 | MW | Shallow | Y | Y | 2/19/1986 | 15 | 4 | 5.48 | 5.54 | 2.54 | -9.46 | 3 | 12 |
| AOI 6 | B-40 | | Destroyed | | 216938.477 | 2680955.7 | MW | Shallow | Y | Y | 2/18/1986 | 13 | 4 | 7.17 | 6.12 | 3.12 | -6.88 | 3 | 10 |
| AOI 6 | B-41 | | Destroyed | | 217614.988 | 2680836 | MW | Shallow | Y | Y | 2/21/1986 | 12 | 4 | 8.85 | 7.8 | 5.8 | -4.2 | 2 | 10 |
| AOI 6 | B-42 | | Destroyed | | 217060.496 | 2680219.3 | MW | Shallow | Y | Y | 2/19/1986 | 15 | 4 | 8.04 | 6.99 | 4.49 | -8.01 | 3 | 12.5 |
| AOI 6 | B-43 | | | | 217573.531 | 2680040.5 | MW | Shallow | Y | Y | 2/19/1986 | 14.5 | 4 | 7.21 | 7.14 | 4.14 | -7.36 | 3 | 11.5 |
| AOI 6 | B-44 | | Destroyed | | 217973.28 | 2680563.8 | MW | Shallow | Y | Y | 2/20/1986 | 15 | 4 | 8.21 | 7.16 | 4.16 | -5.84 | 3 | 10 |
| AOI 6 | B-45 | | | | 218353.448 | 2680392.9 | MW | Shallow | Y | Y | 2/20/1986 | 15 | 4 | 5.099 | 4.9 | 1.9 | -10.1 | 3 | 12 |
| AOI 6 | B-46 | | | | 218130.615 | 2681908.7 | MW | Shallow | Y | Y | 2/21/1986 | 12 | 4 | 8.03 | 8.32 | 6.32 | -3.68 | 2 | 10 |
| AOI 6 | B-47 | | | | 217433.612 | 2681963.1 | MW | Shallow | Y | Y | 2/21/1986 | 13 | 4 | 8.3 | 8 | 5 | -5 | 3 | 10 |
| AOI 6 | B-48 | | | | 217529.482 | 2682248.1 | MW | Shallow | Y | Y | 2/21/1986 | 14 | 4 | 6.5 | 6.8 | 2.8 | -7.2 | 4 | 10 |
| AOI 6 | B-48D | | | | 217521.709 | 2682250.7 | MW | Deep | Y | Y | 11/6/1986 | 55 | 4 | 9.82 | 8.77 | -36.23 | -46.23 | 45 | 10 |
| AOI 6 | B-92 | | | | 216966.376 | 2681497.7 | MW | Shallow | Y | Y | 10/21/1986 | 15.5 | 4 | 10.23 | 7.3 | 1.8 | -8.2 | 6 | 10 |
| AOI 6 | B-93 | | Destroyed | | 217477.661 | 2681561.5 | MW | Shallow | Y | Y | 10/22/1986 | 13.5 | 4 | 12.83 | 11.67 | 8.17 | -1.83 | 4 | 10 |
| AOI 6 | B-94 | | | | 217609.806 | 2683136.9 | MW | Shallow | Y | Y | 10/22/1986 | 14 | 4 | 10.35 | 7.21 | 3.21 | -6.79 | 4 | 10 |
| AOI 6 | B-95 | GP U 677-MW | | | 217541.104 | 2680372.6 | MW | Shallow | | | | | | 8.867 | 6.608 | | | | |
| AOI 6 | GP-19 | | Destroyed | | | | MW | Shallow | Y | Y | 9/11/2000 | 15 | | 7.8 | | | | 5 | 10 |
| AOI 6 | GP-22 | | Destroyed | | | | MW | Shallow | Y | Y | 9/11/2000 | 15 | | 7.5 | | | | 10 | 5 |
| AOI 6 | GP-3 | | Destroyed | | | | MW | Shallow | Y | Y | 9/8/2000 | 14 | | 7.6 | | | | 4 | 9 |
| AOI 6 | PH-36 | | Destroyed | | | | MW | | | | | | | | | | | | |
| AOI 6 | PH-37 | | Destroyed | | | | MW | | | | | | | | | | | | |

**Table 6**

**Existing Well Summary**
**AOI 6 Remedial Investigation Report**
**Philadelphia Refinery Operations, a Series of Evergreen Resources Group, LLC**

| AOI | Well ID | Former Well ID[2] | Well Status | Disposition of Well | Northing[3] | Easting[3] | Well Type[4] | Well Classification/ Hydrostratigraphic Unit[5] | Soil Boring Log Available (Y/N) | Construction Detail Available (Y/N) | Date of Well Completion | Well Construction Details[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Well Completion Depth (ft/bgs)[6] | Well Diameter (in)[7] | Top of Inner Casing Elevation (ft msl) (NAVD88)[8] | Ground Surface Elevation (ft msl) (NAVD88)[8] | Top of Screen Elev (ft msl) (NAVD88)[8] | Bottom of Screen Elevation (ft msl) (NAVD88)[8] | Depth to Screen (ft bgs)[8] | Screen Length (ft)[9] |
| AOI 6 | PH-39 | | Destroyed | | | | MW | | | | | | | | | | | | |
| AOI 6 | PH-42 | | Destroyed | | | | MW | | | | | | | | | | | | |
| AOI 6 | PS-1 | | Destroyed | | 217224.428 | 2681226.9 | MW | | N | N | | | | 9.02 | | | | | |
| AOI 6 | PZ-132A | | | | 216103.54 | 2680865.9 | Piezometer | Shallow | Y | Y | 3/8/2001 | 10 | 1 | 10.15 | 8.12 | 3.12 | -1.88 | 5 | 5 |
| AOI 6 | PZ-132B | | Destroyed | | | | Piezometer | Shallow | Y | Y | 3/8/2001 | 10 | 1 | | | | | 5 | 5 |
| AOI 6 | PZ-134A | | Destroyed | | | | Piezometer | Shallow | Y | Y | 3/8/2001 | 10 | 1 | | | | | 5 | 5 |
| AOI 6 | PZ-134B | | Destroyed | | | | Piezometer | Shallow | Y | Y | 3/8/2001 | 10 | 1 | | | | | 5 | 5 |
| AOI 6 | PZ-135A | | | | 216284.976 | 2680664 | Piezometer | Shallow | Y | Y | 3/8/2001 | 10 | 1 | 10.18 | 8.57 | 3.57 | -1.43 | 5 | 5 |
| AOI 6 | PZ-135B | | | | 216290.237 | 2680656.2 | Piezometer | Shallow | Y | Y | 3/8/2001 | 10 | 1 | 10.21 | | | | 5 | 5 |
| AOI 6 | RW-9 | | | | 216561.837 | 2681445.9 | RW | Shallow | Y | Y | | | | 8.76 | 5.88 | | | | |
| AOI 6 | SUMP-1 | | | | 217217.47 | 2681190.8 | RW | Shallow | Y | Y | 11/1/2001 | 10 | 6 | 10.7 | | | | 0 | 10 |
| AOI 6 | U-1 | | | | 216621.098 | 2681638.4 | MW | Shallow | N | N | | | | 10.7 | 7.22 | | | | |
| AOI 6 | U-2 | | | | 216693.553 | 2681797.9 | MW | Shallow | N | N | | | | 9.39 | 7.13 | | | | |
| AOI 6 | U-3 | | | | 216811.345 | 2681941 | MW | Shallow | N | N | | | | 9.8 | 6.84 | | | | |
| AOI 6 | U-4 | | | | 216875.006 | 2682042.6 | MW | Shallow | N | N | | | | 9.22 | 6.64 | | | | |
| AOI 6 | U-5 | | | | 216800.942 | 2681801.5 | MW | Shallow | N | N | | | | 9.79 | 7.6 | | | | |
| AOI 6 | URS-1 | B-132U | | | 216100.512 | 2680858.7 | MW | Shallow | N | N | | | | 10.02 | | | | | |
| AOI 6 | URS-2 | B-133U | Unable to Locate | | 216725.578 | 2681726.7 | MW | Shallow | N | N | | | | 7.89 | | | | | |
| AOI 6 | URS-3 | B-134U | | | 216761.463 | 2681038.8 | MW | Shallow | N | N | | 18 | | 7.6 | | | | | |
| AOI 6 | URS-4 | B-135U | | | 216277.495 | 2680670.6 | MW | Shallow | N | N | | | | 9.941 | | | | | |
| AOI 6 | URS-5 | B-136U | | | 216793.509 | 2680400.6 | MW | Shallow | N | N | | 14 | | 7.94 | | | | | |
| AOI 6 | WP10-1 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP10-2 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP11-1 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP11-10 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP11-11 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP11-12 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP11-2 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP11-3 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP11-4 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |

**Table 6**

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**AOI 6 Remedial Investigation Report**
**Philadelphia Refinery Operations, a Series of Evergreen Resources Group, LLC**

| AOI | Well ID | Former Well ID[2] | Well Status | Disposition of Well | Northing[3] | Easting[3] | Well Type[4] | Well Classification/ Hydrostratigraphic Unit[5] | Soil Boring Log Available (Y/N) | Construction Detail Available (Y/N) | Date of Well Completion | Well Construction Details[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Well Completion Depth (ft/bgs)[6] | Well Diameter (in)[7] | Top of Inner Casing Elevation (ft msl) (NAVD88)[8] | Ground Surface Elevation (ft msl) (NAVD88)[8] | Top of Screen Elev (ft msl) (NAVD88)[8] | Bottom of Screen Elevation (ft msl) (NAVD88)[8] | Depth to Screen (ft bgs)[8] | Screen Length (ft)[9] |
| AOI 6 | WP11-5 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP11-6 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP11-7 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP11-8 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP11-9 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP12-1 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP12-2 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP12-3 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP12-4 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP12-5 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP16-1 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP16-2 | | | | 216956.412 | 2682316.8 | MW | | | | | | | | 13.59 | | | | |
| AOI 6 | WP16-2 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | 13.59 | 13.09 | 3.09 | 1 | 10 |
| AOI 6 | WP16-3 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP16-4 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP16-5 | | Destroyed | | 216990.29 | 2682366.6 | Temporary Well Point | Shallow | Y | Y | 6/21/1993 | 10.5 | 2 | 13.57 | | | | 1 | 10 |
| AOI 6 | WP17-1 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP17-2 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP17-3 | | Destroyed | | | | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP8-1 | | Destroyed | | | | Temporary Well Point | | Y | Y | 5/25/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP8-2 | | Destroyed | | | | Temporary Well Point | | Y | Y | 5/25/1993 | 10.5 | | | | | | 1 | 10 |

**Table 6**

**Existing Well Summary**
**AOI 6 Remedial Investigation Report**
**Philadelphia Refinery Operations, a Series of Evergreen Resources Group, LLC**

| AOI | Well ID | Former Well ID[2] | Well Status | Disposition of Well | Northing[3] | Easting[3] | Well Type[4] | Well Classification/ Hydrostratigraphic Unit[5] | Soil Boring Log Available (Y/N) | Construction Detail Available (Y/N) | Date of Well Completion | Well Construction Details[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Well Completion Depth (ft/bgs)[6] | Well Diameter (in)[7] | Top of Inner Casing Elevation (ft msl) (NAVD88)[8] | Ground Surface Elevation (ft msl) (NAVD88)[8] | Top of Screen Elev (ft msl) (NAVD88)[8] | Bottom of Screen Elevation (ft msl) (NAVD88)[8] | Depth to Screen (ft bgs)[8] | Screen Length (ft)[9] |
| AOI 6 | WP8-3 | | Destroyed | | | | Temporary Well Point | | Y | Y | 5/25/1993 | 10.5 | | | | | | 1 | 10 |
| AOI 6 | WP9-1 | | Destroyed | | 216858.765 | 2681350.3 | Temporary Well Point | Shallow | Y | Y | 5/26/1993 | 9 | | | 7.9 | 7.4 | -2.1 | 1 | 9.5 |
| AOI 6 | WP9-2 | | Unable to Locate | | 216787.024 | 2681262.6 | Temporary Well Point | Shallow | Y | Y | 5/26/1993 | 10.5 | | 6.01 | | | | 1 | 10 |
| AOI 6 | WP9-3 | | Damaged | Obstruction in well | 216733.218 | 2681300.4 | Temporary Well Point | Shallow | Y | Y | 5/26/1993 | 9 | | 6.16 | | | | 1 | 9.5 |
| AOI 6 | WP9-4 | | | | 216537.48 | 2681422.1 | Temporary Well Point | Shallow | Y | Y | 6/14/1993 | 9 | | 9.04 | 5.8 | 5.3 | -4.2 | 1 | 9.5 |
| AOI 6 | WP9-5 | | Destroyed | | 216613.65 | 2681159 | Temporary Well Point | | Y | Y | 6/14/1993 | 10.5 | | | -1.05 | -1.55 | -11.55 | 1 | 10 |
| AOI 6 | WP9-6 | | Destroyed | | 216850.79 | 2681081.2 | Temporary Well Point | | Y | Y | 6/11/1993 | 10.5 | | | 10.02 | 9.52 | -0.48 | 1 | 10 |
| AOI 6 | WPM-1 | | Destroyed | | 217185.58 | 2682396.5 | Temporary Well Point | | | | | | | | 13.8 | | | | |
| AOI 6 | WPM-10 | | Destroyed | | 217022.175 | 2682342.7 | Temporary Well Point | | | | | | | | 9.99 | | | | |
| AOI 6 | WPM-11 | | | | 217105.984 | 2682370.8 | Temporary Well Point | Shallow | | | | | | 6.509 | 6.858 | | | | |
| AOI 6 | WPM-2 | | Repaired | Converted to Flush Mount | 217072.188 | 2682472.1 | Temporary Well Point | Shallow | | | | | | 7.47 | 7.964 | | | | |
| AOI 6 | WPM-3 | | | | 217085.439 | 2682433.1 | Temporary Well Point | Shallow | | | | | | 8.031 | 7.964 | | | | |
| AOI 6 | WPM-4 | | Destroyed | | 217323.088 | 2682639.6 | Temporary Well Point | | | | | | | 14.06 | 13.01 | | | | |
| AOI 6 | WPM-5 | | Destroyed | | | | Temporary Well Point | | | | | | | 14.18 | 13.13 | | | | |
| AOI 6 | WPM-6 | | Destroyed | | 217139.75 | 2682446.3 | Temporary Well Point | | | | | | | 14.35 | 13.3 | | | | |
| AOI 6 | WPM-7 | | Destroyed | | 217235.212 | 2682631 | Temporary Well Point | | | | | | | | 14.68 | | | | |
| AOI 6 | WPM-8 | RWM-8 | Destroyed | | 217025.191 | 2682447.5 | Temporary Well Point | | | | | | | 12.61 | | | | | |
| AOI 6 | WPM-9 | | Destroyed | | | | Temporary Well Point | | | | | | | 16.5 | 15.45 | | | | |

Notes:

1. Well construction details were obtained from well boring logs provided by historic reports.
2. Former Well IDs were derived from handwritten notes on boring logs or as referenced in historic reports.

**Table 6**

**Existing Well Summary**
**AOI 6 Remedial Investigation Report**
**Philadelphia Refinery Operations, a Series of Evergreen Resources Group, LLC**

| AOI | Well ID | Former Well ID[2] | Well Status | Disposition of Well | Northing[3] | Easting[3] | Well Type[4] | Well Classification/ Hydrostratigraphic Unit[5] | Soil Boring Log Available (Y/N) | Construction Detail Available (Y/N) | Date of Well Completion | Well Construction Details[1] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Well Completion Depth (ft/bgs)[6] | Well Diameter (in)[7] | Top of Inner Casing Elevation (ft msl) (NAVD88)[8] | Ground Surface Elevation (ft msl) (NAVD88)[8] | Top of Screen Elev (ft msl) (NAVD88)[8] | Bottom of Screen Elevation (ft msl) (NAVD88)[8] | Depth to Screen (ft bgs)[8] | Screen Length (ft)[9] |

3. Coordinate pairs are projected in the Pennsylvania State Plane Coordinate System (feet), referenced to the North American Datum of 1983 (NAD83).
4. MW = monitoring well; RW = recovery well
5. The hydrostratigraphic unit denotes the aquifer and/or mappable water-bearing stratum in which the well is interpreted to be screened by Stantec. Historic wells without lithologic logs, wells without as-built information, and/or destroyed wells were not assigned hydrostratigraphic units.
6. ft bgs = feet below ground surface
7. in = inches
8. NAVD88 = North American Vertical Datum of 1988
9. ft = feet

General Note:

Stantec presently maintains an electronic database from which these well records were extracted. Many of the well records in that database were translated from historic paper records, or from electronic tables received from other consultants. Maintenance of the electronic well database, including revisions to anomalous or missing information, is ongoing and as such this table may be subject to future revision.

# Attachment C
# RIR Figure 17, Appendix F Figure 16




Source: Microsoft Product Screen Shot(s) Reprinted with permission from Microsoft Corporation, Acquisition Date June 2014, Accessed: 2017

0 100 300ft

LEGEND

- B-174 SAMPLE LOCATION
- 0.00 LNAPL APPARENT THICKNESS (ft.)
- LNAPL PRESENT

EVERGREEN RESOURCES MANAGEMENT OPERATIONS LLC
PHILADELPHIA REFINERY - 3144 PASSYUNK AVENUE, PHILADELPHIA, PA
REMEDIAL INVESTIGATION REPORT

# LNAPL APPARENT THICKNESS
# MAY 11, 2016

11109613-01

Apr 10, 2018

FIGURE 17

CAD File: P:\drawings\11109000s\11109613\11109613-reports\11109613-01(002)\11109613-01(002)GN\11109613-01(002)GN-WA015.dwg




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0 100 300ft

LEGEND

- B-174 SAMPLE LOCATION
- 0.00 LNAPL APPARENT THICKNESS (ft.) (MAY 2016)
- LNAPL PRESENT

NOTE: NAPL TYPE AND WEATHERING INFORMATION SUPPLIED FROM STANTEC DATABASE, 2017.

GHD

EVERGREEN RESOURCES MANAGEMENT OPERATIONS LLC
PHILADELPHIA REFINERY - 3144 PASSYUNK AVENUE, PHILADELPHIA, PA
REMEDIAL INVESTIGATION REPORT

# LNAPL CHARACTERIZATION SAMPLES (GENERALIZED LNAPL TYPE AND WEATHERING)

11109613-01

Apr 10, 2018

FIGURE 16

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# Attachment D
# Appendix F



# Light Non-Aqueous Phase Liquid Conceptual Site Model Area of Interest 6

## Appendix F

Girard Point Refinery
3144 Passyunk Avenue
Philadelphia Energy Solutions Complex
Philadelphia, Pennsylvania

**GHD** | 1140 Welsh Road Suite 120 North Wales Pennsylvania 19454 United States

11109613 | Report No 1 | Appendix F | November 21 2017 (Revised April 10 2018)

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# Acronyms and Abbreviations

| | |
|---|---|
| ANT | apparent NAPL thickness |
| AOI | Area of Interest |
| API | American Petroleum Institute |
| ASTM | American Society for Testing and Materials |
| cm/s | centimeters per second |
| $cm^2$ | square centimeters |
| $cm^3s/g$ | cubic centimeter seconds per gram |
| cP | centipoise |
| Evergreen | Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC |
| ft | Feet or foot |
| g/ml | grams per milliliter |
| IST | Integrated Science & Technology, Inc. |
| ITRC | Interstate Technology & Regulatory Council |
| $K_i$ | intrinsic permeability |
| $K_{ro}$ | LNAPL relative permeability |
| LCSM | LNAPL Conceptual Site Model |
| LDRM | LNAPL Distribution and Recovery Model |
| LNAPL | Light Non-aqueous Phase Liquid |
| $M_o$ NAPL | LNAPL mobility term<br>Non-aqueous Phase Liquid |
| PADEP | Pennsylvania Department of Environmental Protection |
| PES Complex | Philadelphia Refining Complex |
| $Q_0$ | LNAPL discharge rate |
| $Q_w$ | water discharge rate |
| RIR | Remedial Investigation Report |
| SCR | Site Characterization Report |
| SECOR | Secor International Inc. |
| Site | AOI 4 of the PES Complex |
| Stantec | Stantec Consulting Services Inc. |
| Sunoco | Sunoco, Inc. |
| $T_n$ | LNAPL Transmissivity |
| $T_w$ | aquifer transmissivity |
| USEPA | U.S. Environmental Protection Agency |
| $\mu_o$ | LNAPL dynamic viscosity |
| $\rho_r$ | LNAPL/water density ratio |

# Glossary

**Capillary Pressure:** The difference between the fluid pressure in the non-wetting phase (typically LNAPL) and the pressure in the wetting phase (typically water) at a given reference point. This pressure may also be referred to as the "excess pressure". The larger the capillary pressure, the greater the LNAPL saturation and the greater the potential for LNAPL mobility. For LNAPL movement or migration to occur, capillary pressure must exceed the resistive forces in the soil formation.

**Confined Condition:** A subsurface condition where pore fluids are under pressure at all reference points or elevations. In a confined condition, in-well LNAPL thickness varies directly with potentiometric surface elevation. Hence, an increase in the potentiometric surface elevation leads to an increase in in-well LNAPL thickness, and vice versa. LNAPL within the secondary porosity (fractures, fissures, seams) of fine textured soils (silts and clays) is often present in a confined condition. Confined conditions will often produce in-well LNAPL thicknesses that grossly over-represent the extent of impacts in the formation.

**$C_{sat}$:** The theoretical limit of a soil's ability to effectively hold or contain a chemical constituent (or mixture) in the adsorbed, dissolved and vapor phases. Total soil concentrations in excess of a chemical constituent's (or mixture's) corresponding $C_{sat}$ value will typically be assumed to indicate the presence of LNAPL. Published $C_{sat}$ values will have limited use at LNAPL sites due to the site-specific nature of LNAPL composition and the difficulty in determining appropriate $C_{sat}$ values for complex petroleum mixtures consisting of hundreds of individual chemical constituents.

**Effective Solubility:** Different than pure-phase solubility, effective solubility describes the ability of a chemical constituent from a mixture to dissolve in water in the presence of other constituents in the mixture. It is a particularly important consideration for LNAPLs that are complex petroleum mixtures. Effective solubility is a function of the mole fraction of the constituent in the mixture, and is commonly orders of magnitude less than the constituent's corresponding pure-phase solubility. Groundwater concentrations in excess of a petroleum constituent's effective solubility will typically indicate the presence of LNAPL in the vicinity of a monitoring well.

**Interfacial Tensions:** The tension or attractive forces between two fluids along the interface of contact with one another. The interfacial tension between LNAPL and water in the subsurface tends to limit the ability of LNAPL to move.

**Laser-Induced Fluorescence (LIF):** A real-time LNAPL delineation technology that uses ultraviolet wavelengths of light to cause polycyclic aromatic hydrocarbons (PAHs) to fluoresce. All petroleum-based LNAPLs contain PAHs, allowing the use of LIF to detect the presence of LNAPL. LIF is employed in the field using direct-push techniques to delineate LNAPL impacts in the subsurface laterally and vertically (both above and below the water table). LIF also provides an indication of the intensity of impacts across an LNAPL body and the types of LNAPL encountered.

**LNAPL:** Light non-aqueous phase liquid. LNAPLs are immiscible fluids that are less dense than water, and may be comprised of a pure chemical or solvent, or comprised of a complex mixture of chemicals, such as petroleum-based fuels. The term "LNAPL" most often refers to immiscible petroleum mixtures/fuels (i.e., gasoline, kerosene, diesel, crude oil, etc.).

**LNAPL Body:** The multi-phase fluid zone of LNAPL impacts in the subsurface. An LNAPL body is comprised of three fluids: air, LNAPL and water. Generally speaking, an LNAPL body is predominantly comprised of water, with a lesser amount of LNAPL, and the least amount of air.

**LNAPL Conductivity:** A hydrogeological term that helps describe the ability of LNAPL to move through the subsurface. LNAPL conductivity accounts for the LNAPL relative permeability, hydraulic conductivity, and the densities and viscosities of the fluids (water and LNAPL). LNAPL conductivity is a function of and varies directly with LNAPL relative permeability. Hence, an increase in LNAPL relative permeability results in an increase in LNAPL conductivity, and vice versa.

**LNAPL Migration:** A description of the expansion of the perimeter of an unstable LNAPL body in some or all directions (i.e., footprint of the overall LNAPL body or body periphery is continuing to grow). All migrating LNAPL is mobile; not all mobile LNAPL is migrating. Mobile LNAPL can be present within the interior of an LNAPL body that is not migrating.

**LNAPL Mobility:** A description of the potential for LNAPL to move at any point within an LNAPL body. LNAPL may be mobile where the LNAPL is continuous at saturations above residual saturation. Because LNAPL residual saturation within a LNAPL body varies from the vadose zone to the saturated zone, LNAPL mobility may also vary due to fluctuations in the water table elevation. The presence of mobile LNAPL within an LNAPL body does not necessarily mean that the LNAPL body as a whole is unstable or migrating.

**LNAPL Pressure Head:** The LNAPL pressure conditions at any point within an LNAPL body created by the release conditions. The pressure head can result from the vertical column of LNAPL due to accumulation at or in the vicinity of the water table from a surface or near-surface source (e.g., tank), or from other pressure conditions at the time of the release (e.g., pressure conditions of a subsurface pipeline release). The greater the pressure head, the more the LNAPL will penetrate into the water table (both vertically and laterally) and spread. Once the pressure head dissipates (i.e., source of release is terminated), the LNAPL will soon after cease to migrate and achieve a stable perimeter.

**LNAPL Relative Permeability:** A measure of the porous medium's (soil's) ability to enable movement of LNAPL in the subsurface in the presence of water. LNAPL relative permeability is a function of and varies directly with LNAPL saturation. Hence, an increase in LNAPL saturation results in an increase in LNAPL relative permeability, and vice versa.

**LNAPL Residual Saturation:** The LNAPL saturation level or threshold below which LNAPL will not flow under normal hydraulic conditions. LNAPL present at saturations that are less than or equal to residual saturation levels (i.e., within the residual range) will generally be considered to be immobile and unrecoverable. Conceptually speaking, LNAPL residual saturation represents the LNAPL saturation threshold where the LNAPL, due to its relatively low saturation, starts to break-up or become discontinuous in the form of droplets, stringers, ganglia, etc. As LNAPL saturation approaches or decreases to residual, the relative permeability of the LNAPL approaches zero, and the conductivity of the LNAPL approaches zero. The more LNAPL that initially saturates the soil pore space during a release, the higher the residual saturation will be (up to a theoretical maximum). Consequently, LNAPL residual saturation also varies continuously within an LNAPL body.

**LNAPL Saturation:** The percent of the soil pore space that is occupied by LNAPL. LNAPL saturation at a given point in the subsurface will be proportional to the capillary pressure at that point (i.e., the greater the capillary pressure, the greater the resulting LNAPL saturation). Because the capillary pressure varies throughout the impacted zone, the LNAPL saturation also varies accordingly. The larger the soil pore space, the greater the ability for the soil to hold LNAPL, the greater the LNAPL saturation, and vice versa.

**LNAPL Stability:** A description of the potential for the perimeter or footprint of an LNAPL body to move or expand over time. A LNAPL body that is moving or expanding (i.e., footprint of LNAPL body is growing) is deemed to be unstable or migrating. Conversely, a LNAPL body that is not moving or expanding with time is deemed to be stable, immobile, or non-migrating. Stable LNAPL bodies can contain localized areas of mobile LNAPL, with the overall footprint remaining unchanged over time.

**LNAPL Velocity:** The speed and direction at which the LNAPL can travel, based on Darcy flow principles. LNAPL velocity is based on the properties of the porous medium and fluids (water and LNAPL), pore fluid saturations, and the LNAPL gradient. LNAPL velocity only applies within the LNAPL body where there is continuous LNAPL at saturations above residual. There is no LNAPL velocity or movement within an LNAPL body where the LNAPL is not continuous and saturations are below residual. In addition, there is no LNAPL velocity or movement outside of a stable LNAPL body.

**Non-Wetting Fluid:** The fluid that does not preferentially coat the soil grains or particles in a multi-phase fluid system, but rather occupies the middle of the larger soil pores. In an air-water-LNAPL system (typical of an LNAPL body), both air (primarily in the unsaturated portion of the smear zone) and LNAPL (primarily in the saturated portion of the smear zone) tend to be the non-wetting fluids.

**Pore Entry Displacement Pressure:** The threshold pressure necessary for one fluid to enter into a porous medium occupied by another fluid, thereby displacing the fluid originally present. Pore entry displacement pressures may account for air displacing groundwater, LNAPL displacing groundwater, air displacing LNAPL, etc. In a water-saturated soil, the capillary pressure must equal or exceed the pore entry displacement pressure for the LNAPL to move and displace water.

**Soil Resistive Forces:** The forces that act to prevent the movement of LNAPL in a water-saturated porous medium. These forces, which are based on pore entry displacement pressure principles, account for the contact angle or wettability of the fluids (LNAPL and water), the interfacial tension between the fluids, and the soil pore size. LNAPL movement will only occur if the capillary pressure is sufficient to overcome the soil resistive forces.

**Unconfined Condition:** A subsurface condition with identical or similar pressure-related fluid characteristics to an unconfined aquifer or water table condition. LNAPL within the primary porosity of granular soils (sands and gravels) in a water table/phreatic surface setting is deemed to be in an unconfined condition. In an unconfined condition, in-well LNAPL thickness varies inversely with water table elevation. Hence, an increase in the water table elevation leads to a decrease in in-well LNAPL thickness, and vice versa.

**van Genuchten Parameters:** Curve fitting parameters that describe how water drains from a given soil in response to increasing pressure conditions. These parameters serve as critical inputs for LNAPL modeling simulations.

**Wetting Fluid:** The fluid that preferentially coats the soil grains or particles in a multi-phase fluid system. In an air-water-LNAPL system (typical of an LNAPL body), water typically acts as the wetting fluid while air and LNAPL act as non-wetting fluids. The wetting fluid is typically the predominant fluid present in a multi-phase fluid system.

# 1. Introduction

GHD has prepared this Light Non-aqueous Phase Liquid (LNAPL) Conceptual Site Model (LCSM) report on behalf of Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC (Evergreen), for Area of Interest (AOI) 6 (Site) at the Philadelphia Energy Solutions Refining and Marketing LLC (PES) Philadelphia Refining Complex (Complex) (Figure 1 of the main report). Detailed evaluation of Site background, geology, and hydrogeology is provided in the AOI 6 Remedial Investigation Report (RIR) (GHD, 2016).

The purpose of the LCSM is to communicate Site conditions with respect to subsurface impacts associated with historical petroleum releases. The impacts are described in terms of the release scenario, inferred source area(s), potential subsurface migration pathways, spatial and temporal distribution of LNAPL, and potential mobility. The information presented in the LCSM is intended to establish a framework which allows stakeholders to make informed environmental management decisions regarding the Site. Understanding current conditions is fundamental to the development of the LCSM and allows a platform for data extrapolations and prediction of future conditions. As new information becomes available, the LCSM should be modified, as necessary, to reduce uncertainties and improve the understanding of Site conditions.

# 2. Fundamentals of LNAPL Behavior

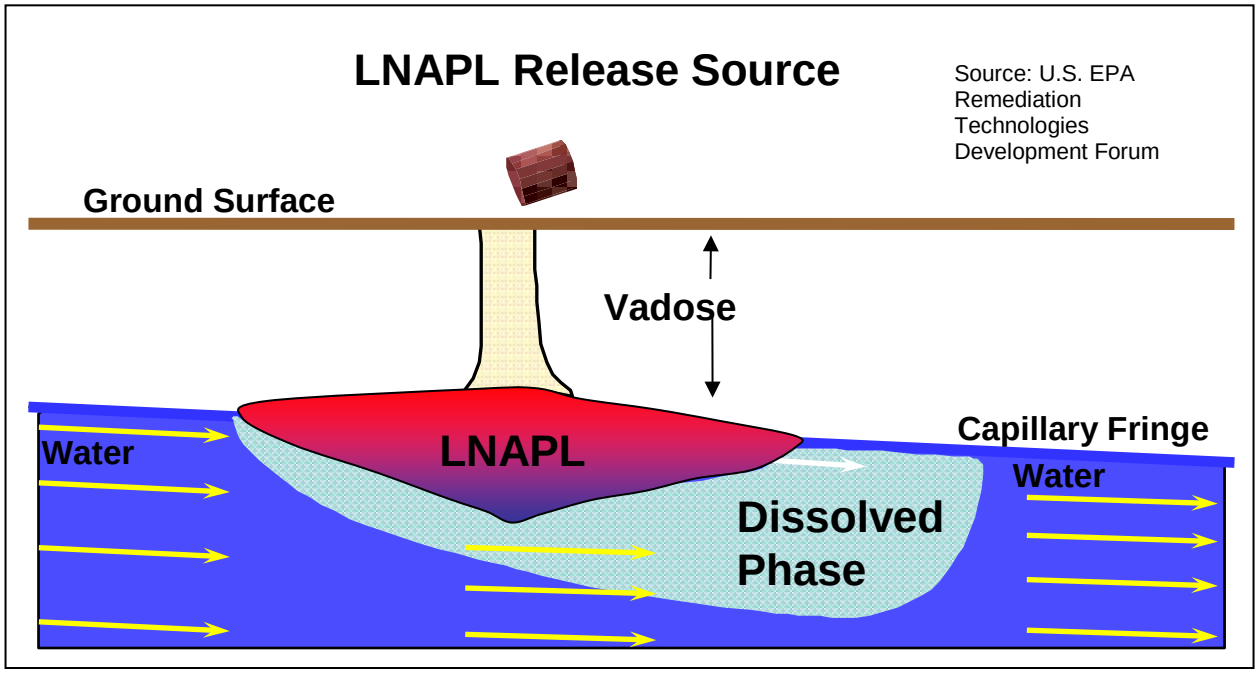
This section addresses LNAPL behavior at the water table (i.e., unconfined condition) and includes the vertical impacted soil zone typically referred to as the smear zone. The smear zone is where potentially mobile LNAPL may reside at sites where the source(s) of the LNAPL impacts have ceased for some time (i.e., no ongoing sources). The behavior of LNAPL in the vadose or unsaturated zone (above the smear zone) is not addressed here since LNAPL in these zones (particularly at older release sites) is often present at low saturations, and does not typically pose a potential for additional LNAPL migration at the water table.

## 2.1 LNAPL Release Dynamics and the Creation of a Multi-Phase Fluid System

When an LNAPL release occurs, the LNAPL will move vertically downward under the influence of gravity through the soil and, if sufficient LNAPL head is generated, eventually encounter the water table. During the downward movement of LNAPL toward the water table, the presence of confining layers and/or other subsurface heterogeneities may result in exaggerated and uneven lateral spreading and/or perching of LNAPL before the water table is encountered. Once at the water table, the LNAPL will penetrate vertically downward and laterally (including in the up-gradient direction) into the water table, displacing an amount of water proportional to the driving force of the vertical LNAPL column (or LNAPL head) created by the release. The displacement of groundwater will continue to occur as long as the downward force produced by the LNAPL head or pressure from the LNAPL release exceeds the upward force produced by the resistance of the soil matrix and the buoyancy force resulting from the density difference between LNAPL and groundwater. Once the release of LNAPL is terminated, the LNAPL footprint at the water table will continue to expand for a

relatively short time, and eventually stop once the LNAPL head dissipates. The LNAPL eventually ceases to expand because the driving force (pressure or head) responsible for the LNAPL migration is no longer sufficient to overcome the resistive forces necessary to displace groundwater from unimpacted soil pores. When the LNAPL body reaches this state, the LNAPL body is referred to as stable or non-migrating. A conceptual schematic of a stable LNAPL body is provided on Figure 1.

Figure 1 Typical LNAPL Release Scenario with Resulting LNAPL Body at Water Table

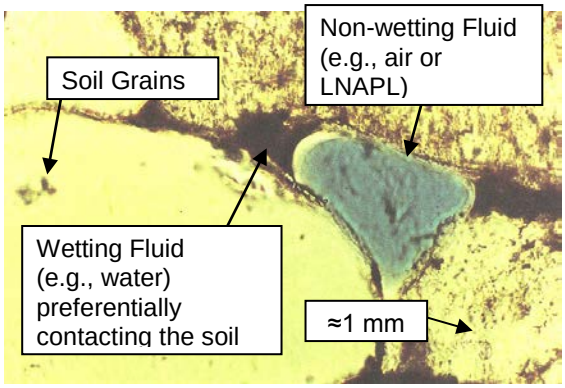



The concept of LNAPL penetrating vertically into the saturated zone (i.e., below the water table) during a release contradicts earlier beliefs that LNAPL completely "floats" like a pancake (filling 100 percent of the soil pore space within the LNAPL impacted zone on top of the water table) due to it being less dense than water, with no portion of the LNAPL penetrating into the saturated zone. Recent LNAPL science and significant empirical evidence have consistently demonstrated that some LNAPL (and often times the majority of LNAPL at a given site) is commonly submerged beneath the theoretical water table surface. Further, LNAPL does not displace all groundwater from the soil pore space, but rather a portion of the groundwater that occupies the "largest" soil pore space only. Consequently, a typical LNAPL body consists of LNAPL filling much less of the soil pore space in a more highly variable and discontinuous distribution than the historical assumption based on the "pancake" conceptualization would indicate. The LNAPL body at the water table is not comprised of a single fluid phase (LNAPL) but rather comprised of multiple fluids, both LNAPL and water. The top portion of the LNAPL body often includes a third fluid phase: air. Therefore, the term "LNAPL body" represents the spatial limits of LNAPL impacts, within which exists a multi-phase fluid system comprised of LNAPL, water and/or air in proportions that will vary throughout. Furthermore, because of the multi-phase nature of LNAPL occurrence in the subsurface, it is generally incorrect to refer to LNAPL as floating on the water table and is more appropriate to think of an LNAPL body as a zone of LNAPL impacts where the pore space contains varying quantities of LNAPL,

groundwater and/or air both above and below the static water table elevation. Generally speaking, the spatial extent occupied by an LNAPL body is predominantly comprised of water, followed by a lesser amount of LNAPL, with the smallest fraction of the pore space occupied by air. Figure 2 presents a pore-scale depiction of LNAPL and water co-existing in the soil pore space.

Figure 2 Photomicrograph of LNAPL and Water Distribution in Soil Pore Space

- LNAPL Co-exists with water in pore network
- Degree of saturation depends upon lithology and fluid properties
- LNAPL partially fills aquifer pore space




Source: U.S. EPA Remediation Technologies Development Forum

LNAPL at the water table requires pressure to move. Unlike groundwater (including dissolved phase constituents), which typically forms a continuous system with flow velocity based on hydraulic gradients, LNAPL, being a non-wetting fluid, requires pressure to force it through the soil pores and displace the existing pore water. More specifically, LNAPL needs sufficient capillary pressure to overcome the resistive forces in the soil to enable the continued displacement of groundwater. In a multi-phase (LNAPL/water) fluid system, capillary pressure (also referred to as excess pressure), is the difference between the pressure in the non-wetting phase (LNAPL) and the pressure in the wetting phase (groundwater). The capillary pressure necessary to overcome the resistive forces for a non-wetting LNAPL to enter water-saturated media is called the pore entry displacement pressure (Mercer and Cohen, 1990). That is, if sufficient pressure is acting on the LNAPL, it will be able to enter a given pore space by forcing some portion of the groundwater out. Once the pore entry displacement pressure is achieved or exceeded, the LNAPL will continue to expand in a vertical and radial direction until there is insufficient LNAPL head or pressure to continue to displace water. The LNAPL head will usually become insufficient to displace water and enter non-impacted pore space shortly after the LNAPL release is terminated. Hence, soon after the LNAPL release is terminated, the LNAPL body eventually becomes stable (i.e., spatial extent no longer moving or expanding).

Because the main mechanism for LNAPL spreading is the pressure/head of the release (during the release and until the LNAPL body stabilizes), the groundwater gradient will influence the direction of the LNAPL spreading to some extent, but groundwater flow will not typically induce additional LNAPL spreading or migration once stabilization has been achieved. In short, LNAPL movement is

not typically caused by horizontal hydraulic gradients (ASTM, 2007). It is also important to note that the radial component that is typical of LNAPL spreading can result in significant up-gradient and cross-gradient LNAPL spreading.

The porous media flow concepts that apply to groundwater systems (Darcy flow equations, etc.) also apply to LNAPL bodies, with two distinct differences. First, LNAPL conductivity (as opposed to water or hydraulic conductivity) includes a relative permeability term, which accounts for the negative influence of groundwater on the ability of LNAPL to flow, and the differences in density and viscosity between LNAPL and groundwater. Second, Darcy flow in an LNAPL body only applies where there is continuous LNAPL within the body. Hence, in any areas of discontinuous LNAPL within an LNAPL body or outside of a stable LNAPL body, there is no LNAPL flow or movement.

## 2.2 LNAPL Saturation

LNAPL saturation is defined as the percent of the soil pore space that is occupied by LNAPL. As previously discussed, LNAPL does not float on the water table like a pancake, but rather coexists with air and groundwater at varying saturations within the impacted soil zone, both above and below the water table. This is due to the fact that the saturation level of a given LNAPL at a given point in the subsurface will be proportional to the capillary pressure at that point (i.e., the greater the capillary pressure, the greater the resulting LNAPL saturation). Because the capillary pressure will vary throughout the impacted zone, the LNAPL saturation will also vary accordingly.

Geology plays an extremely important role with respect to LNAPL saturation (and mobility). The larger the soil pores in the primary porosity of the soil matrix, the greater the capacity for the soil to hold LNAPL, the greater the ease at which LNAPL can move, and the less pressure that is required for LNAPL to displace water and enter the pore space. Granular soils, such as sands and gravels, have large soil pores, relative to silts and clays, and can hold LNAPL at saturations upwards of 40 to 60 percent (although typical maximum saturations encountered in the field are usually in the 20 to 30 percent range). Conversely, silts and clays, which have extremely small soil pores relative to sands and gravels, will typically only allow LNAPL saturations on the order of 5 to 15 percent. The smaller soil pores not only limit the amount of LNAPL saturation, but also limit the flow or movement of LNAPL.

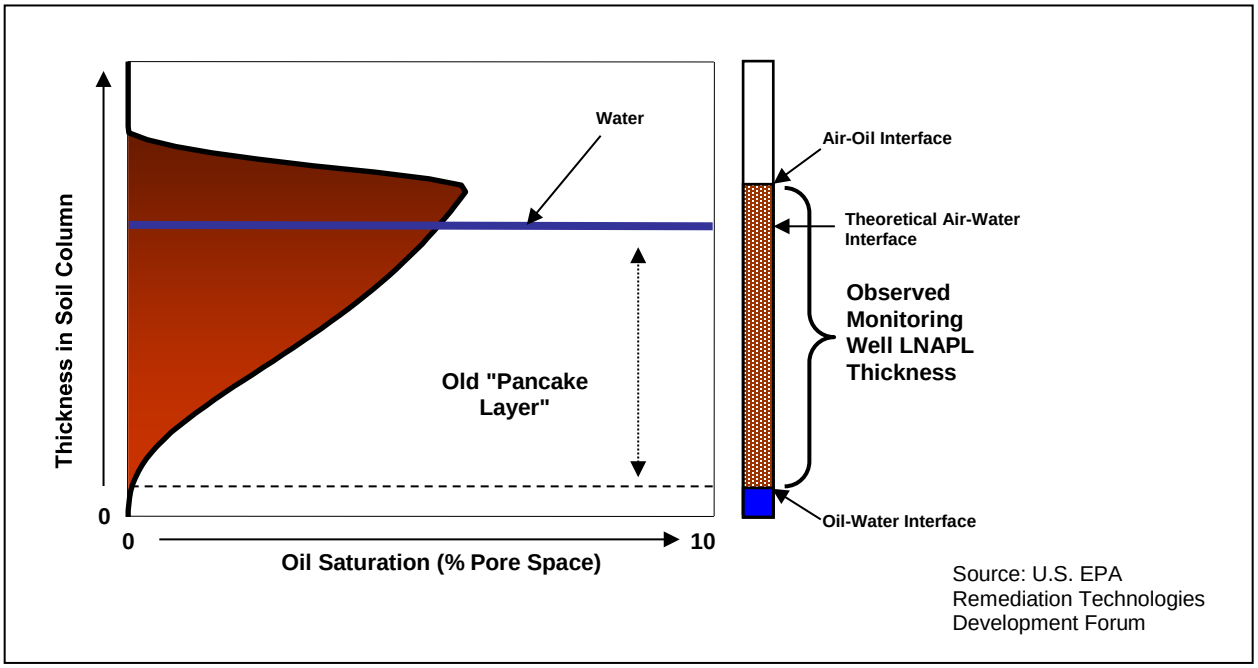
Soil porosity principles for LNAPL saturations and movement in overburden soil may also be applied to certain types of competent bedrock (i.e., bedrock that does not have secondary porosity in the form of fractures). For example, competent sandstone will enable LNAPL to behave in a similar manner as in a similar grain/pore sized sandy soil.

Secondary porosity also plays an extremely important role at LNAPL sites. Fine textured soils, such as silts and clays, are often comprised of a secondary porosity which may include macropores such as fractures, fissures, sand seams, etc. The same holds true for fractured bedrock. Many sites will also contain subsurface infrastructure usually associated with utilities that will constitute manmade macropores. LNAPL movement through secondary porosity may occur at rates several orders of magnitude greater than the movement through the primary porosity. This is primarily due to the fact that the macropores generally have much larger pore sizes than the primary porosity, with a corresponding pore entry displacement pressure that is much lower. That is, LNAPL can displace water and move through macropores much more easily and to a greater extent than it can in the

primary porosity of a fine-grained soil or rock matrix. Hence, the potential for LNAPL movement through secondary porosity must be considered when LNAPL impacts are present in fine textured soil, fractured bedrock, or where subsurface infrastructure coincides with the location of an LNAPL body.

Idealized LNAPL saturation profiles (in the vertical profile) can be generated (using LNAPL analytical models) based on in-well LNAPL thicknesses and the principles of capillary pressure. An idealized saturation profile used to illustrate the typical variation in LNAPL saturation above and below the theoretical water table in a homogenous granular soil with pore fluids at vertical equilibrium is shown on Figure 3.

Figure 3 Idealized LNAPL Saturation Profile Using Capillary Pressure Principles




The idealized LNAPL saturation profile on Figure 3 is based on the in-well LNAPL thickness identified in the monitoring well adjacent to the profile. Note that the saturation profile commences in the capillary fringe, above the corresponding air/LNAPL interface in the well, and continues down to the LNAPL/water interface in a non-linear manner. Note also that the highest degree of LNAPL saturation occurs in the formation at the approximate location of the air/LNAPL interface in the adjacent well. This type of saturation profile is also referred to as a capillary pressure prediction curve, and is based on the following critical assumptions: (1) the fluids (water and LNAPL) are in vertical equilibrium (i.e., not fluctuating up and down); and (2) the soil formation is homogeneous. These assumptions are required for the LNAPL saturation profile to accurately represent and correspond to the in-well LNAPL thickness. Figure 4 illustrates the conceptual depiction of pore scale fluid saturations through an LNAPL body, based on capillary pressure principles. Figure 5 shows how LNAPL saturation profiles can be depicted across an LNAPL body.

Figure 4 Distribution of Different Fluid Phases in a Typical LNAPL Body

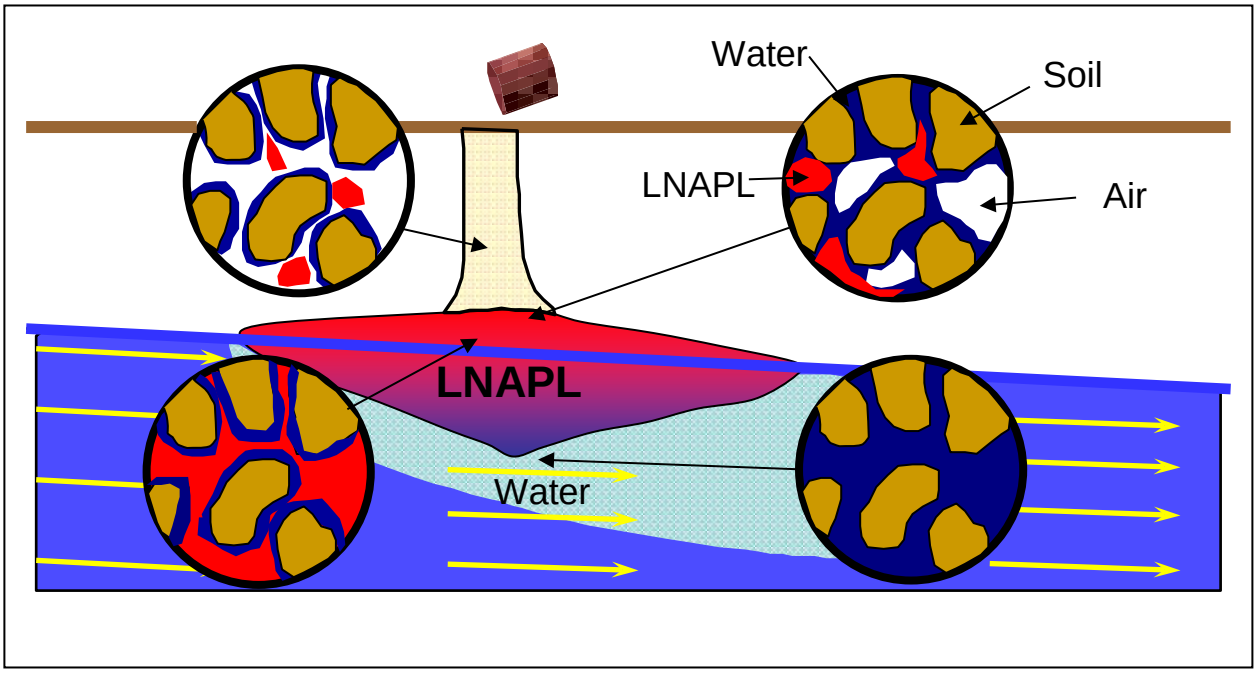
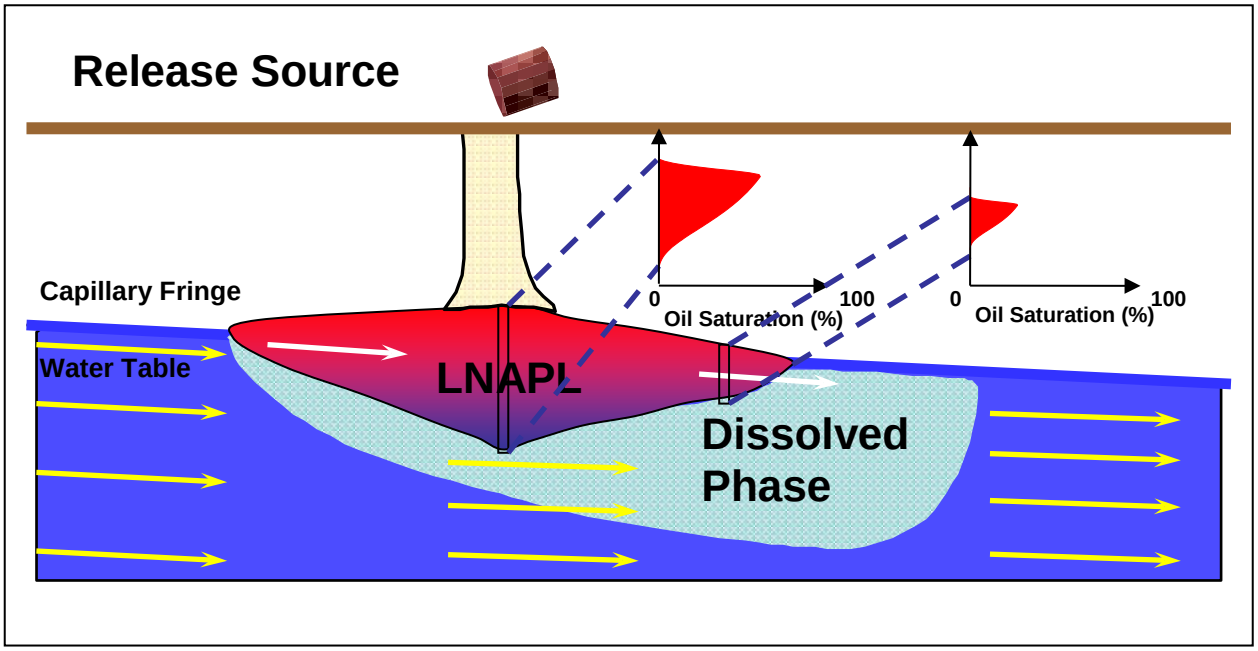



Figure 5 LNAPL Saturation Profile Changes with Respect to Location Within LNAPL Body




As previously discussed, geology plays an extremely important role with respect to LNAPL saturation. Figure 6 illustrates how LNAPL saturation profiles differ for varying types of soil (due to differences in soil pore size). Figure 7 illustrates how saturation profiles differ for a given soil with varying in-well LNAPL thicknesses.

Figure 6 LNAPL Saturation Profiles in Different Soil Types for a Given In-Well LNAPL Thickness

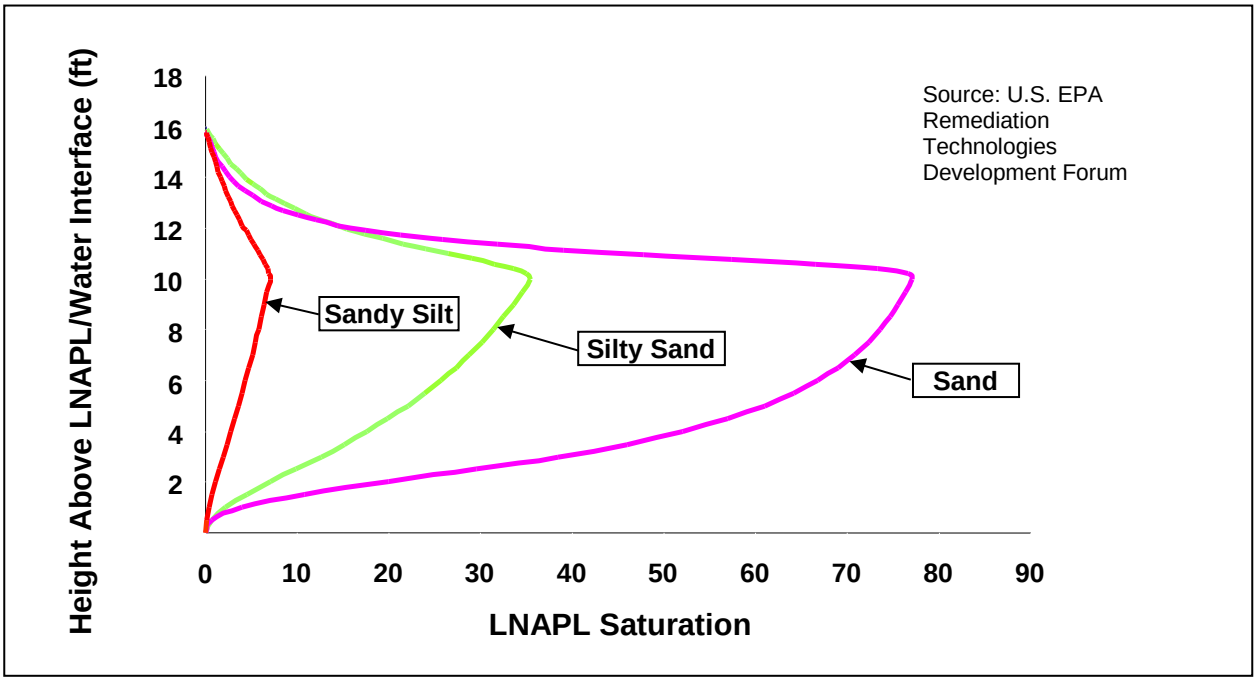
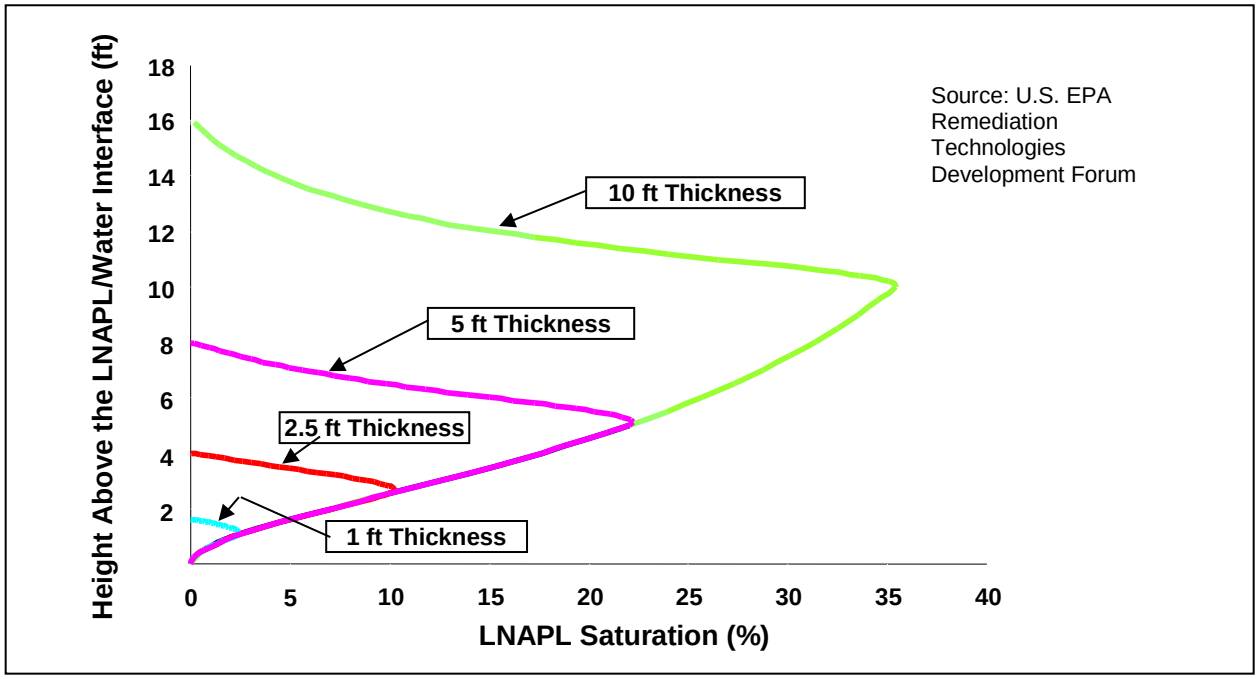



Figure 7 LNAPL Saturation Profiles for a Given Soil with Varying In-Well LNAPL Thicknesses



Again, capillary pressure predictions for LNAPL saturation profiles are based on idealized assumptions, which are useful from a theoretical standpoint to illustrate the multi-phase model of LNAPL occurrence and behavior. However, these assumptions will not be met at many environmental sites and in-well LNAPL thickness data will not typically provide an accurate depiction of the vertical extent of the LNAPL body in the adjacent soil. Where preferential pathways and/or other subsurface heterogeneities exist, LNAPL saturations can vary dramatically throughout an impacted zone and will be difficult or impossible to predict.

LNAPL saturations can be determined and/or measured by several methods:

1. Total petroleum hydrocarbon (TPH) soil concentrations can be converted to LNAPL saturations by the following calculation (ASTM International, 2007):

$$S_o = \frac{[TPH]}{10^6} \cdot \frac{\rho_{fb}}{\rho_o} \cdot \Theta^{-1}$$

Where:

$S_o$ = LNAPL saturation (fraction of pore space filled with LNAPL)

$[TPH]$ = total petroleum hydrocarbon soil concentration (mg/kg)

$\rho_{fb}$ = soil bulk density

$\rho_o$ = LNAPL/oil density

$\Theta^{-1}$ = total soil porosity

2. LNAPL-saturated soil core samples can be collected and tested at certain specialized petrophysical laboratories to directly determine LNAPL saturations (e.g., Dean-Stark extraction method).

3. Various tools are available from the API that can be used to estimate LNAPL saturations based on in-well LNAPL thickness observations and soil and LNAPL physical properties (i.e., the LNAPL Distribution and Recovery Model [LDRM]).

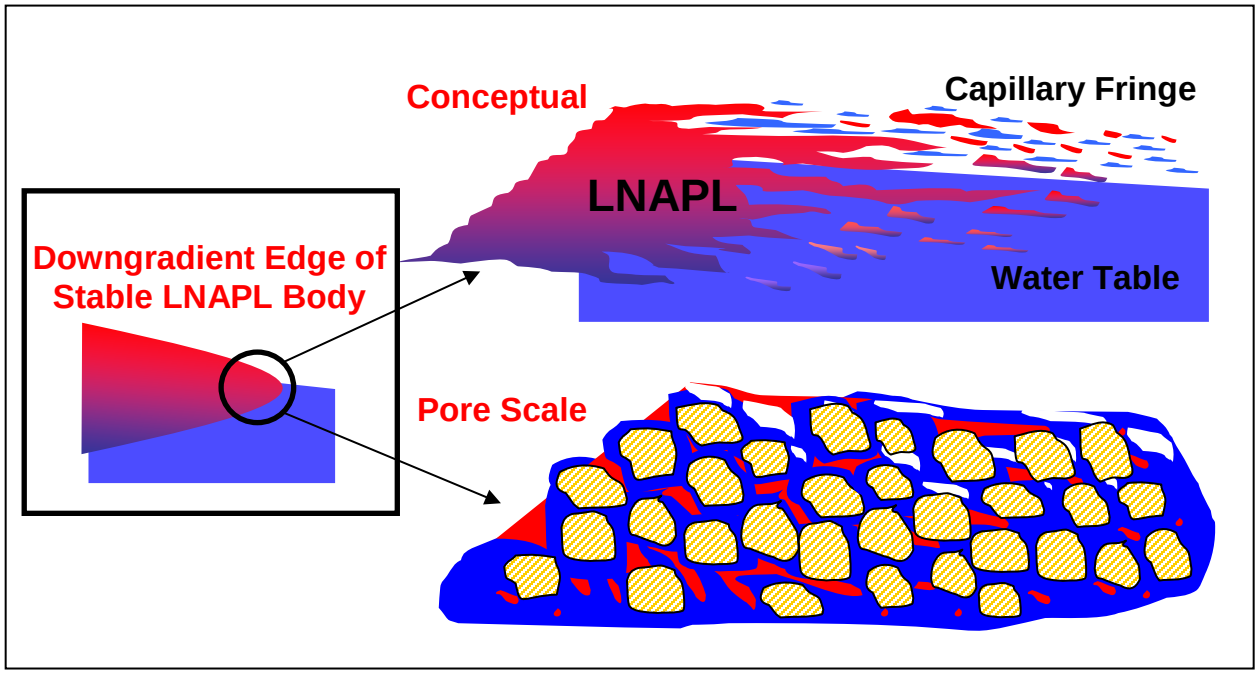
Method 3 is widely used, but generally less reliable than Methods 1 and 2 as it is primarily dependent upon in-well LNAPL thickness observations. As previously discussed, conditions at most environmental sites (i.e., water table fluctuations, subsurface heterogeneities, etc.) make any accurate correlation between in-well LNAPL thicknesses and the actual impacted interval in the adjacent soil formation difficult.

LNAPL saturations are dynamic, and will change over time as LNAPL initially displaces water (during vertical and lateral migration following a release), and is then subsequently displaced as water refills some fraction of the pore space when water table elevation increases (API, 2004). This process of vertical redistribution of LNAPL with water table fluctuations is commonly referred to as "smearing". LNAPL saturations can be expected to continue to change until such time as the LNAPL becomes sufficiently discontinuous, such that all saturations are at or below LNAPL residual saturation levels. A discussion of LNAPL residual saturation follows.

## 2.3 LNAPL Residual Saturation

LNAPL residual saturation is defined as the LNAPL saturation level or threshold below which LNAPL will not flow under normal hydraulic conditions. Consequently, LNAPL that is present at saturations that are less than or equal to residual saturation levels will generally be considered to be immobile and unrecoverable. Conceptually speaking, LNAPL residual saturation represents the LNAPL saturation threshold where the LNAPL, due to its relatively low saturation, starts to break-up or become discontinuous in the form of droplets, stringers, ganglia, etc. LNAPL residual saturation represents the amount of LNAPL trapped by capillary forces within the pore network that is hydraulically unable to move (Beckett, 2005). As LNAPL saturation approaches or decreases to residual, the relative permeability of the LNAPL approaches zero, and the conductivity of the LNAPL approaches zero. Figure 8 provides both a conceptual and pore scale illustration of LNAPL at residual saturation at a LNAPL body periphery.

Figure 8 Conceptualization of Discontinuous Residual LNAPL at LNAPL Body Periphery

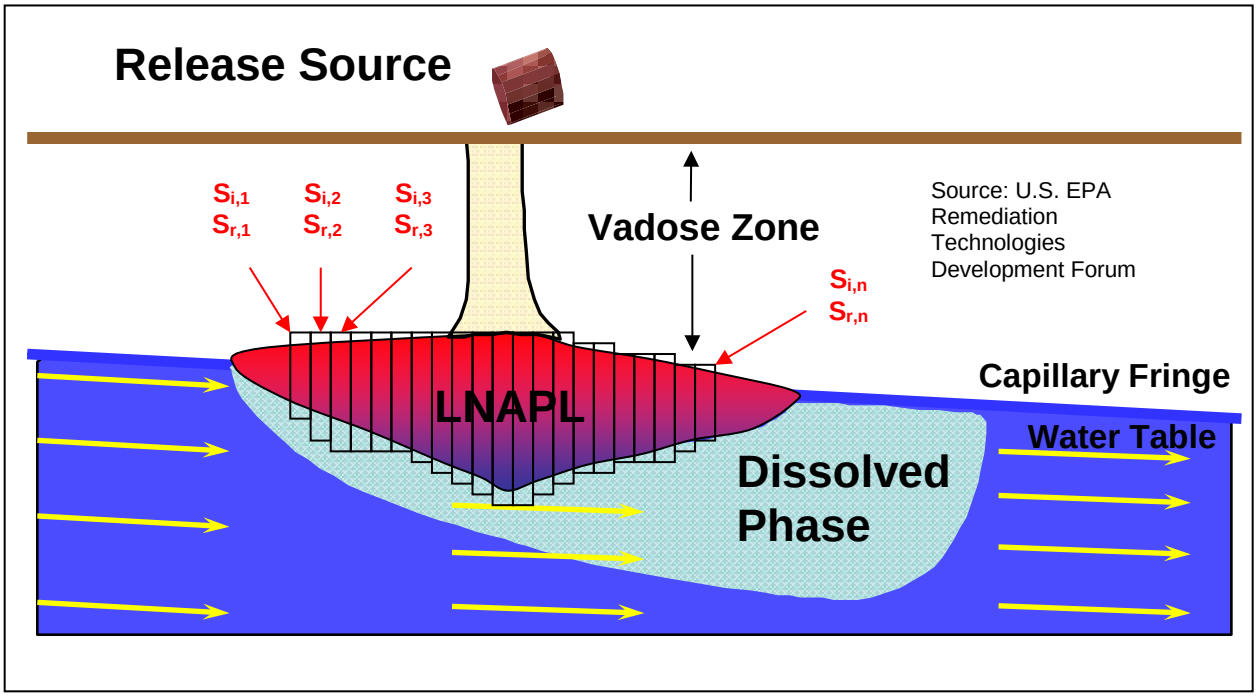



The greater the initial saturation at any point in an LNAPL body, the greater the residual saturation at that point (Johnston, C.D. and Adamski, M., 2005). In other words, the more LNAPL that initially enters a pore space, the more that will become trapped and unable to move out of the pore space. Hence, an entire LNAPL body will be comprised of a variety of initial saturation and corresponding residual saturation values depending on the reference point or location within the body (refer to Figure 9).

LNAPL residual saturation may be characterized as a "range" of saturations less than the highest residual saturation threshold value. At any given location within the LNAPL body, if the LNAPL saturation is equal to or less than the residual saturation threshold (i.e., the upper limit of residual saturation) for that location, then the saturation is deemed to be in the "residual range" which may

include any saturations above zero up to and including the residual saturation threshold. Under such conditions, the LNAPL would be deemed to be immobile.

Figure 9 LNAPL Residual Saturation as a Function of Initial Saturation




Residual LNAPL saturations can be determined by obtaining relatively undisturbed soil core samples from a site (maintained in a frozen state to prevent pore fluid drainage) and subjecting them to one of several different laboratory methods:

1. Oil/water drainage/imbibition capillary pressure testing: Involves spiking (via centrifuge) a sub-sample from the soil core with LNAPL up to its maximum saturation, then forcing water through under pressure to drain as much LNAPL as possible. Whatever LNAPL is left constitutes the residual LNAPL saturation.
2. Free product mobility testing via centrifuge at 1,000 times the force of gravity (Brady and Kunkel, 2005): Performed by taking a sub-sample from a soil core as-received (no pre-spiking with LNAPL) and spinning it in a centrifuge at 1,000 times the force of gravity (approximately equal to 40 to 50 psi applied to sample) for 1 hour. LNAPL remaining in the sample following the centrifuge represents the residual LNAPL saturation.
3. Water drive/flood testing: Involves forcing multiple (typically 10-15) pore volumes of water through a sub-sample from a soil core under 25 psi pressure. The LNAPL residual saturation is represented by the LNAPL that remains in the sample following the water drive.

Methods 1 and 2 both have aspects about the way the test is run that may result in residual saturation results that are unduly biased. For Method 1, recall that residual LNAPL saturation is a function of initial LNAPL saturation (i.e., the more LNAPL that occupies the pore space initially, the higher the residual saturation). The initial spiking of the sample with LNAPL in Method 1 may therefore produce a residual saturation result that is biased high compared with what would be

representative of an unspiked sample. With Method 2, the pressure applied during the test is so exceedingly high that it is far beyond the pressure conditions produced by typical hydraulic conditions at most sites. Furthermore, the elevated pressure utilized with Method 2 more often leads to the compression or collapse of the soil matrix during the test. When this occurs, one may not be able to conclude whether any LNAPL released from the sample during the test was the result of the applied gradient or the compression of the soil matrix "squeezing" LNAPL out of the sample. In either case, the results of Method 2 are likely to produce a residual saturation result that will be biased low and non-representative of actual site conditions, which may result in the conclusion that much more LNAPL may be recoverable at a given site than there actually is. Method 3 also involves an applied pressure that is likely to be higher than conditions at a typical environmental site; however, because the pressure is much lower than Method 2 and the method does not involve any pre-spiking of LNAPL as in Method 1, it is the method that is likely to produce the most representative results.

It is important to note that LNAPL residual saturation for a given LNAPL and soil type at a given location within the LNAPL body varies greatly between the unsaturated (vadose) and saturated zones. Generally speaking, LNAPL residual saturations in the vadose zone are much lower than corresponding residual saturations in the saturated zone. This is true because of the difference in densities between an air/LNAPL pair versus a LNAPL/water pair, and because of the difference in interfacial tensions between an air/LNAPL pair versus a LNAPL/water pair. LNAPL in the vadose zone has a much greater ability to drain under the force of gravity and flow into a monitoring well, as opposed to LNAPL that is submerged beneath the water table. Put simply, much less pressure is required for LNAPL to push air out of the way to enter a pore than would be required for LNAPL to do the same to groundwater. This also plays a role in the appearance and disappearance of LNAPL in wells resulting from fluctuations of the water table elevation. Typical LNAPL residual saturations in the vadose and saturated zones for given soil types are presented in Table 1 as follows (ITRC, 2009b):

Table 1 Representative LNAPL Residual Saturation Values for the Vadose and Saturated Zones

| Soil Type | Residual Saturation (Vadose) | Residual Saturation (Saturated) |
|---|---|---|
| Sand | 3% | 25% |
| Sandy Loam | 5% | 22% |
| Loam | 7% | 18% |
| Silty Loam | 7% | 16% |
| Sandy Clay | 7% | 10% |
| Silty Clay | 4% | 6% |

Note that the "saturated" residual saturation of LNAPL in a coarse grained material (sand) is much higher than the corresponding "saturated" residual saturation in a silt or clay. As previously discussed, this is due to the fact that a coarse grained soil has a much greater capacity to hold LNAPL (due to larger soil pores) than a fine textured soil. Hence, the LNAPL saturations and corresponding residual saturations in a coarse grained soil are typically much higher than the LNAPL saturations and residual saturations in a fine textured soil. As previously noted, secondary

porosity may control LNAPL flow in finer grained soils. Consequently, these typical values may or may not apply where this condition is present.

## 2.4 LNAPL Mobility and Body Stability

### 2.4.1 LNAPL Mobility

The mobility of LNAPL generally relates to its ability to move in a localized sense at any point within an LNAPL body, and does not necessarily represent a migrating LNAPL body. LNAPL mobility can be highly influenced by a fluctuating water table. The mobility of LNAPL is dependent on a variety of LNAPL properties (density, viscosity, interfacial tension) and soil properties (soil type(s) and drainage characteristics) and is often characterized in terms of LNAPL saturations (at any point within an LNAPL body) and the corresponding residual saturations. LNAPL saturations that exceed residual saturation levels indicate a potential for mobility, however, this does not necessarily indicate that the LNAPL body is migrating (ASTM, 2007; ITRC, 2009b).

Seasonal water table fluctuations have a direct impact on the mobility of LNAPL. A rising and falling water table creates a "smear zone" where mobile, continuous LNAPL becomes spread vertically and becomes discontinuous as water and LNAPL compete for pore space. Assuming a continuous source is not present, this interaction between water and LNAPL will progressively trap LNAPL as discontinuous, immobile droplets within the soil matrix over time (API, 2004). Consequently, during seasonal high water tables, some or all of the LNAPL in the smear zone (in an unconfined setting) can become submerged or trapped beneath the water table. This results in the submerged LNAPL losing much of its ability to flow through the soil matrix and/or into a monitoring well (due to a higher residual saturation in the saturated zone). In some situations, all LNAPL in a well can "disappear" with an increase in water table elevation.

The disappearance and reappearance of LNAPL in monitoring wells in response to fluctuating water table elevations is a common occurrence. During a rising water table condition, there is a delay in the response or rising of the LNAPL in the formation as buoyancy forces attempt to move the LNAPL upward through the resistance presented by the soil formation (Oostrom et al., 2006). This delay is due to the resistance to LNAPL movement provided by the soil matrix and the fact that groundwater is less viscous than LNAPL and is able to move more easily through the soil than LNAPL. The LNAPL in a well, however, does not encounter this resistance to upward movement that the LNAPL in the formation does, and will rise on top of the water in the well more quickly than the LNAPL in the formation is able to rise through the soil matrix. This creates an LNAPL gradient from the well toward the formation, resulting in LNAPL flow out of the well and, in some situations, results in all LNAPL disappearing from the well. Conversely, during seasonal low water tables, more of the LNAPL in the smear zone becomes exposed, gaining the ability to drain from the newly unsaturated soil under gravity and flow in the soil and/or into a monitoring well (due to a lower residual saturation in the unsaturated zone). This explains the reappearance of LNAPL or increases in LNAPL thickness in wells during seasonal low water tables.

The rising and lowering of the water table has a direct influence on the inherent mobility of LNAPL within an LNAPL body, but a localized increase in LNAPL mobility signified by increasing in-well LNAPL thickness does not necessarily indicate a migrating LNAPL body. Furthermore, at sites that do not have ongoing sources, changes in in-well LNAPL thickness that correlate with fluctuations in

the water table elevation are more likely to be a result of localized vertical redistribution of LNAPL in and out of the well (as described above) as opposed to being representative of any significant lateral mobility (ITRC, 2009a).

As suggested above, LNAPL thickness in a monitoring well varies inversely with water table elevation in an unconfined setting or condition. Hence, an increase in water table elevation results in a decrease in in-well LNAPL thickness. Conversely, a decrease in water table elevation results in an increase in in-well LNAPL thickness. In a confined setting (including LNAPL present in the secondary porosity of silts, clays and possible fractured rock), in-well LNAPL thickness tends to vary directly with potentiometric surface elevation. Hence, an increase in potentiometric surface elevation results in an increase in in-well LNAPL thickness, and vice versa.

It is important to note that LNAPL mobility, on its own, only defines the potential for LNAPL movement or migration, and does not explicitly define movement/migration. To define LNAPL migration, the LNAPL gradient is required in addition to LNAPL mobility (API, 2004). Further, and as previously indicated, Darcy flow in an LNAPL body only applies where there is continuous LNAPL within the body. Hence, in any areas of discontinuous LNAPL (i.e., LNAPL saturations below residual) within an LNAPL body, or outside of a stable LNAPL body, there is no LNAPL flow or movement.

### 2.4.2 LNAPL Body Stability

LNAPL stability relates to the ability or inability of an LNAPL body to migrate (i.e., whether or not the perimeter or extent of an LNAPL body is expanding/advancing over time). If the perimeter of an LNAPL body is growing or moving over time, the body is typically referred to as migrating or unstable. If the LNAPL body remains essentially the same size and in the same location over time (i.e., same overall footprint over time), the body is referred to as stable or non-migrating. Generally speaking, most historical LNAPL bodies where the source of the release has been terminated will be found to be stable. LNAPL bodies are spatially self-limiting unless continually supplied from an on-going release, thus distinguishing LNAPLs from dissolved and vapor plumes that may migrate significant distances (API, 2004). Typically, once the release of LNAPL stops, LNAPL in the water table region will eventually cease to move as the resistive forces in the saturated soils balance the LNAPL head (API, 2002; Huntley and Beckett, 2001). Often times, the following factors combine to produce a stable plume that is not spreading or migrating (USEPA, 2005):

- LNAPL fluid properties
- LNAPL relative permeability
- Conductivity of the porous media
- Hydraulic gradient
- Pore throat displacement entry pressure
- Fluctuating water table

For an entire LNAPL body, LNAPL will often be found to possess some localized mobility near the center of the body, where LNAPL saturations are highest (in excess of residual saturation), and

immobile at the outer body fringes where saturation decreases to residual. Hence, the overall body remains stable in spite of the presence of localized areas with a potential for mobility.

Figure 10 provides a conceptual drawing of an LNAPL body that is continuing to expand or migrate. The expanding body is represented at the periphery by bold "force" arrows, indicating that the LNAPL has sufficient pressure or head to continue displacing groundwater. Conversely, Figure 11 shows a stable LNAPL body with "force" arrows in equilibrium with the resisting force of soil and groundwater.

Figure 10 Expanding/Migrating LNAPL Body (Thick Force/Pressure Arrows Within Body Indicate Continued LNAPL Body Migration in all Directions)

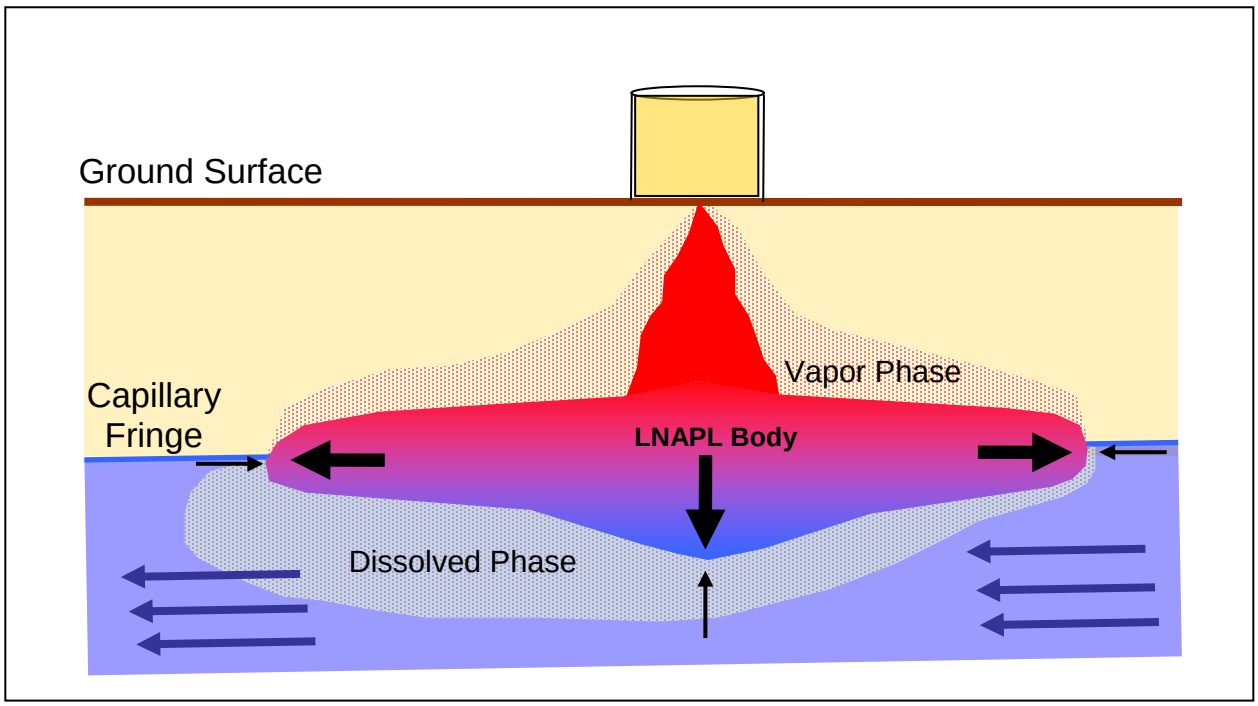
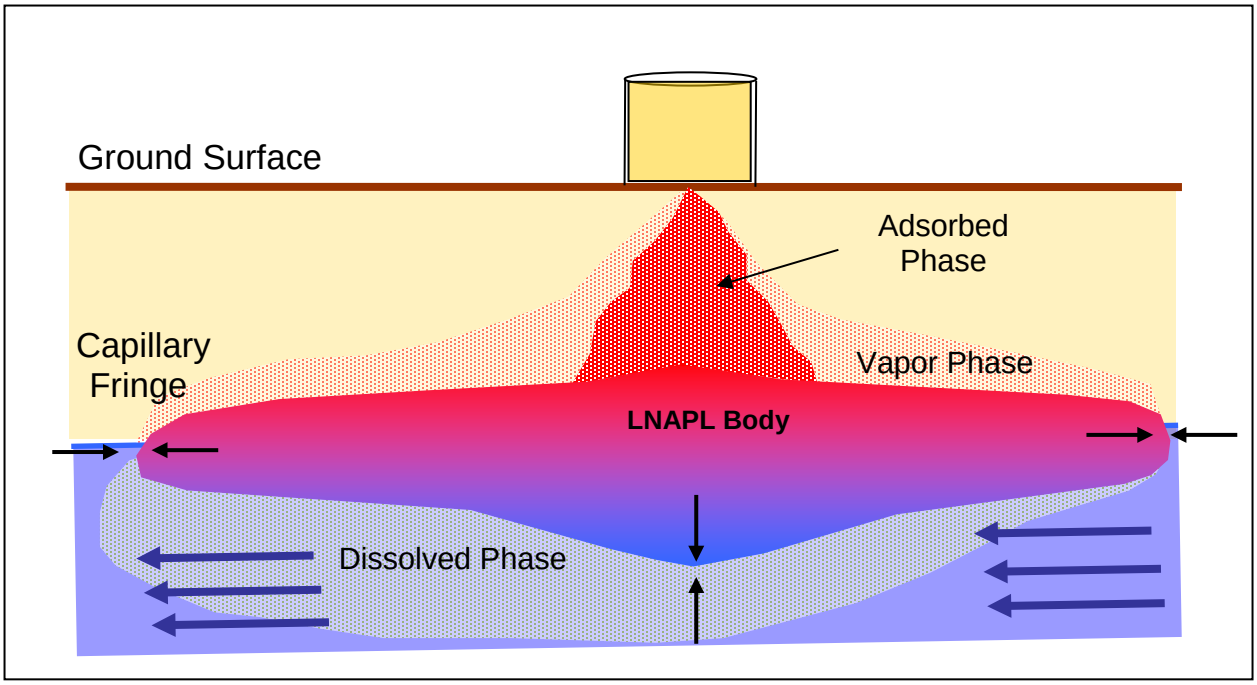


Figure 11 Stable/Non-Migrating LNAPL Body (Arrows Within and Outside of LNAPL Body Indicate Opposing Forces/Pressures are at Equilibrium)




Water table fluctuations in a stable LNAPL body may cause immobile LNAPL to become mobile in a very localized sense and flow or drain into an immediately adjacent monitoring well. However, although there may be some limited LNAPL drainage and vertical redistribution or smearing, the LNAPL body is still likely to be stable and non-migrating. Hence, at a site with a stable LNAPL body (i.e., no continuing LNAPL release), the disappearance of LNAPL from a monitoring well for months and/or years, followed by the reappearance of LNAPL does not necessarily mean that the LNAPL is migrating.

# 3. Lines of Evidence for Evaluating LNAPL Mobility and Body Stability

There are various potential lines of evidence that can be used to evaluate the mobility and stability of an LNAPL body. These lines of evidence are:

- Historical LNAPL-related data (depth to LNAPL/water levels, in-well thicknesses, stable or shrinking dissolved-phase plume associated with LNAPL body, recovery data, etc.)
- Site-specific laboratory data (TPH profiling, LNAPL saturations in soil cores, etc.)
- LNAPL modeling (analytical and/or numerical) simulations
- Dye tracer testing
- Combinations of the above

A weight of evidence approach is preferred since the complexities of the evaluation of LNAPL mobility at real environmental sites will make it unlikely that any single line of evidence can be definitive. The potential lines of evidence are discussed in the following subsections.

## 3.1 Historical LNAPL-Related Data and Observations

### 3.1.1 In-Well LNAPL Thicknesses and Other LNAPL Spatial Distribution Information

Typically, the first line of evidence for evaluating LNAPL mobility and body stability is historical data regarding the spatial distribution of the LNAPL body. Historical LNAPL spatial distribution data are typically based on "in-well" or "apparent" LNAPL thicknesses, but may also include more sophisticated LNAPL site characterization data such as laser-induced fluorescence (LIF) results. Historical LNAPL data are the primary line of evidence when the dataset includes measurements obtained at regular intervals over an extended period where in-well thicknesses can be assessed during both high water table and low water table conditions. Depending on the site conditions, high and low water tables may be assessed seasonally within a 12-month timeframe or may require a period of years for proper evaluation. Generally speaking, if the position, orientation and size of the LNAPL body remain similar during low water table conditions over extended periods of time, the LNAPL body is likely to be stable. However, care needs to be exercised in the evaluation of in-well thickness trends as these data will not provide a valid representation of the mobility and/or stability of the LNAPL body at many environmental sites. Monitoring well observations that may indicate the presence of mobile LNAPL include the following:

- LNAPL appearing in a well that exhibited no previous evidence of the presence of LNAPL (from field soil screening, soil/groundwater analytical results, LIF results, etc.)
- The footprint or perimeter of in-well LNAPL observations appears to continue to expand in one or more directions over time (when comparing observations made during low water table conditions)
- Where unconfined conditions are present, increasing in-well LNAPL thicknesses without a corresponding site-wide drop in water table elevation

Conversely, the following well observations are likely to represent immobile LNAPL or a stable LNAPL body:

- LNAPL never appearing in a well, even though other evidence suggests its presence (field soil screening, soil/groundwater analytical results, LIF results, etc.)
- In-well thickness fluctuations corresponding with water table fluctuations (e.g., a drop in water table elevation of "x" feet results in an in-well LNAPL thickness increase of approximately "x" feet)
- The footprint or perimeter of in-well LNAPL observations appears to maintain approximately the same areal extent over time

### 3.1.2 Dissolved Phase Concentration Trends

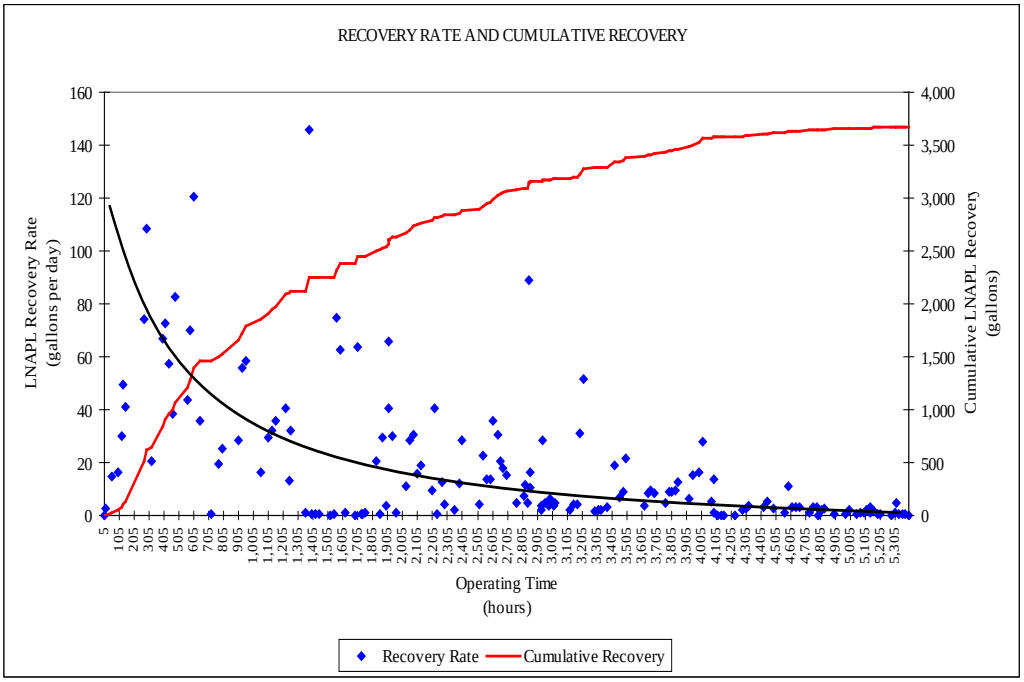
A stable or diminishing dissolved phase plume is also an indication that the LNAPL source area is stable. Hence, dissolved phase monitoring data may also be used to assess LNAPL body stability. A comprehensive groundwater monitoring program will involve examining data from multiple wells over a sufficient duration to encompass the range of seasonal/temporal variation in hydraulic conditions. Ideally, a suitable monitoring network will include source zone, up-gradient, down-gradient and cross-gradient wells (i.e., a minimum of 4 to 5 wells). For the purpose of evaluating trends in analyte concentrations over time in groundwater sampled from monitoring wells, graphing trends or statistical analyses can be completed. In addition, other techniques based on areal and temporal changes in data over time as opposed to focus on results at individual wells can be used to evaluate stability (e.g., Ricker method).

### 3.1.3 LNAPL Recovery Data

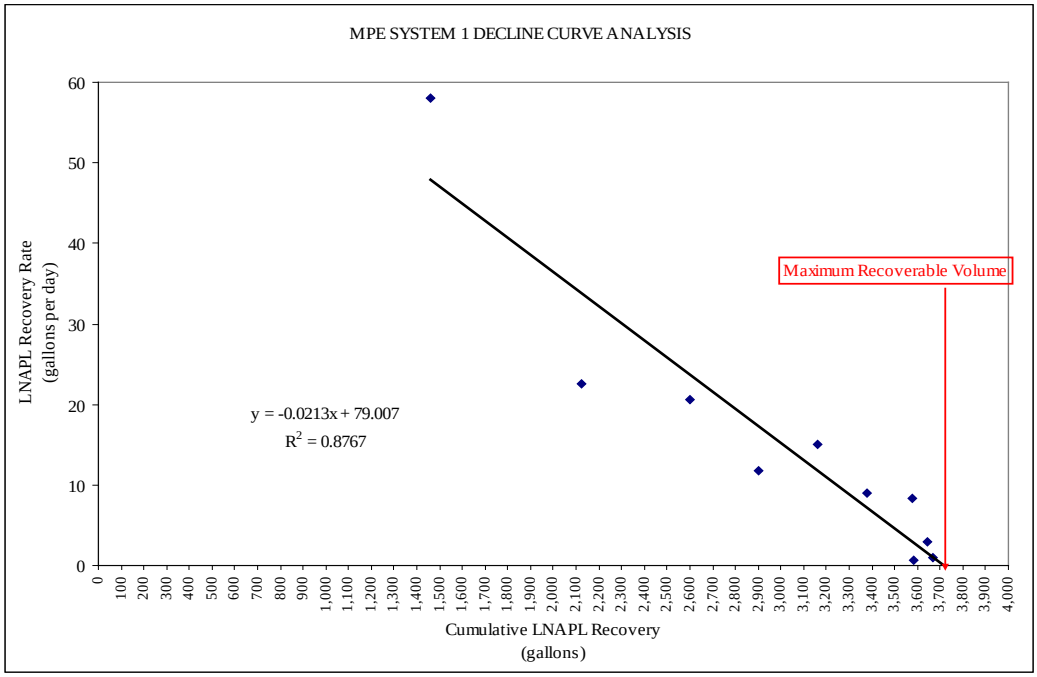
Performance data from LNAPL recovery efforts can provide valuable information on the potential mobility of the LNAPL. If an appropriate LNAPL recovery technique has been applied and effectively operated at a given site, a low recovery rate or the development of an asymptotic recovery rate trend over time is a strong indication that the LNAPL is (or has become) immobile (i.e., if it cannot be recovered under some type of applied hydraulic and/or pressure gradient, it isn't likely to be moving in the absence of the applied gradient). Conversely, if sufficient quantities of LNAPL can be readily recovered, then the LNAPL likely has some mobile component. The following graphical techniques can be used to assess an LNAPL recovery effort:

- Plot of cumulative recovery and recovery rates over time: A slope that is trending toward zero in a cumulative recovery plot and an asymptotic trend in a recovery rate plot both indicate that a recovery system has passed the point of diminishing returns. That is, the bulk of the recoverable LNAPL has been recovered and the remaining LNAPL is likely to possess little or no potential for mobility. Examples of a flat cumulative recovery curve and an asymptotic recovery rate trend are provided on Figure 12.
- Decline Curve analysis: Can be used to estimate the recoverable volume of LNAPL remaining at a site (based on recovery system performance data). In a Decline Curve, recovery rate is plotted against cumulative recovery. During the latter stages of a remediation, the shape of the curve will typically become sufficiently linear that a best-fit line can be projected to intersect the x-axis. In this type of analysis, the x-intercept represents the maximum recoverable volume of LNAPL (based on current remediation system configuration and operating conditions). If the result of a Decline Curve analysis indicates that limited recoverable LNAPL remains at a site, one can also conclude that the mobility of the remaining LNAPL is likely to be limited. An example Decline Curve plot is provided on Figure 13.

## Figure 12 Example of Asymptotic Recovery Rate Trend and Diminishing Returns




## Figure 13 Example Decline Curve Analysis



## 3.2 Site-Specific Laboratory Data

LNAPL-saturated soil cores from impacted areas within an LNAPL body may be collected and submitted for laboratory petrophysical analyses. Such evaluations may include some or all of the following:

- Photographs of LNAPL-saturated undisturbed soil cores in both natural light and ultraviolet light
- Soil physical property evaluation in the anticipated LNAPL saturated zones including grain size analysis and drainage characteristics (van Genuchten parameters)
- Laboratory fluid (water and LNAPL) saturation analyses to determine Site-specific saturations and residual saturations across the LNAPL body
- LNAPL fluid property testing for density, viscosity, and interfacial tensions

A comparison of saturation versus residual saturation values across an LNAPL body can be used to assess the mobility of the plume. In addition, the site-specific laboratory results may be incorporated as site-specific model inputs to assess LNAPL mobility (see description below).

## 3.3 LNAPL Modeling

There are various LNAPL analytical models (e.g., LNAST, LDRM, etc.) that may be used to evaluate LNAPL mobility. These analytical models are based on a number of assumptions including: the fluids (LNAPL and water) are in vertical equilibrium and the soil conditions are relatively homogeneous. These conditions are required for in-well or apparent LNAPL thicknesses to be considered representative of the spatial (vertical) distribution of LNAPL in the formation. Situations where these conditions are not met include sites with (Johnson and Ling, 2005):

- Water table fluctuations
- Confined conditions
- Sump wells in a perched setting
- On-going LNAPL release
- Heterogeneous conditions

Although in a real world setting, there are often times when vertical equilibrium of liquids and homogeneous soil conditions do not exist, LNAPL models may still be used to generate qualitative information about LNAPL behavior. However, it is noted that the core assumption of these analytical models that in-well LNAPL thickness is representative of the vertical extent of impacts in the adjacent soil will not be met at most sites. In general, the degree to which model results are quantitatively valid and defensible will be based on actual site conditions and the accuracy of the LCSM. Where possible, the use of site-specific model inputs (as determined from field and/or laboratory testing) is preferred over the use of default literature look-up values.

## 3.4 LNAPL Transmissivity

The evaluation of LNAPL transmissivity provides standardized quantitative information (not dependent on soil types or LNAPL extraction method) relating to the mobility and recoverability of

the LNAPL. Field testing can be performed according to various techniques from simple short-term manual methods to the interpretation of long-term recovery data of complex remediation systems. The methodologies for both field testing and data processing are detailed in ASTM International Standard E2856-13 *Standard Guide for Estimation of LNAPL Transmissivity* (April 2013). Additional information and analytical tools are provided in the American Petroleum Institute's *LNAPL Transmissivity Workbook: Calculation of LNAPL Transmissivity from Baildown Test Data* (September 2012). Results are typically compared against a de minimis recoverability criterion such as ITRC's 0.8 $ft^2$/day (ITRC, 2009a) to make determinations on the potential mobility and feasibility of hydraulic recovery of the LNAPL at a given Site.

# 4. LNAPL Mobility Assessment

The following multiple lines of evidence were used to assess LNAPL mobility at the Site:

- LNAPL Distribution
- LNAPL Types and Age
- LNAPL Remedial History
- API LNAPL Distribution and Recovery Model

Figure 14 presents a Site map for AOI 6.

## 4.1 LNAPL Distribution

A primary line of evidence for evaluation of LNAPL plume stability and mobility is observational data. If observational data indicates that the LNAPL plumes are stable or shrinking, the potential for LNAPL mobility is low. LNAPL is deemed to be potentially migrating when:

- Fluid level gauging over time indicates that the apparent LNAPL thickness is increasing within monitoring wells in a manner not attributable to seasonal water-table fluctuations
- LNAPL is identified in a portion of the monitoring well network that has historically lacked measurable LNAPL and there is no evidence that a respective location was previously impacted by petroleum/LNAPL (e.g., in well logs, soil sampling results, etc.)

The accumulation of LNAPL in monitoring wells is a primary line of the presence of LNAPL that may be considered hydraulically mobile/recoverable. However, LNAPL that enters a monitoring well will only represent a small fraction of the LNAPL present in the aquifer (USEPA, 2005) and will often not accurately represent the vertical extent of LNAPL (or smear zone) in the adjacent soil. Due to this difference, the LNAPL thickness measured in a monitoring well is referred to as an apparent NAPL thickness (ANT).

There are many common misconceptions with regard to the in-well LNAPL thickness (ITRC, 2009a). The following points outline the correct concepts:

- The absence of LNAPL in a monitoring well does not mean that LNAPL is not present in the screened aquifer, rather it is a reflection of the saturation level.

- The presence of LNAPL in a monitoring well does not necessarily mean that the LNAPL plume is migrating or has the potential to migrate.
- Apparent LNAPL thickness in a well is not a good predictor of the potential LNAPL mobility or rate of LNAPL recovery.

The thickness of LNAPL observed in the monitoring wells depends on a number of factors such as the geology and water table fluctuations. A falling water table for an unconfined system typically results in greater observed LNAPL thickness in the monitoring wells as a result of drainage from the unsaturated zone. The effect of a falling water table is more pronounced for coarse-grained than fine-grained soils. Identification of trends in ANT is complicated and must consider any natural or artificially-induced changes in hydraulic conditions to be meaningful. Therefore, discussing in-well LNAPL thickness changes/trends without providing the context of water table elevation changes may lead to incorrect interpretations of the data.

#### 4.1.1.1 Precipitation

Figure 15 presents a graph of the cumulative deviation of precipitation from the long term average from 1980 through November 2016 based on weather data from the National Oceanic and Atmospheric Administration (NOAA) station located at the Philadelphia International Airport (NOAA, 2016). As indicated on Figure 15 and discussed in previous investigation reports, a long term drought occurred in the late 1990s and early 2000s in the area of the Site. Since 2008, precipitation has generally been higher than average. Precipitation data from 2016 indicates that this year will fall below the long term average. Overall, groundwater elevation in Site wells has generally increased or remained stable since 2008. Note that groundwater elevation response to seasonal fluctuations in precipitation, depicted as water level oscillations within a single year, are also apparent in many of the hydrographs.

#### 4.1.1.2 Well Construction

In an unconfined setting, submerged screens may prevent LNAPL from entering a well. Review of well construction records for the Site identified wells with screens that are regularly or sporadically submerged. Of these wells, 24 are screened in the unconfined aquifer. These wells are listed in Table 2**.** Note that the wells with submerged screens were excluded from analysis during the LNAPL mobility assessment unless the well screen was only sporadically submerged.

#### 4.1.1.3 Trend

Numerous monitoring wells across the Site have been gauged for LNAPL over the course of the investigation and remediation history. Table 3 of this LCSM (included as a CD-ROM) presents a summary of unconfined well gauging throughout the monitoring record. Hydrographs of AOI 6 wells (Appendix F.1, included as a CD-ROM) include corrected groundwater elevation, ANT, and well construction details (top and bottom well screen elevations). Appendix F.1 also includes Diagnostic Gauge Plots (DGPs) for the wells with LNAPL, which were produced as they can provide a more clear indication of the interplay between LNAPL and the water table then the more typical hydrographs. The DGPs were developed by plotting fluid interface elevations (air/LNAPL and LNAPL/water interfaces measured in a well) and in-well LNAPL thickness against corrected water table elevation. This approach takes the same data used in the development of the hydrographs

and plots it in such a way as to linearize the datasets and more clearly describe whether the relationship between in-well LNAPL thickness changes and water table fluctuations is direct (confined LNAPL) or inverse (unconfined or perched LNAPL).[1] The historical limit of groundwater gauging data in the Site database, used as a basis for this report, is December 1995.

In 2005, LNAPL has been detected in 45 percent of the wells gauged within the limits of AOI 6. In May 2016, LNAPL was detected in 22 percent of the wells gauged within the limits of AOI 6. A well gauging summary is presented on Table 4. A summary of the interpretation of the hydrograph and DGP results is provided below:

- Most of the LNAPL at AOI 6 is present under unconfined conditions. Some wells exhibited confined LNAPL behavior, and some wells exhibited inconclusive results/no trend due to very small in-well LNAPL thicknesses and/or infrequent LNAPL observations. Changes in in-well LNAPL thickness over time generally correlate with changes in water table elevation.
- There were no wells that had LNAPL in 2017 that have not had it historically.

Taken together, the preceding observations support that the LNAPL is stable.

#### 4.1.1.4 Dissolved Phase Trends

The graphs in Appendix F.1 summarize the groundwater trends for the data with concentrations exceeding the groundwater PADEP non-residential statewide health standards (SHS) during the 2016 groundwater sampling. Appendix F.4 (included as a CD-ROM) summarizes the dissolved concentrations over time in the monitoring wells in AOI 6. Appendix J of the main report contains the historical groundwater data for AOI 6. These data support that groundwater dissolved concentrations in areas with LNAPL have concentrations that are stable to decreasing for the dissolved constituents present at elevated concentrations, which further supports that the LNAPL is stable.

## 4.2 LNAPL Types and Age

### 4.2.1 LNAPL Types

The sources of the LNAPL within AOI 6 are equivocal. Numerous potential sources have historically been present at within AOI 6. Historically, AOI 6 consisted of numerous above ground storage tanks (ASTs) containing benzene, toluene, naphtha and other fuel stocks. A sulfuric acid plant was located along the northern boundary of the AOI. A gasoline treating unit, two reformer units, a BDDA (soap) unit, and a thermal hydro-dealkylation unit were also located in this area. Currently, AOI 6 consists of Udex and cumene units, reformer, tankage, boiler-houses and associated feed water treatment, maintenance buildings, lay-down yards, office buildings, the # 2 oil-water separator, remote Laboratory and new Scale House.

Below is a summary of the generalized LNAPL characterization types used to characterize LNAPL present at the Site (Light and Heavy Distillate descriptions are included for reference within the context of the PES Complex).

[1] More information on DGPs can be found at http://www.h2altd.com/wp-content/uploads/2011/02/ANSR-v1i2.pdf.

- **Light Distillates** include liquid petroleum gas (LPG), gasoline, and naphtha. LNAPL types grouped into the light distillate category include samples that have been primarily characterized as gasoline, heavy virgin naphtha or reformed light naphtha. The primary components included in these products generally have carbon numbers between 3 and 10.
- **Mixes of Light/Middle Distillates** include samples that were characterized to be intermediate mixes of light and middle distillate products. The light/middle distillate samples had an average density of 0.81 grams per milliliter (g/ml).
- **Middle Distillates** include kerosene, jet fuel, diesel fuels, and light (#2) fuel oils. The LNAPL types grouped into the middle distillate category include samples that were characterized to be primarily middle distillate or that include significant proportions of coker naphtha mixed with middle distillate. The primary components included in these products generally have carbon numbers between 9 and 20. The middle distillate samples had an average density of 0.86 g/ml.
- **Heavy distillates** include heavier (#4 and #6) fuel oil and heavy atmospheric gas oil. The LNAPL types grouped into the heavy distillate category include samples that were characterized as lubricating oil, residual oil, and heavy distillate. The primary components included in these products have carbon numbers between 14 and 40.

Table 11 of the RI Report summarizes available, historical and recent LNAPL characterization results. The results have been grouped into the following three generalized LNAPL types for the Site and adjacent areas: Mixes of Light/Middle Distillates, Middle Distillates, and Heavy Distillates. More than half of the LNAPL samples collected from AOI 6 were characterized as Middle Distillates; the remaining were characterized as mixtures of Light/Middle Distillates. The LNAPL plumes at AOI 6 are expected to be made up of various combinations of these products. Numerous samples have been collected over the period of record to characterize the LNAPL at the AOI 6. The results are summarized in Table 9 of the RI Report, and are discussed below.

A total of eight LNAPL samples have been collected, between 2004 and 2016 in AOI 6 for analysis, in order to classify the generalized LNAPL type/sub-type and degree of weathering, and to quantify the product density. Analytical LNAPL sample data packages are provided in Appendix F.2 (included as a CD-ROM). LNAPL characterization samples collected from AOI 6 have indicated a range of weathering from severe to extreme. Figure 16 presents the locations and a summary of characterization data.

### 4.2.2 Age

In general, the driving mechanism for LNAPL migration is the LNAPL head that exists during and shortly after a release. It is commonly believed that the hydraulic gradient "causes" LNAPL to spread. However, the reality in most cases is that the hydraulic gradient will not cause LNAPL spreading; rather, it will only influence the preferred direction of spreading where a sufficient LNAPL head exists to drive the migration. Experience has shown that the LNAPL head will dissipate relatively quickly following the cessation of a release, with most LNAPL bodies achieving overall stability (stable perimeter/footprint) within a few years. Localized areas of mobile/recoverable LNAPL may still exist within an LNAPL body at this point; however, the overall footprint of the LNAPL body will not expand further.

The older the LNAPL body, the more likely it will be stable. This is due to a combination of the following factors:

- The dissipation of the LNAPL head.
- Seasonal fluctuations in the water table that will smear the LNAPL or spread the now fixed volume of LNAPL over larger vertical extents over time. Smearing causes a progressive decrease in localized LNAPL saturations and, consequently, is a fundamental factor in the progressive stabilization of an LNAPL body.
- Natural losses (dissolution, volatilization, biodegradation) that serve to deplete LNAPL mass, decrease LNAPL saturations and increase viscosity over time.

Based on the fact that the LNAPL is the result of historical releases (i.e., nothing recent), and the levels of degradation/weathering evident in LNAPL analytical results, the LNAPL within AOI 6 would be expected to be stable overall (i.e., not migrating now and not possessing the head to migrate in the future). Additional lines of evidence already discussed pertaining to LNAPL mobility/recoverability also lend themselves to a conclusion of overall LNAPL stability, with the age of the LNAPL adding certainty to this assessment.

## 4.3 Remedial System Operation

One system has operated within AOI 6 at various intervals throughout the Site monitoring and remedial history, influencing groundwater elevations and ANT in nearby wells. The 27 Pump House Total Fluids Recovery System was installed in November 2001, the system included 12 total fluid recovery wells in the vicinity of the former 27 Pump House. The 27 Pump House Total Fluids Recovery system was turned off September 20, 2010 due to absence of recoverable LNAPL. Passive remediation began on October 10, 2010 with the installation of absorbent socks in wells B-124, B-132, B-137, B-139, B-142, B-143, and B-147. Based on limited recoverable LNAPL in the proximal wells, passive remediation was discontinued on January 26, 2015. It is noted that this provides strong evidence that the remaining LNAPL is immobile/unrecoverable and stable in overall extent: if LNAPL cannot be induced to move to wells and be recovered under applied gradients, it is very unlikely to do so under normal hydraulic conditions.

## 4.4 API LNAPL Distribution and Recovery Model

The API LDRM (API, 2007) was used to estimate the specific (total) LNAPL volume, the potentially recoverable LNAPL volume, the percentage of the total LNAPL that might be recoverable, and the LNAPL transmissivity. Additionally, graphical model output in the form of the modelled LNAPL saturation profile is included in Appendix F.3 (included as a CD-ROM).

Model input parameter selection and results are summarized in Tables 1 and 2 in Appendix F.3. A single model run was performed for location B-129 as a worst-case since it was by far the largest in-well thickness in 2017 (in-well LNAPL thickness being the key LDRM input used to define the vertical extent of LNAPL in the formation). The LDRM results presented in Appendix F.3 indicate:

- Approximately 4 percent of the LNAPL volume in place may be mobile/recoverable. In other words, approximately 96 percent of the LNAPL is present as hydraulically unrecoverable residual.

- LNAPL transmissivity is estimated to be on the order of 0.01 square feet per day ($ft^2$/day), which is well below the de minimis recoverability range of 0.1 to 0.8 $ft^2$/day suggested by the Interstate Technology & Regulatory Council.

Since the main model input is in-well thickness, all other wells with smaller in-well thicknesses would likewise have smaller mobile/recoverable fractions and smaller LNAPL transmissivities estimated by LDRM. The LDRM results therefore suggest that all wells with LNAPL in AOI 6 exhibit de minimis LNAPL transmissivity, and support the other lines of evidence already presented indicating general immobility and overall stability of the LNAPL.

# 5. Summary and Conclusions

This report documents the LNAPL CSM for AOI 6 of the Philadelphia Refinery Complex. The objective of the LNAPL mobility assessment was to evaluate if remaining LNAPL is residual, mobile, or migrating. The following -lines of evidence presented herein agree in indicating that the LNAPL is largely present as hydraulically immobile and unrecoverable residual that is stable in overall extent:

- Historical well gauging data
- Historical LNAPL recovery performance
- Age of the LNAPL
- Dissolved phase trends
- API LDRM results

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Source: Aerial: Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

0 150 300 450
Feet

Coordinate System:
NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet

**Legend**

- 2016 RI Groundwater Sample
- Water Table Monitoring Well
- Recovery Well
- Deep Monitoring Well
- Damaged Monitoring Well
- Destroyed Monitoring Well
- Monitoring Well (Unable to Locate)
- Piezometer
- 2016 RI Soil Sample
- 2017 RI Soil Sample
- Historical Soil Sample
- 2016 RI (Not Sampled)
- 2016 RI (Attempted Sample Location)
- Air Sample
- Bulkhead
- Tank
- Tank Addressed in SCR/RACR 2017
- Solid Waste Management Unit
- Area Of Interest

Original Size
**ANSI D**

Bar is one inch on original size drawing
0 1"

Project : 11109613

Date: Nov 21, 2017

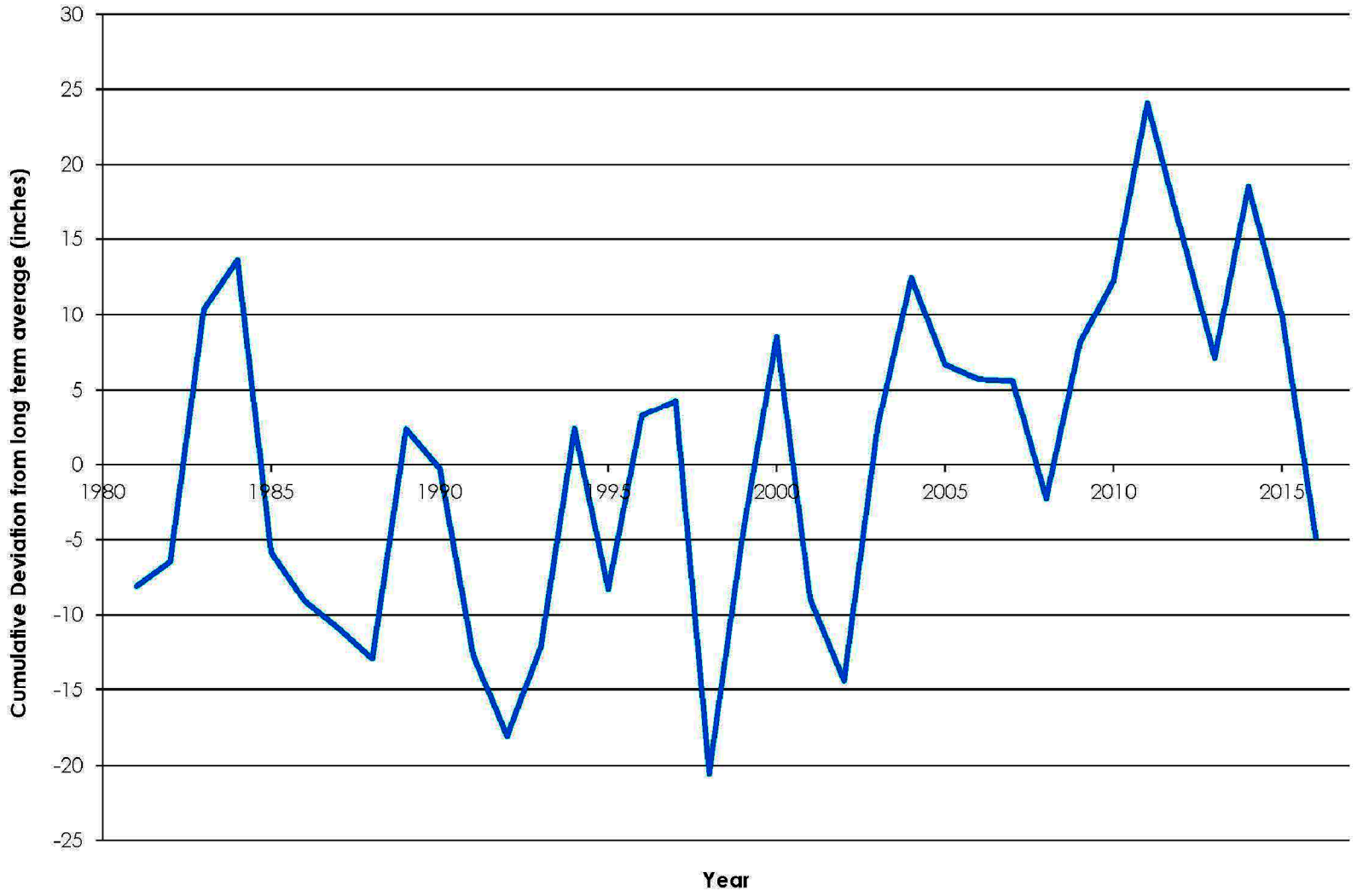
# EVERGREEN RESOURCES MANAGEMENT
# AOI-6 PHILADELPHIA REFINERY OPERATIONS

## AOI 6 SITE PLAN

Figure No.

**FIGURE 14**

GIS File: Q:\GIS\PROJECTS\11109000s\11109613\Layouts\002\11109613-000(002)GIS-OT025.mxd




Source: Remedial Investigation Report, Area of Interest 4, Philadelphia Refinery Complex (Stantec, 2017)

EVERGREEN RESOURCES MANAGEMENT
AOI-6 PHILADELPHIA REFINERY OPERATIONS
AOI 6 SITE PLAN

PRECIPITATION CUMULATIVE DEVIATION FROM LONG TERM AVERAGE

11109613
Oct 16, 2017

FIGURE 15

GIS File: Q:\GIS\PROJECTS\11109000s\11109613\Layouts\002\11109613-00(002)GIS-OT022.mxd




Source: Microsoft Product Screen Shot(s) Reprinted with permission from Microsoft Corporation, Acquisition Date June 2014, Accessed: 2017

0 100 300ft

LEGEND

- B-174 SAMPLE LOCATION
- 0.00 LNAPL APPARENT THICKNESS (ft.) (MAY 2016)
- LNAPL PRESENT

NOTE: NAPL TYPE AND WEATHERING INFORMATION SUPPLIED FROM STANTEC DATABASE, 2017.

GHD

EVERGREEN RESOURCES MANAGEMENT OPERATIONS LLC
PHILADELPHIA REFINERY - 3144 PASSYUNK AVENUE, PHILADELPHIA, PA
REMEDIAL INVESTIGATION REPORT

# LNAPL CHARACTERIZATION SAMPLES (GENERALIZED LNAPL TYPE AND WEATHERING)

11109613-01

Apr 10, 2018

FIGURE 16

CAD File: P:\drawings\11109000s\11109613\11109613-reports\11109613-01(002-APPF)\11109613-01(002-APPF)GN\11109613-01(002-APPF)GN-WA001.dwg

**Table 2**

**List of Wells with Submerged Screens**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Apparent LNAPL Thickness Observed | Hydrostratigraphic Unit |
|---|---|---|
| B-134 | | Shallow |
| B-135 | Y | Shallow |
| B-136 | Y | Shallow |
| B-142 | Y | Shallow |
| B-143 | Y | Shallow |
| B-146 | | Shallow |
| B-147 | Y | Shallow |
| B-148 | Y | Shallow |
| B-149 | | Shallow |
| B-150 | Y | Shallow |
| B-153 | | Shallow |
| B-155 | | Shallow |
| B-156 | | Shallow |
| B-157 | | Shallow |
| B-158 | | Shallow |
| B-160 | | Shallow |
| B-161 | Y | Shallow |
| B-163 | | Shallow |
| B-164 | | Shallow |
| B-172 | | Shallow |
| B-173 | | Shallow |
| B-94 | | Shallow |
| WP9-1 | | Shallow |
| WP9-4 | | Shallow |
| B-132D | | Deep |
| B-133D | | Deep |
| B-134D | | Deep |

Note:

Y Indicates measurable apparent thickness of LNAPL which has been observed in well.

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-115 | | 5/11/2017 | 3.14 | 0.52 | | | | 4.36 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 5/11/2016 | 2.47 | -0.15 | | | | 5.03 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 5/4/2016 | 2.33 | -0.29 | | | | 5.17 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 5/15/2015 | 3.86 | 1.24 | | | | 3.64 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 12/4/2014 | 2.8 | 0.18 | | | | 4.7 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 5/14/2014 | 2.68 | 0.06 | | | | 4.82 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 10/16/2013 | 3.47 | 0.85 | | | | 4.03 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 3/28/2013 | 3.43 | 0.81 | | | | 4.07 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 5/9/2012 | 2.43 | -0.19 | | | | 5.07 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 5/18/2011 | 3 | 0.38 | | | | 4.5 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 7/29/2010 | | | | | | NA | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 6/22/2009 | 2.42 | -0.2 | | | | 5.08 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 11/25/2008 | 3.66 | 1.04 | | | | 3.84 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 6/6/2008 | 3.14 | 0.52 | | | | 4.36 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 11/15/2007 | 3.12 | 0.5 | | | | 4.38 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 6/4/2007 | 3.15 | 0.53 | | | | 4.35 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 11/7/2006 | | | | | | NA | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 5/24/2006 | 3.27 | 0.65 | | | | 4.23 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 5/19/2005 | 4.19 | 1.57 | | | | 3.31 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 10/8/2004 | 2.49 | -0.13 | | | | 5.01 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 11/24/2003 | 3.41 | 0.79 | | | | 4.09 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 10/31/2002 | 2.78 | 0.16 | | | | 4.72 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 11/8/2001 | 4.69 | 2.07 | | | | 2.81 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 11/9/2000 | 4.4 | 1.78 | | | | 3.1 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 11/18/1999 | 3.91 | 1.29 | | | | 3.59 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 11/12/1998 | 3.68 | 1.06 | | | | 3.82 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 11/13/1997 | 3.43 | 0.81 | | | | 4.07 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 11/18/1996 | 3.26 | 0.64 | | | | 4.24 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-115 | | 12/18/1995 | 3.43 | 0.81 | | | | 4.07 | 7.5 | 4.88 | | | | - | Stick Up | | MW | |
| B-116 | | 5/11/2017 | 5.89 | 7.15 | | | | -0.82 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 8/19/2016 | | | | | | -0.69 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 5/11/2016 | 9.46 | 10.72 | 5.19 | 6.45 | 4.27 | -0.69 | 5.07 | 6.33 | | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Flush | | MW | |
| B-116 | | 5/4/2016 | 5.38 | 6.64 | | | | -0.31 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 5/15/2015 | 6.17 | 7.43 | | | | -1.1 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 12/4/2014 | 5.94 | 7.2 | | | | -0.87 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 5/14/2014 | 5.72 | 6.98 | | | | -0.65 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 10/16/2013 | 6.17 | 7.43 | | | | -1.1 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 3/28/2013 | 6.46 | 7.72 | | | | -1.39 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 5/9/2012 | 5.78 | 7.04 | | | | -0.71 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 5/18/2011 | 6.24 | 7.5 | | | | -1.17 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 7/29/2010 | | | | | | NA | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 6/22/2009 | 5.9 | 7.16 | | | | -0.83 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 11/25/2008 | 6.85 | 8.11 | | | | -1.78 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 6/6/2008 | 6.13 | 7.39 | | | | -1.06 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 11/15/2007 | 6.35 | 7.61 | | | | -1.28 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 6/4/2007 | 6.29 | 7.55 | | | | -1.22 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 11/7/2006 | | | | | | NA | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 5/24/2006 | 5.82 | 7.08 | | | | -0.75 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 5/19/2005 | 6.59 | 7.85 | | | | -1.52 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 10/8/2004 | 2.45 | 3.71 | | | | 2.62 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 11/24/2003 | 6.02 | 7.28 | | | | -0.95 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 10/31/2002 | 6.26 | 7.52 | | | | -1.19 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 11/8/2001 | 6.67 | 7.93 | | | | -1.6 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 11/9/2000 | 6.38 | 7.64 | | | | -1.31 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 11/18/1999 | 6.43 | 7.69 | | | | -1.36 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 11/12/1998 | 6.61 | 7.87 | | | | -1.54 | 5.07 | 6.33 | | | | - | Flush | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-116 | | 11/13/1997 | 6.3 | 7.56 | | | | -1.23 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 11/18/1996 | 5.42 | 6.68 | | | | -0.35 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-116 | | 12/18/1995 | 5.79 | 7.05 | | | | -0.72 | 5.07 | 6.33 | | | | - | Flush | | MW | |
| B-117 | | 5/11/2017 | 7.5 | 10.42 | | | | -1.53 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 8/19/2016 | | | | | | -2.25 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 5/11/2016 | 7.54 | 10.46 | | | | -1.57 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 5/4/2016 | 8.08 | 11 | | | | -2.11 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 5/15/2015 | 8.02 | 10.94 | | | | -2.05 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 12/4/2014 | 8.28 | 11.2 | | | | -2.31 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 5/14/2014 | 7.69 | 10.61 | | | | -1.72 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 10/16/2013 | 8.38 | 11.3 | | | | -2.41 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 3/28/2013 | 7.82 | 10.74 | 7.82 | 10.74 | <0.01 | -1.84 | 5.97 | 8.89 | | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Flush | | MW | |
| B-117 | | 5/9/2012 | 7.52 | 10.44 | 7.51 | 10.43 | 0.01 | -1.54 | 5.97 | 8.89 | | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Flush | | MW | |
| B-117 | | 5/18/2011 | 7.2 | 10.12 | 7.2 | 10.12 | <0.01 | -1.22 | 5.97 | 8.89 | | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Flush | | MW | |
| B-117 | | 7/29/2010 | | | 6.7 | | 0.13 | NA | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 6/22/2009 | 5.18 | 8.1 | | | | 0.79 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 11/25/2008 | 7.17 | 10.09 | | | | -1.2 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 6/6/2008 | 4.55 | 7.47 | | | | 1.42 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 11/15/2007 | 7.6 | 10.52 | | | | -1.63 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 6/4/2007 | 7.51 | 10.43 | | | | -1.54 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 11/7/2006 | | | | | | NA | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 5/24/2006 | 7.13 | 10.05 | | | | -1.16 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 5/19/2005 | 7.93 | 10.85 | | | | -1.96 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 10/8/2004 | 7.46 | 10.38 | | | | -1.49 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 11/24/2003 | 7.98 | 10.9 | | | | -2.01 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 10/31/2002 | 7.93 | 10.85 | 7.91 | 10.83 | 0.02 | -1.94 | 5.97 | 8.89 | | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Flush | | MW | |
| B-117 | | 11/8/2001 | 7.6 | 10.52 | 7.46 | 10.38 | 0.14 | -1.51 | 5.97 | 8.89 | | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Flush | | MW | |
| B-117 | | 1/30/2001 | 5.89 | 8.81 | 5.36 | 8.28 | 0.53 | 0.54 | 5.97 | 8.89 | | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Flush | | MW | |
| B-117 | | 11/9/2000 | 7.83 | 10.75 | 6.34 | 9.26 | 1.49 | -0.57 | 5.97 | 8.89 | | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Flush | | MW | |
| B-117 | | 11/18/1999 | 7.34 | 10.26 | | | | -1.37 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 11/12/1998 | 7.22 | 10.14 | | | | -1.25 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 11/13/1997 | 7.15 | 10.07 | | | | -1.18 | 5.97 | 8.89 | | | | - | Flush | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-117 | | 11/18/1996 | 7.18 | 10.1 | | | | -1.21 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-117 | | 12/18/1995 | 7.18 | 10.1 | | | | -1.21 | 5.97 | 8.89 | | | | - | Flush | | MW | |
| B-123 | | 5/11/2017 | 4.79 | 1.64 | | | | 5.97 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 12/1/2016 | 4.64 | 1.49 | | | | 6.12 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 5/11/2016 | 4.51 | 1.36 | | | | 6.25 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 11/19/2015 | 5.47 | 2.32 | | | | 5.29 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 5/15/2015 | 5.7 | 2.55 | | | | 5.06 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 12/4/2014 | 4.51 | 1.36 | | | | 6.25 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 5/14/2014 | 4.75 | 1.6 | | | | 6.01 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 10/16/2013 | 4.84 | 1.69 | | | | 5.92 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 7/12/2013 | 4.75 | 1.6 | | | | 6.01 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 3/28/2013 | 4.51 | 1.36 | | | | 6.25 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 5/9/2012 | 5.04 | 1.89 | | | | 5.72 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 5/18/2011 | 4.55 | 1.4 | | | | 6.21 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 9/28/2010 | 5.66 | 2.51 | | | | 5.1 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 7/29/2010 | | | | | | NA | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 6/22/2009 | 4.18 | 1.03 | | | | 6.58 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 3/23/2009 | 6.13 | 2.98 | | | | 4.63 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 11/25/2008 | 5.6 | 2.45 | | | | 5.16 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 8/18/2008 | 4.77 | 1.62 | | | | 5.99 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 6/6/2008 | 3.4 | 0.25 | | | | 7.36 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 3/31/2008 | 4.64 | 1.49 | | | | 6.12 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 11/15/2007 | 5.22 | 2.07 | | | | 5.54 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 9/18/2007 | 6.09 | 2.94 | | | | 4.67 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 6/4/2007 | 5.16 | 2.01 | | | | 5.6 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 3/2/2007 | 5.07 | 1.92 | | | | 5.69 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 11/7/2006 | | | | | | NA | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 8/29/2006 | 4.61 | 1.46 | | | | 6.15 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 5/24/2006 | 5.24 | 2.09 | | | | 5.52 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 2/8/2006 | | | | | | 7.19 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 7/1/2005 | | | | | | 6.24 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 5/19/2005 | 5.52 | 2.37 | | | | 5.24 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 3/9/2005 | 4.55 | 1.4 | | | | 6.21 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 10/8/2004 | 4.65 | 1.5 | | | | 6.11 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 9/17/2004 | 5.7 | 2.55 | | | | 5.06 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 6/25/2004 | 5.21 | 2.06 | | | | 5.55 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 3/3/2004 | 5.89 | 2.74 | | | | 4.87 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 11/24/2003 | 5.07 | 1.92 | | | | 5.69 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 11/18/2003 | 4.98 | 1.83 | | | | 5.78 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 8/27/2003 | 5.86 | 2.71 | | | | 4.9 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 7/7/2003 | 5.15 | 2 | | | | 5.61 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 3/12/2003 | 4.32 | 1.17 | | | | 6.44 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 10/31/2002 | 4.41 | 1.26 | | | | 6.35 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 8/12/2002 | 6.35 | 3.2 | | | | 4.41 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 6/14/2002 | 5.11 | 1.96 | | | | 5.65 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 2/19/2002 | 6.45 | 3.3 | | | | 4.31 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 10/11/2001 | 6.13 | 2.98 | | | | 4.63 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 9/19/2001 | 6.32 | 3.17 | | | | 4.44 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 9/7/2001 | 6.19 | 3.04 | | | | 4.57 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 9/5/2001 | 6.16 | 3.01 | | | | 4.6 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 6/13/2001 | 4.69 | 1.54 | | | | 6.07 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 2/19/2001 | 4.53 | 1.38 | | | | 6.23 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 11/14/2000 | 5.72 | 2.57 | | | | 5.04 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 11/9/2000 | 5.93 | 2.78 | | | | 4.83 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 9/6/2000 | 4.39 | 1.24 | | | | 6.37 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 6/16/2000 | 4.91 | 1.76 | | | | 5.85 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 3/9/2000 | 5.35 | 2.2 | | | | 5.41 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 11/18/1999 | 5.53 | 2.38 | | | | 5.23 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 9/24/1999 | 4.28 | 1.13 | | | | 6.48 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 6/15/1999 | 5.35 | 2.2 | | | | 5.41 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-123 | | 3/11/1999 | 5.02 | 1.87 | | | | 5.74 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 12/16/1998 | 6.7 | 3.55 | | | | 4.06 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 11/12/1998 | 6.56 | 3.41 | | | | 4.2 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 9/11/1998 | 5.96 | 2.81 | | | | 4.8 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 6/19/1998 | 4.65 | 1.5 | | | | 6.11 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 3/27/1998 | 4.63 | 1.48 | | | | 6.13 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 12/19/1997 | 5.84 | 2.69 | | | | 4.92 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 11/13/1997 | 5.29 | 2.14 | | | | 5.47 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 9/24/1997 | 5.46 | 2.31 | | | | 5.3 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 7/17/1997 | 6.11 | 2.96 | | | | 4.65 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 7/1/1997 | 5.81 | 2.66 | | | | 4.95 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 6/20/1997 | 5.41 | 2.26 | | | | 5.35 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 6/2/1997 | 4.9 | 1.75 | | | | 5.86 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 5/22/1997 | 5.56 | 2.41 | | | | 5.2 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 5/9/1997 | 4.72 | 1.57 | | | | 6.04 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 4/22/1997 | 4.97 | 1.82 | | | | 5.79 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 4/11/1997 | 5.05 | 1.9 | | | | 5.71 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 11/18/1996 | 5.07 | 1.92 | | | | 5.69 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-123 | | 12/18/1995 | 4.69 | 1.54 | | | | 6.07 | 10.76 | 7.61 | | | | - | Stick Up | | MW | |
| B-124 | | 5/11/2017 | 6.7 | 3.64 | 4.95 | 1.89 | 1.75 | 3.68995 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/6/2017 | 6.96 | 3.9 | 6.07 | 3.01 | 0.89 | 2.73215 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/1/2016 | 6.43 | 3.37 | 5.77 | 2.71 | 0.66 | 3.07552 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/30/2016 | | | | | | NA | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/12/2016 | 6.83 | 3.77 | 5.12 | 2.06 | 1.71 | 3.52749 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/11/2016 | 6.67 | 3.61 | 4.89 | 1.83 | 1.78 | 3.74 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/8/2016 | 6.74 | 3.68 | 4.61 | 1.55 | 2.13 | 3.96 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/19/2015 | 6.53 | 3.47 | 5.38 | 2.32 | 1.15 | 3.37 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/3/2015 | 6.77 | 3.71 | 4.88 | 1.82 | 1.89 | 3.73 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/15/2015 | 6.71 | 3.65 | 5.54 | 2.48 | 1.17 | 3.21 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/18/2015 | 6.74 | 3.68 | 6.08 | 3.02 | 0.66 | 2.77 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/4/2014 | 5.67 | 2.61 | 5.14 | 2.08 | 0.53 | 3.73 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/11/2014 | 5.51 | 2.45 | 5.5 | 2.44 | 0.01 | 3.47 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/14/2014 | 5.74 | 2.68 | 4.97 | 1.91 | 0.77 | 3.85 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-124 | | 1/23/2014 | 6.01 | 2.95 | 5.75 | 2.69 | 0.26 | 3.17 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/16/2013 | 4.83 | 1.77 | | | | 4.14 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/12/2013 | 4.76 | 1.7 | | | | 4.21 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/28/2013 | 5.34 | 2.28 | 5.32 | 2.26 | 0.02 | 3.65 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/15/2013 | 5.69 | 2.63 | 5.32 | 2.26 | 0.37 | 3.58 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/10/2012 | 5.62 | 2.56 | 5.46 | 2.4 | 0.16 | 3.48 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/30/2012 | 5.91 | 2.85 | 5.54 | 2.48 | 0.37 | 3.36 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/9/2012 | 5.15 | 2.09 | 5.15 | 2.09 | <0.01 | 3.83 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/30/2012 | 5.46 | 2.4 | 5.45 | 2.39 | 0.01 | 3.52 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/21/2011 | 5.52 | 2.46 | 5.23 | 2.17 | 0.29 | 3.69 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/1/2011 | 5.91 | 2.85 | 5.63 | 2.57 | 0.28 | 3.29 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/18/2011 | 5.27 | 2.21 | 5.16 | 2.1 | 0.11 | 3.79 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/23/2011 | 5.91 | 2.85 | 5.63 | 2.57 | 0.28 | 3.29 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/3/2010 | 6.11 | 3.05 | 5.69 | 2.63 | 0.42 | 3.2 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/25/2010 | 5.62 | 2.56 | 4.88 | 1.82 | 0.74 | 3.95 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/19/2010 | 5.62 | 2.56 | 4.88 | 1.82 | 0.74 | 3.95 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/13/2010 | 5.36 | 2.3 | 4.94 | 1.88 | 0.42 | 3.95 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/28/2010 | 6.32 | 3.26 | 6.18 | 3.12 | 0.14 | 2.76 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/29/2010 | | | 6.05 | | <0.01 | NA | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/10/2010 | | | | | | NA | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/22/2009 | 6.4 | 3.34 | 4.38 | 1.32 | 2.02 | 4.21 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/23/2009 | 7.1 | 4.04 | 5.98 | 2.92 | 1.12 | 2.78 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-124 | | 11/25/2008 | 5.81 | 2.75 | 5.1 | 2.04 | 0.71 | 3.74 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/6/2008 | 3.6 | 0.54 | | | | 5.37 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/15/2007 | 6.11 | 3.05 | 5.23 | 2.17 | 0.88 | 3.57 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/18/2007 | 6.6 | 3.54 | | | | 2.37 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/4/2007 | 5.23 | 2.17 | 4.95 | 1.89 | 0.28 | 3.97 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/2/2007 | 6.8 | 3.74 | 6.35 | 3.29 | 0.45 | 2.54 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/7/2006 | | | 4.9 | | 1.1 | NA | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/29/2006 | 5.31 | 2.25 | 5.29 | 2.23 | 0.02 | 3.68 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/24/2006 | 6.43 | 3.37 | 5.05 | 1.99 | 1.38 | 3.66 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/8/2006 | | | 4.75 | | 2.28 | 5.24 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/1/2005 | | | | | | 3.92 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/19/2005 | 6.4 | 3.34 | | | | 2.57 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/20/2005 | 6.95 | 3.89 | 3.49 | 0.43 | 3.46 | 4.83 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/9/2005 | 7.06 | 4 | 4.69 | 1.63 | 2.37 | 3.83 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/12/2005 | 6.49 | 3.43 | 4.38 | 1.32 | 2.11 | 4.19 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/3/2004 | 6 | 2.94 | | | | 2.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/24/2004 | 6 | 2.94 | | | | 2.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/16/2004 | 6 | 2.94 | | | | 2.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/12/2004 | 6 | 2.94 | | | | 2.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/5/2004 | 6.2 | 3.14 | 6.15 | 3.09 | 0.05 | 2.81 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/22/2004 | 6.3 | 3.24 | 4.74 | 1.68 | 1.56 | 3.94 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/8/2004 | 6.1 | 3.04 | | | | 2.87 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/24/2004 | 6 | 2.94 | | | | 2.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/17/2004 | 6 | 2.94 | | | | 2.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/10/2004 | 6 | 2.94 | | | | 2.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/2/2004 | 6.1 | 3.04 | | | | 2.87 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/4/2004 | 6 | 2.94 | | | | 2.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/9/2004 | 6 | 2.94 | | | | 2.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/25/2004 | 6 | 2.94 | | | | 2.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/10/2004 | 6 | 2.94 | | | | 2.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/28/2004 | 5.9 | 2.84 | | | | 3.07 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/12/2004 | 5 | 1.94 | | | | 3.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/29/2004 | 5 | 1.94 | | | | 3.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/15/2004 | 4.84 | 1.78 | 4.84 | 1.78 | <0.01 | 4.14 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-124 | | 4/2/2004 | 6 | 2.94 | 4.45 | 1.39 | 1.55 | 4.23 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/17/2004 | 6 | 2.94 | | | | 2.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/3/2004 | 5.9 | 2.84 | | | | 3.07 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/17/2004 | 5.65 | 2.59 | 4.97 | 1.91 | 0.68 | 3.87 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/3/2004 | 5.8 | 2.74 | | | | 3.17 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/6/2004 | 5.7 | 2.64 | | | | 3.27 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/22/2003 | 5.7 | 2.64 | | | | 3.27 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/24/2003 | 5.27 | 2.21 | 5.27 | 2.21 | <0.01 | 3.71 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/18/2003 | 6.88 | 3.82 | 4.9 | 1.84 | 1.98 | 3.7 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/5/2003 | 4.65 | 1.59 | 4.47 | 1.41 | 0.18 | 4.47 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/22/2003 | 5.18 | 2.12 | 5.06 | 2 | 0.12 | 3.89 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/7/2003 | 5.66 | 2.6 | 5.39 | 2.33 | 0.27 | 3.53 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/24/2003 | 4.89 | 1.83 | 4.89 | 1.83 | <0.01 | 4.09 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/8/2003 | 5.31 | 2.25 | 5.25 | 2.19 | 0.06 | 3.71 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/27/2003 | 5.29 | 2.23 | 5.22 | 2.16 | 0.07 | 3.74 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/12/2003 | 5.08 | 2.02 | 5.05 | 1.99 | 0.03 | 3.91 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/18/2003 | 5.1 | 2.04 | 5.06 | 2 | 0.04 | 3.9 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/7/2003 | 5.03 | 1.97 | 4.83 | 1.77 | 0.2 | 4.1 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/30/2003 | 4.68 | 1.62 | 4.66 | 1.6 | 0.02 | 4.31 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/17/2003 | 5.02 | 1.96 | 4.48 | 1.42 | 0.54 | 4.39 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/2/2003 | 4.72 | 1.66 | | | | 4.25 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/20/2003 | 5.33 | 2.27 | 5.12 | 2.06 | 0.21 | 3.81 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/8/2003 | 6.57 | 3.51 | 4.65 | 1.59 | 1.92 | 3.96 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/25/2003 | 4.95 | 1.89 | 4.95 | 1.89 | <0.01 | 4.03 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-124 | | 4/9/2003 | 6.71 | 3.65 | 6.08 | 3.02 | 0.63 | 2.77 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/26/2003 | 6.81 | 3.75 | 6.3 | 3.24 | 0.51 | 2.57 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/12/2003 | 6.49 | 3.43 | 5 | 1.94 | 1.49 | 3.69 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/27/2003 | 6.5 | 3.44 | 3.44 | 0.38 | 3.06 | 4.95 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/13/2003 | 6.55 | 3.49 | 5.81 | 2.75 | 0.74 | 3.02 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/28/2003 | 6.7 | 3.64 | 5.93 | 2.87 | 0.77 | 2.89 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/24/2003 | 6.61 | 3.55 | 5.85 | 2.79 | 0.76 | 2.98 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/30/2002 | 6.16 | 3.1 | 4.49 | 1.43 | 1.67 | 4.17 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/19/2002 | 6.9 | 3.84 | 5.82 | 2.76 | 1.08 | 2.95 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/4/2002 | 6.5 | 3.44 | 5.48 | 2.42 | 1.02 | 3.3 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/18/2002 | 6.02 | 2.96 | 3.95 | 0.89 | 2.07 | 4.63 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/31/2002 | 5.29 | 2.23 | 3.85 | 0.79 | 1.44 | 4.85 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/18/2002 | 5.85 | 2.79 | 4.4 | 1.34 | 1.45 | 4.3 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/4/2002 | 5.4 | 2.34 | 4.97 | 1.91 | 0.43 | 3.92 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/17/2002 | 5.72 | 2.66 | 5.35 | 2.29 | 0.37 | 3.55 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/4/2002 | 5.25 | 2.19 | 5.02 | 1.96 | 0.23 | 3.91 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/12/2002 | 5.82 | 2.76 | 5.55 | 2.49 | 0.27 | 3.37 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/22/2002 | 6.65 | 3.59 | 4.9 | 1.84 | 1.75 | 3.74 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/27/2002 | 5.7 | 2.64 | 4.93 | 1.87 | 0.77 | 3.89 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/14/2002 | 5 | 1.94 | | | | 3.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-124 | | 5/31/2002 | 5.13 | 2.07 | 5.12 | 2.06 | 0.01 | 3.85 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/1/2002 | 4.93 | 1.87 | 4.91 | 1.85 | 0.02 | 4.06 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/19/2002 | 4.96 | 1.9 | 4.93 | 1.87 | 0.03 | 4.03 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/2/2002 | 5.03 | 1.97 | 4.98 | 1.92 | 0.05 | 3.98 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/19/2002 | 5.43 | 2.37 | 5.38 | 2.32 | 0.05 | 3.58 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/5/2002 | 6.1 | 3.04 | 5.96 | 2.9 | 0.14 | 2.98 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/19/2002 | 5.98 | 2.92 | 5.98 | 2.92 | <0.01 | 3 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/7/2002 | 4.3 | 1.24 | | | | 4.67 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/21/2002 | 5.82 | 2.76 | 5.82 | 2.76 | <0.01 | 3.16 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/9/2002 | 5.81 | 2.75 | 5.81 | 2.75 | <0.01 | 3.17 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/28/2001 | 6.79 | 3.73 | 5.64 | 2.58 | 1.15 | 3.11 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/11/2001 | 6.76 | 3.7 | 5.87 | 2.81 | 0.89 | 2.93 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/9/2001 | 7 | 3.94 | 5.96 | 2.9 | 1.04 | 2.81 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/8/2001 | 6.9 | 3.84 | 5.79 | 2.73 | 1.11 | 2.97 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/31/2001 | 6.97 | 3.91 | 6.14 | 3.08 | 0.83 | 2.67 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/17/2001 | 7.03 | 3.97 | 5.78 | 2.72 | 1.25 | 2.95 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/2/2001 | 7.08 | 4.02 | 6.06 | 3 | 1.02 | 2.72 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/19/2001 | 7.19 | 4.13 | 6.9 | 3.84 | 0.29 | 2.02 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/5/2001 | 7.68 | 4.62 | 7.45 | 4.39 | 0.23 | 1.48 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/21/2001 | 6.91 | 3.85 | 6.91 | 3.85 | <0.01 | 2.07 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/9/2001 | 7 | 3.94 | | | | 1.97 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-124 | | 7/26/2001 | 6.05 | 2.99 | 6.05 | 2.99 | <0.01 | 2.93 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/10/2001 | 5.47 | 2.41 | 5.4 | 2.34 | 0.07 | 3.56 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/28/2001 | 5.83 | 2.77 | 5.83 | 2.77 | <0.01 | 3.15 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/13/2001 | 5.46 | 2.4 | 5.15 | 2.09 | 0.31 | 3.76 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/29/2001 | 5.95 | 2.89 | 5.95 | 2.89 | <0.01 | 3.03 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/17/2001 | | | | | | NA | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/3/2001 | | | | | | NA | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/16/2001 | 5.55 | 2.49 | 5.55 | 2.49 | <0.01 | 3.43 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/6/2001 | 5.58 | 2.52 | 5.58 | 2.52 | <0.01 | 3.4 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/20/2001 | 5.2 | 2.14 | 4.89 | 1.83 | 0.31 | 4.02 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/6/2001 | 5.43 | 2.37 | 5.4 | 2.34 | 0.03 | 3.56 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/19/2001 | 6.51 | 3.45 | 6.45 | 3.39 | 0.06 | 2.51 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/6/2001 | 6.59 | 3.53 | 6.59 | 3.53 | <0.01 | 2.39 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/23/2001 | 6.39 | 3.33 | 6.3 | 3.24 | 0.09 | 2.65 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/9/2001 | 6.68 | 3.62 | 6.68 | 3.62 | <0.01 | 2.3 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/12/2000 | 6.29 | 3.23 | 5.62 | 2.56 | 0.67 | 3.22 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/28/2000 | 6.65 | 3.59 | 5.44 | 2.38 | 1.21 | 3.3 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/14/2000 | 4.89 | 1.83 | 4.18 | 1.12 | 0.71 | 4.66 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/9/2000 | 5.78 | 2.72 | 5.78 | 2.72 | <0.01 | 3.2 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/31/2000 | | | | | | NA | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/18/2000 | 5.51 | 2.45 | 5.51 | 2.45 | <0.01 | 3.47 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/2/2000 | 8.35 | 5.29 | 8.35 | 5.29 | <0.01 | 0.63 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-124 | | 9/19/2000 | 5.9 | 2.84 | 5.46 | 2.4 | 0.44 | 3.43 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/6/2000 | 5.8 | 2.74 | 5.65 | 2.59 | 0.15 | 3.29 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/23/2000 | 6.2 | 3.14 | 5.93 | 2.87 | 0.27 | 2.99 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/9/2000 | 6.27 | 3.21 | 4.83 | 1.77 | 1.44 | 3.87 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/25/2000 | 6.29 | 3.23 | 6.13 | 3.07 | 0.16 | 2.81 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/11/2000 | 6.07 | 3.01 | 6.07 | 3.01 | <0.01 | 2.91 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/27/2000 | 5.88 | 2.82 | 5.53 | 2.47 | 0.35 | 3.37 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/16/2000 | 5.96 | 2.9 | 5.88 | 2.82 | 0.08 | 3.07 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/1/2000 | 6 | 2.94 | 5.85 | 2.79 | 0.15 | 3.09 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/19/2000 | 6.7 | 3.64 | 6.18 | 3.12 | 0.52 | 2.69 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/4/2000 | | | | | | NA | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/20/2000 | 4.45 | 1.39 | 4.13 | 1.07 | 0.32 | 4.78 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/5/2000 | 5.51 | 2.45 | 5.04 | 1.98 | 0.47 | 3.84 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/22/2000 | 5.6 | 2.54 | 5.32 | 2.26 | 0.28 | 3.6 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/9/2000 | 5.26 | 2.2 | 5.26 | 2.2 | <0.01 | 3.72 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/24/2000 | 5.75 | 2.69 | 5.1 | 2.04 | 0.65 | 3.75 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/11/2000 | 5.85 | 2.79 | 5.36 | 2.3 | 0.49 | 3.52 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/26/2000 | 6.47 | 3.41 | 6.03 | 2.97 | 0.44 | 2.86 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/14/2000 | 5.66 | 2.6 | 4.78 | 1.72 | 0.88 | 4.02 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/30/1999 | 6 | 2.94 | 5.69 | 2.63 | 0.31 | 3.22 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-124 | | 12/16/1999 | 5.12 | 2.06 | 4.67 | 1.61 | 0.45 | 4.22 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/1/1999 | 6.6 | 3.54 | 5.06 | 2 | 1.54 | 3.62 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/18/1999 | 5.58 | 2.52 | 5.55 | 2.49 | 0.03 | 3.41 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/4/1999 | 5.43 | 2.37 | 5.2 | 2.14 | 0.23 | 3.73 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/19/1999 | 5.6 | 2.54 | 5.4 | 2.34 | 0.2 | 3.53 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/7/1999 | 4.99 | 1.93 | 4.81 | 1.75 | 0.18 | 4.13 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/24/1999 | 5.46 | 2.4 | 5.29 | 2.23 | 0.17 | 3.65 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/9/1999 | 5.45 | 2.39 | 4.89 | 1.83 | 0.56 | 3.97 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/27/1999 | 6.02 | 2.96 | 5.39 | 2.33 | 0.63 | 3.46 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/12/1999 | 6.54 | 3.48 | 6.5 | 3.44 | 0.04 | 2.46 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/30/1999 | 6.78 | 3.72 | 6.2 | 3.14 | 0.58 | 2.66 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/16/1999 | 5.67 | 2.61 | 5.65 | 2.59 | 0.02 | 3.32 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/30/1999 | 5.67 | 2.61 | 5.64 | 2.58 | 0.03 | 3.32 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/15/1999 | 5.42 | 2.36 | 5.42 | 2.36 | <0.01 | 3.56 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/2/1999 | 5.45 | 2.39 | 5.17 | 2.11 | 0.28 | 3.75 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/19/1999 | 5.08 | 2.02 | | | | 3.89 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/4/1999 | 6.6 | 3.54 | | | | 2.37 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/20/1999 | 5.07 | 2.01 | | | | 3.9 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/12/1999 | 5.65 | 2.59 | 5.12 | 2.06 | 0.53 | 3.75 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/29/1999 | 5.23 | 2.17 | 4.66 | 1.6 | 0.57 | 4.2 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/11/1999 | 6.08 | 3.02 | 5.83 | 2.77 | 0.25 | 3.09 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/2/1999 | 6.2 | 3.14 | 6.08 | 3.02 | 0.12 | 2.87 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-124 | | 2/10/1999 | 6.38 | 3.32 | 4.85 | 1.79 | 1.53 | 3.83 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/29/1999 | 6.81 | 3.75 | 5.35 | 2.29 | 1.46 | 3.34 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/15/1999 | 5.63 | 2.57 | 5.57 | 2.51 | 0.06 | 3.39 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/29/1998 | 6.45 | 3.39 | 6.45 | 3.39 | <0.01 | 2.53 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/16/1998 | 6.48 | 3.42 | 6.47 | 3.41 | 0.01 | 2.5 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/1/1998 | 6.85 | 3.79 | 6.85 | 3.79 | <0.01 | 2.13 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/20/1998 | 6.93 | 3.87 | 6.93 | 3.87 | <0.01 | 2.05 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/12/1998 | 6.53 | 3.47 | 6.4 | 3.34 | 0.13 | 2.55 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/4/1998 | 6.59 | 3.53 | 6.59 | 3.53 | <0.01 | 2.39 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/23/1998 | 6.51 | 3.45 | 6.51 | 3.45 | <0.01 | 2.47 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/9/1998 | 6.85 | 3.79 | 6.85 | 3.79 | <0.01 | 2.13 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/25/1998 | 5.83 | 2.77 | 5.75 | 2.69 | 0.08 | 3.2 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/11/1998 | 5.7 | 2.64 | 5.52 | 2.46 | 0.18 | 3.42 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/28/1998 | 5.37 | 2.31 | 5.35 | 2.29 | 0.02 | 3.62 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/14/1998 | 5.43 | 2.37 | 5.43 | 2.37 | <0.01 | 3.55 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/31/1998 | 5.63 | 2.57 | 5.63 | 2.57 | <0.01 | 3.35 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/16/1998 | 5.59 | 2.53 | | | | 3.38 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/2/1998 | 5.44 | 2.38 | 5.44 | 2.38 | <0.01 | 3.54 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/19/1998 | 5.03 | 1.97 | 5.03 | 1.97 | <0.01 | 3.95 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/5/1998 | 4.91 | 1.85 | 4.73 | 1.67 | 0.18 | 4.21 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-124 | | 5/20/1998 | 4.52 | 1.46 | 4.38 | 1.32 | 0.14 | 4.56 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/23/1998 | 4.39 | 1.33 | 4.38 | 1.32 | 0.01 | 4.59 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/10/1998 | 4.61 | 1.55 | 4.61 | 1.55 | <0.01 | 4.37 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/27/1998 | 4.47 | 1.41 | | | | 4.5 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/12/1998 | 5.14 | 2.08 | | | | 3.83 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/27/1998 | 5.2 | 2.14 | 5.2 | 2.14 | <0.01 | 3.78 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/10/1998 | 5.27 | 2.21 | 5.27 | 2.21 | <0.01 | 3.71 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/30/1998 | 5.17 | 2.11 | 5.01 | 1.95 | 0.16 | 3.93 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/16/1998 | 5.83 | 2.77 | 5.6 | 2.54 | 0.23 | 3.33 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/19/1997 | 5.71 | 2.65 | 5.7 | 2.64 | 0.01 | 3.27 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 12/4/1997 | 5.53 | 2.47 | 5.23 | 2.17 | 0.3 | 3.68 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/21/1997 | 6.22 | 3.16 | 6.16 | 3.1 | 0.06 | 2.8 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/13/1997 | 6.4 | 3.34 | 6.36 | 3.3 | 0.04 | 2.6 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/7/1997 | 6.44 | 3.38 | 6.13 | 3.07 | 0.31 | 2.78 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/24/1997 | 7.1 | 4.04 | 7.08 | 4.02 | 0.02 | 1.89 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/10/1997 | 6.81 | 3.75 | 6.78 | 3.72 | 0.03 | 2.18 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/24/1997 | 6.06 | 3 | 6.06 | 3 | <0.01 | 2.92 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/12/1997 | 5.98 | 2.92 | 5.25 | 2.19 | 0.73 | 3.58 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/28/1997 | 6.2 | 3.14 | 6.05 | 2.99 | 0.15 | 2.89 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/14/1997 | 6.74 | 3.68 | 6.74 | 3.68 | <0.01 | 2.24 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/1/1997 | 6.4 | 3.34 | 6.14 | 3.08 | 0.26 | 2.78 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-124 | | 7/17/1997 | 7 | 3.94 | 6.85 | 3.79 | 0.15 | 2.09 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/1/1997 | 6.6 | 3.54 | 5.82 | 2.76 | 0.78 | 3 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/20/1997 | 6.4 | 3.34 | | | | 2.57 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/2/1997 | 6.19 | 3.13 | 5.53 | 2.47 | 0.66 | 3.32 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/22/1997 | 6.05 | 2.99 | | | | 2.92 | 8.97 | 5.91 | 15 | | | - | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/9/1997 | 5.53 | 2.47 | 5.31 | 2.25 | 0.22 | 3.62 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/22/1997 | 4.71 | 1.65 | 4.41 | 1.35 | 0.3 | 4.5 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/11/1997 | 6.24 | 3.18 | 4.33 | 1.27 | 1.91 | 4.28 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 11/18/1996 | 6.01 | 2.95 | 5.93 | 2.87 | 0.08 | 3.02 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 10/21/1996 | 6.23 | 3.17 | 5.08 | 2.02 | 1.15 | 3.67 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 9/26/1996 | 5.85 | 2.79 | 4.83 | 1.77 | 1.02 | 3.95 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 8/29/1996 | 6.18 | 3.12 | 4.14 | 1.08 | 2.04 | 4.45 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 7/18/1996 | 6.38 | 3.32 | 4.35 | 1.29 | 2.03 | 4.24 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 6/6/1996 | 6.52 | 3.46 | 4.48 | 1.42 | 2.04 | 4.11 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 5/23/1996 | 6.24 | 3.18 | 4.35 | 1.29 | 1.89 | 4.26 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 4/29/1996 | 6.4 | 3.34 | 5.51 | 2.45 | 0.89 | 3.29 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 3/22/1996 | 4.52 | 1.46 | 4.47 | 1.41 | 0.05 | 4.49 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/27/1996 | 5.02 | 1.96 | 4.68 | 1.62 | 0.34 | 4.23 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 2/26/1996 | 6.65 | 3.59 | 4.15 | 1.09 | 2.5 | 4.35 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/23/1996 | 3.69 | 0.63 | 3.56 | 0.5 | 0.13 | 5.39 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-124 | | 1/22/1996 | 5.46 | 2.4 | 3.37 | 0.31 | 2.09 | 5.21 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-124 | | 12/18/1995 | 6.64 | 3.58 | 4.14 | 1.08 | 2.5 | 4.36 | 8.97 | 5.91 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-125 | | 5/11/2017 | 4.87 | 1.61 | | | | 3.64 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 12/1/2016 | 5.24 | 1.98 | | | | 3.27 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 8/19/2016 | | | | | | 3.69 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 5/11/2016 | 4.72 | 1.46 | | | | 3.79 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 5/9/2016 | 4.65 | 1.39 | | | | 3.86 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 11/19/2015 | 5.32 | 2.06 | | | | 3.19 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 5/15/2015 | 5.29 | 2.03 | | | | 3.22 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 2/13/2015 | 5.33 | 2.07 | | | | 3.18 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 12/4/2014 | 5.04 | 1.78 | | | | 3.47 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 5/14/2014 | 4.77 | 1.51 | | | | 3.74 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 10/16/2013 | 5.06 | 1.8 | | | | 3.45 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 7/12/2013 | 4.58 | 1.32 | | | | 3.93 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 3/28/2013 | 4.77 | 1.51 | | | | 3.74 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 5/9/2012 | 4.6 | 1.34 | | | | 3.91 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 5/18/2011 | 4.75 | 1.49 | | | | 3.76 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 7/29/2010 | | | | | | NA | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 6/22/2009 | 4.28 | 1.02 | | | | 4.23 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 3/23/2009 | 5.65 | 2.39 | | | | 2.86 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 11/25/2008 | 5.27 | 2.01 | | | | 3.24 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 8/18/2008 | 4.71 | 1.45 | | | | 3.8 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 6/6/2008 | 4.89 | 1.63 | | | | 3.62 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 3/31/2008 | 4.73 | 1.47 | | | | 3.78 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 11/15/2007 | 5.12 | 1.86 | | | | 3.39 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 9/18/2007 | 5.88 | 2.62 | | | | 2.63 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 6/4/2007 | 4.7 | 1.44 | | | | 3.81 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 3/2/2007 | 5.08 | 1.82 | | | | 3.43 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 11/7/2006 | | | | | | NA | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 8/29/2006 | 4.6 | 1.34 | | | | 3.91 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 5/24/2006 | 4.94 | 1.68 | | | | 3.57 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 2/8/2006 | | | | | | 5.24 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 7/1/2005 | | | | | | 4.7 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 5/19/2005 | 5.07 | 1.81 | | | | 3.44 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 3/9/2005 | 4.66 | 1.4 | | | | 3.85 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 10/8/2004 | 4.65 | 1.39 | | | | 3.86 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 9/17/2004 | 5.15 | 1.89 | | | | 3.36 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 6/25/2004 | 4.7 | 1.44 | | | | 3.81 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 3/3/2004 | 5.1 | 1.84 | | | | 3.41 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 11/24/2003 | 4.95 | 1.69 | | | | 3.56 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 11/18/2003 | 4.93 | 1.67 | | | | 3.58 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 8/27/2003 | 4.9 | 1.64 | | | | 3.61 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 7/7/2003 | 4.5 | 1.24 | | | | 4.01 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 3/12/2003 | 4.43 | 1.17 | | | | 4.08 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 10/31/2002 | 4.5 | 1.24 | | | | 4.01 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 8/12/2002 | 5.18 | 1.92 | | | | 3.33 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 6/14/2002 | 4.45 | 1.19 | | | | 4.06 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 9/19/2001 | 6.09 | 2.83 | | | | 2.42 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 6/13/2001 | 4.46 | 1.2 | | | | 4.05 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 2/19/2001 | 4.87 | 1.61 | | | | 3.64 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 11/14/2000 | 5.24 | 1.98 | | | | 3.27 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 11/9/2000 | 5.42 | 2.16 | | | | 3.09 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 9/6/2000 | 4.59 | 1.33 | | | | 3.92 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 6/16/2000 | 4.62 | 1.36 | | | | 3.89 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 3/9/2000 | 4.59 | 1.33 | | | | 3.92 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 12/6/1999 | 4.67 | 1.41 | | | | 3.84 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 11/18/1999 | 5.42 | 2.16 | | | | 3.09 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 9/24/1999 | 4 | 0.74 | | | | 4.51 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 6/15/1999 | 4.62 | 1.36 | | | | 3.89 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-125 | | 3/11/1999 | 4.69 | 1.43 | | | | 3.82 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 12/16/1998 | 5.84 | 2.58 | | | | 2.67 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 11/12/1998 | 6.05 | 2.79 | | | | 2.46 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 9/11/1998 | 5.15 | 1.89 | | | | 3.36 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 6/19/1998 | 4.21 | 0.95 | | | | 4.3 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 3/27/1998 | 4.27 | 1.01 | | | | 4.24 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 12/19/1997 | 5.03 | 1.77 | | | | 3.48 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 11/13/1997 | 5.16 | 1.9 | | | | 3.35 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 9/24/1997 | 5.07 | 1.81 | | | | 3.44 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 7/17/1997 | 5.39 | 2.13 | | | | 3.12 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 7/1/1997 | 5.09 | 1.83 | | | | 3.42 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 6/20/1997 | 4.96 | 1.7 | | | | 3.55 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 6/2/1997 | 4.44 | 1.18 | | | | 4.07 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 5/22/1997 | 4.91 | 1.65 | | | | 3.6 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 5/9/1997 | 4.27 | 1.01 | | | | 4.24 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 4/22/1997 | 4.26 | 1 | | | | 4.25 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 4/11/1997 | 4.59 | 1.33 | | | | 3.92 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 11/18/1996 | 4.69 | 1.43 | | | | 3.82 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-125 | | 12/18/1995 | 4.35 | 1.09 | | | | 4.16 | 8.51 | 5.25 | | | | - | Stick Up | | MW | |
| B-126 | | 5/11/2017 | 5.1 | 2.11 | | | | 3.41 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 12/1/2016 | 5.41 | 2.42 | | | | 3.1 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 8/19/2016 | | | | | | 3.31 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 5/11/2016 | 4.91 | 1.92 | | | | 3.6 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 5/10/2016 | 5.04 | 2.05 | | | | 3.47 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 11/19/2015 | 5.23 | 2.24 | | | | 3.28 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 5/15/2015 | 5.51 | 2.52 | | | | 3 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 2/13/2015 | 5.38 | 2.39 | | | | 3.13 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 12/4/2014 | 5.34 | 2.35 | | | | 3.17 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 5/14/2014 | 5.01 | 2.02 | | | | 3.5 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 10/16/2013 | 5.18 | 2.19 | | | | 3.33 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 7/12/2013 | 4.91 | 1.92 | | | | 3.6 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 3/28/2013 | 4.98 | 1.99 | | | | 3.53 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 5/9/2012 | 4.83 | 1.84 | | | | 3.68 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 5/18/2011 | 5.13 | 2.14 | | | | 3.38 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 7/30/2010 | | | | | | NA | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 6/22/2009 | 4.61 | 1.62 | | | | 3.9 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 3/23/2009 | 5.67 | 2.68 | | | | 2.84 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 11/25/2008 | 5.53 | 2.54 | | | | 2.98 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 8/18/2008 | 4.98 | 1.99 | | | | 3.53 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 6/6/2008 | 5.14 | 2.15 | | | | 3.37 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 3/31/2008 | 5.02 | 2.03 | | | | 3.49 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 11/15/2007 | 5.05 | 2.06 | | | | 3.46 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 9/18/2007 | 5.77 | 2.78 | | | | 2.74 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 6/4/2007 | 5.08 | 2.09 | | | | 3.43 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 3/2/2007 | 5.12 | 2.13 | | | | 3.39 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 11/7/2006 | | | | | | NA | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 8/29/2006 | 4.83 | 1.84 | | | | 3.68 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 5/24/2006 | 5.12 | 2.13 | | | | 3.39 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 2/8/2006 | | | | | | 5.08 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 7/1/2005 | | | | | | 4.8 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 5/19/2005 | 5.1 | 2.11 | | | | 3.41 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 3/9/2005 | 4.87 | 1.88 | | | | 3.64 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 10/8/2004 | 4.84 | 1.85 | | | | 3.67 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 9/17/2004 | 5.14 | 2.15 | | | | 3.37 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 6/25/2004 | 4.77 | 1.78 | | | | 3.74 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 3/3/2004 | 5.18 | 2.19 | | | | 3.33 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 11/24/2003 | 5.13 | 2.14 | | | | 3.38 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 11/18/2003 | 5.11 | 2.12 | | | | 3.4 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 8/27/2003 | 5.25 | 2.26 | | | | 3.26 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 7/7/2003 | 4.87 | 1.88 | | | | 3.64 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-126 | | 3/12/2003 | 4.65 | 1.66 | | | | 3.86 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 10/31/2002 | 4.77 | 1.78 | | | | 3.74 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 8/12/2002 | 6.33 | 3.34 | | | | 2.18 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 6/14/2002 | 4.77 | 1.78 | | | | 3.74 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 2/19/2002 | 5.27 | 2.28 | | | | 3.24 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 9/19/2001 | 5.81 | 2.82 | | | | 2.7 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 6/13/2001 | 4.62 | 1.63 | | | | 3.89 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 2/19/2001 | 4.69 | 1.7 | | | | 3.82 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 11/14/2000 | 5.19 | 2.2 | | | | 3.32 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 11/9/2000 | 5.39 | 2.4 | | | | 3.12 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 9/6/2000 | 4.51 | 1.52 | | | | 4 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 6/16/2000 | 4.74 | 1.75 | | | | 3.77 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 3/9/2000 | 4.62 | 1.63 | | | | 3.89 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 12/6/1999 | 4.85 | 1.86 | | | | 3.66 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 11/18/1999 | 5.54 | 2.55 | | | | 2.97 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 9/24/1999 | 4.37 | 1.38 | | | | 4.14 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 6/15/1999 | 4.81 | 1.82 | | | | 3.7 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 3/11/1999 | 4.62 | 1.63 | | | | 3.89 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 12/16/1998 | 5.66 | 2.67 | | | | 2.85 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 11/12/1998 | 5.83 | 2.84 | | | | 2.68 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 9/11/1998 | 5.24 | 2.25 | | | | 3.27 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 6/19/1998 | 4.35 | 1.36 | | | | 4.16 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 3/27/1998 | 4.32 | 1.33 | | | | 4.19 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 12/19/1997 | 4.89 | 1.9 | | | | 3.62 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 11/13/1997 | 4.85 | 1.86 | | | | 3.66 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 9/24/1997 | 5.12 | 2.13 | | | | 3.39 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 7/17/1997 | 5.27 | 2.28 | | | | 3.24 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 7/1/1997 | 5.05 | 2.06 | | | | 3.46 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 6/20/1997 | 4.82 | 1.83 | | | | 3.69 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 6/2/1997 | 4.52 | 1.53 | | | | 3.99 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 5/22/1997 | 4.88 | 1.89 | | | | 3.63 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 5/9/1997 | 4.21 | 1.22 | | | | 4.3 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 4/22/1997 | 4.37 | 1.38 | | | | 4.14 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 4/11/1997 | 4.72 | 1.73 | | | | 3.79 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 11/18/1996 | 4.59 | 1.6 | | | | 3.92 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-126 | | 12/18/1995 | 4.46 | 1.47 | | | | 4.05 | 8.51 | 5.52 | | | | - | Stick Up | | MW | |
| B-129 | | 5/11/2017 | 10.23 | 8.54 | 5.15 | 3.46 | 5.08 | 2.18623 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 5/11/2016 | 5.88 | 4.19 | | | | 2.14 | 8.02 | 6.33 | 15 | | | - | Stick Up | | MW | |
| B-129 | | 5/15/2015 | 10.56 | 8.87 | 5.99 | 4.3 | 4.57 | 1.41 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 12/4/2014 | 10.19 | 8.5 | 4.79 | 3.1 | 5.4 | 2.5 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 5/14/2014 | 10.28 | 8.59 | 5.39 | 3.7 | 4.89 | 1.97 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-129 | | 10/16/2013 | 10.57 | 8.88 | 5.19 | 3.5 | 5.38 | 2.11 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 3/28/2013 | 10.39 | 8.7 | 5.81 | 4.12 | 4.58 | 1.59 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 5/9/2012 | 10.24 | 8.55 | 5.36 | 3.67 | 4.88 | 2 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 5/18/2011 | 10.55 | 8.86 | 6.1 | 4.41 | 4.45 | 1.32 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 7/29/2010 | | | 5.88 | | 5.02 | NA | 8.02 | 6.33 | 15 | | | - | Stick Up | | MW | |
| B-129 | | 6/22/2009 | 10.42 | 8.73 | 5.59 | 3.9 | 4.83 | 1.78 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 3/23/2009 | 10.56 | 8.87 | 6.49 | 4.8 | 4.07 | 0.98 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/25/2008 | 10.52 | 8.83 | 6.02 | 4.33 | 4.5 | 1.39 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 6/6/2008 | 10.12 | 8.43 | 5.81 | 4.12 | 4.31 | 1.63 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/15/2007 | 10.21 | 8.52 | 6.07 | 4.38 | 4.14 | 1.39 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 6/4/2007 | 9.59 | 7.9 | 6.17 | 4.48 | 3.42 | 1.39 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/7/2006 | | | 6.04 | | 3.46 | NA | 8.02 | 6.33 | 15 | | | - | Stick Up | | MW | |
| B-129 | | 5/24/2006 | 8.91 | 7.22 | 5.18 | 3.49 | 3.73 | 2.34 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-129 | | 5/19/2005 | 8.99 | 7.3 | 6.98 | 5.29 | 2.01 | 0.77 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 10/8/2004 | 8.44 | 6.75 | 6.64 | 4.95 | 1.8 | 1.14 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/24/2003 | 7.41 | 5.72 | 5.95 | 4.26 | 1.46 | 1.87 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 4/28/2003 | 7.27 | 5.58 | 6.83 | 5.14 | 0.44 | 1.13 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 4/25/2003 | 7.76 | 6.07 | 6.75 | 5.06 | 1.01 | 1.13 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/20/2002 | 6.68 | 4.99 | 6.09 | 4.4 | 0.59 | 1.85 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/1/2002 | 6.81 | 5.12 | 6.4 | 4.71 | 0.41 | 1.56 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 10/31/2002 | 7.86 | 6.17 | 6.34 | 4.65 | 1.52 | 1.48 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/9/2001 | 7.8 | 6.11 | 7.43 | 5.74 | 0.37 | 0.54 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/8/2001 | 8.45 | 6.76 | 7.21 | 5.52 | 1.24 | 0.64 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 1/30/2001 | 6.93 | 5.24 | 6.1 | 4.41 | 0.83 | 1.81 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-129 | | 11/9/2000 | 8.2 | 6.51 | 7.1 | 5.41 | 1.1 | 0.77 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 5/17/2000 | 7.39 | 5.7 | 6.97 | 5.28 | 0.42 | 0.99 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 5/16/2000 | 7.78 | 6.09 | 6.9 | 5.21 | 0.88 | 1 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/19/1999 | 6.83 | 5.14 | 6.56 | 4.87 | 0.27 | 1.42 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/18/1999 | 7.45 | 5.76 | 6.61 | 4.92 | 0.84 | 1.3 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 5/21/1999 | 7.27 | 5.58 | 6.91 | 5.22 | 0.36 | 1.06 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 5/20/1999 | 7.6 | 5.91 | 6.9 | 5.21 | 0.7 | 1.03 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 12/16/1998 | 7.41 | 5.72 | 6.95 | 5.26 | 0.46 | 1.01 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/13/1998 | 7.63 | 5.94 | 7.33 | 5.64 | 0.3 | 0.65 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/12/1998 | 8.71 | 7.02 | 7.31 | 5.62 | 1.4 | 0.52 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 6/29/1998 | 7.43 | 5.74 | 6.56 | 4.87 | 0.87 | 1.34 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-129 | | 5/21/1998 | 6.97 | 5.28 | 6.25 | 4.56 | 0.72 | 1.67 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 5/20/1998 | 7.75 | 6.06 | 6.11 | 4.42 | 1.64 | 1.69 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 12/17/1997 | 7 | 5.31 | 6.51 | 4.82 | 0.49 | 1.44 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/14/1997 | 6.7 | 5.01 | 6.14 | 4.45 | 0.56 | 1.8 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/13/1997 | 7.61 | 5.92 | 6.61 | 4.92 | 1 | 1.28 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 6/25/1997 | 7.47 | 5.78 | 6.79 | 5.1 | 0.68 | 1.14 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 5/23/1997 | 7.24 | 5.55 | 6.88 | 5.19 | 0.36 | 1.09 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 5/22/1997 | 8.39 | 6.7 | 6.6 | 4.91 | 1.79 | 1.18 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/19/1996 | 6.7 | 5.01 | 6.48 | 4.79 | 0.22 | 1.51 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 11/18/1996 | 7.03 | 5.34 | 6.45 | 4.76 | 0.58 | 1.49 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 10/22/1996 | 7.16 | 5.47 | 6.8 | 5.11 | 0.36 | 1.17 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-129 | | 10/21/1996 | 7.65 | 5.96 | 6.74 | 5.05 | 0.91 | 1.16 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 9/26/1996 | 7.98 | 6.29 | 7.17 | 5.48 | 0.81 | 0.74 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 8/30/1996 | 7.03 | 5.34 | 6.6 | 4.91 | 0.43 | 1.36 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 8/29/1996 | 7.65 | 5.96 | 6.41 | 4.72 | 1.24 | 1.44 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 7/19/1996 | 6.27 | 4.58 | 6.01 | 4.32 | 0.26 | 1.98 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 7/18/1996 | 7.55 | 5.86 | 6.26 | 4.57 | 1.29 | 1.59 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 6/7/1996 | 7.15 | 5.46 | 6.83 | 5.14 | 0.32 | 1.15 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 6/6/1996 | 7.51 | 5.82 | 6.92 | 5.23 | 0.59 | 1.02 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 5/24/1996 | 7.18 | 5.49 | 6.74 | 5.05 | 0.44 | 1.22 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 5/23/1996 | 7.95 | 6.26 | 6.56 | 4.87 | 1.39 | 1.27 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 4/29/1996 | 7.54 | 5.85 | 6.61 | 4.92 | 0.93 | 1.28 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-129 | | 3/22/1996 | 6.88 | 5.19 | 6.36 | 4.67 | 0.52 | 1.59 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 2/27/1996 | 7.04 | 5.35 | 6.6 | 4.91 | 0.44 | 1.36 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 2/26/1996 | 8.34 | 6.65 | 6.28 | 4.59 | 2.06 | 1.46 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 1/23/1996 | 7.44 | 5.75 | 6.13 | 4.44 | 1.31 | 1.71 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 1/22/1996 | 10.26 | 8.57 | 5.98 | 4.29 | 4.28 | 1.46 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-129 | | 12/18/1995 | 10.02 | 8.33 | 5.83 | 4.14 | 4.19 | 1.63 | 8.02 | 6.33 | 15 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | |
| B-130 | | 5/11/2017 | 5.39 | 3.81 | 5.09 | 3.51 | 0.3 | 4.57918 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 5/11/2016 | 5.4 | 3.82 | 5.2 | 3.62 | 0.2 | 4.48 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 5/15/2015 | 5.75 | 4.17 | 5.69 | 4.11 | 0.06 | 4 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 12/4/2014 | 5.63 | 4.05 | 5.44 | 3.86 | 0.19 | 4.24 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 5/14/2014 | 5.83 | 4.25 | 5.61 | 4.03 | 0.22 | 4.06 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 10/16/2013 | 5.45 | 3.87 | 5.22 | 3.64 | 0.23 | 4.45 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 3/28/2013 | 5.47 | 3.89 | 5.33 | 3.75 | 0.14 | 4.35 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 5/9/2012 | 5.24 | 3.66 | 5.13 | 3.55 | 0.11 | 4.55 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 6/2/2011 | 5.63 | 4.05 | 5.45 | 3.87 | 0.18 | 4.23 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 7/29/2010 | | | 4.85 | | 0.05 | NA | 9.69 | 8.11 | 16 | | | - | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-130 | | 6/22/2009 | 4.77 | 3.19 | 4.7 | 3.12 | 0.07 | 4.99 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 3/23/2009 | 5.6 | 4.02 | 5.46 | 3.88 | 0.14 | 4.22 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 11/25/2008 | 5.76 | 4.18 | 5.61 | 4.03 | 0.15 | 4.07 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 6/6/2008 | 5.97 | 4.39 | 5.75 | 4.17 | 0.22 | 3.92 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 11/15/2007 | 4.93 | 3.35 | 4.88 | 3.3 | 0.05 | 4.81 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 6/4/2007 | 5.49 | 3.91 | 5.32 | 3.74 | 0.17 | 4.36 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 11/7/2006 | | | 5.3 | | 0.02 | NA | 9.69 | 8.11 | 16 | | | - | Stick Up | | MW | |
| B-130 | | 5/24/2006 | 5.28 | 3.7 | 4.62 | 3.04 | 0.66 | 5.02 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 5/19/2005 | 5.44 | 3.86 | 5.32 | 3.74 | 0.12 | 4.36 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 10/8/2004 | 5.27 | 3.69 | 4.69 | 3.11 | 0.58 | 4.96 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 11/24/2003 | 4.77 | 3.19 | 4.62 | 3.04 | 0.15 | 5.06 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 10/31/2002 | 4.47 | 2.89 | 4.36 | 2.78 | 0.11 | 5.32 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 11/8/2001 | 5.97 | 4.39 | | | | 3.72 | 9.69 | 8.11 | 16 | | | - | Stick Up | | MW | |
| B-130 | | 11/9/2000 | 5.32 | 3.74 | 5.27 | 3.69 | 0.05 | 4.42 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 11/18/1999 | 5.23 | 3.65 | 5.18 | 3.6 | 0.05 | 4.51 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 11/12/1998 | 5.7 | 4.12 | 5.6 | 4.02 | 0.1 | 4.08 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 9/17/1998 | 5.28 | 3.7 | 5.19 | 3.61 | 0.09 | 4.49 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 11/13/1997 | 5.56 | 3.98 | 5.48 | 3.9 | 0.08 | 4.2 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 11/18/1996 | 5.65 | 4.07 | 5.58 | 4 | 0.07 | 4.11 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-130 | | 12/18/1995 | 5.5 | 3.92 | 5.41 | 3.83 | 0.09 | 4.27 | 9.69 | 8.11 | 16 | B-130 | 0.9306 | 80% RESIDUAL OIL, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-131 | | 5/11/2017 | 4.94 | 2.42 | | | | 3.78 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 5/11/2016 | 4.51 | 1.99 | | | | 4.21 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 5/5/2016 | 4.78 | 2.26 | | | | 3.94 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 5/20/2015 | 6.27 | 3.75 | | | | 2.45 | 8.72 | 6.2 | 17.49 | | | - | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-131 | | 5/15/2015 | 6.31 | 3.79 | | | | 2.41 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 12/4/2014 | 5.25 | 2.73 | | | | 3.47 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 6/2/2014 | 5.31 | 2.79 | | | | 3.41 | 8.72 | 6.2 | 17.49 | | | - | Stick Up | | MW | |
| B-131 | | 5/14/2014 | 5.48 | 2.96 | | | | 3.24 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 10/16/2013 | 4.93 | 2.41 | | | | 3.79 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 3/28/2013 | 4.95 | 2.43 | | | | 3.77 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 5/9/2012 | 5.29 | 2.77 | | | | 3.43 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 5/18/2011 | 5.25 | 2.73 | | | | 3.47 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 7/29/2010 | | | | | | NA | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 6/22/2009 | 4.45 | 1.93 | | | | 4.27 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 3/23/2009 | 6.11 | 3.59 | | | | 2.61 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 11/25/2008 | 5.49 | 2.97 | | | | 3.23 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 6/6/2008 | 5.57 | 3.05 | | | | 3.15 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 11/15/2007 | 5.64 | 3.12 | | | | 3.08 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 6/4/2007 | 5.74 | 3.22 | | | | 2.98 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 11/7/2006 | | | | | | NA | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 5/24/2006 | 5.6 | 3.08 | | | | 3.12 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 5/19/2005 | 6.01 | 3.49 | | | | 2.71 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 10/21/2004 | 5.15 | 2.63 | | | | 3.57 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 10/8/2004 | 5.42 | 2.9 | | | | 3.3 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 11/24/2003 | 4.64 | 2.12 | | | | 4.08 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 11/13/2002 | 4.75 | 2.23 | | | | 3.97 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 10/31/2002 | 4.83 | 2.31 | | | | 3.89 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 11/13/2001 | 7.02 | 4.5 | | | | 1.7 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 11/8/2001 | 6.97 | 4.45 | | | | 1.75 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 11/17/2000 | 5.25 | 2.73 | | | | 3.47 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 11/9/2000 | 5.55 | 3.03 | | | | 3.17 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 12/3/1999 | 4.65 | 2.13 | | | | 4.07 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 11/18/1999 | 5.26 | 2.74 | | | | 3.46 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 11/13/1998 | 6.35 | 3.83 | | | | 2.37 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 11/12/1998 | 6.32 | 3.8 | | | | 2.4 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 11/20/1997 | 4.66 | 2.14 | | | | 4.06 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 11/13/1997 | 1.98 | -0.54 | | | | 6.74 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 11/18/1996 | 4.31 | 1.79 | | | | 4.41 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-131 | | 12/18/1995 | 4.11 | 1.59 | | | | 4.61 | 8.72 | 6.2 | 14 | | | - | Stick Up | | MW | |
| B-132 | | 5/11/2017 | 4.66 | 0.06 | 4.65 | 0.05 | 0.01 | 2.21865 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 3/6/2017 | 5.19 | 0.59 | 5.12 | 0.52 | 0.07 | 1.74058 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 12/1/2016 | 4.46 | -0.14 | 4.39 | -0.21 | 0.07 | 2.47058 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 8/19/2016 | | | | | | 2.12 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 8/12/2016 | 4.86 | 0.26 | 4.77 | 0.17 | 0.09 | 2.08789 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-132 | | 5/11/2016 | 4.68 | 0.08 | 4.67 | 0.07 | 0.01 | 2.2 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 5/11/2016 | 4.74 | 0.14 | | | | 2.13 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 11/19/2015 | 4.77 | 0.17 | 4.68 | 0.08 | 0.09 | 2.18 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 8/3/2015 | 4.66 | 0.06 | 4.57 | -0.03 | 0.09 | 2.29 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 5/15/2015 | 4.98 | 0.38 | 4.93 | 0.33 | 0.05 | 1.93 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 2/18/2015 | 5.22 | 0.62 | 5.15 | 0.55 | 0.07 | 1.71 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 12/4/2014 | 5 | 0.4 | 4.96 | 0.36 | 0.04 | 1.9 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 8/11/2014 | 4.97 | 0.37 | 4.88 | 0.28 | 0.09 | 1.98 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 5/15/2014 | 4.97 | 0.37 | 4.91 | 0.31 | 0.06 | 1.95 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 1/23/2014 | 4.99 | 0.39 | 4.99 | 0.39 | <0.01 | 1.89 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 10/16/2013 | 4.47 | -0.13 | | | | 2.4 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 7/12/2013 | 4.43 | -0.17 | 4.42 | -0.18 | 0.01 | 2.45 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 3/28/2013 | 4.63 | 0.03 | | | | 2.24 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 2/15/2013 | 4.47 | -0.13 | | | | 2.4 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 10/10/2012 | 4.85 | 0.25 | 4.76 | 0.16 | 0.09 | 2.1 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-132 | | 7/30/2012 | 4.77 | 0.17 | 4.72 | 0.12 | 0.05 | 2.14 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 5/9/2012 | 4.62 | 0.02 | 4.6 | 0 | 0.02 | 2.27 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 1/30/2012 | 5.08 | 0.48 | 5.02 | 0.42 | 0.06 | 1.84 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 10/21/2011 | 4.96 | 0.36 | 4.93 | 0.33 | 0.03 | 1.94 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 8/1/2011 | 4.95 | 0.35 | | | | 1.92 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 5/18/2011 | 4.94 | 0.34 | 4.94 | 0.34 | <0.01 | 1.94 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 2/23/2011 | 5.21 | 0.61 | | | | 1.66 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 11/3/2010 | 4.89 | 0.29 | | | | 1.98 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 10/25/2010 | 4.79 | 0.19 | | | | 2.08 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 10/19/2010 | 4.7 | 0.1 | | | | 2.17 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 10/13/2010 | 4.71 | 0.11 | | | | 2.16 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 9/28/2010 | 4.86 | 0.26 | 4.82 | 0.22 | 0.04 | 2.04 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 7/29/2010 | | | 4.71 | | 0.02 | NA | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 6/10/2010 | | | 4.78 | | 0.01 | NA | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 6/22/2009 | 4.48 | -0.12 | 4.48 | -0.12 | <0.01 | 2.4 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 3/23/2009 | 5.42 | 0.82 | 5.19 | 0.59 | 0.23 | 1.65 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 11/25/2008 | 4.96 | 0.36 | 4.95 | 0.35 | 0.01 | 1.92 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 8/18/2008 | 5.01 | 0.41 | 5 | 0.4 | 0.01 | 1.87 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 6/6/2008 | 4.98 | 0.38 | | | | 1.89 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-132 | | 3/31/2008 | 4.9 | 0.3 | 4.9 | 0.3 | <0.01 | 1.98 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 11/15/2007 | 4.76 | 0.16 | 4.76 | 0.16 | <0.01 | 2.12 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 9/18/2007 | 9.35 | 4.75 | | | | -2.48 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 6/4/2007 | 5.46 | 0.86 | 5.21 | 0.61 | 0.25 | 1.63 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 3/2/2007 | 4.81 | 0.21 | 4.56 | -0.04 | 0.25 | 2.28 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 11/7/2006 | | | 4.83 | | 0.18 | NA | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 8/29/2006 | 4.52 | -0.08 | 4.25 | -0.35 | 0.27 | 2.58 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 5/24/2006 | 5.06 | 0.46 | 4.85 | 0.25 | 0.21 | 1.99 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 2/8/2006 | | | 4.89 | | 0.22 | 2.99 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 7/1/2005 | | | | | | 2.76 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 5/19/2005 | 5.88 | 1.28 | 4.85 | 0.25 | 1.03 | 1.88 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 3/9/2005 | 5.79 | 1.19 | 4.8 | 0.2 | 0.99 | 1.94 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 10/8/2004 | 5.25 | 0.65 | 4.21 | -0.39 | 1.04 | 2.52 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 9/17/2004 | 5.45 | 0.85 | 4.43 | -0.17 | 1.02 | 2.3 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 6/28/2004 | 5.6 | 1 | 4.53 | -0.07 | 1.07 | 2.2 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-132 | | 3/11/2004 | 5.35 | 0.75 | 4.44 | -0.16 | 0.91 | 2.31 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 11/24/2003 | 5.68 | 1.08 | 4.66 | 0.06 | 1.02 | 2.07 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 8/20/2003 | 5.89 | 1.29 | 4.98 | 0.38 | 0.91 | 1.77 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 5/20/2003 | 5.39 | 0.79 | 4.4 | -0.2 | 0.99 | 2.34 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 4/28/2003 | 5.48 | 0.88 | 4.54 | -0.06 | 0.94 | 2.2 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 4/25/2003 | 5.38 | 0.78 | 4.62 | 0.02 | 0.76 | 2.15 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 3/21/2003 | 4.99 | 0.39 | 4.24 | -0.36 | 0.75 | 2.53 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 11/21/2002 | 4.97 | 0.37 | 4.29 | -0.31 | 0.68 | 2.49 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 11/20/2002 | 5.96 | 1.36 | 4 | -0.6 | 1.96 | 2.61 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 10/31/2002 | 6.15 | 1.55 | 4.4 | -0.2 | 1.75 | 2.23 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 9/23/2002 | 6.25 | 1.65 | 4.63 | 0.03 | 1.62 | 2.02 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-132 | | 8/12/2002 | 5.26 | 0.66 | 5.26 | 0.66 | <0.01 | 1.62 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 6/14/2002 | 6.17 | 1.57 | 4.45 | -0.15 | 1.72 | 2.19 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 3/19/2002 | | | | | | NA | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 3/11/2002 | | | | | | NA | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132 | | 2/19/2002 | 6.1 | 1.5 | 5.11 | 0.51 | 0.99 | 1.63 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 12/11/2001 | 4.6 | 0 | 4.58 | -0.02 | 0.02 | 2.29 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 11/8/2001 | 4.52 | -0.08 | 4.52 | -0.08 | <0.01 | 2.36 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 11/2/2001 | 4.63 | 0.03 | 4.63 | 0.03 | <0.01 | 2.25 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 11/1/2001 | 4.92 | 0.32 | 4.91 | 0.31 | 0.01 | 1.96 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 10/26/2001 | 4.51 | -0.09 | 4.51 | -0.09 | <0.01 | 2.37 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 10/25/2001 | 5.14 | 0.54 | 4.7 | 0.1 | 0.44 | 2.11 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 10/17/2001 | 5.08 | 0.48 | 4.7 | 0.1 | 0.38 | 2.12 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 10/11/2001 | 5.05 | 0.45 | 4.67 | 0.07 | 0.38 | 2.15 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-132 | | 10/2/2001 | 5.44 | 0.84 | 5.23 | 0.63 | 0.21 | 1.61 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 9/19/2001 | 5.28 | 0.68 | 5.07 | 0.47 | 0.21 | 1.77 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 9/7/2001 | 4.76 | 0.16 | 4.76 | 0.16 | <0.01 | 2.12 | 6.87 | 2.27 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-132 | | 9/5/2001 | 4.75 | 0.15 | | | | 2.12 | 6.87 | 2.27 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-132D | | 5/11/2017 | 16.55 | | | | | -6.24 | 10.31 | | 85 | | | - | | | MW | |
| B-132D | | 5/11/2016 | 16.45 | | | | | -6.14 | 10.31 | | 85 | | | - | | | MW | |
| B-132D | | 5/3/2016 | 14.96 | | | | | -4.65 | 10.31 | | 85 | | | - | | | MW | |
| B-132D | | 5/15/2015 | 15.62 | | | | | -5.31 | 10.31 | | 85 | | | - | | | MW | |
| B-132D | | 12/4/2014 | 15.49 | | | | | -5.18 | 10.31 | | 85 | | | - | | | MW | |
| B-132D | | 5/15/2014 | 15.57 | | | | | -5.26 | 10.31 | | 85 | | | - | | | MW | |
| B-132D | | 10/16/2013 | 15.77 | | | | | -5.46 | 10.31 | | 85 | | | - | | | MW | |
| B-132D | | 3/28/2013 | 17.05 | | | | | -6.74 | 10.31 | | 85 | | | - | | | MW | |
| B-132D | | 3/21/2013 | 16.76 | | | | | -6.45 | 10.31 | | 85 | | | - | | | MW | |
| B-132D | | 10/25/2012 | 15.55 | | | | | -5.24 | 10.31 | | 85 | | | - | | | MW | |
| B-132D | | 5/9/2012 | 14.45 | | | | | -4.14 | 10.31 | | 85 | | | - | | | MW | |
| B-132D | | 5/18/2011 | 13.81 | | | | | -3.5 | 10.31 | | 85 | | | - | | | MW | |
| B-132D | | 7/30/2010 | | | | | | NA | 10.31 | | 85 | | | - | | | MW | |
| B-132D | | 11/25/2008 | | | | | | NA | 10.31 | | 85 | | | - | | | MW | |
| B-133 | | 5/11/2017 | 5.01 | 0.98 | | | | 2.32 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 12/1/2016 | 4.96 | 0.93 | | | | 2.37 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 8/12/2016 | 5.08 | 1.05 | | | | 2.25 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/11/2016 | 4.97 | 0.94 | | | | 2.36 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/5/2016 | 4.91 | 0.88 | | | | 2.42 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 2/8/2016 | 4.64 | 0.61 | 4.63 | 0.6 | 0.01 | 2.7 | 7.33 | 3.3 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/19/2015 | 5.04 | 1.01 | | | | 2.29 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 8/3/2015 | 4.99 | 0.96 | | | | 2.34 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/15/2015 | 5.26 | 1.23 | | | | 2.07 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 2/13/2015 | 5.3 | 1.27 | | | | 2.03 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 12/9/2014 | 4.65 | 0.62 | | | | 2.68 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/15/2014 | 5.12 | 1.09 | | | | 2.21 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/16/2013 | 5.04 | 1.01 | | | | 2.29 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 7/12/2013 | 4.94 | 0.91 | | | | 2.39 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 3/28/2013 | 5.08 | 1.05 | | | | 2.25 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/9/2012 | 5.03 | 1 | | | | 2.3 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/18/2011 | 5.15 | 1.12 | 5.15 | 1.12 | <0.01 | 2.19 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 9/28/2010 | 5.11 | 1.08 | | | | 2.22 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 7/29/2010 | | | 5.09 | | <0.01 | NA | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 6/22/2009 | 4.96 | 0.93 | | | | 2.37 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 3/23/2009 | 5.36 | 1.33 | 5.36 | 1.33 | <0.01 | 1.98 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/25/2008 | 5.29 | 1.26 | 5.29 | 1.26 | <0.01 | 2.05 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 6/6/2008 | 5.33 | 1.3 | | | | 2 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-133 | | 11/15/2007 | 4.95 | 0.92 | 4.95 | 0.92 | <0.01 | 2.39 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 9/18/2007 | 5.49 | 1.46 | 5.49 | 1.46 | <0.01 | 1.85 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 6/4/2007 | 5.26 | 1.23 | 5.25 | 1.22 | 0.01 | 2.08 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 3/2/2007 | 4.9 | 0.87 | 4.9 | 0.87 | <0.01 | 2.44 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/7/2006 | | | | | | NA | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 8/29/2006 | 4.39 | 0.36 | 4.31 | 0.28 | 0.08 | 3 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/24/2006 | 5.2 | 1.17 | 5.19 | 1.16 | 0.01 | 2.14 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 2/8/2006 | | | | | | 3.46 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 7/1/2005 | | | 5.19 | | 0.01 | 3.25 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/19/2005 | 5.16 | 1.13 | | | | 2.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 4/20/2005 | 4.76 | 0.73 | | | | 2.57 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 3/9/2005 | 4.9 | 0.87 | | | | 2.43 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 1/12/2005 | 4.76 | 0.73 | | | | 2.57 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 12/3/2004 | 5 | 0.97 | | | | 2.33 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/24/2004 | 5 | 0.97 | | | | 2.33 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/16/2004 | 5 | 0.97 | | | | 2.33 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/12/2004 | 5 | 0.97 | | | | 2.33 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/5/2004 | 5 | 0.97 | | | | 2.33 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/22/2004 | 4.43 | 0.4 | | | | 2.9 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/8/2004 | 5.5 | 1.47 | | | | 1.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 9/24/2004 | 5.5 | 1.47 | | | | 1.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 9/17/2004 | 5.5 | 1.47 | | | | 1.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 9/10/2004 | 5.5 | 1.47 | | | | 1.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 9/2/2004 | 5.5 | 1.47 | | | | 1.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 8/24/2004 | 5.5 | 1.47 | | | | 1.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 8/11/2004 | 5.5 | 1.47 | | | | 1.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 8/4/2004 | 5.5 | 1.47 | | | | 1.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 7/27/2004 | 5.5 | 1.47 | | | | 1.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 7/21/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 7/14/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 7/9/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 6/28/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 6/10/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/28/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/18/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/12/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/7/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 4/29/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 4/22/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 4/15/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 4/6/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 4/2/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 3/25/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 3/17/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 3/11/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 3/3/2004 | 7.5 | 3.47 | | | | -0.17 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 2/17/2004 | 7.6 | 3.57 | | | | -0.27 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 2/10/2004 | 7.6 | 3.57 | | | | -0.27 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-133 | | 2/3/2004 | 7.05 | 3.02 | | | | 0.28 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 1/6/2004 | 6.8 | 2.77 | | | | 0.53 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 12/30/2003 | 6.8 | 2.77 | | | | 0.53 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 12/22/2003 | 6.8 | 2.77 | | | | 0.53 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 12/8/2003 | 6.8 | 2.77 | | | | 0.53 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 12/2/2003 | 6.8 | 2.77 | | | | 0.53 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/24/2003 | 6.8 | 2.77 | | | | 0.53 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/19/2003 | 6.8 | 2.77 | | | | 0.53 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/11/2003 | 6.8 | 2.77 | | | | 0.53 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/5/2003 | 4.73 | 0.7 | 4.73 | 0.7 | <0.01 | 2.61 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/22/2003 | 4.87 | 0.84 | 4.85 | 0.82 | 0.02 | 2.48 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/13/2003 | 4.99 | 0.96 | 4.99 | 0.96 | <0.01 | 2.35 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/7/2003 | 5.08 | 1.05 | 5.08 | 1.05 | <0.01 | 2.26 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/1/2003 | 4.82 | 0.79 | | | | 2.51 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 9/24/2003 | 6.9 | 2.87 | | | | 0.43 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 9/8/2003 | 6.2 | 2.17 | 6.2 | 2.17 | <0.01 | 1.14 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 9/3/2003 | 7.2 | 3.17 | 7.2 | 3.17 | <0.01 | 0.14 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 8/27/2003 | 6.9 | 2.87 | | | | 0.43 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 8/20/2003 | 7.1 | 3.07 | 7.1 | 3.07 | <0.01 | 0.24 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 8/12/2003 | 7.4 | 3.37 | 7.4 | 3.37 | <0.01 | -0.06 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 8/6/2003 | 6 | 1.97 | | | | 1.33 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 7/24/2003 | 6 | 1.97 | | | | 1.33 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 7/18/2003 | 6 | 1.97 | | | | 1.33 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 6/30/2003 | 6 | 1.97 | | | | 1.33 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 6/17/2003 | 7.4 | 3.37 | 7.4 | 3.37 | <0.01 | -0.06 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 6/13/2003 | 6 | 1.97 | | | | 1.33 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 6/2/2003 | 7.1 | 3.07 | | | | 0.23 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/30/2003 | 6 | 1.97 | | | | 1.33 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/20/2003 | 4.81 | 0.78 | | | | 2.52 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/8/2003 | 9.25 | 5.22 | | | | -1.92 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 4/28/2003 | 9.25 | 5.22 | | | | -1.92 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 4/25/2003 | 9.25 | 5.22 | | | | -1.92 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 4/9/2003 | 9.25 | 5.22 | | | | -1.92 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 4/2/2003 | 9.25 | 5.22 | | | | -1.92 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 3/26/2003 | 9.25 | 5.22 | | | | -1.92 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 3/21/2003 | 9.25 | 5.22 | | | | -1.92 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 3/12/2003 | 9.25 | 5.22 | | | | -1.92 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 2/25/2003 | 9.25 | 5.22 | | | | -1.92 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 2/21/2003 | 9.25 | 5.22 | | | | -1.92 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 2/13/2003 | 9.25 | 5.22 | | | | -1.92 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 2/6/2003 | 9.25 | 5.22 | | | | -1.92 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 1/21/2003 | 9.25 | 5.22 | | | | -1.92 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-133 | | 1/10/2003 | 9.25 | 5.22 | | | | -1.92 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 12/30/2002 | 8.8 | 4.77 | 8.8 | 4.77 | <0.01 | -1.46 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 12/27/2002 | 8.6 | 4.57 | 8.6 | 4.57 | <0.01 | -1.26 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 12/19/2002 | 9 | 4.97 | 9 | 4.97 | <0.01 | -1.66 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 12/4/2002 | 4.81 | 0.78 | 4.73 | 0.7 | 0.08 | 2.58 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/26/2002 | 4.41 | 0.38 | 4.41 | 0.38 | <0.01 | 2.93 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/19/2002 | 4.35 | 0.32 | 4.35 | 0.32 | <0.01 | 2.99 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/5/2002 | 8 | 3.97 | | | | -0.67 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/31/2002 | 7.6 | 3.57 | | | | -0.27 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/22/2002 | 8 | 3.97 | | | | -0.67 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/18/2002 | 8 | 3.97 | | | | -0.67 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/10/2002 | 8.2 | 4.17 | | | | -0.87 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/4/2002 | 8.3 | 4.27 | | | | -0.97 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 9/23/2002 | 8.2 | 4.17 | | | | -0.87 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 9/20/2002 | 8.2 | 4.17 | | | | -0.87 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 9/4/2002 | 8.3 | 4.27 | 8.3 | 4.27 | <0.01 | -0.96 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 8/27/2002 | 8.29 | 4.26 | 8.29 | 4.26 | <0.01 | -0.95 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 8/12/2002 | 8.6 | 4.57 | | | | -1.27 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 8/9/2002 | 7.6 | 3.57 | | | | -0.27 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 7/31/2002 | 7.6 | 3.57 | | | | -0.27 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 7/22/2002 | 7.6 | 3.57 | | | | -0.27 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 7/16/2002 | 7.6 | 3.57 | | | | -0.27 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 7/12/2002 | 7.4 | 3.37 | | | | -0.07 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 7/1/2002 | 7.6 | 3.57 | | | | -0.27 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 6/27/2002 | 7.4 | 3.37 | | | | -0.07 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 6/19/2002 | 7.4 | 3.37 | | | | -0.07 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 6/14/2002 | 7.4 | 3.37 | | | | -0.07 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 6/7/2002 | 4.71 | 0.68 | 4.7 | 0.67 | 0.01 | 2.63 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/31/2002 | 5.38 | 1.35 | | | | 1.95 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/21/2002 | 7.4 | 3.37 | | | | -0.07 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/15/2002 | 7.4 | 3.37 | | | | -0.07 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 5/1/2002 | 6.5 | 2.47 | | | | 0.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 4/24/2002 | 6.5 | 2.47 | | | | 0.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 4/19/2002 | 6.5 | 2.47 | | | | 0.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 4/12/2002 | 6.5 | 2.47 | | | | 0.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 4/2/2002 | 6.4 | 2.37 | | | | 0.93 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 3/26/2002 | 6.5 | 2.47 | | | | 0.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 3/19/2002 | 5.26 | 1.23 | 5.16 | 1.13 | 0.1 | 2.15 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 3/11/2002 | 6.5 | 2.47 | | | | 0.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 3/5/2002 | 6.5 | 2.47 | | | | 0.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-133 | | 3/1/2002 | 6.5 | 2.47 | | | | 0.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 2/19/2002 | 6.5 | 2.47 | | | | 0.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 2/11/2002 | 6.5 | 2.47 | | | | 0.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 2/7/2002 | 6.5 | 2.47 | | | | 0.83 | 7.33 | 3.3 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-133 | | 12/11/2001 | 6.36 | 2.33 | 4.85 | 0.82 | 1.51 | 2.2 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/8/2001 | 6.47 | 2.44 | 4.74 | 0.71 | 1.73 | 2.26 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/2/2001 | 5.77 | 1.74 | 4.91 | 0.88 | 0.86 | 2.26 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 11/1/2001 | 6.81 | 2.78 | 4.83 | 0.8 | 1.98 | 2.13 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/26/2001 | 5.45 | 1.42 | 4.76 | 0.73 | 0.69 | 2.44 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/25/2001 | 6.05 | 2.02 | 4.63 | 0.6 | 1.42 | 2.43 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/17/2001 | 6.24 | 2.21 | 4.92 | 0.89 | 1.32 | 2.16 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/11/2001 | 6.28 | 2.25 | 5.1 | 1.07 | 1.18 | 2.01 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 10/2/2001 | 6.45 | 2.42 | 5.47 | 1.44 | 0.98 | 1.68 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 9/19/2001 | 6.2 | 2.17 | 5.19 | 1.16 | 1.01 | 1.95 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 9/7/2001 | 6.48 | 2.45 | 5.38 | 1.35 | 1.1 | 1.74 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133 | | 9/5/2001 | 6.25 | 2.22 | 5.11 | 1.08 | 1.14 | 2 | 7.33 | 3.3 | 11 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-133D | | 5/11/2017 | 10.81 | 8.31 | | | | -2.21 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 8/19/2016 | | | | | | -2.31 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 5/11/2016 | 10.58 | 8.08 | | | | -1.98 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 5/3/2016 | 10.31 | 7.81 | | | | -1.71 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 5/15/2015 | 10.43 | 7.93 | | | | -1.83 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 12/4/2014 | 11.09 | 8.59 | | | | -2.49 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 5/15/2014 | 9.94 | 7.44 | | | | -1.34 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 10/16/2013 | 10.68 | 8.18 | | | | -2.08 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 3/28/2013 | 11.67 | 9.17 | | | | -3.07 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 3/21/2013 | 11.18 | 8.68 | | | | -2.58 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 11/2/2012 | 10.86 | 8.36 | | | | -2.26 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 10/25/2012 | 10.86 | 8.36 | | | | -2.26 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 5/9/2012 | 10.44 | 7.94 | | | | -1.84 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 5/19/2011 | 9.63 | 7.13 | | | | -1.03 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 7/29/2010 | | | | | | NA | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 6/22/2009 | 10.15 | 7.65 | | | | -1.55 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 11/25/2008 | 10.85 | 8.35 | | | | -2.25 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 6/6/2008 | 10.85 | 8.35 | | | | -2.25 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 11/15/2007 | 10.64 | 8.14 | | | | -2.04 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-133D | | 11/7/2006 | | | | | | NA | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-133D | | 5/24/2006 | 11.55 | 9.05 | | | | -2.95 | 8.6 | 6.1 | 65 | | | - | Stick Up | | MW | |
| B-134 | | 5/11/2017 | 4.76 | 1.62 | | | | 1.76 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 12/1/2016 | 4.42 | 1.28 | | | | 2.1 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 8/12/2016 | 4.75 | 1.61 | 4.75 | 1.61 | <0.01 | 1.77865 | 6.52 | 3.38 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/11/2016 | 4.62 | 1.48 | | | | 1.9 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/11/2016 | 4.62 | 1.48 | | | | 1.9 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 2/8/2016 | 5.01 | 1.87 | | | | 1.51 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/19/2015 | 4.61 | 1.47 | | | | 1.91 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 8/3/2015 | 4.6 | 1.46 | 4.6 | 1.46 | <0.01 | 1.93 | 6.52 | 3.38 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/15/2015 | 4.9 | 1.76 | 4.89 | 1.75 | 0.01 | 1.63 | 6.52 | 3.38 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 2/13/2015 | 5 | 1.86 | | | | 1.52 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 12/4/2014 | 4.85 | 1.71 | 4.85 | 1.71 | <0.01 | 1.68 | 6.52 | 3.38 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/15/2014 | 4.85 | 1.71 | | | | 1.67 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/16/2013 | 4.72 | 1.58 | | | | 1.8 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 7/12/2013 | 4.33 | 1.19 | | | | 2.19 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 3/28/2013 | 4.65 | 1.51 | 4.65 | 1.51 | <0.01 | 1.88 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/9/2012 | 4.54 | 1.4 | | | | 1.98 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/18/2011 | 4.76 | 1.62 | 4.76 | 1.62 | <0.01 | 1.77 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/25/2010 | 4.63 | 1.49 | | | | 1.89 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/19/2010 | 4.56 | 1.42 | | | | 1.96 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/13/2010 | 4.68 | 1.54 | | | | 1.84 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 9/28/2010 | 4.78 | 1.64 | 4.73 | 1.59 | 0.05 | 1.78 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 7/29/2010 | | | 4.6 | | 0.04 | NA | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 6/22/2009 | 4.52 | 1.38 | 4.4 | 1.26 | 0.12 | 2.1 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 3/23/2009 | 5.11 | 1.97 | 4.91 | 1.77 | 0.2 | 1.58 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/25/2008 | 4.97 | 1.83 | 4.96 | 1.82 | 0.01 | 1.56 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 6/6/2008 | 4.87 | 1.73 | | | | 1.65 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/15/2007 | 4.75 | 1.61 | 4.54 | 1.4 | 0.21 | 1.95 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-134 | | 9/18/2007 | 5.16 | 2.02 | 4.88 | 1.74 | 0.28 | 1.6 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 6/4/2007 | 5.05 | 1.91 | 4.8 | 1.66 | 0.25 | 1.69 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 3/2/2007 | 4.56 | 1.42 | 4.43 | 1.29 | 0.13 | 2.07 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/7/2006 | | | 4.61 | | 0.23 | NA | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 8/29/2006 | 4.28 | 1.14 | 4.1 | 0.96 | 0.18 | 2.4 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/24/2006 | 4.86 | 1.72 | 4.64 | 1.5 | 0.22 | 1.85 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 2/8/2006 | | | 4.59 | | 0.17 | 2.92 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 7/1/2005 | | | 4.67 | | 0.21 | 2.65 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/19/2005 | 4.82 | 1.68 | 4.79 | 1.65 | 0.03 | 1.73 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 4/20/2005 | 4.46 | 1.32 | 4.46 | 1.32 | <0.01 | 2.07 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 3/9/2005 | 4.6 | 1.46 | 4.56 | 1.42 | 0.04 | 1.95 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 1/12/2005 | 4.5 | 1.36 | 4.5 | 1.36 | <0.01 | 2.03 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 12/3/2004 | 4.75 | 1.61 | | | | 1.77 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/24/2004 | 4.75 | 1.61 | | | | 1.77 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/16/2004 | 4.75 | 1.61 | | | | 1.77 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/12/2004 | 4.75 | 1.61 | | | | 1.77 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/5/2004 | 4.75 | 1.61 | | | | 1.77 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/22/2004 | 4.03 | 0.89 | 4.02 | 0.88 | 0.01 | 2.5 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/8/2004 | 5 | 1.86 | | | | 1.52 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 9/24/2004 | 5 | 1.86 | | | | 1.52 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-134 | | 9/17/2004 | 5 | 1.86 | | | | 1.52 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 9/10/2004 | 5 | 1.86 | | | | 1.52 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 9/2/2004 | 5 | 1.86 | | | | 1.52 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 8/24/2004 | 5 | 1.86 | | | | 1.52 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 8/11/2004 | 5 | 1.86 | | | | 1.52 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 8/4/2004 | 5 | 1.86 | | | | 1.52 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 7/27/2004 | 5 | 1.86 | | | | 1.52 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 7/21/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 7/14/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 7/9/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 6/28/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 6/10/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/28/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/18/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/12/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/7/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 4/29/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 4/22/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 4/15/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 4/6/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 4/2/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 3/25/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 3/17/2004 | 6.2 | 3.06 | | | | 0.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 3/11/2004 | 5.3 | 2.16 | | | | 1.22 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 3/3/2004 | 5.3 | 2.16 | | | | 1.22 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 2/17/2004 | 6 | 2.86 | | | | 0.52 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 2/10/2004 | 6 | 2.86 | | | | 0.52 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 2/3/2004 | 4.88 | 1.74 | | | | 1.64 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 1/6/2004 | 5.9 | 2.76 | | | | 0.62 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 12/30/2003 | 5.9 | 2.76 | | | | 0.62 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 12/22/2003 | 5.9 | 2.76 | | | | 0.62 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 12/8/2003 | 5.9 | 2.76 | | | | 0.62 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 12/2/2003 | 5.9 | 2.76 | | | | 0.62 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/24/2003 | 5.9 | 2.76 | | | | 0.62 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/19/2003 | 5.9 | 2.76 | | | | 0.62 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/11/2003 | 5.9 | 2.76 | | | | 0.62 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/5/2003 | 4.22 | 1.08 | | | | 2.3 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/22/2003 | 4.35 | 1.21 | | | | 2.17 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/13/2003 | 4.38 | 1.24 | 4.38 | 1.24 | <0.01 | 2.15 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/7/2003 | 4.55 | 1.41 | | | | 1.97 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/1/2003 | 4.38 | 1.24 | | | | 2.14 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 9/24/2003 | 6 | 2.86 | | | | 0.52 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 9/8/2003 | 4.63 | 1.49 | 4.63 | 1.49 | <0.01 | 1.9 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 9/3/2003 | 5.6 | 2.46 | 5.6 | 2.46 | <0.01 | 0.93 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 8/27/2003 | 6 | 2.86 | | | | 0.52 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-134 | | 8/20/2003 | 5.7 | 2.56 | 5.7 | 2.56 | <0.01 | 0.83 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 8/12/2003 | 5.9 | 2.76 | 5.9 | 2.76 | <0.01 | 0.63 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 8/6/2003 | 5.5 | 2.36 | | | | 1.02 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 7/24/2003 | 5.5 | 2.36 | | | | 1.02 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 7/18/2003 | 5.5 | 2.36 | | | | 1.02 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 6/30/2003 | 5.5 | 2.36 | | | | 1.02 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 6/26/2003 | 5.5 | 2.36 | | | | 1.02 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 6/17/2003 | 5.4 | 2.26 | | | | 1.12 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 6/13/2003 | 5.5 | 2.36 | | | | 1.02 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 6/2/2003 | 5.2 | 2.06 | | | | 1.32 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/30/2003 | 5.5 | 2.36 | | | | 1.02 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/20/2003 | 4.22 | 1.08 | | | | 2.3 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/8/2003 | 8.65 | 5.51 | | | | -2.13 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 4/28/2003 | 8.65 | 5.51 | | | | -2.13 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 4/25/2003 | 8.65 | 5.51 | | | | -2.13 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 4/9/2003 | 8.65 | 5.51 | | | | -2.13 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 4/2/2003 | 8.65 | 5.51 | | | | -2.13 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 3/26/2003 | 8.65 | 5.51 | | | | -2.13 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 3/21/2003 | 8.65 | 5.51 | | | | -2.13 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 3/12/2003 | 8.65 | 5.51 | | | | -2.13 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 2/25/2003 | 8.65 | 5.51 | | | | -2.13 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 2/21/2003 | 8.65 | 5.51 | | | | -2.13 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 2/13/2003 | 8.65 | 5.51 | | | | -2.13 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 2/6/2003 | 8.65 | 5.51 | | | | -2.13 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 1/21/2003 | 8.65 | 5.51 | | | | -2.13 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 1/10/2003 | 8.65 | 5.51 | | | | -2.13 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 12/30/2002 | 8.55 | 5.41 | 8.55 | 5.41 | <0.01 | -2.02 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 12/27/2002 | 4.94 | 1.8 | 4.17 | 1.03 | 0.77 | 2.25 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 12/19/2002 | 4.72 | 1.58 | 3.93 | 0.79 | 0.79 | 2.48 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 12/4/2002 | 4.85 | 1.71 | 4.1 | 0.96 | 0.75 | 2.32 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/26/2002 | 3.74 | 0.6 | 3.74 | 0.6 | <0.01 | 2.79 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-134 | | 11/19/2002 | 3.91 | 0.77 | 3.91 | 0.77 | <0.01 | 2.62 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/5/2002 | 7.2 | 4.06 | | | | -0.68 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/31/2002 | 7.1 | 3.96 | | | | -0.58 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/22/2002 | 7.2 | 4.06 | | | | -0.68 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/18/2002 | 7.2 | 4.06 | | | | -0.68 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/10/2002 | 7.2 | 4.06 | | | | -0.68 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/4/2002 | 7.05 | 3.91 | | | | -0.53 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 9/23/2002 | 7.2 | 4.06 | | | | -0.68 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 9/20/2002 | 7.2 | 4.06 | | | | -0.68 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 9/4/2002 | 7.2 | 4.06 | 7.2 | 4.06 | <0.01 | -0.67 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 8/27/2002 | 7.18 | 4.04 | | | | -0.66 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 8/12/2002 | 7.7 | 4.56 | | | | -1.18 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 8/9/2002 | 7.7 | 4.56 | | | | -1.18 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 7/31/2002 | 7.7 | 4.56 | | | | -1.18 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 7/22/2002 | 7.7 | 4.56 | | | | -1.18 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 7/16/2002 | 7.7 | 4.56 | | | | -1.18 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 7/12/2002 | 8.1 | 4.96 | | | | -1.58 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 7/1/2002 | 7.71 | 4.57 | 7.71 | 4.57 | <0.01 | -1.18 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 6/27/2002 | 8.1 | 4.96 | | | | -1.58 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 6/19/2002 | 8.1 | 4.96 | | | | -1.58 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 6/14/2002 | 8.17 | 5.03 | 8.17 | 5.03 | <0.01 | -1.64 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 6/7/2002 | 4.43 | 1.29 | 4.22 | 1.08 | 0.21 | 2.27 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/31/2002 | 4.7 | 1.56 | | | | 1.82 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/21/2002 | 8.12 | 4.98 | 8.12 | 4.98 | <0.01 | -1.59 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/15/2002 | 8.7 | 5.56 | 8.7 | 5.56 | <0.01 | -2.17 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 5/1/2002 | 7.3 | 4.16 | | | | -0.78 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 4/24/2002 | 7.3 | 4.16 | | | | -0.78 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 4/19/2002 | 7.3 | 4.16 | | | | -0.78 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 4/12/2002 | 7.3 | 4.16 | | | | -0.78 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 4/2/2002 | 7.3 | 4.16 | | | | -0.78 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 3/26/2002 | 7.3 | 4.16 | | | | -0.78 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-134 | | 3/19/2002 | 5.44 | 2.3 | 4.5 | 1.36 | 0.94 | 1.89 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 3/11/2002 | 7.3 | 4.16 | | | | -0.78 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 3/5/2002 | 7.3 | 4.16 | | | | -0.78 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 3/1/2002 | 7.3 | 4.16 | | | | -0.78 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 2/19/2002 | 7.3 | 4.16 | | | | -0.78 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 2/11/2002 | 6.7 | 3.56 | | | | -0.18 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 2/7/2002 | 6.7 | 3.56 | | | | -0.18 | 6.52 | 3.38 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-134 | | 12/11/2001 | 6.28 | 3.14 | 4.05 | 0.91 | 2.23 | 2.17 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/8/2001 | 5.26 | 2.12 | 4.09 | 0.95 | 1.17 | 2.27 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/2/2001 | 4.96 | 1.82 | 4.23 | 1.09 | 0.73 | 2.19 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 11/1/2001 | 6.12 | 2.98 | 4.14 | 1 | 1.98 | 2.11 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/26/2001 | 5.12 | 1.98 | 4.09 | 0.95 | 1.03 | 2.29 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/25/2001 | 5.96 | 2.82 | 3.89 | 0.75 | 2.07 | 2.35 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/17/2001 | 6.25 | 3.11 | 4.15 | 1.01 | 2.1 | 2.09 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/11/2001 | 6.08 | 2.94 | 4.07 | 0.93 | 2.01 | 2.18 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 10/2/2001 | 6.5 | 3.36 | 4.35 | 1.21 | 2.15 | 1.88 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-134 | | 9/19/2001 | 6.2 | 3.06 | 4.32 | 1.18 | 1.88 | 1.95 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 9/7/2001 | 5.42 | 2.28 | 4.48 | 1.34 | 0.94 | 1.91 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134 | | 9/5/2001 | 4.8 | 1.66 | 4.42 | 1.28 | 0.38 | 2.05 | 6.52 | 3.38 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-134D | | 5/11/2017 | 11.93 | 9.26 | | | | -3.81 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 5/11/2016 | 11.74 | 9.07 | | | | -3.62 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 5/3/2016 | 11.16 | 8.49 | | | | -3.04 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 5/15/2015 | 11.38 | 8.71 | | | | -3.26 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 12/4/2014 | 11.77 | 9.1 | | | | -3.65 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 5/15/2014 | 11.18 | 8.51 | | | | -3.06 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 10/16/2013 | 11.57 | 8.9 | | | | -3.45 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 3/28/2013 | 12.74 | 10.07 | | | | -4.62 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 3/21/2013 | 12.21 | 9.54 | | | | -4.09 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 11/2/2012 | 11.88 | 9.21 | | | | -3.76 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 10/25/2012 | 11.88 | 9.21 | | | | -3.76 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 5/9/2012 | 11.24 | 8.57 | | | | -3.12 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 5/18/2011 | 10.56 | 7.89 | | | | -2.44 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 7/29/2010 | | | | | | NA | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 6/22/2009 | 10.91 | 8.24 | | | | -2.79 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 11/25/2008 | 11.44 | 8.77 | | | | -3.32 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 6/6/2008 | 11.86 | 9.19 | | | | -3.74 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 11/15/2007 | 11.68 | 9.01 | | | | -3.56 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 6/4/2007 | 3.95 | 1.28 | | | | 4.17 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 11/7/2006 | | | | | | NA | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-134D | | 5/24/2006 | 12.67 | 10 | | | | -4.55 | 8.12 | 5.45 | 79 | | | - | Stick Up | | MW | |
| B-135 | | 5/11/2017 | 4.93 | 1.86 | 4.91 | 1.84 | 0.02 | 1.46731 | 6.38 | 3.31 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 3/6/2017 | 5.33 | 2.26 | 5.14 | 2.07 | 0.19 | 1.21443 | 6.38 | 3.31 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 12/1/2016 | 4.53 | 1.46 | 4.42 | 1.35 | 0.11 | 1.94519 | 6.38 | 3.31 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 8/12/2016 | 5.13 | 2.06 | 4.87 | 1.8 | 0.26 | 1.475 | 6.38 | 3.31 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 5/11/2016 | 4.87 | 1.8 | 4.75 | 1.68 | 0.12 | 1.61 | 6.38 | 3.31 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 11/19/2015 | 4.69 | 1.62 | 4.68 | 1.61 | 0.01 | 1.7 | 6.38 | 3.31 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 5/15/2015 | 4.95 | 1.88 | 4.91 | 1.84 | 0.04 | 1.46 | 6.38 | 3.31 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 2/13/2015 | 5.15 | 2.08 | | | | 1.23 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 12/4/2014 | 4.96 | 1.89 | 4.95 | 1.88 | 0.01 | 1.43 | 6.38 | 3.31 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 8/11/2014 | 4.93 | 1.86 | 4.91 | 1.84 | 0.02 | 1.47 | 6.38 | 3.31 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 5/15/2014 | 4.9 | 1.83 | 4.87 | 1.8 | 0.03 | 1.51 | 6.38 | 3.31 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 1/23/2014 | 4.96 | 1.89 | 4.96 | 1.89 | <0.01 | 1.43 | 6.38 | 3.31 | 11 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 10/16/2013 | 4.79 | 1.72 | | | | 1.59 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-135 | | 7/12/2013 | 4.38 | 1.31 | 4.38 | 1.31 | <0.01 | 2.01 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 3/28/2013 | 4.56 | 1.49 | 4.56 | 1.49 | <0.01 | 1.83 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 2/15/2013 | 4.78 | 1.71 | | | | 1.6 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 10/10/2012 | 4.74 | 1.67 | 4.74 | 1.67 | <0.01 | 1.65 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 7/30/2012 | 4.71 | 1.64 | 4.71 | 1.64 | <0.01 | 1.68 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 5/9/2012 | 4.61 | 1.54 | | | | 1.77 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 1/30/2012 | 5.03 | 1.96 | 5.03 | 1.96 | <0.01 | 1.36 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 10/21/2011 | 4.95 | 1.88 | 4.95 | 1.88 | <0.01 | 1.44 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 8/1/2011 | 4.92 | 1.85 | 4.91 | 1.84 | 0.01 | 1.47 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 5/18/2011 | 4.88 | 1.81 | 4.88 | 1.81 | <0.01 | 1.51 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 2/23/2011 | 5.08 | 2.01 | 5.08 | 2.01 | <0.01 | 1.31 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 11/3/2010 | 4.77 | 1.7 | | | | 1.61 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 10/25/2010 | 4.82 | 1.75 | 4.82 | 1.75 | <0.01 | 1.57 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 10/19/2010 | 4.67 | 1.6 | | | | 1.71 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 10/13/2010 | 4.87 | 1.8 | 4.81 | 1.74 | 0.06 | 1.56 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-135 | | 9/28/2010 | 4.91 | 1.84 | 4.8 | 1.73 | 0.11 | 1.57 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 7/29/2010 | | | 4.58 | | 0.1 | NA | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 6/10/2010 | | | 4.6 | | 0.07 | NA | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 6/22/2009 | 4.45 | 1.38 | 4.45 | 1.38 | <0.01 | 1.94 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 3/23/2009 | 5.06 | 1.99 | 4.85 | 1.78 | 0.21 | 1.5 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 11/25/2008 | 4.89 | 1.82 | 4.67 | 1.6 | 0.22 | 1.68 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 8/18/2008 | 5.02 | 1.95 | 4.99 | 1.92 | 0.03 | 1.39 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 6/6/2008 | 4.72 | 1.65 | 4.66 | 1.59 | 0.06 | 1.71 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 3/31/2008 | 4.78 | 1.71 | 4.74 | 1.67 | 0.04 | 1.63 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 11/15/2007 | 4.62 | 1.55 | 4.47 | 1.4 | 0.15 | 1.89 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 9/18/2007 | 6.4 | 3.33 | | | | -0.02 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 6/4/2007 | 6.7 | 3.63 | | | | -0.32 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 3/2/2007 | 4.69 | 1.62 | 4.25 | 1.18 | 0.44 | 2.07 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 11/7/2006 | | | | | | NA | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 8/29/2006 | 4.88 | 1.81 | 4.13 | 1.06 | 0.75 | 2.15 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-135 | | 5/24/2006 | 5.12 | 2.05 | 4.43 | 1.36 | 0.69 | 1.86 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 2/8/2006 | | | 4.58 | | 0.43 | 2.47 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 7/1/2005 | | | | | | 2.01 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 5/19/2005 | 6.1 | 3.03 | 4.51 | 1.44 | 1.59 | 1.66 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 3/9/2005 | 5.51 | 2.44 | 4.58 | 1.51 | 0.93 | 1.67 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 10/8/2004 | 5.12 | 2.05 | 3.84 | 0.77 | 1.28 | 2.37 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 9/17/2004 | 4.98 | 1.91 | 3.98 | 0.91 | 1 | 2.27 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 6/28/2004 | 4.75 | 1.68 | 4.31 | 1.24 | 0.44 | 2.01 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 3/11/2004 | 4.41 | 1.34 | | | | 1.97 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 11/24/2003 | 4.65 | 1.58 | 4.42 | 1.35 | 0.23 | 1.93 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 8/20/2003 | 5.48 | 2.41 | 4.5 | 1.43 | 0.98 | 1.75 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 5/20/2003 | 4.54 | 1.47 | 3.93 | 0.86 | 0.61 | 2.37 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 3/21/2003 | 4.51 | 1.44 | 4.03 | 0.96 | 0.48 | 2.29 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 10/31/2002 | 4.41 | 1.34 | | | | 1.97 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 9/23/2002 | 4.68 | 1.61 | 4.42 | 1.35 | 0.26 | 1.93 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-135 | | 8/12/2002 | 4.62 | 1.55 | 4.62 | 1.55 | <0.01 | 1.77 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 6/14/2002 | 4.46 | 1.39 | 4.38 | 1.31 | 0.08 | 1.99 | 6.38 | 3.31 | 11 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-135 | | 2/19/2002 | 4.54 | 1.47 | | | | 1.84 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 12/11/2001 | 4.09 | 1.02 | | | | 2.29 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 11/8/2001 | 4.06 | 0.99 | | | | 2.32 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 11/2/2001 | 4.14 | 1.07 | | | | 2.24 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 11/1/2001 | 4.14 | 1.07 | | | | 2.24 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 10/26/2001 | 3.98 | 0.91 | | | | 2.4 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 10/25/2001 | 4.06 | 0.99 | | | | 2.32 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 10/17/2001 | 4.14 | 1.07 | | | | 2.24 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 10/11/2001 | 4.1 | 1.03 | | | | 2.28 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 10/2/2001 | 4.52 | 1.45 | | | | 1.86 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 9/19/2001 | 4.38 | 1.31 | | | | 2 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 9/7/2001 | 4.17 | 1.1 | | | | 2.21 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-135 | | 9/5/2001 | 4.26 | 1.19 | | | | 2.12 | 6.38 | 3.31 | 11 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/11/2017 | 4.92 | 2.08 | 4.89 | 2.05 | 0.03 | 4.25596 | 9.15 | 6.31 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/6/2017 | 6.42 | 3.58 | 6.38 | 3.54 | 0.04 | 2.76462 | 9.15 | 6.31 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 12/1/2016 | 4.57 | 1.73 | 4.56 | 1.72 | 0.01 | 4.58865 | 9.15 | 6.31 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 8/12/2016 | 5.39 | 2.55 | 5.37 | 2.53 | 0.02 | 3.77731 | 9.15 | 6.31 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/11/2016 | 4.98 | 2.14 | 4.96 | 2.12 | 0.02 | 4.19 | 9.15 | 6.31 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 2/8/2016 | 4.11 | 1.27 | 4.08 | 1.24 | 0.03 | 5.07 | 9.15 | 6.31 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/19/2015 | 5.25 | 2.41 | 5.23 | 2.39 | 0.02 | 3.92 | 9.15 | 6.31 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 8/3/2015 | 4.88 | 2.04 | 4.87 | 2.03 | 0.01 | 4.28 | 9.15 | 6.31 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/15/2015 | 6.25 | 3.41 | 6.23 | 3.39 | 0.02 | 2.92 | 9.15 | 6.31 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 2/13/2015 | 4.6 | 1.76 | 4.57 | 1.73 | 0.03 | 4.58 | 9.15 | 6.31 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 12/9/2014 | 4.07 | 1.23 | 4.06 | 1.22 | 0.01 | 5.09 | 9.15 | 6.31 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 8/11/2014 | 4.94 | 2.1 | 4.92 | 2.08 | 0.02 | 4.23 | 9.15 | 6.31 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/15/2014 | 4.86 | 2.02 | 4.84 | 2 | 0.02 | 4.31 | 9.15 | 6.31 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 1/23/2014 | 4.5 | 1.66 | 4.49 | 1.65 | 0.01 | 4.66 | 9.15 | 6.31 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/16/2013 | 4.66 | 1.82 | 4.65 | 1.81 | 0.01 | 4.5 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-136 | | 7/12/2013 | 4.19 | 1.35 | 4.18 | 1.34 | 0.01 | 4.97 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/28/2013 | 4.21 | 1.37 | 4.21 | 1.37 | <0.01 | 4.95 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 2/15/2013 | 4.35 | 1.51 | 4.35 | 1.51 | <0.01 | 4.81 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/10/2012 | 5.14 | 2.3 | 5.14 | 2.3 | <0.01 | 4.02 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 7/30/2012 | 5.62 | 2.78 | 5.61 | 2.77 | 0.01 | 3.54 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/9/2012 | 4.83 | 1.99 | 4.82 | 1.98 | 0.01 | 4.33 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 1/30/2012 | 3.46 | 0.62 | 3.45 | 0.61 | 0.01 | 5.7 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/21/2011 | 4.48 | 1.64 | 4.47 | 1.63 | 0.01 | 4.68 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 8/1/2011 | 5.92 | 3.08 | 5.91 | 3.07 | 0.01 | 3.24 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/18/2011 | 5.25 | 2.41 | 5.25 | 2.41 | <0.01 | 3.91 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 2/23/2011 | 5.28 | 2.44 | 5.28 | 2.44 | <0.01 | 3.88 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/3/2010 | 4.97 | 2.13 | | | | 4.18 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/25/2010 | 4.43 | 1.59 | | | | 4.72 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/19/2010 | 4.02 | 1.18 | | | | 5.13 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-136 | | 10/13/2010 | 4.32 | 1.48 | 4.25 | 1.41 | 0.07 | 4.89 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 9/28/2010 | 5.53 | 2.69 | 5.32 | 2.48 | 0.21 | 3.8 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 7/29/2010 | | | 4.72 | | 0.1 | NA | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 6/10/2010 | | | 4.35 | | 0.07 | NA | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 6/22/2009 | 4.85 | 2.01 | 4.85 | 2.01 | <0.01 | 4.31 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/23/2009 | 6.29 | 3.45 | 6.29 | 3.45 | <0.01 | 2.87 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/25/2008 | 8.05 | 5.21 | 8.05 | 5.21 | <0.01 | 1.11 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 6/6/2008 | 7.2 | 4.36 | | | | 1.95 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/15/2007 | 5.41 | 2.57 | | | | 3.74 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 9/18/2007 | 8 | 5.16 | | | | 1.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 6/4/2007 | 9.1 | 6.26 | | | | 0.05 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/2/2007 | 4.35 | 1.51 | 3.72 | 0.88 | 0.63 | 5.35 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/7/2006 | | | 4.33 | | 0.64 | NA | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 8/29/2006 | 4.47 | 1.63 | 3.83 | 0.99 | 0.64 | 5.23 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/24/2006 | 5.95 | 3.11 | 5.92 | 3.08 | 0.03 | 3.23 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 2/8/2006 | | | 4.31 | | 0.53 | 5.51 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 7/1/2005 | | | 5.83 | | 0.52 | 3.99 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/19/2005 | 6.07 | 3.23 | 6.01 | 3.17 | 0.06 | 3.13 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 4/20/2005 | 4.54 | 1.7 | 4.49 | 1.65 | 0.05 | 4.65 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-136 | | 3/9/2005 | 4.61 | 1.77 | 4.61 | 1.77 | <0.01 | 4.55 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 1/12/2005 | 4.55 | 1.71 | 4.55 | 1.71 | <0.01 | 4.61 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 12/3/2004 | 5.5 | 2.66 | | | | 3.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/24/2004 | 5.5 | 2.66 | | | | 3.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/16/2004 | 5.5 | 2.66 | | | | 3.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/12/2004 | 5.5 | 2.66 | | | | 3.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/5/2004 | 5.5 | 2.66 | | | | 3.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/22/2004 | 4.75 | 1.91 | 4.75 | 1.91 | <0.01 | 4.41 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/8/2004 | 5.5 | 2.66 | | | | 3.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 9/24/2004 | 5.5 | 2.66 | | | | 3.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 9/17/2004 | 5.5 | 2.66 | | | | 3.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 9/10/2004 | 5.5 | 2.66 | | | | 3.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 9/2/2004 | 5.5 | 2.66 | | | | 3.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 8/24/2004 | 5.5 | 2.66 | | | | 3.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 8/11/2004 | 5.5 | 2.66 | | | | 3.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 8/4/2004 | 5.5 | 2.66 | | | | 3.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 7/27/2004 | 5.5 | 2.66 | | | | 3.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 7/21/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 7/14/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 7/9/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 6/28/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 6/10/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/28/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/18/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/12/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/7/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 4/29/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 4/22/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 4/15/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 4/6/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 4/2/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/25/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/17/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/11/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/3/2004 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 2/17/2004 | 7.55 | 4.71 | | | | 1.6 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 2/10/2004 | 7.3 | 4.46 | | | | 1.85 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 2/3/2004 | 7.16 | 4.32 | | | | 1.99 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 1/6/2004 | 7.3 | 4.46 | | | | 1.85 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 12/30/2003 | 7.3 | 4.46 | | | | 1.85 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 12/22/2003 | 7.3 | 4.46 | | | | 1.85 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 12/8/2003 | 7.3 | 4.46 | | | | 1.85 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 12/2/2003 | 7.3 | 4.46 | | | | 1.85 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/24/2003 | 7.3 | 4.46 | | | | 1.85 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/19/2003 | 7.3 | 4.46 | | | | 1.85 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/11/2003 | 7.3 | 4.46 | | | | 1.85 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-136 | | 11/5/2003 | 4.79 | 1.95 | 4.79 | 1.95 | <0.01 | 4.37 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/22/2003 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/13/2003 | 6.95 | 4.11 | 6.95 | 4.11 | <0.01 | 2.21 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/7/2003 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/1/2003 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 9/24/2003 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 9/8/2003 | 7.2 | 4.36 | 7.2 | 4.36 | <0.01 | 1.96 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 9/3/2003 | 7.2 | 4.36 | 7.2 | 4.36 | <0.01 | 1.96 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 8/27/2003 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 8/20/2003 | 7.2 | 4.36 | 7.2 | 4.36 | <0.01 | 1.96 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 8/12/2003 | 7.1 | 4.26 | 7.1 | 4.26 | <0.01 | 2.06 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 8/6/2003 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 7/24/2003 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 7/18/2003 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 6/30/2003 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 6/26/2003 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 6/17/2003 | 5.62 | 2.78 | | | | 3.53 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 6/13/2003 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 6/2/2003 | 7.2 | 4.36 | | | | 1.95 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/30/2003 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/20/2003 | 5.79 | 2.95 | 5.79 | 2.95 | <0.01 | 3.37 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/8/2003 | 7.6 | 4.76 | | | | 1.55 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 4/28/2003 | 7.6 | 4.76 | | | | 1.55 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 4/25/2003 | 7.6 | 4.76 | | | | 1.55 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 4/9/2003 | 7.6 | 4.76 | | | | 1.55 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 4/2/2003 | 7.6 | 4.76 | | | | 1.55 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/26/2003 | 7.6 | 4.76 | | | | 1.55 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/21/2003 | 7.6 | 4.76 | | | | 1.55 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/12/2003 | 7.6 | 4.76 | | | | 1.55 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 2/25/2003 | 7.6 | 4.76 | | | | 1.55 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 2/21/2003 | 7.6 | 4.76 | | | | 1.55 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 2/13/2003 | 7.6 | 4.76 | | | | 1.55 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-136 | | 2/6/2003 | 7.6 | 4.76 | | | | 1.55 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 1/21/2003 | 7.6 | 4.76 | | | | 1.55 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 1/10/2003 | 7.6 | 4.76 | | | | 1.55 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 12/30/2002 | 7.6 | 4.76 | 7.6 | 4.76 | <0.01 | 1.56 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 12/27/2002 | 4.56 | 1.72 | 4.44 | 1.6 | 0.12 | 4.69 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 12/19/2002 | 4.25 | 1.41 | 4.25 | 1.41 | <0.01 | 4.91 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 12/4/2002 | 4.73 | 1.89 | 4.68 | 1.84 | 0.05 | 4.46 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/26/2002 | 4.06 | 1.22 | 4.01 | 1.17 | 0.05 | 5.13 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/19/2002 | 4.13 | 1.29 | 4.11 | 1.27 | 0.02 | 5.04 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/5/2002 | 7.5 | 4.66 | | | | 1.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/31/2002 | 7.4 | 4.56 | | | | 1.75 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/22/2002 | 7.5 | 4.66 | | | | 1.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/18/2002 | 7.5 | 4.66 | | | | 1.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/10/2002 | 7.5 | 4.66 | | | | 1.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/4/2002 | 7.4 | 4.56 | | | | 1.75 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 9/23/2002 | 7.5 | 4.66 | | | | 1.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 9/20/2002 | 7.5 | 4.66 | | | | 1.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 9/4/2002 | 7.4 | 4.56 | 7.4 | 4.56 | <0.01 | 1.76 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 8/27/2002 | 7.55 | 4.71 | 7.55 | 4.71 | <0.01 | 1.61 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 8/12/2002 | 7.5 | 4.66 | | | | 1.65 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 8/9/2002 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 7/31/2002 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 7/22/2002 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 7/16/2002 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 7/12/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 7/1/2002 | 7 | 4.16 | | | | 2.15 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 6/27/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 6/19/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-136 | | 6/14/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 6/7/2002 | 5.27 | 2.43 | 5.25 | 2.41 | 0.02 | 3.9 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/31/2002 | 5.76 | 2.92 | 5.56 | 2.72 | 0.2 | 3.56 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/21/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/15/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 5/1/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 4/24/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 4/19/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 4/12/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 4/2/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/26/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/19/2002 | 6.51 | 3.67 | 5.57 | 2.73 | 0.94 | 3.45 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/11/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/5/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 3/1/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 2/19/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 2/11/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 2/7/2002 | 6.8 | 3.96 | | | | 2.35 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 1/21/2002 | 7.1 | 4.26 | | | | 2.05 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 1/15/2002 | 7.1 | 4.26 | | | | 2.05 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 1/4/2002 | 7.1 | 4.26 | | | | 2.05 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 12/27/2001 | 6.12 | 3.28 | 5.6 | 2.76 | 0.52 | 3.48 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 12/20/2001 | 6.92 | 4.08 | 6.92 | 4.08 | <0.01 | 2.24 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 12/11/2001 | 7.1 | 4.26 | | | | 2.05 | 9.15 | 6.31 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-136 | | 12/6/2001 | 7.21 | 4.37 | 7.21 | 4.37 | <0.01 | 1.95 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/8/2001 | 9.98 | 7.14 | 5.32 | 2.48 | 4.66 | 3.2 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 11/2/2001 | 9.65 | 6.81 | 5.41 | 2.57 | 4.24 | 3.17 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-136 | | 11/1/2001 | 10.33 | 7.49 | 5.46 | 2.62 | 4.87 | 3.03 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/26/2001 | 9.63 | 6.79 | 5.26 | 2.42 | 4.37 | 3.3 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/25/2001 | 10.24 | 7.4 | 5.01 | 2.17 | 5.23 | 3.44 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/17/2001 | 10.39 | 7.55 | 5.08 | 2.24 | 5.31 | 3.36 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/11/2001 | 10.45 | 7.61 | 5.1 | 2.26 | 5.35 | 3.33 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 10/2/2001 | 10.21 | 7.37 | 4.99 | 2.15 | 5.22 | 3.46 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 9/19/2001 | 10.14 | 7.3 | 5.28 | 2.44 | 4.86 | 3.22 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 9/7/2001 | 9.68 | 6.84 | 5.26 | 2.42 | 4.42 | 3.3 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-136 | | 9/5/2001 | 9.46 | 6.62 | 5.28 | 2.44 | 4.18 | 3.31 | 9.15 | 6.31 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/11/2017 | 4.39 | 1.88 | 4.29 | 1.78 | 0.1 | 4.42654 | 8.73 | 6.22 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/6/2017 | 6.07 | 3.56 | 5.21 | 2.7 | 0.86 | 3.40424 | 8.73 | 6.22 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 12/1/2016 | 5.29 | 2.78 | 4.66 | 2.15 | 0.63 | 3.9852 | 8.73 | 6.22 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 8/12/2016 | 5.33 | 2.82 | 4.59 | 2.08 | 0.74 | 4.0404 | 8.73 | 6.22 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/11/2016 | 5.07 | 2.56 | 4.92 | 2.41 | 0.15 | 3.79 | 8.73 | 6.22 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 2/8/2016 | 4.29 | 1.78 | 3.75 | 1.24 | 0.54 | 4.91 | 8.73 | 6.22 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/19/2015 | 5.14 | 2.63 | 4.74 | 2.23 | 0.4 | 3.94 | 8.73 | 6.22 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-137 | | 8/3/2015 | 4.6 | 2.09 | 4.14 | 1.63 | 0.46 | 4.53 | 8.73 | 6.22 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/15/2015 | 5.3 | 2.79 | 5.09 | 2.58 | 0.21 | 3.61 | 8.73 | 6.22 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 2/13/2015 | 4.51 | 2 | | | | 4.22 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 12/4/2014 | 4.84 | 2.33 | 4.2 | 1.69 | 0.64 | 4.44 | 8.73 | 6.22 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 8/11/2014 | 4.61 | 2.1 | 4.45 | 1.94 | 0.16 | 4.26 | 8.73 | 6.22 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/15/2014 | 4.45 | 1.94 | 4.29 | 1.78 | 0.16 | 4.42 | 8.73 | 6.22 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 1/23/2014 | 4.83 | 2.32 | 4.3 | 1.79 | 0.53 | 4.36 | 8.73 | 6.22 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/16/2013 | 4.66 | 2.15 | 4.24 | 1.73 | 0.42 | 4.43 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 7/12/2013 | 3.52 | 1.01 | | | | 5.21 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/28/2013 | 4.26 | 1.75 | 4.26 | 1.75 | <0.01 | 4.48 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 2/15/2013 | 4.16 | 1.65 | 3.81 | 1.3 | 0.35 | 4.87 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/10/2012 | 4.67 | 2.16 | | | | 4.06 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 7/30/2012 | 4.85 | 2.34 | 4.26 | 1.75 | 0.59 | 4.39 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/9/2012 | 4.53 | 2.02 | 4.22 | 1.71 | 0.31 | 4.47 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 1/30/2012 | 4.07 | 1.56 | | | | 4.66 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/21/2011 | 4.38 | 1.87 | | | | 4.35 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 8/1/2011 | 4.65 | 2.14 | 4.65 | 2.14 | <0.01 | 4.09 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/18/2011 | 4.44 | 1.93 | 4.44 | 1.93 | <0.01 | 4.3 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 2/23/2011 | 4.97 | 2.46 | 4.25 | 1.74 | 0.72 | 4.38 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-137 | | 11/3/2010 | 4.29 | 1.78 | 4.29 | 1.78 | <0.01 | 4.45 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/25/2010 | 3.88 | 1.37 | | | | 4.85 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/19/2010 | 3.7 | 1.19 | | | | 5.03 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/13/2010 | | | | | | NA | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 9/28/2010 | 4.53 | 2.02 | 4.51 | 2 | 0.02 | 4.22 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 7/29/2010 | | | 3.63 | | 1.27 | NA | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 6/10/2010 | | | 4.05 | | 0.54 | NA | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 6/22/2009 | 3.67 | 1.16 | 3.67 | 1.16 | <0.01 | 5.07 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/23/2009 | 6.23 | 3.72 | 5 | 2.49 | 1.23 | 3.56 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/25/2008 | 7.9 | 5.39 | | | | 0.83 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 6/6/2008 | 9.29 | 6.78 | | | | -0.56 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/15/2007 | 4.41 | 1.9 | 4.41 | 1.9 | <0.01 | 4.33 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 9/18/2007 | 9.2 | 6.69 | | | | -0.47 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 6/4/2007 | 12.5 | 9.99 | | | | -3.77 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/2/2007 | 4.6 | 2.09 | 4.08 | 1.57 | 0.52 | 4.58 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/7/2006 | | | | | | NA | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 8/29/2006 | 9.51 | 7 | | | | -0.78 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/24/2006 | 9.65 | 7.14 | | | | -0.92 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 2/8/2006 | | | 3.74 | | 3.15 | 5.44 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 7/1/2005 | | | 4.79 | | 0.34 | 4.76 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/19/2005 | 5.4 | 2.89 | | | | 3.33 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 4/20/2005 | 4.37 | 1.86 | 3.51 | 1 | 0.86 | 5.1 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/9/2005 | 3.98 | 1.47 | 3.71 | 1.2 | 0.27 | 4.98 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 1/12/2005 | 3.72 | 1.21 | 3.71 | 1.2 | 0.01 | 5.02 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-137 | | 12/3/2004 | 5.3 | 2.79 | | | | 3.43 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/24/2004 | 5.3 | 2.79 | | | | 3.43 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/16/2004 | 5.3 | 2.79 | | | | 3.43 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/12/2004 | 5.3 | 2.79 | | | | 3.43 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/5/2004 | 5.3 | 2.79 | | | | 3.43 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/22/2004 | 3.63 | 1.12 | | | | 5.1 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/8/2004 | 4.5 | 1.99 | | | | 4.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 9/24/2004 | 4.7 | 2.19 | | | | 4.03 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 9/17/2004 | 4.7 | 2.19 | | | | 4.03 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 9/10/2004 | 4.7 | 2.19 | | | | 4.03 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 9/2/2004 | 4.5 | 1.99 | | | | 4.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 8/24/2004 | 4.5 | 1.99 | | | | 4.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 8/11/2004 | 4.5 | 1.99 | | | | 4.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 8/4/2004 | 4.5 | 1.99 | | | | 4.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 7/27/2004 | 4.5 | 1.99 | | | | 4.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 7/21/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 7/14/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 7/9/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 6/28/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 6/10/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/28/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/18/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/12/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/7/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 4/29/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 4/22/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 4/15/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 4/6/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 4/2/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/25/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/17/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/11/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/3/2004 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 2/17/2004 | 7.05 | 4.54 | 4.45 | 1.94 | 2.6 | 3.93 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 2/10/2004 | 7.2 | 4.69 | 3.58 | 1.07 | 3.62 | 4.66 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 2/3/2004 | 7.21 | 4.7 | 5.43 | 2.92 | 1.78 | 3.06 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 1/6/2004 | 7.5 | 4.99 | | | | 1.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 12/30/2003 | 7.5 | 4.99 | | | | 1.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 12/22/2003 | 7.5 | 4.99 | | | | 1.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 12/8/2003 | 7.5 | 4.99 | | | | 1.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 12/2/2003 | 7.5 | 4.99 | | | | 1.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/24/2003 | 7.5 | 4.99 | | | | 1.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/19/2003 | 7.5 | 4.99 | | | | 1.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/11/2003 | 7.5 | 4.99 | | | | 1.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-137 | | 11/5/2003 | 3.81 | 1.3 | 3.8 | 1.29 | 0.01 | 4.93 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/22/2003 | 6.5 | 3.99 | | | | 2.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/13/2003 | 5.38 | 2.87 | 5.38 | 2.87 | <0.01 | 3.36 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/7/2003 | 6.5 | 3.99 | | | | 2.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/1/2003 | 6.5 | 3.99 | | | | 2.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 9/24/2003 | 6.5 | 3.99 | | | | 2.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 9/8/2003 | 5.9 | 3.39 | 5.9 | 3.39 | <0.01 | 2.84 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 9/3/2003 | 5.9 | 3.39 | 5.9 | 3.39 | <0.01 | 2.84 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 8/27/2003 | 6.5 | 3.99 | | | | 2.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 8/20/2003 | 6 | 3.49 | 6 | 3.49 | <0.01 | 2.74 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 8/12/2003 | 6.4 | 3.89 | 6.4 | 3.89 | <0.01 | 2.34 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 8/6/2003 | 6.5 | 3.99 | | | | 2.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 7/24/2003 | 6.5 | 3.99 | | | | 2.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 7/18/2003 | 6.5 | 3.99 | | | | 2.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 6/30/2003 | 6.5 | 3.99 | | | | 2.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 6/26/2003 | 6.5 | 3.99 | | | | 2.23 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 6/17/2003 | 4.6 | 2.09 | 3.95 | 1.44 | 0.65 | 4.69 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 6/13/2003 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 6/2/2003 | 6.4 | 3.89 | | | | 2.33 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/30/2003 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/20/2003 | 5.16 | 2.65 | 4.75 | 2.24 | 0.41 | 3.92 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/8/2003 | 6.6 | 4.09 | | | | 2.13 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 4/28/2003 | 6.6 | 4.09 | | | | 2.13 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 4/25/2003 | 6.6 | 4.09 | | | | 2.13 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 4/9/2003 | 6.6 | 4.09 | | | | 2.13 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 4/2/2003 | 6.6 | 4.09 | | | | 2.13 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/26/2003 | 6.6 | 4.09 | | | | 2.13 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/21/2003 | 6.6 | 4.09 | | | | 2.13 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-137 | | 3/12/2003 | 6.6 | 4.09 | | | | 2.13 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 2/25/2003 | 6.6 | 4.09 | | | | 2.13 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 2/21/2003 | 6.6 | 4.09 | | | | 2.13 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 2/13/2003 | 6.6 | 4.09 | | | | 2.13 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 2/6/2003 | 6.6 | 4.09 | | | | 2.13 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 1/21/2003 | 6.6 | 4.09 | | | | 2.13 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 1/10/2003 | 6.6 | 4.09 | | | | 2.13 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 12/30/2002 | 6.5 | 3.99 | 6.5 | 3.99 | <0.01 | 2.24 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 12/27/2002 | 5.4 | 2.89 | 3.64 | 1.13 | 1.76 | 4.85 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 12/19/2002 | 6.15 | 3.64 | 3.05 | 0.54 | 3.1 | 5.26 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 12/4/2002 | 5.84 | 3.33 | 3.8 | 1.29 | 2.04 | 4.66 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/26/2002 | 4.36 | 1.85 | 3.2 | 0.69 | 1.16 | 5.37 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/19/2002 | 4.59 | 2.08 | 3.35 | 0.84 | 1.24 | 5.21 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/5/2002 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/31/2002 | 6.95 | 4.44 | | | | 1.78 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/22/2002 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/18/2002 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/10/2002 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/4/2002 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 9/23/2002 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 9/20/2002 | 7.1 | 4.59 | | | | 1.63 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 9/4/2002 | 7 | 4.49 | | | | 1.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 8/27/2002 | 7.05 | 4.54 | 7.05 | 4.54 | <0.01 | 1.69 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 8/12/2002 | 7.2 | 4.69 | | | | 1.53 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 8/9/2002 | 7.2 | 4.69 | | | | 1.53 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 7/31/2002 | 7.2 | 4.69 | | | | 1.53 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 7/22/2002 | 7.2 | 4.69 | | | | 1.53 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 7/16/2002 | 6.4 | 3.89 | | | | 2.33 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 7/12/2002 | 6.4 | 3.89 | | | | 2.33 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 7/1/2002 | 6.4 | 3.89 | | | | 2.33 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 6/27/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 6/19/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-137 | | 6/14/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 6/7/2002 | 4.44 | 1.93 | 4.32 | 1.81 | 0.12 | 4.39 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/31/2002 | 4.43 | 1.92 | 4.43 | 1.92 | <0.01 | 4.31 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/21/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/15/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 5/1/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 4/24/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 4/19/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 4/12/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 4/2/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/26/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/19/2002 | 6.84 | 4.33 | 5.45 | 2.94 | 1.39 | 3.09 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/11/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/5/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 3/1/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 2/19/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 2/11/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 2/7/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 1/21/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 1/15/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 1/4/2002 | 6 | 3.49 | | | | 2.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 12/27/2001 | 4.89 | 2.38 | 4.88 | 2.37 | 0.01 | 3.85 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 12/20/2001 | 5.81 | 3.3 | 5.81 | 3.3 | <0.01 | 2.93 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 12/11/2001 | 5 | 2.49 | | | | 3.73 | 8.73 | 6.22 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-137 | | 12/6/2001 | 6.42 | 3.91 | 6.42 | 3.91 | <0.01 | 2.32 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/8/2001 | 8.37 | 5.86 | 4.76 | 2.25 | 3.61 | 3.48 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 11/2/2001 | 7.91 | 5.4 | 4.84 | 2.33 | 3.07 | 3.48 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-137 | | 11/1/2001 | 8.72 | 6.21 | 4.86 | 2.35 | 3.86 | 3.35 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/26/2001 | 7.9 | 5.39 | 4.75 | 2.24 | 3.15 | 3.56 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/25/2001 | 8.39 | 5.88 | 4.45 | 1.94 | 3.94 | 3.75 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/17/2001 | 8.36 | 5.85 | 4.54 | 2.03 | 3.82 | 3.68 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/11/2001 | 8.31 | 5.8 | 4.5 | 1.99 | 3.81 | 3.72 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 10/2/2001 | 8.68 | 6.17 | 4.24 | 1.73 | 4.44 | 3.89 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 9/19/2001 | 8.85 | 6.34 | 4.43 | 1.92 | 4.42 | 3.71 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 9/7/2001 | 8.61 | 6.1 | 4.34 | 1.83 | 4.27 | 3.82 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-137 | | 9/5/2001 | 8.65 | 6.14 | 4.76 | 2.25 | 3.89 | 3.45 | 8.73 | 6.22 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/11/2017 | 4.47 | 1.2 | | | | 4.86 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 12/1/2016 | 4.57 | 1.3 | | | | 4.76 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 8/12/2016 | 4.78 | 1.51 | 4.77 | 1.5 | 0.01 | 4.55865 | 9.33 | 6.06 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/11/2016 | 4.25 | 0.98 | | | | 5.08 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 2/8/2016 | 3.93 | 0.66 | | | | 5.4 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 11/19/2015 | 5.03 | 1.76 | 5.03 | 1.76 | <0.01 | 4.31 | 9.33 | 6.06 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 8/3/2015 | 4.29 | 1.02 | 4.29 | 1.02 | <0.01 | 5.05 | 9.33 | 6.06 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/15/2015 | 5.35 | 2.08 | 5.35 | 2.08 | <0.01 | 3.99 | 9.33 | 6.06 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 2/13/2015 | 4.53 | 1.26 | | | | 4.8 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-138 | | 12/4/2014 | 4.28 | 1.01 | 4.28 | 1.01 | <0.01 | 5.06 | 9.33 | 6.06 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/15/2014 | 4.36 | 1.09 | 4.36 | 1.09 | <0.01 | 4.98 | 9.33 | 6.06 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/16/2013 | 4.26 | 0.99 | 4.25 | 0.98 | 0.01 | 5.08 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 7/12/2013 | 4.38 | 1.11 | 4.34 | 1.07 | 0.04 | 4.98 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/28/2013 | 3.98 | 0.71 | 3.97 | 0.7 | 0.01 | 5.36 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/9/2012 | 4.48 | 1.21 | 4.47 | 1.2 | 0.01 | 4.86 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/18/2011 | 4.18 | 0.91 | 4.18 | 0.91 | <0.01 | 5.16 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/25/2010 | 4.04 | 0.77 | | | | 5.29 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/19/2010 | 3.87 | 0.6 | | | | 5.46 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/13/2010 | 3.92 | 0.65 | | | | 5.41 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 9/28/2010 | 5.03 | 1.76 | 4.93 | 1.66 | 0.1 | 4.38 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 7/29/2010 | | | 3.82 | | 0.06 | NA | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 6/22/2009 | 3.73 | 0.46 | 3.7 | 0.43 | 0.03 | 5.62 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/23/2009 | 5.48 | 2.21 | 5.38 | 2.11 | 0.1 | 3.93 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 11/25/2008 | 5.09 | 1.82 | 5.04 | 1.77 | 0.05 | 4.28 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 6/6/2008 | 3.74 | 0.47 | 3.58 | 0.31 | 0.16 | 5.72 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 11/15/2007 | 4.63 | 1.36 | 4.55 | 1.28 | 0.08 | 4.76 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 9/18/2007 | 5.9 | 2.63 | 5.64 | 2.37 | 0.26 | 3.64 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 6/4/2007 | 5.15 | 1.88 | 4.81 | 1.54 | 0.34 | 4.46 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/2/2007 | 4.39 | 1.12 | 4.32 | 1.05 | 0.07 | 5 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 11/7/2006 | | | | | | NA | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 8/29/2006 | 9.35 | 6.08 | | | | -0.02 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/24/2006 | 9.2 | 5.93 | 3.95 | 0.68 | 5.25 | 4.39 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 2/8/2006 | | | 4.06 | | 0.43 | 6.06 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 7/1/2005 | | | 4.93 | | 0.29 | 5.21 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/19/2005 | 4.85 | 1.58 | | | | 4.48 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-138 | | 4/20/2005 | 3.78 | 0.51 | 3.78 | 0.51 | <0.01 | 5.56 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/9/2005 | 3.88 | 0.61 | 3.88 | 0.61 | <0.01 | 5.46 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 1/12/2005 | 3.76 | 0.49 | 3.73 | 0.46 | 0.03 | 5.59 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/22/2004 | 3.68 | 0.41 | | | | 5.65 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/8/2004 | 4.5 | 1.23 | | | | 4.83 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 9/24/2004 | 5 | 1.73 | | | | 4.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 9/17/2004 | 4.5 | 1.23 | | | | 4.83 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 9/10/2004 | 4.5 | 1.23 | | | | 4.83 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 9/2/2004 | 4.5 | 1.23 | | | | 4.83 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 8/24/2004 | 4.5 | 1.23 | | | | 4.83 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 8/11/2004 | 4.5 | 1.23 | | | | 4.83 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 8/4/2004 | 4.5 | 1.23 | | | | 4.83 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 7/27/2004 | 4.5 | 1.23 | | | | 4.83 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 7/21/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 7/14/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 7/9/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 6/28/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 6/10/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/28/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/18/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/12/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/7/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 4/29/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 4/22/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 4/15/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 4/6/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 4/2/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/25/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/17/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/11/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/3/2004 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 2/17/2004 | 6.5 | 3.23 | | | | 2.83 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 2/10/2004 | 3.65 | 0.38 | | | | 5.68 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 2/3/2004 | 5.29 | 2.02 | | | | 4.04 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 1/6/2004 | 6 | 2.73 | | | | 3.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 12/30/2003 | 6 | 2.73 | | | | 3.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 12/22/2003 | 6 | 2.73 | | | | 3.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 12/8/2003 | 6 | 2.73 | | | | 3.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 12/2/2003 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 11/24/2003 | 6 | 2.73 | | | | 3.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 11/19/2003 | 6 | 2.73 | | | | 3.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 11/11/2003 | 6 | 2.73 | | | | 3.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 11/5/2003 | 3.91 | 0.64 | | | | 5.42 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/22/2003 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/13/2003 | 5.9 | 2.63 | 5.9 | 2.63 | <0.01 | 3.44 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/7/2003 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/1/2003 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 9/24/2003 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 9/8/2003 | 5.9 | 2.63 | 5.9 | 2.63 | <0.01 | 3.44 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-138 | | 9/3/2003 | 5.9 | 2.63 | 5.9 | 2.63 | <0.01 | 3.44 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 8/27/2003 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 8/20/2003 | 5.9 | 2.63 | 5.9 | 2.63 | <0.01 | 3.44 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 8/12/2003 | 5.9 | 2.63 | 5.9 | 2.63 | <0.01 | 3.44 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 8/6/2003 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 7/24/2003 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 7/18/2003 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 6/30/2003 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 6/26/2003 | 6.4 | 3.13 | | | | 2.93 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 6/17/2003 | 3.85 | 0.58 | 3.84 | 0.57 | 0.01 | 5.49 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 6/13/2003 | 6 | 2.73 | | | | 3.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 6/2/2003 | 6 | 2.73 | | | | 3.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/30/2003 | 6 | 2.73 | | | | 3.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/20/2003 | 4.95 | 1.68 | 4.95 | 1.68 | <0.01 | 4.39 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/8/2003 | 7 | 3.73 | | | | 2.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 4/28/2003 | 7 | 3.73 | | | | 2.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 4/25/2003 | 7 | 3.73 | | | | 2.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 4/9/2003 | 7 | 3.73 | | | | 2.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 4/2/2003 | 7 | 3.73 | | | | 2.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/26/2003 | 7 | 3.73 | | | | 2.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/21/2003 | 7 | 3.73 | | | | 2.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/12/2003 | 7 | 3.73 | | | | 2.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 2/25/2003 | 7 | 3.73 | | | | 2.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 2/21/2003 | 7 | 3.73 | | | | 2.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 2/13/2003 | 7 | 3.73 | | | | 2.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 2/6/2003 | 7 | 3.73 | | | | 2.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 1/21/2003 | 7 | 3.73 | | | | 2.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 1/10/2003 | 7 | 3.73 | | | | 2.33 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 12/30/2002 | 6.6 | 3.33 | 6.6 | 3.33 | <0.01 | 2.74 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 12/27/2002 | 4.34 | 1.07 | 4.34 | 1.07 | <0.01 | 5 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 12/19/2002 | 3.57 | 0.3 | 3.57 | 0.3 | <0.01 | 5.77 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 12/4/2002 | 4.14 | 0.87 | 4.12 | 0.85 | 0.02 | 5.21 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 11/26/2002 | 3.72 | 0.45 | 3.71 | 0.44 | 0.01 | 5.62 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 11/19/2002 | 3.54 | 0.27 | 3.53 | 0.26 | 0.01 | 5.8 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 11/5/2002 | 6.6 | 3.33 | | | | 2.73 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/31/2002 | 5.71 | 2.44 | 5.7 | 2.43 | 0.01 | 3.63 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-138 | | 10/22/2002 | 6.6 | 3.33 | | | | 2.73 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/18/2002 | 6.6 | 3.33 | | | | 2.73 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/10/2002 | 6.6 | 3.33 | | | | 2.73 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/4/2002 | 6.7 | 3.43 | | | | 2.63 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 9/23/2002 | 6.6 | 3.33 | | | | 2.73 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 9/20/2002 | 6.6 | 3.33 | | | | 2.73 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 9/4/2002 | 4.65 | 1.38 | 4.55 | 1.28 | 0.1 | 4.76 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 8/27/2002 | 6.6 | 3.33 | 6.6 | 3.33 | <0.01 | 2.74 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 8/12/2002 | 6.9 | 3.63 | | | | 2.43 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 8/9/2002 | 6.9 | 3.63 | | | | 2.43 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 7/31/2002 | 6.9 | 3.63 | | | | 2.43 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 7/22/2002 | 6.9 | 3.63 | | | | 2.43 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 7/16/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 7/12/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 7/1/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 6/27/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 6/19/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 6/14/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 6/7/2002 | 4.35 | 1.08 | 4.35 | 1.08 | <0.01 | 4.99 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/31/2002 | 4.56 | 1.29 | 4.56 | 1.29 | <0.01 | 4.78 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/21/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/15/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 5/1/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 4/24/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 4/19/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 4/12/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 4/2/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/26/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/19/2002 | 5.24 | 1.97 | 4.82 | 1.55 | 0.42 | 4.43 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/11/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/5/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 3/1/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 2/19/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 2/11/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 2/7/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 1/21/2002 | 6.3 | 3.03 | | | | 3.03 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 1/15/2002 | 6.2 | 2.93 | | | | 3.13 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 1/4/2002 | 6.2 | 2.93 | | | | 3.13 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 12/27/2001 | 5.62 | 2.35 | 4.98 | 1.71 | 0.64 | 4.23 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 12/20/2001 | 6.08 | 2.81 | 6.08 | 2.81 | <0.01 | 3.26 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 12/11/2001 | 6.2 | 2.93 | | | | 3.13 | 9.33 | 6.06 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-138 | | 12/6/2001 | 6.27 | 3 | 6.21 | 2.94 | 0.06 | 3.11 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-138 | | 11/8/2001 | 7.35 | 4.08 | 5.38 | 2.11 | 1.97 | 3.58 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 11/2/2001 | 7.44 | 4.17 | 5.37 | 2.1 | 2.07 | 3.57 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 11/1/2001 | 7.75 | 4.48 | 5.36 | 2.09 | 2.39 | 3.52 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/26/2001 | 7.33 | 4.06 | 5.18 | 1.91 | 2.15 | 3.74 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/25/2001 | 6.94 | 3.67 | 5.03 | 1.76 | 1.91 | 3.94 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/17/2001 | 7.05 | 3.78 | 4.96 | 1.69 | 2.09 | 3.98 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/11/2001 | 7.32 | 4.05 | 4.99 | 1.72 | 2.33 | 3.9 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 10/2/2001 | 6.91 | 3.64 | 4.87 | 1.6 | 2.04 | 4.08 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 9/19/2001 | 7.17 | 3.9 | 5 | 1.73 | 2.17 | 3.92 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 9/7/2001 | 7.06 | 3.79 | 4.88 | 1.61 | 2.18 | 4.04 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-138 | | 9/5/2001 | 6.97 | 3.7 | 4.92 | 1.65 | 2.05 | 4.02 | 9.33 | 6.06 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-139 | | 5/11/2017 | | | | | | NA | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/6/2017 | | | | | | NA | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 12/1/2016 | | | | | | NA | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 8/12/2016 | | | | | | NA | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/11/2016 | | | | | | NA | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 2/8/2016 | | | | | | NA | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/19/2015 | | | | | | NA | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 8/3/2015 | 3.93 | 1.46 | | | | 5.47 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/15/2015 | | | | | | NA | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 2/13/2015 | 5.88 | 3.41 | 5.85 | 3.38 | 0.03 | 3.55 | 9.4 | 6.93 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 12/4/2014 | 5.39 | 2.92 | 5.38 | 2.91 | 0.01 | 4.02 | 9.4 | 6.93 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 8/11/2014 | 5.66 | 3.19 | 5.65 | 3.18 | 0.01 | 3.75 | 9.4 | 6.93 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/15/2014 | 5.77 | 3.3 | 5.63 | 3.16 | 0.14 | 3.75 | 9.4 | 6.93 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 1/23/2014 | 5.33 | 2.86 | 5.31 | 2.84 | 0.02 | 4.09 | 9.4 | 6.93 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/16/2013 | 5.57 | 3.1 | 5.51 | 3.04 | 0.06 | 3.88 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 7/12/2013 | 4.8 | 2.33 | | | | 4.6 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/28/2013 | 6.04 | 3.57 | 6.04 | 3.57 | <0.01 | 3.37 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-139 | | 2/15/2013 | 5.51 | 3.04 | 5.34 | 2.87 | 0.17 | 4.03 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/10/2012 | 5.88 | 3.41 | 5.83 | 3.36 | 0.05 | 3.56 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 7/30/2012 | 5.79 | 3.32 | 5.79 | 3.32 | <0.01 | 3.62 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/9/2012 | 6.06 | 3.59 | | | | 3.34 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 1/30/2012 | 6.34 | 3.87 | 6.28 | 3.81 | 0.06 | 3.11 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/21/2011 | 6.07 | 3.6 | 6.07 | 3.6 | <0.01 | 3.34 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 8/1/2011 | 6.19 | 3.72 | | | | 3.21 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/18/2011 | 6 | 3.53 | 6 | 3.53 | <0.01 | 3.41 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 2/23/2011 | 6.63 | 4.16 | 6.15 | 3.68 | 0.48 | 3.16 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/3/2010 | 6.61 | 4.14 | 5.96 | 3.49 | 0.65 | 3.32 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/25/2010 | 6.37 | 3.9 | 5.25 | 2.78 | 1.12 | 3.94 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/19/2010 | 5.89 | 3.42 | 5.55 | 3.08 | 0.34 | 3.79 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/13/2010 | 5.79 | 3.32 | 5.63 | 3.16 | 0.16 | 3.74 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 9/28/2010 | 6.16 | 3.69 | 6.14 | 3.67 | 0.02 | 3.26 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 7/29/2010 | | | 8.35 | | <0.01 | NA | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 6/10/2010 | | | | | | NA | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 6/22/2009 | 5.42 | 2.95 | 5.22 | 2.75 | 0.2 | 4.14 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/23/2009 | 7.11 | 4.64 | 6.37 | 3.9 | 0.74 | 2.89 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/25/2008 | 7.6 | 5.13 | | | | 1.8 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 6/6/2008 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/15/2007 | 6.43 | 3.96 | 6.2 | 3.73 | 0.23 | 3.16 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 9/18/2007 | 9.85 | 7.38 | | | | -0.45 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 6/4/2007 | 8.15 | 5.68 | | | | 1.25 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/2/2007 | 6.16 | 3.69 | 5.84 | 3.37 | 0.32 | 3.5 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/7/2006 | | | | | | NA | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 8/29/2006 | 5.37 | 2.9 | | | | 4.03 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/24/2006 | 9.65 | 7.18 | | | | -0.25 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 2/8/2006 | | | 5.65 | | 3 | 4.45 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-139 | | 7/1/2005 | | | | | | 3.3 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/19/2005 | 6.9 | 4.43 | | | | 2.5 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 4/20/2005 | 8.66 | 6.19 | 5.52 | 3.05 | 3.14 | 3.29 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/9/2005 | 7.84 | 5.37 | 5.62 | 3.15 | 2.22 | 3.36 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 1/12/2005 | 7.52 | 5.05 | 7.44 | 4.97 | 0.08 | 1.94 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 12/3/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/24/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/16/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/12/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/5/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/22/2004 | 6.08 | 3.61 | 5.76 | 3.29 | 0.32 | 3.58 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/8/2004 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 9/24/2004 | 6 | 3.53 | | | | 3.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 9/17/2004 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 9/10/2004 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 9/2/2004 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 8/24/2004 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 8/11/2004 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 8/4/2004 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 7/27/2004 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 7/21/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 7/14/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 7/9/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 6/28/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 6/10/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/28/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/18/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/12/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/7/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 4/29/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 4/22/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 4/15/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 4/6/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 4/2/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/25/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/17/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/11/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/3/2004 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 2/17/2004 | 7.45 | 4.98 | 7.21 | 4.74 | 0.24 | 2.14 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 2/10/2004 | 8.6 | 6.13 | | | | 0.8 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 2/3/2004 | 6.5 | 4.03 | | | | 2.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 1/6/2004 | 6.5 | 4.03 | | | | 2.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 12/30/2003 | 6.5 | 4.03 | | | | 2.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 12/22/2003 | 6.5 | 4.03 | | | | 2.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 12/8/2003 | 6.5 | 4.03 | | | | 2.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 12/2/2003 | 6.5 | 4.03 | | | | 2.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/24/2003 | 6.5 | 4.03 | | | | 2.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/19/2003 | 6.5 | 4.03 | | | | 2.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/11/2003 | 6.5 | 4.03 | | | | 2.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-139 | | 11/5/2003 | 5.9 | 3.43 | 5.9 | 3.43 | <0.01 | 3.51 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/22/2003 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/13/2003 | 5.6 | 3.13 | 5.6 | 3.13 | <0.01 | 3.81 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/7/2003 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/1/2003 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 9/24/2003 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 9/8/2003 | 6.4 | 3.93 | 6.4 | 3.93 | <0.01 | 3.01 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 9/3/2003 | 6.4 | 3.93 | 6.4 | 3.93 | <0.01 | 3.01 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 8/27/2003 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 8/20/2003 | 6.7 | 4.23 | 6.7 | 4.23 | <0.01 | 2.71 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 8/12/2003 | 6.9 | 4.43 | 6.9 | 4.43 | <0.01 | 2.51 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 8/6/2003 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 7/24/2003 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 7/18/2003 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 6/30/2003 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 6/26/2003 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 6/17/2003 | 6.37 | 3.9 | 5.73 | 3.26 | 0.64 | 3.55 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 6/13/2003 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 6/2/2003 | 6.7 | 4.23 | | | | 2.7 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/30/2003 | 7 | 4.53 | | | | 2.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/20/2003 | 6.9 | 4.43 | 6 | 3.53 | 0.9 | 3.23 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/8/2003 | 8.1 | 5.63 | | | | 1.3 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 4/28/2003 | 8.1 | 5.63 | | | | 1.3 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 4/25/2003 | 8.1 | 5.63 | | | | 1.3 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 4/9/2003 | 8.1 | 5.63 | | | | 1.3 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 4/2/2003 | 8.1 | 5.63 | | | | 1.3 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/26/2003 | 8.1 | 5.63 | | | | 1.3 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/21/2003 | 8.1 | 5.63 | | | | 1.3 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/12/2003 | 8.1 | 5.63 | | | | 1.3 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 2/25/2003 | 8.1 | 5.63 | | | | 1.3 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 2/21/2003 | 8.1 | 5.63 | | | | 1.3 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 2/13/2003 | 8.1 | 5.63 | | | | 1.3 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 2/6/2003 | 8.1 | 5.63 | | | | 1.3 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 1/21/2003 | 8.1 | 5.63 | | | | 1.3 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 1/10/2003 | 8.1 | 5.63 | | | | 1.3 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 12/30/2002 | 7.6 | 5.13 | 7.6 | 5.13 | <0.01 | 1.81 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 12/27/2002 | 9.04 | 6.57 | 5.63 | 3.16 | 3.41 | 3.13 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 12/19/2002 | 7.1 | 4.63 | 4.29 | 1.82 | 2.81 | 4.58 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-139 | | 12/4/2002 | 9.56 | 7.09 | 6.25 | 3.78 | 3.31 | 2.53 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/26/2002 | 7.61 | 5.14 | 4.6 | 2.13 | 3.01 | 4.23 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/19/2002 | 7.9 | 5.43 | 4.88 | 2.41 | 3.02 | 3.95 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/5/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/31/2002 | 7.4 | 4.93 | | | | 2 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/22/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/18/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/10/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/4/2002 | 7.6 | 5.13 | | | | 1.8 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 9/23/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 9/20/2002 | 7.5 | 5.03 | | | | 1.9 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 9/4/2002 | 7.45 | 4.98 | 7.45 | 4.98 | <0.01 | 1.96 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 8/27/2002 | 7.55 | 5.08 | 7.55 | 5.08 | <0.01 | 1.86 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 8/12/2002 | 7.75 | 5.28 | | | | 1.65 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 8/9/2002 | 7.75 | 5.28 | | | | 1.65 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 7/31/2002 | 7.75 | 5.28 | | | | 1.65 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 7/22/2002 | 7.75 | 5.28 | | | | 1.65 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 7/16/2002 | 7.75 | 5.28 | | | | 1.65 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 7/12/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 7/1/2002 | 8.25 | 5.78 | | | | 1.15 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 6/27/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 6/19/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 6/14/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 6/7/2002 | 6.4 | 3.93 | 6.05 | 3.58 | 0.35 | 3.28 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/31/2002 | 7.35 | 4.88 | 6.39 | 3.92 | 0.96 | 2.83 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/21/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/15/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 5/1/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 4/24/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 4/19/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 4/12/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 4/2/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/26/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/19/2002 | 9.13 | 6.66 | 6.55 | 4.08 | 2.58 | 2.36 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/11/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/5/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 3/1/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 2/19/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 2/11/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 2/7/2002 | 8 | 5.53 | | | | 1.4 | 9.4 | 6.93 | 12 | | | - | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 12/11/2001 | 11.06 | 8.59 | 5.72 | 3.25 | 5.34 | 2.67 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-139 | | 11/8/2001 | 10.28 | 7.81 | 5.7 | 3.23 | 4.58 | 2.84 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/2/2001 | 8.83 | 6.36 | 6.01 | 3.54 | 2.82 | 2.86 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 11/1/2001 | 10.76 | 8.29 | 5.78 | 3.31 | 4.98 | 2.68 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/26/2001 | 9.36 | 6.89 | 5.72 | 3.25 | 3.64 | 2.99 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/25/2001 | 10.56 | 8.09 | 5.39 | 2.92 | 5.17 | 3.03 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/17/2001 | 10.85 | 8.38 | 5.46 | 2.99 | 5.39 | 2.92 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/11/2001 | 10.92 | 8.45 | 5.43 | 2.96 | 5.49 | 2.93 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 10/2/2001 | 11.05 | 8.58 | 5.43 | 2.96 | 5.62 | 2.91 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 9/19/2001 | 11.15 | 8.68 | 5.8 | 3.33 | 5.35 | 2.59 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 9/7/2001 | 11.11 | 8.64 | 5.81 | 3.34 | 5.3 | 2.59 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-139 | | 9/5/2001 | 11.35 | 8.88 | 5.77 | 3.3 | 5.58 | 2.58 | 9.4 | 6.93 | 12 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inact | Damaged |
| B-140 | | 5/11/2017 | | | | | | NA | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 2/8/2016 | | | | | | NA | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 7/12/2013 | | | | | | NA | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 5/9/2012 | | | | | | NA | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 5/18/2011 | 2.8 | 0.05 | | | | 7.34 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 9/28/2010 | 3.5 | 0.75 | | | | 6.64 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 7/29/2010 | | | 2.63 | | <0.01 | NA | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 6/22/2009 | 2 | -0.75 | | | | 8.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 3/23/2009 | 4.23 | 1.48 | | | | 5.91 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/25/2008 | 5.82 | 3.07 | | | | 4.32 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 6/6/2008 | 4.95 | 2.2 | | | | 5.19 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/15/2007 | 5.61 | 2.86 | 5.56 | 2.81 | 0.05 | 4.57 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 9/18/2007 | 6.56 | 3.81 | 6.43 | 3.68 | 0.13 | 3.69 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 6/4/2007 | 5.82 | 3.07 | 5.69 | 2.94 | 0.13 | 4.43 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-140 | | 3/2/2007 | 5.17 | 2.42 | 5.15 | 2.4 | 0.02 | 4.99 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/7/2006 | | | 5.34 | | 0.19 | NA | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 8/29/2006 | 5.36 | 2.61 | 5.22 | 2.47 | 0.14 | 4.9 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 5/24/2006 | 6.06 | 3.31 | 5.8 | 3.05 | 0.26 | 4.31 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 2/8/2006 | | | 5.29 | | 0.18 | 5.87 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 7/1/2005 | | | 6.12 | | 0.41 | 5 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 5/19/2005 | 6.23 | 3.48 | 5.91 | 3.16 | 0.32 | 4.19 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 4/20/2005 | 5.34 | 2.59 | 5.18 | 2.43 | 0.16 | 4.94 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 3/9/2005 | 5.26 | 2.51 | 5.19 | 2.44 | 0.07 | 4.94 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 1/12/2005 | 5.07 | 2.32 | 5.05 | 2.3 | 0.02 | 5.09 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 12/3/2004 | 6 | 3.25 | | | | 4.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/24/2004 | 6 | 3.25 | | | | 4.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/16/2004 | 6 | 3.25 | | | | 4.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/12/2004 | 6 | 3.25 | | | | 4.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/5/2004 | 6 | 3.25 | | | | 4.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 10/22/2004 | 5.14 | 2.39 | 5.14 | 2.39 | <0.01 | 5.01 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 10/8/2004 | 6 | 3.25 | | | | 4.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 9/24/2004 | 6 | 3.25 | | | | 4.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 9/17/2004 | 6 | 3.25 | | | | 4.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 9/10/2004 | 6 | 3.25 | | | | 4.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 9/2/2004 | 6 | 3.25 | | | | 4.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 8/24/2004 | 6 | 3.25 | | | | 4.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 8/11/2004 | 6 | 3.25 | | | | 4.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 8/4/2004 | 6 | 3.25 | | | | 4.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 7/27/2004 | 6 | 3.25 | | | | 4.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 7/21/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 7/14/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 7/9/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-140 | | 6/28/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 6/10/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 5/28/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 5/18/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 5/12/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 5/7/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 4/29/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 4/22/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 4/15/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 4/6/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 4/2/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 3/25/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 3/17/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 3/11/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 3/3/2004 | 8.3 | 5.55 | | | | 1.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 2/17/2004 | 8 | 5.25 | | | | 2.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 2/10/2004 | 6.1 | 3.35 | | | | 4.04 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 2/3/2004 | 6.4 | 3.65 | | | | 3.74 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 1/6/2004 | 6.4 | 3.65 | | | | 3.74 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 12/30/2003 | 6.4 | 3.65 | | | | 3.74 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 12/22/2003 | 6.4 | 3.65 | | | | 3.74 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 12/8/2003 | 6.4 | 3.65 | | | | 3.74 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 12/2/2003 | 6.4 | 3.65 | | | | 3.74 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/24/2003 | 6.4 | 3.65 | | | | 3.74 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/19/2003 | 6.4 | 3.65 | | | | 3.74 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/11/2003 | 6.4 | 3.65 | | | | 3.74 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/5/2003 | 5.48 | 2.73 | | | | 4.66 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 10/22/2003 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 10/13/2003 | 6.4 | 3.65 | 6.4 | 3.65 | <0.01 | 3.75 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 10/7/2003 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 10/1/2003 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 9/24/2003 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 9/8/2003 | 6.5 | 3.75 | 6.5 | 3.75 | <0.01 | 3.65 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 9/3/2003 | 6.5 | 3.75 | 6.5 | 3.75 | <0.01 | 3.65 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 8/27/2003 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 8/20/2003 | 6.6 | 3.85 | 6.6 | 3.85 | <0.01 | 3.55 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 8/12/2003 | 6.8 | 4.05 | 6.8 | 4.05 | <0.01 | 3.35 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 8/6/2003 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 7/24/2003 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 7/18/2003 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-140 | | 6/30/2003 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 6/26/2003 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 6/17/2003 | 5.35 | 2.6 | 5.09 | 2.34 | 0.26 | 5.02 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 6/13/2003 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 6/2/2003 | 6.6 | 3.85 | | | | 3.54 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 5/30/2003 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 5/20/2003 | 6.11 | 3.36 | 6.1 | 3.35 | 0.01 | 4.04 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 5/8/2003 | 7.3 | 4.55 | | | | 2.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 4/28/2003 | 7.3 | 4.55 | | | | 2.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 4/25/2003 | 7.3 | 4.55 | | | | 2.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 4/9/2003 | 7.3 | 4.55 | | | | 2.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 4/2/2003 | 7.3 | 4.55 | | | | 2.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 3/26/2003 | 7.3 | 4.55 | | | | 2.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 3/21/2003 | 7.3 | 4.55 | | | | 2.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 3/12/2003 | 7.3 | 4.55 | | | | 2.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 2/25/2003 | 7.3 | 4.55 | | | | 2.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 2/21/2003 | 7.3 | 4.55 | | | | 2.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 2/13/2003 | 7.3 | 4.55 | | | | 2.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 2/6/2003 | 7.3 | 4.55 | | | | 2.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 1/21/2003 | 7.3 | 4.55 | | | | 2.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 1/10/2003 | 7.3 | 4.55 | | | | 2.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 12/30/2002 | 6.7 | 3.95 | 6.7 | 3.95 | <0.01 | 3.45 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 12/27/2002 | 6.7 | 3.95 | 6.7 | 3.95 | <0.01 | 3.45 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 12/19/2002 | 5.14 | 2.39 | 5.03 | 2.28 | 0.11 | 5.1 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 12/4/2002 | 5.56 | 2.81 | 5.56 | 2.81 | <0.01 | 4.59 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/26/2002 | 4.47 | 1.72 | 4.47 | 1.72 | <0.01 | 5.68 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/19/2002 | 4.6 | 1.85 | 4.6 | 1.85 | <0.01 | 5.55 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/5/2002 | 7.5 | 4.75 | | | | 2.64 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-140 | | 10/31/2002 | 7.2 | 4.45 | | | | 2.94 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 10/22/2002 | 7.5 | 4.75 | | | | 2.64 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 10/18/2002 | 7.5 | 4.75 | | | | 2.64 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 10/10/2002 | 7.5 | 4.75 | | | | 2.64 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 10/4/2002 | 7.4 | 4.65 | | | | 2.74 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 9/23/2002 | 7.5 | 4.75 | | | | 2.64 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 9/20/2002 | 7.2 | 4.45 | | | | 2.94 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 9/4/2002 | 7.2 | 4.45 | | | | 2.94 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 8/27/2002 | 7.27 | 4.52 | 7.25 | 4.5 | 0.02 | 2.89 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 8/12/2002 | 7.3 | 4.55 | | | | 2.84 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 8/9/2002 | 7.1 | 4.35 | | | | 3.04 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 7/31/2002 | 7.1 | 4.35 | | | | 3.04 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 7/22/2002 | 7.1 | 4.35 | | | | 3.04 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 7/16/2002 | 7.1 | 4.35 | | | | 3.04 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 7/12/2002 | 8 | 5.25 | | | | 2.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 7/1/2002 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 6/27/2002 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 6/19/2002 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 6/14/2002 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 6/7/2002 | 6.28 | 3.53 | 5.88 | 3.13 | 0.4 | 4.21 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 5/31/2002 | 6.62 | 3.87 | 6.31 | 3.56 | 0.31 | 3.79 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 5/21/2002 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 5/15/2002 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 5/1/2002 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 4/24/2002 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 4/19/2002 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 4/12/2002 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 4/2/2002 | 7 | 4.25 | | | | 3.14 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 3/26/2002 | 7.2 | 4.45 | | | | 2.94 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 3/19/2002 | 6.56 | 3.81 | 6.19 | 3.44 | 0.37 | 3.9 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 3/11/2002 | 7.2 | 4.45 | | | | 2.94 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 3/5/2002 | 7.2 | 4.45 | | | | 2.94 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 3/1/2002 | 7.2 | 4.45 | | | | 2.94 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 2/19/2002 | 7.2 | 4.45 | | | | 2.94 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 2/11/2002 | 7.2 | 4.45 | | | | 2.94 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 2/7/2002 | 7.2 | 4.45 | | | | 2.94 | 10.14 | 7.39 | 12 | | | - | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 12/11/2001 | 8.55 | 5.8 | 6.29 | 3.54 | 2.26 | 3.55 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-140 | | 11/8/2001 | 9.04 | 6.29 | 6.29 | 3.54 | 2.75 | 3.48 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/2/2001 | 9.27 | 6.52 | 6.26 | 3.51 | 3.01 | 3.47 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 11/1/2001 | 9.65 | 6.9 | 6.28 | 3.53 | 3.37 | 3.41 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 10/26/2001 | 9.11 | 6.36 | 6.03 | 3.28 | 3.08 | 3.7 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 10/25/2001 | 8.82 | 6.07 | 5.95 | 3.2 | 2.87 | 3.8 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 10/17/2001 | 8.9 | 6.15 | 5.92 | 3.17 | 2.98 | 3.82 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 10/11/2001 | 9.15 | 6.4 | 5.97 | 3.22 | 3.18 | 3.74 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 10/2/2001 | 8.93 | 6.18 | 5.77 | 3.02 | 3.16 | 3.94 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 9/19/2001 | 14.85 | 12.1 | 6 | 3.25 | 8.85 | 2.95 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 9/7/2001 | 10.38 | 7.63 | 5.98 | 3.23 | 4.4 | 3.57 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-140 | | 9/5/2001 | 10.85 | 8.1 | 5.89 | 3.14 | 4.96 | 3.58 | 10.14 | 7.39 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inact | Destroyed |
| B-141 | | 5/11/2017 | 2.69 | 1.75 | | | | 6 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 12/1/2016 | 2.82 | 1.88 | | | | 5.87 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 5/11/2016 | 3.04 | 2.1 | | | | 5.65 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 11/19/2015 | 3.77 | 2.83 | | | | 4.92 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-141 | | 5/15/2015 | 4.09 | 3.15 | | | | 4.6 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 2/13/2015 | 3.4 | 2.46 | | | | 5.29 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 12/4/2014 | 3.23 | 2.29 | | | | 5.46 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 5/14/2014 | 3.74 | 2.8 | | | | 4.95 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 10/16/2013 | 4.03 | 3.09 | | | | 4.66 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 7/12/2013 | 3.95 | 3.01 | | | | 4.74 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 3/28/2013 | 2.96 | 2.02 | 2.95 | 2.01 | 0.01 | 5.74 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 5/9/2012 | 3.41 | 2.47 | | | | 5.28 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 5/18/2011 | 3.22 | 2.28 | | | | 5.47 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 10/25/2010 | 3.03 | 2.09 | | | | 5.66 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 10/19/2010 | 2.89 | 1.95 | | | | 5.8 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 10/13/2010 | 3.1 | 2.16 | | | | 5.59 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 9/28/2010 | 3.3 | 2.36 | 3.1 | 2.16 | 0.2 | 5.56 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 7/29/2010 | | | 2.12 | | 0.21 | NA | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 6/22/2009 | 2.84 | 1.9 | 2.84 | 1.9 | <0.01 | 5.86 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 3/23/2009 | 4.59 | 3.65 | 4.26 | 3.32 | 0.33 | 4.39 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 11/25/2008 | 3.83 | 2.89 | 3.63 | 2.69 | 0.2 | 5.03 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 8/18/2008 | 3.73 | 2.79 | 3.51 | 2.57 | 0.22 | 5.15 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 6/6/2008 | 3.56 | 2.62 | 2.89 | 1.95 | 0.67 | 5.71 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 3/31/2008 | 3.39 | 2.45 | 2.77 | 1.83 | 0.62 | 5.84 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 11/15/2007 | 4.15 | 3.21 | 3.5 | 2.56 | 0.65 | 5.1 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-141 | | 9/18/2007 | 4.9 | 3.96 | 4.21 | 3.27 | 0.69 | 4.39 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 6/4/2007 | 4.14 | 3.2 | 3.48 | 2.54 | 0.66 | 5.12 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 3/2/2007 | 3.97 | 3.03 | 3.3 | 2.36 | 0.67 | 5.3 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 11/7/2006 | | | 3.2 | | 0.7 | NA | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 8/29/2006 | 3.7 | 2.76 | 3.09 | 2.15 | 0.61 | 5.52 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 5/24/2006 | 4.43 | 3.49 | 3.68 | 2.74 | 0.75 | 4.91 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 2/8/2006 | | | 3.21 | | 0.72 | 9.12 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 7/1/2005 | | | 3.89 | | 0.61 | 7.7 | 8.69 | 7.75 | 12 | | | - | Stick Up | | MW | Damaged |
| B-141 | | 5/19/2005 | 4.31 | 3.37 | 3.62 | 2.68 | 0.69 | 4.98 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 3/9/2005 | 3.65 | 2.71 | 3 | 2.06 | 0.65 | 5.6 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 10/8/2004 | 3.85 | 2.91 | 3.15 | 2.21 | 0.7 | 5.45 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 9/17/2004 | 4.51 | 3.57 | 3.86 | 2.92 | 0.65 | 4.74 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 6/28/2004 | 4.46 | 3.52 | 3.88 | 2.94 | 0.58 | 4.73 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 3/11/2004 | 3.89 | 2.95 | 3.34 | 2.4 | 0.55 | 5.28 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-141 | | 11/24/2003 | 5.43 | 4.49 | 5.1 | 4.16 | 0.33 | 3.55 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 8/20/2003 | 6.08 | 5.14 | 5.52 | 4.58 | 0.56 | 3.09 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 5/20/2003 | 6.03 | 5.09 | 5.57 | 4.63 | 0.46 | 3.06 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 4/28/2003 | 5.63 | 4.69 | 5.25 | 4.31 | 0.38 | 3.39 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 4/25/2003 | 5.8 | 4.86 | 5.22 | 4.28 | 0.58 | 3.39 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 3/21/2003 | 5.09 | 4.15 | 4.67 | 3.73 | 0.42 | 3.96 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 11/21/2002 | 5.39 | 4.45 | 4.66 | 3.72 | 0.73 | 3.93 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 11/20/2002 | 6.2 | 5.26 | 4.54 | 3.6 | 1.66 | 3.93 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 10/31/2002 | 6.51 | 5.57 | 5.05 | 4.11 | 1.46 | 3.44 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 9/23/2002 | 7.65 | 6.71 | 5.75 | 4.81 | 1.9 | 2.68 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 8/12/2002 | 7.46 | 6.52 | 5.98 | 5.04 | 1.48 | 2.51 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-141 | | 6/14/2002 | 6.64 | 5.7 | 4.95 | 4.01 | 1.69 | 3.51 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 2/19/2002 | 7.24 | 6.3 | 5.92 | 4.98 | 1.32 | 2.59 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 12/11/2001 | 7.05 | 6.11 | 6.07 | 5.13 | 0.98 | 2.49 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 11/8/2001 | 6.9 | 5.96 | 6.15 | 5.21 | 0.75 | 2.44 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 11/2/2001 | 6.56 | 5.62 | 6.16 | 5.22 | 0.4 | 2.48 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 11/1/2001 | 7.52 | 6.58 | 6.06 | 5.12 | 1.46 | 2.43 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 10/26/2001 | 6.89 | 5.95 | 5.98 | 5.04 | 0.91 | 2.59 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 10/25/2001 | 8.04 | 7.1 | 5.66 | 4.72 | 2.38 | 2.71 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 10/17/2001 | 8.15 | 7.21 | 5.57 | 4.63 | 2.58 | 2.77 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 10/11/2001 | 8.27 | 7.33 | 5.59 | 4.65 | 2.68 | 2.74 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 10/2/2001 | 8.27 | 7.33 | 5.4 | 4.46 | 2.87 | 2.9 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-141 | | 9/19/2001 | 9.28 | 8.34 | 5.54 | 4.6 | 3.74 | 2.65 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 9/7/2001 | 8.35 | 7.41 | 5.7 | 4.76 | 2.65 | 2.63 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-141 | | 9/5/2001 | 8.9 | 7.96 | 5.61 | 4.67 | 3.29 | 2.64 | 8.69 | 7.75 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | | MW | Damaged |
| B-142 | | 5/11/2017 | 7.58 | 4.65 | 6.91 | 3.98 | 0.67 | 2.73982 | 9.74 | 6.81 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/6/2017 | 8.36 | 5.43 | 7.43 | 4.5 | 0.93 | 2.18482 | 9.74 | 6.81 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 12/1/2016 | 7.76 | 4.83 | 6.85 | 3.92 | 0.91 | 2.76751 | 9.74 | 6.81 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 8/12/2016 | 7.95 | 5.02 | 7 | 4.07 | 0.95 | 2.61213 | 9.74 | 6.81 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/11/2016 | 7.75 | 4.82 | 6.76 | 3.83 | 0.99 | 2.85 | 9.74 | 6.81 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 2/8/2016 | 7.6 | 4.67 | 6.62 | 3.69 | 0.98 | 2.99 | 9.74 | 6.81 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/19/2015 | 7.84 | 4.91 | 7.01 | 4.08 | 0.83 | 2.62 | 9.74 | 6.81 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 8/3/2015 | 7.53 | 4.6 | 6.75 | 3.82 | 0.78 | 2.89 | 9.74 | 6.81 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/15/2015 | 7.76 | 4.83 | 7.28 | 4.35 | 0.48 | 2.4 | 9.74 | 6.81 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 2/13/2015 | 7.53 | 4.6 | 7.25 | 4.32 | 0.28 | 2.45 | 9.74 | 6.81 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 12/4/2014 | 7.24 | 4.31 | 7.19 | 4.26 | 0.05 | 2.54 | 9.74 | 6.81 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 8/11/2014 | 7.12 | 4.19 | 7.12 | 4.19 | <0.01 | 2.63 | 9.74 | 6.81 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/15/2014 | 7.7 | 4.77 | 6.92 | 3.99 | 0.78 | 2.72 | 9.74 | 6.81 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 1/23/2014 | 7.3 | 4.37 | 7.3 | 4.37 | <0.01 | 2.45 | 9.74 | 6.81 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/16/2013 | 7.18 | 4.25 | 7.18 | 4.25 | <0.01 | 2.57 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 7/12/2013 | 7.41 | 4.48 | 6.32 | 3.39 | 1.09 | 3.27 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/28/2013 | 7.04 | 4.11 | | | | 2.7 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 2/15/2013 | 6.73 | 3.8 | | | | 3.01 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/10/2012 | 7.29 | 4.36 | | | | 2.45 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-142 | | 7/30/2012 | 7.09 | 4.16 | 7.08 | 4.15 | 0.01 | 2.66 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/9/2012 | 7.19 | 4.26 | 7.18 | 4.25 | 0.01 | 2.56 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 1/30/2012 | 7.33 | 4.4 | 7.2 | 4.27 | 0.13 | 2.52 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/21/2011 | 8.23 | 5.3 | 7.08 | 4.15 | 1.15 | 2.51 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 8/1/2011 | 7.13 | 4.2 | 7.13 | 4.2 | <0.01 | 2.62 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/18/2011 | 7.43 | 4.5 | 7.43 | 4.5 | <0.01 | 2.32 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 2/23/2011 | 7.67 | 4.74 | 7.34 | 4.41 | 0.33 | 2.36 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/3/2010 | 7.04 | 4.11 | 7.04 | 4.11 | <0.01 | 2.71 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/25/2010 | 6.26 | 3.33 | 6.26 | 3.33 | <0.01 | 3.49 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/19/2010 | 6.94 | 4.01 | 6.58 | 3.65 | 0.36 | 3.11 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/13/2010 | 6.75 | 3.82 | 6.57 | 3.64 | 0.18 | 3.15 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-142 | | 9/28/2010 | 7.31 | 4.38 | 7.3 | 4.37 | 0.01 | 2.44 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 7/29/2010 | | | 9.98 | | <0.01 | NA | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 6/10/2010 | | | | | | NA | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 6/22/2009 | 7.09 | 4.16 | 6.7 | 3.77 | 0.39 | 2.99 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/23/2009 | 7.66 | 4.73 | 7.57 | 4.64 | 0.09 | 2.16 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/25/2008 | 10.1 | 7.17 | | | | -0.36 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 6/6/2008 | 9.88 | 6.95 | | | | -0.14 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/15/2007 | 7.08 | 4.15 | 7.08 | 4.15 | <0.01 | 2.67 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 9/18/2007 | 10.8 | 7.87 | | | | -1.06 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 6/4/2007 | 8.05 | 5.12 | 7.14 | 4.21 | 0.91 | 2.48 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/2/2007 | 6.92 | 3.99 | 6.9 | 3.97 | 0.02 | 2.84 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/7/2006 | | | | | | NA | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 8/29/2006 | 8.5 | 5.57 | 8.5 | 5.57 | <0.01 | 1.25 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/24/2006 | 8.9 | 5.97 | | | | 0.84 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 2/8/2006 | | | 6.75 | | 1.02 | 3.84 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 7/1/2005 | | | | | | 3.73 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/19/2005 | 8.4 | 5.47 | | | | 1.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 4/20/2005 | 5.87 | 2.94 | 4.65 | 1.72 | 1.22 | 4.93 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/9/2005 | 7.48 | 4.55 | 6.7 | 3.77 | 0.78 | 2.94 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 1/12/2005 | 7.31 | 4.38 | 6.59 | 3.66 | 0.72 | 3.05 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-142 | | 12/3/2004 | 7.5 | 4.57 | | | | 2.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/24/2004 | 7.5 | 4.57 | | | | 2.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/16/2004 | 7.5 | 4.57 | | | | 2.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/12/2004 | 7.5 | 4.57 | | | | 2.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/5/2004 | 7.5 | 4.57 | | | | 2.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/22/2004 | 7.09 | 4.16 | 6.11 | 3.18 | 0.98 | 3.5 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/8/2004 | 7 | 4.07 | | | | 2.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 9/24/2004 | 5 | 2.07 | | | | 4.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 9/17/2004 | 6 | 3.07 | | | | 3.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 9/10/2004 | 6 | 3.07 | | | | 3.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 9/2/2004 | 7 | 4.07 | | | | 2.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 8/24/2004 | 7 | 4.07 | | | | 2.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 8/11/2004 | 7 | 4.07 | | | | 2.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 8/4/2004 | 7 | 4.07 | | | | 2.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 7/27/2004 | 7 | 4.07 | | | | 2.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 7/21/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 7/14/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 7/9/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 6/28/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 6/10/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/28/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/18/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/12/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/7/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 4/29/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 4/22/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 4/15/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 4/6/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 4/2/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/25/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/17/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/11/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/3/2004 | 7.4 | 4.47 | | | | 2.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 2/17/2004 | 8.2 | 5.27 | | | | 1.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 2/10/2004 | 8.2 | 5.27 | | | | 1.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 2/3/2004 | 7.95 | 5.02 | 7.95 | 5.02 | <0.01 | 1.8 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 1/6/2004 | 8.4 | 5.47 | | | | 1.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 12/30/2003 | 8.4 | 5.47 | | | | 1.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 12/22/2003 | 8.4 | 5.47 | | | | 1.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 12/8/2003 | 8.4 | 5.47 | | | | 1.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 12/2/2003 | 8.4 | 5.47 | | | | 1.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/24/2003 | 8.4 | 5.47 | | | | 1.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/19/2003 | 8.4 | 5.47 | | | | 1.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/11/2003 | 8.4 | 5.47 | | | | 1.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/5/2003 | 7.17 | 4.24 | 6.44 | 3.51 | 0.73 | 3.2 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-142 | | 10/22/2003 | 7.26 | 4.33 | 6.89 | 3.96 | 0.37 | 2.8 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/13/2003 | 7.93 | 5 | 7.77 | 4.84 | 0.16 | 1.95 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/7/2003 | 7.7 | 4.77 | 7.15 | 4.22 | 0.55 | 2.52 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/1/2003 | 7.61 | 4.68 | 7.59 | 4.66 | 0.02 | 2.15 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 9/24/2003 | 7.31 | 4.38 | 7.3 | 4.37 | 0.01 | 2.44 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 9/8/2003 | 8 | 5.07 | 8 | 5.07 | <0.01 | 1.75 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 9/3/2003 | 8 | 5.07 | 8 | 5.07 | <0.01 | 1.75 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 8/27/2003 | 8.9 | 5.97 | | | | 0.84 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 8/20/2003 | 8.5 | 5.57 | 8.5 | 5.57 | <0.01 | 1.25 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 8/12/2003 | 8.52 | 5.59 | 8.38 | 5.45 | 0.14 | 1.34 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 8/6/2003 | 8 | 5.07 | | | | 1.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 7/24/2003 | 8 | 5.07 | | | | 1.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 7/18/2003 | 8 | 5.07 | | | | 1.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 6/30/2003 | 8 | 5.07 | | | | 1.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 6/26/2003 | 8 | 5.07 | | | | 1.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 6/17/2003 | 7.72 | 4.79 | 7.72 | 4.79 | <0.01 | 2.03 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 6/13/2003 | 8 | 5.07 | | | | 1.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 6/2/2003 | 8.4 | 5.47 | | | | 1.34 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/30/2003 | 8 | 5.07 | | | | 1.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/20/2003 | 7.06 | 4.13 | | | | 2.68 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-142 | | 5/8/2003 | 9.5 | 6.57 | | | | 0.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 4/28/2003 | 9.5 | 6.57 | | | | 0.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 4/25/2003 | 9.5 | 6.57 | | | | 0.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 4/9/2003 | 9.5 | 6.57 | | | | 0.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 4/2/2003 | 9.5 | 6.57 | | | | 0.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/26/2003 | 9.5 | 6.57 | | | | 0.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/21/2003 | 9.5 | 6.57 | | | | 0.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/12/2003 | 9.5 | 6.57 | | | | 0.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 2/25/2003 | 9.5 | 6.57 | | | | 0.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 2/21/2003 | 9.5 | 6.57 | | | | 0.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 2/13/2003 | 9.5 | 6.57 | | | | 0.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 2/6/2003 | 9.5 | 6.57 | | | | 0.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 1/21/2003 | 9.5 | 6.57 | | | | 0.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 1/10/2003 | 9.5 | 6.57 | | | | 0.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 12/30/2002 | 9.2 | 6.27 | 9.2 | 6.27 | <0.01 | 0.55 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 12/27/2002 | 9.2 | 6.27 | 9.2 | 6.27 | <0.01 | 0.55 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 12/19/2002 | 9.5 | 6.57 | | | | 0.24 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 12/4/2002 | 8.42 | 5.49 | 6.49 | 3.56 | 1.93 | 2.99 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/26/2002 | 6.25 | 3.32 | 5.99 | 3.06 | 0.26 | 3.72 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/19/2002 | 6.38 | 3.45 | 6.12 | 3.19 | 0.26 | 3.59 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/5/2002 | 9.2 | 6.27 | | | | 0.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/31/2002 | 9.12 | 6.19 | | | | 0.62 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/22/2002 | 9.2 | 6.27 | | | | 0.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/18/2002 | 9.2 | 6.27 | | | | 0.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/10/2002 | 9.2 | 6.27 | | | | 0.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/4/2002 | 9.2 | 6.27 | | | | 0.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 9/23/2002 | 9.2 | 6.27 | | | | 0.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 9/20/2002 | 9.2 | 6.27 | | | | 0.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 9/4/2002 | 9.15 | 6.22 | 9.15 | 6.22 | <0.01 | 0.6 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 8/27/2002 | 9.2 | 6.27 | | | | 0.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 8/12/2002 | 9.2 | 6.27 | | | | 0.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 8/9/2002 | 9.2 | 6.27 | | | | 0.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 7/31/2002 | 9.2 | 6.27 | | | | 0.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 7/22/2002 | 9.2 | 6.27 | | | | 0.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 7/16/2002 | 9.2 | 6.27 | | | | 0.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 7/12/2002 | 9.2 | 6.27 | | | | 0.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-142 | | 7/1/2002 | 9.2 | 6.27 | | | | 0.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 6/27/2002 | 9.6 | 6.67 | 7.6 | 4.67 | 2 | 1.87 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 6/19/2002 | 7.6 | 4.67 | | | | 2.14 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 6/14/2002 | 7.6 | 4.67 | | | | 2.14 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 6/7/2002 | 8.65 | 5.72 | 7.34 | 4.41 | 1.31 | 2.22 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/31/2002 | 8.4 | 5.47 | 7.25 | 4.32 | 1.15 | 2.34 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/21/2002 | 7.6 | 4.67 | | | | 2.14 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/15/2002 | 7.6 | 4.67 | | | | 2.14 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 5/1/2002 | 7.6 | 4.67 | | | | 2.14 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 4/24/2002 | 7.6 | 4.67 | | | | 2.14 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 4/19/2002 | 7.6 | 4.67 | | | | 2.14 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 4/12/2002 | 7.6 | 4.67 | | | | 2.14 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 4/2/2002 | 7.6 | 4.67 | | | | 2.14 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/26/2002 | 7.6 | 4.67 | | | | 2.14 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/19/2002 | 8.58 | 5.65 | 7.53 | 4.6 | 1.05 | 2.07 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/11/2002 | 7.6 | 4.67 | | | | 2.14 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/5/2002 | 7 | 4.07 | | | | 2.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 3/1/2002 | 7 | 4.07 | | | | 2.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 2/19/2002 | 7 | 4.07 | | | | 2.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 2/11/2002 | 7 | 4.07 | | | | 2.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 2/7/2002 | 7 | 4.07 | | | | 2.74 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 1/21/2002 | 7.2 | 4.27 | | | | 2.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 1/15/2002 | 7.2 | 4.27 | | | | 2.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 1/4/2002 | 7.2 | 4.27 | | | | 2.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 12/27/2001 | 7.14 | 4.21 | 7.1 | 4.17 | 0.04 | 2.63 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 12/20/2001 | 7.22 | 4.29 | 7.22 | 4.29 | <0.01 | 2.53 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 12/11/2001 | 7.2 | 4.27 | | | | 2.54 | 9.74 | 6.81 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-142 | | 12/6/2001 | 7.36 | 4.43 | 7.36 | 4.43 | <0.01 | 2.39 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-142 | | 11/8/2001 | 9.87 | 6.94 | 6.89 | 3.96 | 2.98 | 2.45 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/2/2001 | 9.76 | 6.83 | 6.94 | 4.01 | 2.82 | 2.42 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 11/1/2001 | 10.27 | 7.34 | 6.93 | 4 | 3.34 | 2.36 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/26/2001 | 9.47 | 6.54 | 6.83 | 3.9 | 2.64 | 2.55 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/25/2001 | 9.65 | 6.72 | 6.67 | 3.74 | 2.98 | 2.67 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/17/2001 | 9.88 | 6.95 | 6.74 | 3.81 | 3.14 | 2.58 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/11/2001 | 9.74 | 6.81 | 5.7 | 2.77 | 4.04 | 3.5 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 10/2/2001 | 9.72 | 6.79 | 6.7 | 3.77 | 3.02 | 2.63 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 9/19/2001 | 9.71 | 6.78 | 6.8 | 3.87 | 2.91 | 2.55 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 9/7/2001 | 9.71 | 6.78 | 6.72 | 3.79 | 2.99 | 2.62 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-142 | | 9/5/2001 | 9.8 | 6.87 | 6.72 | 3.79 | 3.08 | 2.61 | 9.74 | 6.81 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/11/2017 | 5.64 | 3.02 | 4.96 | 2.34 | 0.68 | 3.92847 | 8.98 | 6.36 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/6/2017 | 6.63 | 4.01 | 5.92 | 3.3 | 0.71 | 2.96443 | 8.98 | 6.36 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-143 | | 12/1/2016 | 5.5 | 2.88 | 4.63 | 2.01 | 0.87 | 4.2329 | 8.98 | 6.36 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 8/12/2016 | 6.07 | 3.45 | 5.21 | 2.59 | 0.86 | 3.65424 | 8.98 | 6.36 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/11/2016 | 5.54 | 2.92 | 4.72 | 2.1 | 0.82 | 4.15 | 8.98 | 6.36 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 2/8/2016 | 5.09 | 2.47 | 4.41 | 1.79 | 0.68 | 4.48 | 8.98 | 6.36 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/19/2015 | 6.23 | 3.61 | 5.46 | 2.84 | 0.77 | 3.42 | 8.98 | 6.36 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 8/3/2015 | 5.42 | 2.8 | 4.81 | 2.19 | 0.61 | 4.09 | 8.98 | 6.36 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/15/2015 | 6.31 | 3.69 | 5.79 | 3.17 | 0.52 | 3.12 | 8.98 | 6.36 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 2/13/2015 | 5.98 | 3.36 | 5.43 | 2.81 | 0.55 | 3.48 | 8.98 | 6.36 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 12/4/2014 | 5.5 | 2.88 | 4.88 | 2.26 | 0.62 | 4.02 | 8.98 | 6.36 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 8/11/2014 | 5.34 | 2.72 | 5.34 | 2.72 | <0.01 | 3.65 | 8.98 | 6.36 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/15/2014 | 5.33 | 2.71 | 5.23 | 2.61 | 0.1 | 3.74 | 8.98 | 6.36 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 1/23/2014 | 5.62 | 3 | 5.61 | 2.99 | 0.01 | 3.37 | 8.98 | 6.36 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/16/2013 | 5.41 | 2.79 | 5.41 | 2.79 | <0.01 | 3.58 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 7/12/2013 | 5.09 | 2.47 | 4.36 | 1.74 | 0.73 | 4.52 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/28/2013 | 5.41 | 2.79 | 5.41 | 2.79 | <0.01 | 3.58 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 2/15/2013 | 4.95 | 2.33 | | | | 4.03 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/10/2012 | 6.01 | 3.39 | 6.01 | 3.39 | <0.01 | 2.98 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 7/30/2012 | 7.24 | 4.62 | 5.6 | 2.98 | 1.64 | 3.16 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/9/2012 | 6.11 | 3.49 | 5.7 | 3.08 | 0.41 | 3.22 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-143 | | 1/30/2012 | 5.34 | 2.72 | 5.33 | 2.71 | 0.01 | 3.65 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/21/2011 | 5.63 | 3.01 | 5.48 | 2.86 | 0.15 | 3.48 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 8/1/2011 | 6.84 | 4.22 | 6.15 | 3.53 | 0.69 | 2.74 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/18/2011 | 6.01 | 3.39 | 5.9 | 3.28 | 0.11 | 3.07 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 2/23/2011 | 5.69 | 3.07 | 5.69 | 3.07 | <0.01 | 3.3 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/3/2010 | 6.03 | 3.41 | 5.48 | 2.86 | 0.55 | 3.43 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/25/2010 | 5.48 | 2.86 | 5.11 | 2.49 | 0.37 | 3.82 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/19/2010 | 5.2 | 2.58 | 4.94 | 2.32 | 0.26 | 4.01 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/13/2010 | 5.18 | 2.56 | 4.17 | 1.55 | 1.01 | 4.67 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 9/28/2010 | 6.1 | 3.48 | 5.88 | 3.26 | 0.22 | 3.07 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 7/29/2010 | | | | | | NA | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 6/10/2010 | | | | | | NA | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 6/22/2009 | 5.65 | 3.03 | 4.83 | 2.21 | 0.82 | 4.04 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-143 | | 3/23/2009 | 7.55 | 4.93 | 6.09 | 3.47 | 1.46 | 2.69 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/25/2008 | 7.35 | 4.73 | 6.12 | 3.5 | 1.23 | 2.69 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 6/6/2008 | 7.02 | 4.4 | 5.56 | 2.94 | 1.46 | 3.22 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/15/2007 | 6.88 | 4.26 | 5.54 | 2.92 | 1.34 | 3.26 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 9/18/2007 | 7.85 | 5.23 | 6.82 | 4.2 | 1.03 | 2.02 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 6/4/2007 | 6.18 | 3.56 | 5.8 | 3.18 | 0.38 | 3.13 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/2/2007 | 6.04 | 3.42 | 5.39 | 2.77 | 0.65 | 3.5 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/7/2006 | | | | | | NA | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 8/29/2006 | 8.7 | 6.08 | 8.7 | 6.08 | <0.01 | 0.29 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/24/2006 | 9.3 | 6.68 | | | | -0.32 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 2/8/2006 | | | 5.09 | | 0.27 | 4.91 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 7/1/2005 | | | | | | 3.48 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/19/2005 | 6.3 | 3.68 | | | | 2.68 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 4/20/2005 | 8.72 | 6.1 | 6.31 | 3.69 | 2.41 | 2.35 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/9/2005 | 5.84 | 3.22 | 4.93 | 2.31 | 0.91 | 3.93 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-143 | | 1/12/2005 | 5.98 | 3.36 | 4.53 | 1.91 | 1.45 | 4.25 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 12/3/2004 | 7 | 4.38 | | | | 1.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/24/2004 | 7 | 4.38 | | | | 1.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/16/2004 | 7 | 4.38 | | | | 1.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/12/2004 | 7 | 4.38 | | | | 1.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/22/2004 | 4.71 | 2.09 | 4.71 | 2.09 | <0.01 | 4.28 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/8/2004 | 5.5 | 2.88 | | | | 3.48 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 9/24/2004 | 5 | 2.38 | | | | 3.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 9/17/2004 | 5 | 2.38 | | | | 3.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 9/10/2004 | 5 | 2.38 | | | | 3.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 9/2/2004 | 5.5 | 2.88 | | | | 3.48 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 8/24/2004 | 5.5 | 2.88 | | | | 3.48 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 8/11/2004 | 5.5 | 2.88 | | | | 3.48 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 8/4/2004 | 5.5 | 2.88 | | | | 3.48 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 7/27/2004 | 5.5 | 2.88 | | | | 3.48 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 7/21/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 7/14/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 7/9/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 6/28/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 6/10/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/28/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/18/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/12/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/7/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 4/29/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 4/22/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 4/15/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 4/6/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 4/2/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/25/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/17/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/11/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/3/2004 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 2/17/2004 | 6.3 | 3.68 | | | | 2.68 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 2/10/2004 | 6.12 | 3.5 | 5.66 | 3.04 | 0.46 | 3.26 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 2/3/2004 | 6.68 | 4.06 | 6.65 | 4.03 | 0.03 | 2.33 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 1/6/2004 | 6 | 3.38 | | | | 2.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 12/30/2003 | 6 | 3.38 | | | | 2.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 12/22/2003 | 6 | 3.38 | | | | 2.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 12/8/2003 | 7 | 4.38 | | | | 1.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-143 | | 12/2/2003 | 6.61 | 3.99 | 5.85 | 3.23 | 0.76 | 3.03 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/24/2003 | 7.11 | 4.49 | 6.27 | 3.65 | 0.84 | 2.6 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/19/2003 | 6.99 | 4.37 | 6.46 | 3.84 | 0.53 | 2.45 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/11/2003 | 6.92 | 4.3 | 6.3 | 3.68 | 0.62 | 2.6 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/5/2003 | 5.16 | 2.54 | 5 | 2.38 | 0.16 | 3.96 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/22/2003 | 5.79 | 3.17 | 5.78 | 3.16 | 0.01 | 3.2 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/13/2003 | 5.97 | 3.35 | 5.78 | 3.16 | 0.19 | 3.17 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/7/2003 | 6.19 | 3.57 | 6.17 | 3.55 | 0.02 | 2.81 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/1/2003 | 5.7 | 3.08 | 5.66 | 3.04 | 0.04 | 3.31 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 9/24/2003 | 7 | 4.38 | | | | 1.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 9/3/2003 | 7.1 | 4.48 | 7.1 | 4.48 | <0.01 | 1.89 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 8/27/2003 | 7 | 4.38 | | | | 1.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 8/20/2003 | 7.1 | 4.48 | 7.1 | 4.48 | <0.01 | 1.89 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-143 | | 8/12/2003 | 7.6 | 4.98 | 7.6 | 4.98 | <0.01 | 1.39 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 8/6/2003 | 8 | 5.38 | | | | 0.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 7/24/2003 | 7 | 4.38 | | | | 1.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 7/18/2003 | 7 | 4.38 | | | | 1.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 6/30/2003 | 7 | 4.38 | | | | 1.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 6/26/2003 | 6.7 | 4.08 | 6.5 | 3.88 | 0.2 | 2.45 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 6/17/2003 | 6.8 | 4.18 | 6.8 | 4.18 | <0.01 | 2.19 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 6/13/2003 | 7 | 4.38 | | | | 1.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 6/2/2003 | 6.6 | 3.98 | | | | 2.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/30/2003 | 7 | 4.38 | | | | 1.98 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/20/2003 | 5.94 | 3.32 | 5.94 | 3.32 | <0.01 | 3.05 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/8/2003 | 7.55 | 4.93 | | | | 1.43 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 4/28/2003 | 7.55 | 4.93 | | | | 1.43 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 4/25/2003 | 7.55 | 4.93 | | | | 1.43 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 4/9/2003 | 7.55 | 4.93 | | | | 1.43 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 4/2/2003 | 7.55 | 4.93 | | | | 1.43 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/26/2003 | 7.55 | 4.93 | | | | 1.43 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/21/2003 | 7.55 | 4.93 | | | | 1.43 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/12/2003 | 7.55 | 4.93 | | | | 1.43 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 2/25/2003 | 7.55 | 4.93 | | | | 1.43 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 2/21/2003 | 7.55 | 4.93 | | | | 1.43 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 2/13/2003 | 7.55 | 4.93 | | | | 1.43 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 2/6/2003 | 7.55 | 4.93 | | | | 1.43 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 1/21/2003 | 7.55 | 4.93 | | | | 1.43 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 1/10/2003 | 7.55 | 4.93 | | | | 1.43 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 12/30/2002 | 7.6 | 4.98 | 7.6 | 4.98 | <0.01 | 1.39 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 12/27/2002 | 7.6 | 4.98 | 7.6 | 4.98 | <0.01 | 1.39 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 12/19/2002 | 7.5 | 4.88 | | | | 1.48 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 12/4/2002 | 5.41 | 2.79 | 5.34 | 2.72 | 0.07 | 3.63 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-143 | | 11/26/2002 | 4.43 | 1.81 | 4.41 | 1.79 | 0.02 | 4.57 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/19/2002 | 4.53 | 1.91 | 4.51 | 1.89 | 0.02 | 4.47 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/5/2002 | 7.7 | 5.08 | | | | 1.28 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/31/2002 | 7.35 | 4.73 | | | | 1.63 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/22/2002 | 7.7 | 5.08 | | | | 1.28 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/18/2002 | 7.7 | 5.08 | | | | 1.28 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/10/2002 | 7.7 | 5.08 | | | | 1.28 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/4/2002 | 7.6 | 4.98 | | | | 1.38 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 9/23/2002 | 7.7 | 5.08 | | | | 1.28 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 9/20/2002 | 7.7 | 5.08 | | | | 1.28 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 9/4/2002 | 7.55 | 4.93 | | | | 1.43 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 8/27/2002 | 7.65 | 5.03 | | | | 1.33 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 8/12/2002 | 8.4 | 5.78 | | | | 0.58 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 8/9/2002 | 7.8 | 5.18 | | | | 1.18 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 7/31/2002 | 7.8 | 5.18 | | | | 1.18 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 7/22/2002 | 7.8 | 5.18 | | | | 1.18 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 7/16/2002 | 7.8 | 5.18 | | | | 1.18 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 7/12/2002 | 7.4 | 4.78 | 6.83 | 4.21 | 0.57 | 2.07 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 7/1/2002 | 7.8 | 5.18 | | | | 1.18 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 6/27/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 6/19/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 6/14/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 6/7/2002 | 5.74 | 3.12 | 5.73 | 3.11 | 0.01 | 3.25 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/31/2002 | 6.11 | 3.49 | 6.11 | 3.49 | <0.01 | 2.88 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/21/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/15/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 5/1/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 4/24/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 4/19/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 4/12/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 4/2/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/26/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/19/2002 | 7.2 | 4.58 | 6.72 | 4.1 | 0.48 | 2.2 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/11/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/5/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 3/1/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-143 | | 2/19/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 2/11/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 2/7/2002 | 7.1 | 4.48 | | | | 1.88 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 1/21/2002 | 7.2 | 4.58 | | | | 1.78 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 1/15/2002 | 7.2 | 4.58 | | | | 1.78 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 1/4/2002 | 7.2 | 4.58 | | | | 1.78 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 12/27/2001 | 6 | 3.38 | 5.98 | 3.36 | 0.02 | 3 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 12/20/2001 | 7.68 | 5.06 | 7.68 | 5.06 | <0.01 | 1.31 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 12/11/2001 | 7.2 | 4.58 | | | | 1.78 | 8.98 | 6.36 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-143 | | 12/6/2001 | 7.44 | 4.82 | 7.44 | 4.82 | <0.01 | 1.55 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/8/2001 | 8.65 | 6.03 | 5.91 | 3.29 | 2.74 | 2.7 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/2/2001 | 7.72 | 5.1 | 6.06 | 3.44 | 1.66 | 2.7 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 11/1/2001 | 12.42 | 9.8 | 6.94 | 4.32 | 5.48 | 1.3 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/26/2001 | 7.78 | 5.16 | 5.91 | 3.29 | 1.87 | 2.82 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/25/2001 | 8.65 | 6.03 | 5.61 | 2.99 | 3.04 | 2.96 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/17/2001 | 8.55 | 5.93 | 5.73 | 3.11 | 2.82 | 2.87 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 10/11/2001 | 9.1 | 6.48 | 5.7 | 3.08 | 3.4 | 2.82 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-143 | | 10/2/2001 | 8.79 | 6.17 | 5.62 | 3 | 3.17 | 2.93 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 9/19/2001 | 8.68 | 6.06 | 5.73 | 3.11 | 2.95 | 2.85 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 9/7/2001 | 7.8 | 5.18 | 5.72 | 3.1 | 2.08 | 2.98 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-143 | | 9/5/2001 | 8.21 | 5.59 | 5.67 | 3.05 | 2.54 | 2.97 | 8.98 | 6.36 | 12 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | Stick Up | Yes | RW - Inactive | |
| B-144 | | 5/11/2017 | 4.86 | 2 | 4.85 | 1.99 | 0.01 | 4.16865 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-144 | | 12/1/2016 | 5.06 | 2.2 | | | | 3.96 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 5/11/2016 | 4.7 | 1.84 | 4.69 | 1.83 | 0.01 | 4.33 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-144 | | 5/11/2016 | 4.73 | 1.87 | | | | 4.29 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 11/19/2015 | 5.2 | 2.34 | 5.2 | 2.34 | <0.01 | 3.83 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-144 | | 5/15/2015 | 5.55 | 2.69 | 5.54 | 2.68 | 0.01 | 3.48 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-144 | | 2/13/2015 | 5.19 | 2.33 | 5.05 | 2.19 | 0.14 | 3.95 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-144 | | 12/4/2014 | 4.86 | 2 | 4.85 | 1.99 | 0.01 | 4.17 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-144 | | 5/15/2014 | 4.81 | 1.95 | | | | 4.21 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 10/16/2013 | 4.85 | 1.99 | | | | 4.17 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 7/12/2013 | 4.84 | 1.98 | 4.75 | 1.89 | 0.09 | 4.26 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 3/28/2013 | 4.63 | 1.77 | 4.61 | 1.75 | 0.02 | 4.41 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 5/9/2012 | 4.85 | 1.99 | | | | 4.17 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 5/18/2011 | 4.89 | 2.03 | 4.88 | 2.02 | 0.01 | 4.14 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 10/25/2010 | 4.47 | 1.61 | | | | 4.55 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 10/19/2010 | 4.33 | 1.47 | | | | 4.69 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 10/13/2010 | 4.37 | 1.51 | | | | 4.65 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 9/28/2010 | 5.31 | 2.45 | 5.27 | 2.41 | 0.04 | 3.74 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 7/29/2010 | | | 4.53 | | 0.14 | NA | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 6/22/2009 | 4.45 | 1.59 | 4.21 | 1.35 | 0.24 | 4.78 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 3/23/2009 | 5.81 | 2.95 | 5.42 | 2.56 | 0.39 | 3.55 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 11/25/2008 | 5.53 | 2.67 | 5.35 | 2.49 | 0.18 | 3.65 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 8/18/2008 | 5.32 | 2.46 | 5.04 | 2.18 | 0.28 | 3.94 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 6/6/2008 | 4.76 | 1.9 | 4.58 | 1.72 | 0.18 | 4.42 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-144 | | 3/31/2008 | 4.86 | 2 | 4.75 | 1.89 | 0.11 | 4.26 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 11/15/2007 | 4.98 | 2.12 | 4.9 | 2.04 | 0.08 | 4.11 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 9/18/2007 | 5.94 | 3.08 | 5.75 | 2.89 | 0.19 | 3.24 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 6/4/2007 | 5.15 | 2.29 | 5.09 | 2.23 | 0.06 | 3.92 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 3/2/2007 | 4.85 | 1.99 | 4.73 | 1.87 | 0.12 | 4.27 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 11/7/2006 | | | 4.52 | | 0.29 | NA | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 8/29/2006 | 4.93 | 2.07 | 4.8 | 1.94 | 0.13 | 4.2 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 5/24/2006 | 5.45 | 2.59 | 5.33 | 2.47 | 0.12 | 3.67 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 2/8/2006 | | | 4.35 | | 0.57 | 5.52 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 7/1/2005 | | | 5.17 | | 0.47 | 4.72 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 5/19/2005 | 5.59 | 2.73 | 5.06 | 2.2 | 0.53 | 3.89 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 3/9/2005 | 5 | 2.14 | 4.22 | 1.36 | 0.78 | 4.7 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 10/8/2004 | 4.94 | 2.08 | 4 | 1.14 | 0.94 | 4.89 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 9/17/2004 | 5.54 | 2.68 | 5.03 | 2.17 | 0.51 | 3.92 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 6/28/2004 | 5.87 | 3.01 | 5.41 | 2.55 | 0.46 | 3.55 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 3/11/2004 | 5.55 | 2.69 | 4.96 | 2.1 | 0.59 | 3.98 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 11/24/2003 | 5.84 | 2.98 | 5.39 | 2.53 | 0.45 | 3.57 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 8/20/2003 | 5.99 | 3.13 | 5.51 | 2.65 | 0.48 | 3.45 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 5/20/2003 | 5.65 | 2.79 | 5.21 | 2.35 | 0.44 | 3.75 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 3/21/2003 | 4.45 | 1.59 | 3.92 | 1.06 | 0.53 | 5.03 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 10/31/2002 | 5.71 | 2.85 | 5.46 | 2.6 | 0.25 | 3.53 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 9/23/2002 | 6.31 | 3.45 | 5.75 | 2.89 | 0.56 | 3.19 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 8/12/2002 | 6.05 | 3.19 | 6.04 | 3.18 | 0.01 | 2.98 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 6/14/2002 | 5.38 | 2.52 | 4.87 | 2.01 | 0.51 | 4.08 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 2/19/2002 | 6.21 | 3.35 | 5.81 | 2.95 | 0.4 | 3.16 | 9.02 | 6.16 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-144 | | 12/11/2001 | 6.03 | 3.17 | | | | 2.99 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 11/8/2001 | 5.79 | 2.93 | | | | 3.23 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 11/2/2001 | 5.82 | 2.96 | | | | 3.2 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 11/1/2001 | 5.9 | 3.04 | | | | 3.12 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 10/26/2001 | 5.64 | 2.78 | | | | 3.38 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 10/25/2001 | 5.43 | 2.57 | | | | 3.59 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 10/17/2001 | 5.5 | 2.64 | | | | 3.52 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 10/11/2001 | 5.6 | 2.74 | | | | 3.42 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 10/2/2001 | 5.44 | 2.58 | | | | 3.58 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 9/19/2001 | 5.55 | 2.69 | | | | 3.47 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 9/7/2001 | 5.38 | 2.52 | | | | 3.64 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-144 | | 9/5/2001 | 5.39 | 2.53 | | | | 3.63 | 9.02 | 6.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 5/11/2017 | 4.63 | 1.98 | | | | 5.18 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-145 | | 12/1/2016 | 4.65 | 2 | | | | 5.16 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 8/19/2016 | | | | | | 4.67 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 5/11/2016 | 4.4 | 1.75 | | | | 5.41 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 5/9/2016 | 4.34 | 1.69 | | | | 5.47 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 11/19/2015 | 5.28 | 2.63 | | | | 4.53 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 5/15/2015 | 5.66 | 3.01 | | | | 4.15 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 2/13/2015 | 4.56 | 1.91 | | | | 5.25 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 12/4/2014 | 4.35 | 1.7 | | | | 5.46 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 5/15/2014 | 4.47 | 1.82 | | | | 5.34 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 10/16/2013 | 4.33 | 1.68 | | | | 5.48 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 7/12/2013 | 4.41 | 1.76 | | | | 5.4 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 3/28/2013 | 4.12 | 1.47 | | | | 5.69 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 5/9/2012 | 4.58 | 1.93 | | | | 5.23 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 5/18/2011 | 4.32 | 1.67 | | | | 5.49 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 9/28/2010 | 5.32 | 2.67 | | | | 4.49 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 7/29/2010 | | | | | | NA | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 6/22/2009 | 3.9 | 1.25 | | | | 5.91 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 3/23/2009 | 5.7 | 3.05 | | | | 4.11 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 11/25/2008 | 5.04 | 2.39 | | | | 4.77 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 8/18/2008 | 4.47 | 1.82 | | | | 5.34 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 6/6/2008 | 3.61 | 0.96 | | | | 6.2 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 3/31/2008 | 4.11 | 1.46 | | | | 5.7 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 11/15/2007 | 4.68 | 2.03 | | | | 5.13 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 9/18/2007 | 5.65 | 3 | | | | 4.16 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 6/4/2007 | 4.78 | 2.13 | | | | 5.03 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 3/2/2007 | 4.46 | 1.81 | | | | 5.35 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 11/7/2006 | | | | | | NA | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 8/29/2006 | 4.51 | 1.86 | | | | 5.3 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 5/24/2006 | 4.78 | 2.13 | | | | 5.03 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 2/8/2006 | | | | | | 6.56 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 7/1/2005 | | | | | | 5.5 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 3/9/2005 | 3.96 | 1.31 | | | | 5.85 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 10/8/2004 | 3.98 | 1.33 | | | | 5.83 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 9/17/2004 | 5.18 | 2.53 | | | | 4.63 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 6/28/2004 | 4.95 | 2.3 | | | | 4.86 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 3/11/2004 | 4.37 | 1.72 | | | | 5.44 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 11/24/2003 | 4.06 | 1.41 | | | | 5.75 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 8/20/2003 | 5.03 | 2.38 | | | | 4.78 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 5/20/2003 | 5.35 | 2.7 | | | | 4.46 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 3/21/2003 | 3.64 | 0.99 | | | | 6.17 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 10/31/2002 | 4.05 | 1.4 | | | | 5.76 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 9/23/2002 | 5.71 | 3.06 | | | | 4.1 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 8/12/2002 | 5.85 | 3.2 | | | | 3.96 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 6/14/2002 | 4.62 | 1.97 | | | | 5.19 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 2/19/2002 | 5.87 | 3.22 | | | | 3.94 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 12/11/2001 | 6.2 | 3.55 | | | | 3.61 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 11/8/2001 | 6.21 | 3.56 | | | | 3.6 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 11/2/2001 | 6.15 | 3.5 | | | | 3.66 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 11/1/2001 | 6.19 | 3.54 | | | | 3.62 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 10/26/2001 | 5.92 | 3.27 | | | | 3.89 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 10/25/2001 | 5.81 | 3.16 | | | | 4 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 10/17/2001 | 5.73 | 3.08 | | | | 4.08 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 10/11/2001 | 5.79 | 3.14 | | | | 4.02 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 10/2/2001 | 5.56 | 2.91 | | | | 4.25 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 9/19/2001 | 5.81 | 3.16 | | | | 4 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 9/7/2001 | 5.68 | 3.03 | | | | 4.13 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-145 | | 9/5/2001 | 5.65 | 3 | | | | 4.16 | 9.81 | 7.16 | 12 | | | - | Stick Up | | MW | |
| B-146 | | 5/11/2017 | | | | | | NA | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 11/25/2008 | | | | | | NA | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 8/18/2008 | | | | | | NA | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-146 | | 6/6/2008 | | | | | | NA | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 3/31/2008 | | | | | | NA | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 11/15/2007 | | | | | | NA | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 9/18/2007 | | | | | | NA | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 6/4/2007 | | | | | | NA | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 3/2/2007 | 2.92 | 2.95 | | | | 4.85 | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 11/7/2006 | | | | | | NA | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 8/29/2006 | 2.53 | 2.56 | | | | 5.24 | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 5/24/2006 | | | | | | NA | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 2/8/2006 | | | | | | 9.3 | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 7/1/2005 | | | 3.2 | | 0.27 | 8.85 | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 5/19/2005 | 3.13 | 3.16 | 3.12 | 3.15 | 0.01 | 4.65 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 3/9/2005 | | | | | | NA | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 10/8/2004 | 2.44 | 2.47 | 2.4 | 2.43 | 0.04 | 5.36 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 9/17/2004 | | | | | | NA | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 6/28/2004 | | | | | | NA | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 3/11/2004 | | | | | | NA | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 11/24/2003 | 2.99 | 3.02 | 2.59 | 2.62 | 0.4 | 5.13 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 8/20/2003 | 4.19 | 4.22 | 3.25 | 3.28 | 0.94 | 4.39 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 5/20/2003 | 5.1 | 5.13 | 3.35 | 3.38 | 1.75 | 4.18 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 4/25/2003 | | | | | | NA | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 3/21/2003 | 6.55 | 6.58 | 5.33 | 5.36 | 1.22 | 2.28 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 10/31/2002 | 6.32 | 6.35 | 5.64 | 5.67 | 0.68 | 2.04 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 9/23/2002 | 8.02 | 8.05 | 6.93 | 6.96 | 1.09 | 0.69 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 8/12/2002 | 8.42 | 8.45 | 6.85 | 6.88 | 1.57 | 0.71 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 6/14/2002 | 6.91 | 6.94 | 5.95 | 5.98 | 0.96 | 1.69 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 2/19/2002 | 8.03 | 8.06 | 7.09 | 7.12 | 0.94 | 0.55 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 12/11/2001 | 7.8 | 7.83 | 7.29 | 7.32 | 0.51 | 0.41 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 11/8/2001 | 7.33 | 7.36 | | | | 0.44 | 7.77 | 7.8 | 12 | | | - | Flush | | MW | Unable to l |
| B-146 | | 11/2/2001 | 7.33 | 7.36 | 7.33 | 7.36 | <0.01 | 0.45 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 11/1/2001 | 7.39 | 7.42 | 7.38 | 7.41 | 0.01 | 0.39 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 10/26/2001 | 7.24 | 7.27 | 7.23 | 7.26 | 0.01 | 0.54 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 10/25/2001 | 7.12 | 7.15 | 7.09 | 7.12 | 0.03 | 0.68 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 10/17/2001 | 7.05 | 7.08 | 7.01 | 7.04 | 0.04 | 0.75 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 10/11/2001 | 6.88 | 6.91 | 6.84 | 6.87 | 0.04 | 0.92 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 10/2/2001 | 6.91 | 6.94 | 6.84 | 6.87 | 0.07 | 0.92 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 9/19/2001 | 7.11 | 7.14 | 7.04 | 7.07 | 0.07 | 0.72 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-146 | | 9/7/2001 | 6.91 | 6.94 | 6.9 | 6.93 | 0.01 | 0.87 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-146 | | 9/5/2001 | 6.89 | 6.92 | 6.88 | 6.91 | 0.01 | 0.89 | 7.77 | 7.8 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Flush | | MW | Unable to l |
| B-147 | | 5/11/2017 | 8.21 | 5.91 | 5.94 | 3.64 | 2.27 | 2.65446 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-147 | | 3/6/2017 | 6.7 | 4.4 | 6.51 | 4.21 | 0.19 | 2.36443 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-147 | | 12/1/2016 | 5.57 | 3.27 | 5.55 | 3.25 | 0.02 | 3.34731 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-147 | | 8/12/2016 | 6.08 | 3.78 | 6 | 3.7 | 0.08 | 2.88923 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-147 | | 5/11/2016 | 5.78 | 3.48 | 5.67 | 3.37 | 0.11 | 3.22 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-147 | | 2/8/2016 | 5.4 | 3.1 | 5.34 | 3.04 | 0.06 | 3.55 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/19/2015 | 6.21 | 3.91 | 6.07 | 3.77 | 0.14 | 2.81 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-147 | | 8/3/2015 | 5.91 | 3.61 | 5.78 | 3.48 | 0.13 | 3.1 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-147 | | 5/15/2015 | 6.38 | 4.08 | 6.3 | 4 | 0.08 | 2.59 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-147 | | 2/13/2015 | 6.26 | 3.96 | 6.2 | 3.9 | 0.06 | 2.69 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-147 | | 12/4/2014 | 6.01 | 3.71 | 5.98 | 3.68 | 0.03 | 2.92 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-147 | | 8/18/2014 | 5.99 | 3.69 | 5.91 | 3.61 | 0.08 | 2.98 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-147 | | 5/15/2014 | 6 | 3.7 | 5.99 | 3.69 | 0.01 | 2.91 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-147 | | 1/23/2014 | 6.27 | 3.97 | 6.26 | 3.96 | 0.01 | 2.64 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/16/2013 | 6.05 | 3.75 | 6.04 | 3.74 | 0.01 | 2.86 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 7/12/2013 | 5.19 | 2.89 | 5.18 | 2.88 | 0.01 | 3.72 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 3/28/2013 | 5.74 | 3.44 | 5.73 | 3.43 | 0.01 | 3.17 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 2/15/2013 | 5.59 | 3.29 | 5.59 | 3.29 | <0.01 | 3.32 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/10/2012 | 6.18 | 3.88 | 6.18 | 3.88 | <0.01 | 2.73 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 7/30/2012 | 6.01 | 3.71 | 6 | 3.7 | 0.01 | 2.9 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 5/9/2012 | 5.88 | 3.58 | 5.88 | 3.58 | <0.01 | 3.03 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 1/30/2012 | 6.03 | 3.73 | 6.03 | 3.73 | <0.01 | 2.88 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/21/2011 | 6.27 | 3.97 | 6.27 | 3.97 | <0.01 | 2.64 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 8/1/2011 | 6.16 | 3.86 | 6.03 | 3.73 | 0.13 | 2.85 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 5/18/2011 | 6.15 | 3.85 | 6.13 | 3.83 | 0.02 | 2.77 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 2/23/2011 | 6.33 | 4.03 | 6.33 | 4.03 | <0.01 | 2.58 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/3/2010 | 6.09 | 3.79 | 6.09 | 3.79 | <0.01 | 2.82 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/25/2010 | 5.82 | 3.52 | 5.82 | 3.52 | <0.01 | 3.09 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/19/2010 | 5.71 | 3.41 | 5.71 | 3.41 | <0.01 | 3.2 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-147 | | 10/13/2010 | 5.7 | 3.4 | 5.62 | 3.32 | 0.08 | 3.27 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 9/28/2010 | 6.57 | 4.27 | 6.41 | 4.11 | 0.16 | 2.47 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 7/29/2010 | | | 5.96 | | 0.24 | NA | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 6/10/2010 | | | 6.47 | | 0.11 | NA | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 6/22/2009 | 5.55 | 3.25 | 5.41 | 3.11 | 0.14 | 3.47 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 3/23/2009 | 6.65 | 4.35 | 6.55 | 4.25 | 0.1 | 2.34 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/25/2008 | 8.15 | 5.85 | | | | 0.75 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 6/6/2008 | 7.83 | 5.53 | 7.79 | 5.49 | 0.04 | 1.1 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/15/2007 | 6.12 | 3.82 | 6.05 | 3.75 | 0.07 | 2.84 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 9/18/2007 | 8.1 | 5.8 | | | | 0.8 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 6/4/2007 | 6.25 | 3.95 | 6.1 | 3.8 | 0.15 | 2.78 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 3/2/2007 | 6.63 | 4.33 | 5.67 | 3.37 | 0.96 | 3.1 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/7/2006 | | | 5.86 | | 0.82 | NA | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 8/29/2006 | 6.44 | 4.14 | 5.2 | 2.9 | 1.24 | 3.53 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 5/24/2006 | 6.85 | 4.55 | 6.22 | 3.92 | 0.63 | 2.6 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 2/8/2006 | | | 5.63 | | 0.69 | 4.14 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 7/1/2005 | | | 6.21 | | 0.34 | 3.6 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 5/19/2005 | 6.31 | 4.01 | 6.06 | 3.76 | 0.25 | 2.81 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 4/20/2005 | 5.66 | 3.36 | 5.39 | 3.09 | 0.27 | 3.47 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 3/9/2005 | 5.75 | 3.45 | 5.62 | 3.32 | 0.13 | 3.26 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 1/12/2005 | 5.34 | 3.04 | 5.3 | 3 | 0.04 | 3.59 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 12/3/2004 | 6.5 | 4.2 | | | | 2.4 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/24/2004 | 6 | 3.7 | | | | 2.9 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/16/2004 | 6 | 3.7 | | | | 2.9 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/12/2004 | 6 | 3.7 | | | | 2.9 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/5/2004 | 6 | 3.7 | | | | 2.9 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/22/2004 | 5.34 | 3.04 | 5.3 | 3 | 0.04 | 3.59 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/8/2004 | 6.15 | 3.85 | | | | 2.75 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 9/24/2004 | 6 | 3.7 | | | | 2.9 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 9/17/2004 | 5.5 | 3.2 | | | | 3.4 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 9/10/2004 | 5.5 | 3.2 | | | | 3.4 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 9/2/2004 | 6.15 | 3.85 | | | | 2.75 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 8/24/2004 | 6.15 | 3.85 | | | | 2.75 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 8/11/2004 | 6.15 | 3.85 | | | | 2.75 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 8/4/2004 | 6.15 | 3.85 | | | | 2.75 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 7/27/2004 | 6.15 | 3.85 | | | | 2.75 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 7/21/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 7/14/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 7/9/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 6/28/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 6/10/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 5/28/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 5/18/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 5/12/2004 | 9.5 | 7.2 | | | | -0.6 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 5/7/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-147 | | 4/29/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 4/22/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 4/15/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 4/6/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 4/2/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 3/25/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 3/17/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 3/11/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 3/3/2004 | 10.4 | 8.1 | | | | -1.5 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 2/17/2004 | 6.93 | 4.63 | 5.91 | 3.61 | 1.02 | 2.85 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 2/10/2004 | 6.43 | 4.13 | 5.5 | 3.2 | 0.93 | 3.27 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 2/3/2004 | 6.94 | 4.64 | 6.58 | 4.28 | 0.36 | 2.27 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 1/6/2004 | 8.2 | 5.9 | | | | 0.7 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 12/30/2003 | 8.2 | 5.9 | | | | 0.7 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 12/22/2003 | 8.2 | 5.9 | | | | 0.7 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 12/8/2003 | 8.2 | 5.9 | | | | 0.7 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 12/2/2003 | 8.2 | 5.9 | | | | 0.7 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/24/2003 | 8.2 | 5.9 | | | | 0.7 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/19/2003 | 8.1 | 5.8 | | | | 0.8 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/11/2003 | 8.2 | 5.9 | | | | 0.7 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/5/2003 | 6.45 | 4.15 | 5.27 | 2.97 | 1.18 | 3.47 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/22/2003 | 6.67 | 4.37 | 5.7 | 3.4 | 0.97 | 3.07 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/13/2003 | 5.95 | 3.65 | 5.83 | 3.53 | 0.12 | 3.05 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/7/2003 | 6.77 | 4.47 | 6.06 | 3.76 | 0.71 | 2.74 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/1/2003 | 6.56 | 4.26 | 5.65 | 3.35 | 0.91 | 3.13 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 9/24/2003 | 6.14 | 3.84 | 5.36 | 3.06 | 0.78 | 3.44 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 9/3/2003 | 6.55 | 4.25 | 6.52 | 4.22 | 0.03 | 2.38 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 8/27/2003 | 8 | 5.7 | | | | 0.9 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 8/20/2003 | 7.8 | 5.5 | 7.8 | 5.5 | <0.01 | 1.11 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 8/12/2003 | 8 | 5.7 | 8 | 5.7 | <0.01 | 0.91 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 8/6/2003 | 8 | 5.7 | | | | 0.9 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 7/24/2003 | 8 | 5.7 | | | | 0.9 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 7/18/2003 | 8 | 5.7 | | | | 0.9 | 8.9 | 6.6 | 12 | | | - | Stick Up | Yes | RW - Inactive | |
| B-147 | | 6/17/2003 | 7.9 | 5.6 | 7.9 | 5.6 | <0.01 | 1.01 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 6/2/2003 | 7.85 | 5.55 | 7.85 | 5.55 | <0.01 | 1.06 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 5/20/2003 | 6.95 | 4.65 | 5.9 | 3.6 | 1.05 | 2.86 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 4/28/2003 | 7.19 | 4.89 | 5.77 | 3.47 | 1.42 | 2.94 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 4/25/2003 | 7.19 | 4.89 | 5.76 | 3.46 | 1.43 | 2.95 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 3/21/2003 | 7.27 | 4.97 | 5.26 | 2.96 | 2.01 | 3.37 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/21/2002 | 7.26 | 4.96 | 4.79 | 2.49 | 2.47 | 3.78 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-147 | | 11/20/2002 | 7.68 | 5.38 | 4.55 | 2.25 | 3.13 | 3.93 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/31/2002 | 7.24 | 4.94 | 5.3 | 3 | 1.94 | 3.34 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 9/23/2002 | 7.58 | 5.28 | 6.3 | 4 | 1.28 | 2.43 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 8/12/2002 | 7.37 | 5.07 | 6.43 | 4.13 | 0.94 | 2.34 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 6/14/2002 | 6.7 | 4.4 | 5.7 | 3.4 | 1 | 3.07 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 2/19/2002 | 6.76 | 4.46 | 6.32 | 4.02 | 0.44 | 2.52 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 12/11/2001 | 6.62 | 4.32 | 6.61 | 4.31 | 0.01 | 2.29 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/8/2001 | 6.41 | 4.11 | 6.36 | 4.06 | 0.05 | 2.53 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/2/2001 | 6.47 | 4.17 | 6.41 | 4.11 | 0.06 | 2.48 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 11/1/2001 | 6.61 | 4.31 | 6.42 | 4.12 | 0.19 | 2.45 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/26/2001 | 6.4 | 4.1 | 6.2 | 3.9 | 0.2 | 2.67 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/25/2001 | 6.3 | 4 | 6.08 | 3.78 | 0.22 | 2.79 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/17/2001 | 6.39 | 4.09 | 6.16 | 3.86 | 0.23 | 2.71 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/11/2001 | 6.5 | 4.2 | 6.19 | 3.89 | 0.31 | 2.67 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 10/2/2001 | 6.36 | 4.06 | 6.18 | 3.88 | 0.18 | 2.7 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 9/19/2001 | 6.39 | 4.09 | 6.25 | 3.95 | 0.14 | 2.63 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 9/7/2001 | 6.14 | 3.84 | 6.14 | 3.84 | <0.01 | 2.77 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-147 | | 9/5/2001 | 6.21 | 3.91 | 6.12 | 3.82 | 0.09 | 2.77 | 8.9 | 6.6 | 12 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | Yes | RW - Inactive | |
| B-148 | MW-1 | 5/11/2017 | 5.91 | 3.88 | 5.41 | 3.38 | 0.5 | 1.7434 | 7.22 | 5.19 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-148 | MW-1 | 12/1/2016 | 5.77 | 3.74 | 4.91 | 2.88 | 0.86 | 2.19545 | 7.22 | 5.19 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-148 | MW-1 | 5/11/2016 | 6.03 | 4 | 5.14 | 3.11 | 0.89 | 1.96 | 7.22 | 5.19 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-148 | MW-1 | 11/19/2015 | 6.07 | 4.04 | 5.16 | 3.13 | 0.91 | 1.94 | 7.22 | 5.19 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-148 | MW-1 | 5/15/2015 | 6.11 | 4.08 | 5.42 | 3.39 | 0.69 | 1.71 | 7.22 | 5.19 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-148 | MW-1 | 2/18/2015 | 6.35 | 4.32 | 5.75 | 3.72 | 0.6 | 1.39 | 7.22 | 5.19 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-148 | MW-1 | 12/4/2014 | 6.09 | 4.06 | 5.44 | 3.41 | 0.65 | 1.69 | 7.22 | 5.19 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-148 | MW-1 | 5/14/2014 | 5.98 | 3.95 | 5.58 | 3.55 | 0.4 | 1.59 | 7.22 | 5.19 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-148 | MW-1 | 10/16/2013 | 5.76 | 3.73 | 5.28 | 3.25 | 0.48 | 1.88 | 7.22 | 5.19 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-148 | MW-1 | 7/12/2013 | 5.55 | 3.52 | 5.04 | 3.01 | 0.51 | 2.11 | 7.22 | 5.19 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-148 | MW-1 | 3/28/2013 | 5.62 | 3.59 | 5.04 | 3.01 | 0.58 | 2.1 | 7.22 | 5.19 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-148 | MW-1 | 5/9/2012 | 5.61 | 3.58 | 5.13 | 3.1 | 0.48 | 2.03 | 7.22 | 5.19 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-148 | MW-1 | 5/18/2011 | 5.92 | 3.89 | 5.7 | 3.67 | 0.22 | 1.49 | 7.22 | 5.19 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-148 | MW-1 | 7/29/2010 | | | 5.19 | | 0.41 | NA | 7.22 | 5.19 | 11 | | | - | Stick Up | | MW | |
| B-148 | MW-1 | 6/22/2009 | 5.71 | 3.68 | 5.05 | 3.02 | 0.66 | 2.08 | 7.22 | 5.19 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-148 | MW-1 | 3/23/2009 | 6.1 | 4.07 | 5.64 | 3.61 | 0.46 | 1.52 | 7.22 | 5.19 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-148 | MW-1 | 11/25/2008 | 6.12 | 4.09 | 5.43 | 3.4 | 0.69 | 1.7 | 7.22 | 5.19 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-148 | MW-1 | 6/6/2008 | 6.11 | 4.08 | 5.43 | 3.4 | 0.68 | 1.7 | 7.22 | 5.19 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-148 | MW-1 | 11/15/2007 | 5.55 | 3.52 | 5.39 | 3.36 | 0.16 | 1.81 | 7.22 | 5.19 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-148 | MW-1 | 6/4/2007 | 5.73 | 3.7 | 5.73 | 3.7 | <0.01 | 1.5 | 7.22 | 5.19 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-148 | MW-1 | 11/7/2006 | | | 4.98 | | 3.12 | NA | 7.22 | 5.19 | 11 | | | - | Stick Up | | MW | |
| B-148 | MW-1 | 5/24/2006 | 6.79 | 4.76 | 4.88 | 2.85 | 1.91 | 2.08 | 7.22 | 5.19 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-148 | MW-1 | 5/19/2005 | 5.45 | 3.42 | 5.4 | 3.37 | 0.05 | 1.81 | 7.22 | 5.19 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-148 | MW-1 | 10/8/2004 | 4.77 | 2.74 | 4.75 | 2.72 | 0.02 | 2.47 | 7.22 | 5.19 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-148 | MW-1 | 11/24/2003 | 4.65 | 2.62 | 4.65 | 2.62 | <0.01 | 2.58 | 7.22 | 5.19 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-149 | MW-2 | 5/11/2017 | 3.63 | 1.69 | 3.09 | 1.15 | 0.54 | 4.57807 | 7.74 | 5.8 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-149 | MW-2 | 12/1/2016 | 3.33 | 1.39 | 2.72 | 0.78 | 0.61 | 4.93875 | 7.74 | 5.8 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-149 | MW-2 | 5/11/2016 | 3.37 | 1.43 | 2.7 | 0.76 | 0.67 | 4.95 | 7.74 | 5.8 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-149 | MW-2 | 11/19/2015 | 4.03 | 2.09 | 3.44 | 1.5 | 0.59 | 4.22 | 7.74 | 5.8 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-149 | MW-2 | 5/15/2015 | 4.34 | 2.4 | 3.87 | 1.93 | 0.47 | 3.81 | 7.74 | 5.8 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-149 | MW-2 | 2/13/2015 | 3.88 | 1.94 | 3.12 | 1.18 | 0.76 | 4.52 | 7.74 | 5.8 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-149 | MW-2 | 12/4/2014 | 3.52 | 1.58 | 2.8 | 0.86 | 0.72 | 4.84 | 7.74 | 5.8 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-149 | MW-2 | 5/14/2014 | 3.8 | 1.86 | 2.75 | 0.81 | 1.05 | 4.85 | 7.74 | 5.8 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-149 | MW-2 | 10/16/2013 | 3.31 | 1.37 | | | | 4.43 | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 7/12/2013 | 3.22 | 1.28 | | | | 4.52 | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 3/28/2013 | 3.31 | 1.37 | | | | 4.43 | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 5/9/2012 | 3.33 | 1.39 | | | | 4.41 | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 5/18/2011 | 3.54 | 1.6 | | | | 4.2 | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 7/29/2010 | | | 2.95 | | <0.01 | NA | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 6/22/2009 | 2.57 | 0.63 | | | | 5.17 | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 3/23/2009 | 4.38 | 2.44 | | | | 3.36 | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 11/25/2008 | 3.97 | 2.03 | 3.97 | 2.03 | <0.01 | NA | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 6/6/2008 | 3.93 | 1.99 | | | | 3.81 | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 11/15/2007 | 3.3 | 1.36 | | | | 4.44 | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 6/4/2007 | 4.5 | 2.56 | | | | 3.24 | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 11/7/2006 | | | | | | NA | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 5/24/2006 | 3.15 | 1.21 | | | | 4.59 | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 5/19/2005 | 3.43 | 1.49 | | | | 4.31 | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 10/8/2004 | 2.8 | 0.86 | | | | 4.94 | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-149 | MW-2 | 11/24/2003 | 2.55 | 0.61 | | | | 5.19 | 7.74 | 5.8 | 11 | | | - | Stick Up | | MW | |
| B-150 | MW-3 | 5/11/2017 | 5.21 | 3.24 | 5.09 | 3.12 | 0.12 | 2.69402 | 7.8 | 5.83 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-150 | MW-3 | 12/1/2016 | 5.47 | 3.5 | 2.85 | 0.88 | 2.62 | 4.60102 | 7.8 | 5.83 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-150 | MW-3 | 8/19/2016 | | | | | | 2.19 | 7.8 | 5.83 | 11 | | | - | Stick Up | | MW | |
| B-150 | MW-3 | 5/11/2016 | 5.98 | 4.01 | 2.67 | 0.7 | 3.31 | 4.69 | 7.8 | 5.83 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-150 | MW-3 | 5/11/2016 | 6.08 | 4.11 | | | | 1.72 | 7.8 | 5.83 | 11 | | | - | Stick Up | | MW | |
| B-150 | MW-3 | 11/19/2015 | 5.86 | 3.89 | 3.45 | 1.48 | 2.41 | 4.03 | 7.8 | 5.83 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-150 | MW-3 | 5/15/2015 | 5.81 | 3.84 | 3.84 | 1.87 | 1.97 | 3.7 | 7.8 | 5.83 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-150 | MW-3 | 2/13/2015 | 5.9 | 3.93 | 3.05 | 1.08 | 2.85 | 4.37 | 7.8 | 5.83 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-150 | MW-3 | 12/4/2014 | 5.75 | 3.78 | 2.72 | 0.75 | 3.03 | 4.68 | 7.8 | 5.83 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-150 | MW-3 | 5/14/2014 | 5.9 | 3.93 | 2.71 | 0.74 | 3.19 | 4.67 | 7.8 | 5.83 | 11 | B-150 | 0.8668 | 100% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-150 | MW-3 | 10/16/2013 | 6.17 | 4.2 | 3.06 | 1.09 | 3.11 | 4.32 | 7.8 | 5.83 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-150 | MW-3 | 7/12/2013 | 6.15 | 4.18 | 2.96 | 0.99 | 3.19 | 4.41 | 7.8 | 5.83 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-150 | MW-3 | 3/28/2013 | 6.15 | 4.18 | 3.08 | 1.11 | 3.07 | 4.31 | 7.8 | 5.83 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-150 | MW-3 | 5/9/2012 | 5.84 | 3.87 | 3.36 | 1.39 | 2.48 | 4.11 | 7.8 | 5.83 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-150 | MW-3 | 5/18/2011 | 5.5 | 3.53 | 3.43 | 1.46 | 2.07 | 4.09 | 7.8 | 5.83 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-150 | MW-3 | 7/29/2010 | | | 3.8 | | 1.8 | NA | 7.8 | 5.83 | 11 | | | - | Stick Up | | MW | |
| B-150 | MW-3 | 6/22/2009 | 5.22 | 3.25 | 2.43 | 0.46 | 2.79 | 4.99 | 7.8 | 5.83 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-150 | MW-3 | 3/23/2009 | 5.45 | 3.48 | 4.4 | 2.43 | 1.05 | 3.26 | 7.8 | 5.83 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-150 | MW-3 | 11/25/2008 | 5.44 | 3.47 | 3.75 | 1.78 | 1.69 | 3.82 | 7.8 | 5.83 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-150 | MW-3 | 6/6/2008 | 4.62 | 2.65 | 3.89 | 1.92 | 0.73 | 3.81 | 7.8 | 5.83 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-150 | MW-3 | 11/15/2007 | 3.91 | 1.94 | 3.26 | 1.29 | 0.65 | 4.45 | 7.8 | 5.83 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-150 | MW-3 | 6/4/2007 | 4.77 | 2.8 | 0.46 | -1.51 | 4.31 | 6.76 | 7.8 | 5.83 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-150 | MW-3 | 11/7/2006 | | | 2.98 | | 1.27 | NA | 7.8 | 5.83 | 11 | | | - | Stick Up | | MW | |
| B-150 | MW-3 | 5/24/2006 | 4.3 | 2.33 | 3.04 | 1.07 | 1.26 | 4.59 | 7.8 | 5.83 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-150 | MW-3 | 5/19/2005 | 4.65 | 2.68 | 3.22 | 1.25 | 1.43 | 4.39 | 7.8 | 5.83 | 11 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-150 | MW-3 | 10/8/2004 | 2.84 | 0.87 | | | | 4.96 | 7.8 | 5.83 | 11 | | | - | Stick Up | | MW | |
| B-150 | MW-3 | 11/24/2003 | 2.45 | 0.48 | | | | 5.35 | 7.8 | 5.83 | 11 | | | - | Stick Up | | MW | |
| B-151 | | 5/11/2017 | 3.86 | 1.89 | | | | 3.875 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 5/11/2016 | 3.55 | 1.58 | | | | 4.19 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 5/15/2015 | 4.63 | 2.66 | | | | 3.11 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 12/4/2014 | 3.45 | 1.48 | | | | 4.29 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 5/14/2014 | 3.53 | 1.56 | | | | 4.21 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 10/16/2013 | 3.69 | 1.72 | | | | 4.05 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 3/28/2013 | 3.58 | 1.61 | | | | 4.16 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 5/9/2012 | 3.91 | 1.94 | | | | 3.83 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 5/18/2011 | 3.75 | 1.78 | | | | 3.99 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 7/29/2010 | | | | | | NA | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 6/22/2009 | 2.67 | 0.7 | | | | 5.07 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 3/23/2009 | 4.43 | 2.46 | | | | 3.31 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 11/25/2008 | 3.8 | 1.83 | | | | 3.94 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 6/6/2008 | 4.07 | 2.11 | | | | 3.67 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-151 | | 11/15/2007 | 3.45 | 1.48 | | | | 4.29 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 6/4/2007 | 3.81 | 1.84 | | | | 3.93 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 11/7/2006 | | | | | | NA | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-151 | | 5/24/2006 | 3.44 | 1.47 | | | | 4.3 | 7.735 | 5.77 | 13 | | | - | Stick Up | | MW | |
| B-152 | | 5/11/2017 | 1.28 | 1.74 | | | | 3.756 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 5/11/2016 | 0.84 | 1.3 | | | | 4.2 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 5/9/2016 | 0.47 | 0.93 | | | | 4.566 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 5/15/2015 | 2.06 | 2.52 | | | | 2.98 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 12/4/2014 | 1.23 | 1.69 | | | | 3.81 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 5/14/2014 | 1.25 | 1.71 | | | | 3.79 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 10/16/2013 | 1.46 | 1.92 | | | | 3.58 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 3/28/2013 | 1.36 | 1.82 | | | | 3.68 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 5/9/2012 | 1.19 | 1.65 | | | | 3.85 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 5/18/2011 | 1.25 | 1.71 | | | | 3.79 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 7/30/2010 | | | | | | NA | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 6/22/2009 | 0.38 | 0.84 | | | | 4.66 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 3/23/2009 | 1.86 | 2.32 | | | | 3.18 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 11/25/2008 | 1.46 | 1.92 | | | | 3.58 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 6/6/2008 | 0.73 | 1.19 | | | | 4.31 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 11/15/2007 | 1.77 | 2.23 | | | | 3.27 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 6/4/2007 | 1.96 | 2.42 | | | | 3.08 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 11/7/2006 | | | | | | NA | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-152 | | 5/24/2006 | 1.29 | 1.75 | | | | 3.75 | 5.036 | 5.5 | 10 | | | - | Flush | | MW | |
| B-153 | | 5/11/2017 | 2.08 | 2.38 | | | | 4.287 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 5/11/2016 | 2.4 | 2.7 | | | | 3.97 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 5/4/2016 | 2.5 | 2.8 | | | | 3.867 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 5/15/2015 | 2.55 | 2.85 | | | | 3.82 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 12/4/2014 | 1.74 | 2.04 | | | | 4.63 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 5/14/2014 | 2.43 | 2.73 | | | | 3.94 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 10/16/2013 | 2.01 | 2.31 | | | | 4.36 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 3/28/2013 | 2.16 | 2.46 | | | | 4.21 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 5/9/2012 | 1.67 | 1.97 | | | | 4.7 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 5/18/2011 | 2.13 | 2.43 | | | | 4.24 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 7/29/2010 | | | 1.81 | | <0.01 | NA | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 6/22/2009 | 1.45 | 1.75 | | | | 4.92 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 3/23/2009 | 2.39 | 2.69 | | | | 3.98 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 11/25/2008 | 2.23 | 2.53 | | | | 4.14 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 6/6/2008 | 2.25 | 2.55 | | | | 4.12 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 11/15/2007 | 1.95 | 2.25 | | | | 4.42 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 6/4/2007 | 1.96 | 2.26 | | | | 4.41 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 11/7/2006 | | | | | | NA | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-153 | | 5/24/2006 | 1.59 | 1.89 | | | | 4.78 | 6.367 | 6.67 | 10 | | | - | Flush | | MW | |
| B-154 | | 5/11/2017 | 2.72 | 0.47 | | | | 5.96 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 12/1/2016 | 3 | 0.75 | | | | 5.68 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 5/11/2016 | 3.28 | 1.03 | | | | 5.4 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 5/10/2016 | 3.36 | 1.11 | | | | 5.32 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 11/19/2015 | 3.72 | 1.47 | | | | 4.96 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 5/15/2015 | 4.16 | 1.91 | | | | 4.52 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 2/13/2015 | 3.33 | 1.08 | | | | 5.35 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 12/4/2014 | 3.09 | 0.84 | | | | 5.59 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 5/14/2014 | 2.95 | 0.7 | | | | 5.73 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 10/16/2013 | 3.16 | 0.91 | | | | 5.52 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 7/12/2013 | 3.13 | 0.88 | | | | 5.55 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 3/28/2013 | 3.12 | 0.87 | | | | 5.56 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 5/9/2012 | 3.33 | 1.08 | | | | 5.35 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 5/18/2011 | 4.65 | 2.4 | | | | 4.03 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 7/29/2010 | | | | | | NA | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 6/22/2009 | 3.76 | 1.51 | | | | 4.92 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 3/23/2009 | 5.29 | 3.04 | | | | 3.39 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 11/25/2008 | 4.88 | 2.63 | | | | 3.8 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-154 | | 6/6/2008 | 4.88 | 2.63 | | | | 3.8 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 11/15/2007 | 4.27 | 2.02 | | | | 4.41 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 6/4/2007 | 5.29 | 3.04 | | | | 3.39 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 11/7/2006 | | | | | | NA | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-154 | | 5/24/2006 | 4.17 | 1.92 | | | | 4.51 | 8.68 | 6.43 | 13 | | | - | Stick Up | | MW | Damaged |
| B-155 | | 5/11/2017 | 5.1 | 3.1 | | | | 3.441 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 12/1/2016 | 4.95 | 2.95 | | | | 3.591 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 5/11/2016 | 5.23 | 3.23 | | | | 3.31 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 5/5/2016 | 5.07 | 3.07 | | | | 3.471 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 11/19/2015 | 5.4 | 3.4 | | | | 3.14 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 5/15/2015 | 5.57 | 3.57 | | | | 2.97 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 2/13/2015 | 4.85 | 2.85 | | | | 3.69 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 12/4/2014 | 4.66 | 2.66 | | | | 3.88 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 5/14/2014 | 4.53 | 2.53 | | | | 4.01 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 10/16/2013 | 4.89 | 2.89 | | | | 3.65 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 7/12/2013 | 4.63 | 2.63 | | | | 3.91 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 3/28/2013 | 4.78 | 2.78 | | | | 3.76 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 5/9/2012 | 4.76 | 2.76 | | | | 3.78 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 5/18/2011 | 4.87 | 2.87 | | | | 3.67 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 7/29/2010 | | | | | | NA | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 6/22/2009 | 4.3 | 2.3 | | | | 4.24 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 3/23/2009 | 5.58 | 3.58 | | | | 2.96 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 11/25/2008 | 5.39 | 3.39 | | | | 3.15 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 6/6/2008 | 5.13 | 3.13 | | | | 3.41 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 11/15/2007 | 4.76 | 2.76 | | | | 3.78 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 6/4/2007 | 5.56 | 3.56 | | | | 2.98 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 11/7/2006 | | | | | | NA | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-155 | | 5/24/2006 | 4.96 | 2.96 | | | | 3.58 | 8.541 | 6.54 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 5/11/2017 | 5.18 | 2.97 | | | | 3.676 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 12/1/2016 | 5.92 | 3.71 | | | | 2.936 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 5/11/2016 | 5.52 | 3.31 | | | | 3.34 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 5/10/2016 | 5.6 | 3.39 | | | | 3.256 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 11/19/2015 | 6 | 3.79 | | | | 2.86 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 5/15/2015 | 6.2 | 3.99 | | | | 2.66 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 12/4/2014 | 5.4 | 3.19 | | | | 3.46 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 5/14/2014 | 5.25 | 3.04 | | | | 3.61 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 10/16/2013 | 5.82 | 3.61 | | | | 3.04 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 7/12/2013 | 5.54 | 3.33 | | | | 3.32 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 3/28/2013 | 5.39 | 3.18 | | | | 3.47 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 5/9/2012 | 5.59 | 3.38 | | | | 3.27 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 5/18/2011 | 5.7 | 3.49 | | | | 3.16 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 7/29/2010 | | | | | | NA | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 6/22/2009 | 4.87 | 2.66 | | | | 3.99 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 3/23/2009 | 5.9 | 3.69 | | | | 2.96 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 11/25/2008 | 5.81 | 3.6 | | | | 3.05 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 6/6/2008 | 5.59 | 3.38 | 5.59 | 3.38 | <0.01 | NA | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 11/15/2007 | 6.1 | 3.89 | | | | 2.76 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 6/4/2007 | 5.67 | 3.46 | | | | 3.19 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 11/7/2006 | | | | | | NA | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-156 | | 5/24/2006 | 5.14 | 2.93 | | | | 3.72 | 8.856 | 6.65 | 13 | | | - | Stick Up | | MW | |
| B-157 | | 5/11/2017 | 1.79 | 2.13 | | | | 3.134 | 4.924 | 5.26 | 12 | | | - | Flush | | MW | Unable to l |
| B-157 | | 11/25/2008 | | | | | | NA | 4.924 | 5.26 | 12 | | | - | Flush | | MW | Unable to l |
| B-157 | | 6/6/2008 | | | | | | NA | 4.924 | 5.26 | 12 | | | - | Flush | | MW | Unable to l |
| B-157 | | 11/15/2007 | 1.46 | 1.8 | | | | 3.46 | 4.924 | 5.26 | 12 | | | - | Flush | | MW | Unable to l |
| B-157 | | 6/4/2007 | 1.57 | 1.91 | | | | 3.35 | 4.924 | 5.26 | 12 | | | - | Flush | | MW | Unable to l |
| B-157 | | 11/7/2006 | | | | | | NA | 4.924 | 5.26 | 12 | | | - | Flush | | MW | Unable to l |
| B-157 | | 5/24/2006 | 1.75 | 2.09 | | | | 3.17 | 4.924 | 5.26 | 12 | | | - | Flush | | MW | Unable to l |
| B-158 | | 5/11/2017 | 2.35 | 2.8 | | | | 5.859 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 8/19/2016 | | | | | | 5.199 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 5/11/2016 | 2.86 | 3.31 | | | | 5.35 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-158 | | 5/9/2016 | 2.58 | 3.03 | | | | 5.629 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 5/20/2015 | 4.03 | 4.48 | | | | 4.18 | 8.209 | 8.66 | 12.2 | | | - | Flush | | MW | |
| B-158 | | 5/15/2015 | 3.99 | 4.44 | | | | 4.22 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 12/4/2014 | 3.1 | 3.55 | | | | 5.11 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 6/2/2014 | 3.15 | 3.6 | | | | 5.06 | 8.209 | 8.66 | 11.8 | | | - | Flush | | MW | |
| B-158 | | 5/14/2014 | 3.2 | 3.65 | | | | 5.01 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 10/16/2013 | 3.21 | 3.66 | | | | 5 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 3/28/2013 | 2.87 | 3.32 | | | | 5.34 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 5/9/2012 | 2.86 | 3.31 | | | | 5.35 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 5/18/2011 | 3.3 | 3.75 | | | | 4.91 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 7/29/2010 | | | | | | NA | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 6/22/2009 | 1.91 | 2.36 | | | | 6.3 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 3/23/2009 | 3.25 | 3.7 | | | | 4.96 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 11/25/2008 | 2.95 | 3.4 | | | | 5.26 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 6/6/2008 | 1.96 | 2.41 | | | | 6.25 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 11/15/2007 | 2.69 | 3.14 | | | | 5.52 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 6/4/2007 | 2.84 | 3.29 | | | | 5.37 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 11/7/2006 | | | | | | NA | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-158 | | 5/24/2006 | 2.93 | 3.38 | | | | 5.28 | 8.209 | 8.66 | 12 | | | - | Flush | | MW | |
| B-159 | | 5/11/2017 | | | | | | NA | 6.1924 | 8.51 | 10 | | | - | Flush | | MW | Destroyed |
| B-159 | | 5/9/2012 | | | | | | NA | 6.1924 | 8.51 | 10 | | | - | Flush | | MW | Destroyed |
| B-159 | | 5/18/2011 | | | | | | NA | 6.1924 | 8.51 | 10 | | | - | Flush | | MW | Destroyed |
| B-159 | | 7/30/2010 | | | | | | NA | 6.1924 | 8.51 | 10 | | | - | Flush | | MW | Destroyed |
| B-159 | | 11/25/2008 | | | | | | NA | 6.1924 | 8.51 | 10 | | | - | Flush | | MW | Destroyed |
| B-160 | | 5/11/2017 | 4.27 | 4.69 | | | | 4.262 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 5/11/2016 | 4.18 | 4.6 | | | | 4.35 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 5/15/2015 | 4.42 | 4.84 | | | | 4.11 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 12/9/2014 | 4.06 | 4.48 | | | | 4.47 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 5/14/2014 | 3.94 | 4.36 | | | | 4.59 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 10/16/2013 | 4.37 | 4.79 | | | | 4.16 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 7/12/2013 | 3.82 | 4.24 | | | | 4.71 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 3/28/2013 | 4 | 4.42 | | | | 4.53 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 5/9/2012 | 4.56 | 4.98 | | | | 3.97 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 5/18/2011 | 4.23 | 4.65 | | | | 4.3 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 7/30/2010 | | | | | | NA | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 6/22/2009 | 3.8 | 4.22 | | | | 4.73 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 11/25/2008 | 4.64 | 5.06 | | | | 3.89 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 6/6/2008 | 4.32 | 4.74 | | | | 4.21 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 11/15/2007 | 4.31 | 4.73 | | | | 4.22 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 6/4/2007 | 3.94 | 4.36 | | | | 4.59 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 11/7/2006 | | | | | | NA | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-160 | | 5/24/2006 | 3.5 | 3.92 | | | | 5.03 | 8.532 | 8.95 | 10 | | | - | Flush | | MW | |
| B-161 | | 5/11/2017 | 4.77 | 3.45 | 4.61 | 3.29 | 0.16 | 3.65982 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 12/1/2016 | 5.07 | 3.75 | 4.76 | 3.44 | 0.31 | 3.48153 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 5/11/2016 | 4.38 | 3.06 | 4.32 | 3 | 0.06 | 3.97 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 11/19/2015 | 5.09 | 3.77 | 5.09 | 3.77 | <0.01 | 3.22 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 5/15/2015 | 5.45 | 4.13 | 5.16 | 3.84 | 0.29 | 3.09 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 2/13/2015 | 5.24 | 3.92 | 4.7 | 3.38 | 0.54 | 3.5 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-161 | | 12/4/2014 | 4.13 | 2.81 | 3.94 | 2.62 | 0.19 | 4.32 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 5/14/2014 | 4.66 | 3.34 | 4.35 | 3.03 | 0.31 | 3.89 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 10/16/2013 | 4.6 | 3.28 | 4.32 | 3 | 0.28 | 3.93 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 7/12/2013 | 4.33 | 3.01 | 4.08 | 2.76 | 0.25 | 4.17 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 3/28/2013 | 4.31 | 2.99 | 4.13 | 2.81 | 0.18 | 4.14 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 5/9/2012 | 5.48 | 4.16 | 5.3 | 3.98 | 0.18 | 2.97 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 5/18/2011 | 5.32 | 4 | 5.22 | 3.9 | 0.1 | 3.06 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 10/25/2010 | 5.24 | 3.92 | | | | 3.06 | 8.3 | 6.98 | 15 | | | - | Stick Up | | MW | |
| B-161 | | 10/19/2010 | 5.02 | 3.7 | | | | 3.28 | 8.3 | 6.98 | 15 | | | - | Stick Up | | MW | |
| B-161 | | 10/13/2010 | 5.18 | 3.86 | 5.15 | 3.83 | 0.03 | 3.14 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 9/28/2010 | 6.65 | 5.33 | 6.32 | 5 | 0.33 | 1.92 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 7/29/2010 | | | 5.5 | | 0.08 | NA | 8.3 | 6.98 | 15 | | | - | Stick Up | | MW | |
| B-161 | | 6/22/2009 | 4.69 | 3.37 | 4.69 | 3.37 | <0.01 | 3.62 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 11/25/2008 | 5.31 | 3.99 | | | | 2.99 | 8.3 | 6.98 | 15 | | | - | Stick Up | | MW | |
| B-161 | | 6/6/2008 | 5.29 | 3.97 | 5.27 | 3.95 | 0.02 | 3.03 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 11/15/2007 | 5.62 | 4.3 | 5.62 | 4.3 | <0.01 | 2.69 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-161 | | 6/4/2007 | 5.39 | 4.07 | | | | 2.91 | 8.3 | 6.98 | 15 | | | - | Stick Up | | MW | |
| B-161 | | 11/7/2006 | | | 5.44 | | 0.01 | NA | 8.3 | 6.98 | 15 | | | - | Stick Up | | MW | |
| B-161 | | 5/24/2006 | 6.32 | 5 | 6.31 | 4.99 | 0.01 | 1.99 | 8.3 | 6.98 | 15 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-162 | | 5/11/2017 | 2.49 | -0.17 | | | | 5.099 | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 5/11/2016 | | | | | | NA | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 5/10/2016 | 2.25 | -0.41 | | | | 5.339 | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 5/15/2015 | 2.68 | 0.02 | | | | 4.91 | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 12/4/2014 | | | | | | NA | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 5/14/2014 | | | | | | NA | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 10/16/2013 | | | | | | NA | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 3/28/2013 | 3.35 | 0.69 | | | | 4.24 | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 5/9/2012 | 3.25 | 0.59 | | | | 4.34 | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 5/18/2011 | 3.38 | 0.72 | | | | 4.21 | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 7/29/2010 | | | | | | NA | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 6/22/2009 | | | | | | NA | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 11/25/2008 | 2.85 | 0.19 | | | | 4.74 | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 6/6/2008 | 3.37 | 0.71 | | | | 4.22 | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 11/15/2007 | 3.33 | 0.67 | | | | 4.26 | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-162 | | 6/4/2007 | 3.82 | 1.16 | | | | 3.77 | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 11/7/2006 | | | | | | NA | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-162 | | 5/24/2006 | 3.31 | 0.65 | | | | 4.28 | 7.589 | 4.93 | 18 | | | - | Stick Up | | MW | |
| B-163 | | 5/11/2017 | 1.94 | 2.17 | | | | 5.512 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 12/1/2016 | 0.96 | 1.19 | | | | 6.492 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 5/11/2016 | 1.51 | 1.74 | | | | 5.94 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 5/10/2016 | 1.68 | 1.91 | | | | 5.772 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 11/19/2015 | 2.35 | 2.58 | | | | 5.1 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 5/15/2015 | 2.6 | 2.83 | | | | 4.85 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 2/13/2015 | 1.14 | 1.37 | | | | 6.31 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 12/4/2014 | 1.26 | 1.49 | | | | 6.19 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 5/14/2014 | 1.31 | 1.54 | | | | 6.14 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 10/16/2013 | 1.56 | 1.79 | | | | 5.89 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 7/12/2013 | 2.2 | 2.43 | | | | 5.25 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 3/28/2013 | 1.84 | 2.07 | | | | 5.61 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 5/9/2012 | 2.09 | 2.32 | | | | 5.36 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 5/18/2011 | 1.38 | 1.61 | | | | 6.07 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 7/30/2010 | | | | | | NA | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 6/22/2009 | 1.36 | 1.59 | | | | 6.09 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 11/25/2008 | 2.22 | 2.45 | | | | 5.23 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 6/6/2008 | 1.67 | 1.9 | | | | 5.78 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 11/15/2007 | 1.84 | 2.07 | | | | 5.61 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 6/4/2007 | 1.43 | 1.66 | | | | 6.02 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 11/7/2006 | | | | | | NA | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-163 | | 5/24/2006 | 2.76 | 2.99 | | | | 4.69 | 7.452 | 7.68 | 10 | | | - | Flush | | MW | |
| B-164 | | 5/11/2017 | 5.5 | 2.54 | | | | 3.322 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 8/19/2016 | | | | | | 3.372 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 5/11/2016 | 5.07 | 2.11 | | | | 3.75 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 5/9/2016 | 4.79 | 1.83 | | | | 4.032 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 5/15/2015 | 4.49 | 1.53 | | | | 4.33 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 12/4/2014 | 5.43 | 2.47 | | | | 3.39 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 5/14/2014 | 5.63 | 2.67 | | | | 3.19 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 10/16/2013 | 5.04 | 2.08 | | | | 3.78 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 3/28/2013 | 5.18 | 2.22 | | | | 3.64 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 5/9/2012 | 5.61 | 2.65 | | | | 3.21 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 5/18/2011 | 5.39 | 2.43 | | | | 3.43 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 7/29/2010 | | | | | | NA | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 6/22/2009 | 3.67 | 0.71 | | | | 5.15 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 3/23/2009 | 6.27 | 3.31 | | | | 2.55 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 11/25/2008 | 5.57 | 2.61 | | | | 3.25 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 6/6/2008 | 5.67 | 2.71 | | | | 3.15 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 11/15/2007 | 5.5 | 2.54 | | | | 3.32 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 6/4/2007 | 5.76 | 2.8 | | | | 3.06 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 11/7/2006 | | | | | | NA | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-164 | | 5/24/2006 | 5.61 | 2.65 | | | | 3.21 | 8.822 | 5.86 | 15 | | | - | Stick Up | | MW | |
| B-165 | | 5/11/2017 | 2.63 | 2.91 | | | | 3.16 | 5.79 | 6.07 | | | | - | Flush | | MW | |
| B-165 | | 5/11/2016 | 2.82 | 3.1 | | | | 2.97 | 5.79 | 6.07 | | | | - | Flush | | MW | |
| B-165 | | 5/5/2016 | 2.84 | 3.12 | | | | 2.95 | 5.79 | 6.07 | | | | - | Flush | | MW | |
| B-165 | | 5/20/2015 | 3.44 | 3.72 | | | | 2.35 | 5.79 | 6.07 | 12.8 | | | - | Flush | | MW | |
| B-165 | | 5/15/2015 | 3.44 | 3.72 | | | | 2.35 | 5.79 | 6.07 | | | | - | Flush | | MW | |
| B-165 | | 12/4/2014 | 2.66 | 2.94 | | | | 3.13 | 5.79 | 6.07 | | | | - | Flush | | MW | |
| B-165 | | 6/3/2014 | 2.68 | 2.96 | | | | 3.11 | 5.79 | 6.07 | 12.8 | | | - | Flush | | MW | |
| B-165 | | 5/14/2014 | 2.84 | 3.12 | | | | 2.95 | 5.79 | 6.07 | | | | - | Flush | | MW | |
| B-165 | | 10/16/2013 | 2.67 | 2.95 | | | | 3.12 | 5.79 | 6.07 | | | | - | Flush | | MW | |
| B-165 | | 3/28/2013 | 3.23 | 3.51 | | | | 2.56 | 5.79 | 6.07 | | | | - | Flush | | MW | |
| B-166 | | 5/11/2017 | | | | | | NA | 7.47 | 7.89 | | | | - | Flush | | MW | unable to a |
| B-166 | | 5/11/2016 | 2.78 | 3.2 | | | | 4.69 | 7.47 | 7.89 | | | | - | Flush | | MW | unable to a |
| B-166 | | 5/15/2015 | 3.09 | 3.51 | | | | 4.38 | 7.47 | 7.89 | | | | - | Flush | | MW | unable to a |
| B-166 | | 12/4/2014 | 1.98 | 2.4 | | | | 5.49 | 7.47 | 7.89 | | | | - | Flush | | MW | unable to a |
| B-166 | | 5/14/2014 | 3.02 | 3.44 | | | | 4.45 | 7.47 | 7.89 | | | | - | Flush | | MW | unable to a |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-166 | | 10/16/2013 | 3.17 | 3.59 | | | | 4.3 | 7.47 | 7.89 | | | | - | Flush | | MW | unable to a |
| B-166 | | 3/28/2013 | 2.68 | 3.1 | | | | 4.79 | 7.47 | 7.89 | | | | - | Flush | | MW | unable to a |
| B-167 | | 5/11/2017 | 3.55 | 4.03 | | | | 3.18 | 6.73 | 7.21 | | | | - | Flush | | MW | |
| B-167 | | 5/11/2016 | 3.17 | 3.65 | | | | 3.56 | 6.73 | 7.21 | | | | - | Flush | | MW | |
| B-167 | | 5/15/2015 | 3.84 | 4.32 | | | | 2.89 | 6.73 | 7.21 | | | | - | Flush | | MW | |
| B-167 | | 12/4/2014 | 5.65 | 6.13 | | | | 1.08 | 6.73 | 7.21 | | | | - | Flush | | MW | |
| B-167 | | 5/14/2014 | 3.35 | 3.83 | | | | 3.38 | 6.73 | 7.21 | | | | - | Flush | | MW | |
| B-167 | | 10/16/2013 | 3.28 | 3.76 | | | | 3.45 | 6.73 | 7.21 | | | | - | Flush | | MW | |
| B-167 | | 3/28/2013 | 2.42 | 2.9 | | | | 4.31 | 6.73 | 7.21 | | | | - | Flush | | MW | |
| B-168 | | 5/11/2017 | 2.07 | 2.38 | | | | 4.39 | 6.46 | 6.77 | | | | - | Flush | | MW | |
| B-168 | | 5/11/2016 | 2.41 | 2.72 | | | | 4.05 | 6.46 | 6.77 | | | | - | Flush | | MW | |
| B-168 | | 5/4/2016 | 2.57 | 2.88 | | | | 3.89 | 6.46 | 6.77 | | | | - | Flush | | MW | |
| B-168 | | 5/15/2015 | 2.74 | 3.05 | | | | 3.72 | 6.46 | 6.77 | | | | - | Flush | | MW | |
| B-168 | | 12/4/2014 | 2.48 | 2.79 | | | | 3.98 | 6.46 | 6.77 | | | | - | Flush | | MW | |
| B-168 | | 5/14/2014 | 2.64 | 2.95 | | | | 3.82 | 6.46 | 6.77 | | | | - | Flush | | MW | |
| B-168 | | 10/16/2013 | 2.26 | 2.57 | | | | 4.2 | 6.46 | 6.77 | | | | - | Flush | | MW | |
| B-168 | | 3/28/2013 | 2.49 | 2.8 | | | | 3.97 | 6.46 | 6.77 | | | | - | Flush | | MW | |
| B-169 | | 5/11/2017 | 1.74 | 2.09 | | | | 4.38 | 6.12 | 6.47 | | | | - | Flush | | MW | |
| B-169 | | 8/19/2016 | | | | | | 3.9 | 6.12 | 6.47 | | | | - | Flush | | MW | |
| B-169 | | 5/11/2016 | 1.89 | 2.24 | | | | 4.23 | 6.12 | 6.47 | | | | - | Flush | | MW | |
| B-169 | | 5/9/2016 | 1.72 | 2.07 | | | | 4.4 | 6.12 | 6.47 | | | | - | Flush | | MW | |
| B-169 | | 5/15/2015 | 2.24 | 2.59 | | | | 3.88 | 6.12 | 6.47 | | | | - | Flush | | MW | |
| B-169 | | 12/4/2014 | 1.72 | 2.07 | | | | 4.4 | 6.12 | 6.47 | | | | - | Flush | | MW | |
| B-169 | | 5/14/2014 | 1.97 | 2.32 | | | | 4.15 | 6.12 | 6.47 | | | | - | Flush | | MW | |
| B-169 | | 10/16/2013 | 1.7 | 2.05 | | | | 4.42 | 6.12 | 6.47 | | | | - | Flush | | MW | |
| B-169 | | 3/28/2013 | | | | | | NA | 6.12 | 6.47 | | | | - | Flush | | MW | |
| B-170 | | 5/11/2017 | 1.7 | 1.81 | | | | -1.66 | 0.04 | 0.15 | | | | - | Flush | | MW | |
| B-170 | | 8/19/2016 | | | | | | -2.33 | 0.04 | 0.15 | | | | - | Flush | | MW | |
| B-170 | | 5/11/2016 | 1.75 | 1.86 | | | | -1.71 | 0.04 | 0.15 | | | | - | Flush | | MW | |
| B-170 | | 5/5/2016 | 2.14 | 2.25 | | | | -2.1 | 0.04 | 0.15 | | | | - | Flush | | MW | |
| B-170 | | 5/15/2015 | 2.35 | 2.46 | | | | -2.31 | 0.04 | 0.15 | | | | - | Flush | | MW | |
| B-170 | | 12/4/2014 | 1.94 | 2.05 | | | | -1.9 | 0.04 | 0.15 | | | | - | Flush | | MW | |
| B-170 | | 5/14/2014 | 1.9 | 2.01 | | | | -1.86 | 0.04 | 0.15 | | | | - | Flush | | MW | |
| B-170 | | 10/16/2013 | 1.71 | 1.82 | | | | -1.67 | 0.04 | 0.15 | | | | - | Flush | | MW | |
| B-170 | | 3/28/2013 | 1.76 | 1.87 | | | | -1.72 | 0.04 | 0.15 | | | | - | Flush | | MW | |
| B-172 | | 5/11/2017 | 5.09 | 2.23 | | | | 2.92 | 8.01 | 5.15 | | | | - | Stick Up | | MW | Reserved |
| B-172 | | 8/19/2016 | | | | | | NA | | 5.15 | | | | - | | | MW | Reserved |
| B-172 | | 5/5/2016 | 5.15 | | | | | NA | | 5.15 | | | | - | | | MW | Reserved |
| B-173 | | 5/11/2017 | 4.68 | 2.2 | | | | 3.5 | 8.18 | 5.7 | | | | - | Stick Up | | MW | Reserved |
| B-173 | | 8/19/2016 | | | | | | NA | | 5.7 | | | | - | | | MW | Reserved |
| B-173 | | 5/11/2016 | 4.62 | | | | | NA | | 5.7 | | | | - | | | MW | Reserved |
| B-173 | | 5/5/2016 | 4.59 | | | | | NA | | 5.7 | | | | - | | | MW | Reserved |
| B-174 | | 5/11/2017 | 3 | 0.2 | | | | 5.3 | 8.3 | 5.5 | | | | - | Stick Up | | MW | Reserved |
| B-174 | | 8/19/2016 | | | | | | NA | | 5.5 | | | | - | | | MW | Reserved |
| B-174 | | 5/11/2016 | 2.85 | | | | | NA | | 5.5 | | | | - | | | MW | Reserved |
| B-174 | | 5/5/2016 | 2.99 | | | | | NA | | 5.5 | | | | - | | | MW | Reserved |
| B-175 | | 5/17/2017 | 7.71 | 4.84 | 3.92 | 1.05 | 3.79 | 4.10716 | 8.77 | 5.9 | | B-175 | 0.804 | UNKNOWN | Stick Up | | MW | |
| B-175 | | 8/19/2016 | | | | | | NA | | 5.9 | | | | - | | | MW | |
| B-175 | | 5/11/2016 | 7.43 | | | | | NA | | 5.9 | | | | - | | | MW | |
| B-39 | | 5/11/2017 | 1.39 | 1.45 | | | | 4.09 | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 8/19/2016 | | | | | | 3 | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 5/11/2016 | 1.58 | 1.64 | 1.12 | 1.18 | 0.46 | 4.3 | 5.48 | 5.54 | 15 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | Flush | | MW | |
| B-39 | | 5/11/2016 | 1.71 | 1.77 | | | | 3.77 | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 5/15/2015 | 3.2 | 3.26 | 2.7 | 2.76 | 0.5 | 2.72 | 5.48 | 5.54 | 15 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | Flush | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-39 | | 12/4/2014 | 1.86 | 1.92 | 1.85 | 1.91 | 0.01 | 3.63 | 5.48 | 5.54 | 15 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | Flush | | MW | |
| B-39 | | 5/14/2014 | 2 | 2.06 | | | | 3.48 | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 10/16/2013 | 1.51 | 1.57 | | | | 3.97 | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 3/28/2013 | 1.4 | 1.46 | | | | 4.08 | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 5/9/2012 | 1.49 | 1.55 | | | | 3.99 | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 5/18/2011 | 1.85 | 1.91 | | | | 3.63 | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 7/30/2010 | | | | | | NA | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 6/22/2009 | | | | | | NA | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 11/25/2008 | 2.21 | 2.27 | | | | 3.27 | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 6/6/2008 | 1.11 | 1.17 | | | | 4.37 | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 11/15/2007 | 2.16 | 2.22 | 2.16 | 2.22 | <0.01 | 3.33 | 5.48 | 5.54 | 15 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | Flush | | MW | |
| B-39 | | 6/4/2007 | 2.45 | 2.51 | | | | 3.03 | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 11/7/2006 | | | | | | NA | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 5/24/2006 | 2.25 | 2.31 | 2.24 | 2.3 | 0.01 | 3.24 | 5.48 | 5.54 | 15 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | Flush | | MW | |
| B-39 | | 5/19/2005 | 2.72 | 2.78 | 2.72 | 2.78 | <0.01 | 2.77 | 5.48 | 5.54 | 15 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | Flush | | MW | |
| B-39 | | 10/8/2004 | 1.92 | 1.98 | 1.85 | 1.91 | 0.07 | 3.62 | 5.48 | 5.54 | 15 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | Flush | | MW | |
| B-39 | | 9/17/2004 | | | | | | NA | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 11/24/2003 | 1.49 | 1.55 | 1.26 | 1.32 | 0.23 | 4.19 | 5.48 | 5.54 | 15 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | Flush | | MW | |
| B-39 | | 4/25/2003 | 2.83 | 2.89 | 2.26 | 2.32 | 0.57 | 3.15 | 5.48 | 5.54 | 15 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | Flush | | MW | |
| B-39 | | 11/1/2002 | 1.85 | 1.91 | 1.15 | 1.21 | 0.7 | 4.24 | 5.48 | 5.54 | 15 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | Flush | | MW | |
| B-39 | | 10/31/2002 | 1.79 | 1.85 | 1.11 | 1.17 | 0.68 | 4.28 | 5.48 | 5.54 | 15 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | Flush | | MW | |
| B-39 | | 11/8/2001 | 4.5 | 4.56 | 3.73 | 3.79 | 0.77 | 1.65 | 5.48 | 5.54 | 15 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | Flush | | MW | |
| B-39 | | 11/9/2000 | 2.48 | 2.54 | | | | 3 | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 11/18/1999 | 2.43 | 2.49 | | | | 3.05 | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 11/12/1998 | | | | | | NA | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 11/13/1997 | | | | | | NA | 5.48 | 5.54 | 15 | | | - | Flush | | MW | |
| B-39 | | 11/18/1996 | 1.55 | 1.61 | 1.55 | 1.61 | <0.01 | 3.94 | 5.48 | 5.54 | 15 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | Flush | | MW | |
| B-39 | | 6/6/1996 | 2.45 | 2.51 | 2.42 | 2.48 | 0.03 | 3.06 | 5.48 | 5.54 | 15 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | Flush | | MW | |
| B-39 | | 12/18/1995 | 1.75 | 1.81 | 1.13 | 1.19 | 0.62 | 4.27 | 5.48 | 5.54 | 15 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | Flush | | MW | |
| B-40 | | 5/11/2017 | | | | | | NA | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 11/25/2008 | | | | | | NA | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 6/6/2008 | | | | | | NA | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 11/15/2007 | | | | | | NA | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 6/4/2007 | | | | | | NA | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-40 | | 11/7/2006 | | | | | | NA | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 5/24/2006 | | | | | | NA | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 5/19/2005 | | | | | | NA | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 3/9/2005 | | | | | | NA | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 10/8/2004 | | | | | | NA | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 9/17/2004 | | | | | | NA | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 11/24/2003 | | | | | | NA | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 11/8/2001 | | | | | | NA | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 11/9/2000 | | | | | | NA | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 12/6/1999 | 1.21 | 0.16 | | | | 5.96 | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 11/18/1999 | 1.9 | 0.85 | | | | 5.27 | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 11/12/1998 | 2 | 0.95 | | | | 5.17 | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 11/13/1997 | 1.02 | -0.03 | | | | 6.15 | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 11/18/1996 | 0.99 | -0.06 | 0.98 | -0.07 | 0.01 | NA | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-40 | | 12/18/1995 | 0.83 | -0.22 | | | | 6.34 | 7.17 | 6.12 | 13 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 5/11/2017 | | | | | | NA | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 11/25/2008 | | | | | | NA | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 6/6/2008 | | | | | | NA | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 11/15/2007 | | | | | | NA | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 6/4/2007 | | | | | | NA | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 11/7/2006 | | | | | | NA | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 5/24/2006 | | | | | | NA | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 5/19/2005 | | | | | | NA | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 10/8/2004 | | | | | | NA | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 11/24/2003 | | | | | | NA | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 10/31/2002 | 1.64 | 0.59 | | | | 7.21 | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 11/8/2001 | | | | | | NA | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 11/18/1999 | | | | | | NA | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 11/12/1998 | | | | | | NA | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 9/17/1998 | | | | | | NA | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 11/13/1997 | | | | | | NA | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 11/18/1996 | 2.38 | 1.33 | | | | 6.47 | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-41 | | 12/18/1995 | 1.92 | 0.87 | | | | 6.93 | 8.85 | 7.8 | 12 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 5/11/2017 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 11/25/2008 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 6/6/2008 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 11/15/2007 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 6/4/2007 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 11/7/2006 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 5/24/2006 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 5/19/2005 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 10/21/2004 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 10/8/2004 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 11/24/2003 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 11/8/2001 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 11/18/1999 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 11/12/1998 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 9/17/1998 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 11/13/1997 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-42 | | 11/18/1996 | | | | | | NA | 8.04 | 6.99 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-43 | | 5/11/2017 | 2.72 | 2.65 | | | | 4.49 | 7.21 | 7.14 | 14.5 | | | - | Stick Up | | MW | |
| B-43 | | 8/19/2016 | | | | | | 2.85 | 7.21 | 7.14 | 14.5 | | | - | Stick Up | | MW | |
| B-43 | | 5/11/2016 | 3.9 | 3.83 | | | | 3.31 | 7.21 | 7.14 | 14.5 | | | - | Stick Up | | MW | |
| B-43 | | 5/20/2015 | 3.65 | 3.58 | | | | 3.56 | 7.21 | 7.14 | 14.5 | | | - | Stick Up | | MW | |
| B-43 | | 12/4/2014 | 4.45 | 4.38 | 4.45 | 4.38 | <0.01 | 2.77 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 5/14/2014 | 4.92 | 4.85 | | | | 2.29 | 7.21 | 7.14 | 14.5 | | | - | Stick Up | | MW | |
| B-43 | | 10/16/2013 | 4.47 | 4.4 | 4.45 | 4.38 | 0.02 | 2.76 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-43 | | 3/28/2013 | 4.15 | 4.08 | 4.08 | 4.01 | 0.07 | 3.12 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 5/9/2012 | 4.11 | 4.04 | 4.09 | 4.02 | 0.02 | 3.12 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 6/2/2011 | 4.56 | 4.49 | 4.43 | 4.36 | 0.13 | 2.77 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 7/30/2010 | | | 3.45 | | 0.17 | NA | 7.21 | 7.14 | 14.5 | | | - | Stick Up | | MW | |
| B-43 | | 6/22/2009 | 3.17 | 3.1 | 3.05 | 2.98 | 0.12 | 4.15 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 11/25/2008 | 4.96 | 4.89 | 4.78 | 4.71 | 0.18 | 2.41 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 6/6/2008 | 4.94 | 4.87 | 4.75 | 4.68 | 0.19 | 2.44 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 11/15/2007 | 4.25 | 4.18 | 4.1 | 4.03 | 0.15 | 3.1 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 6/4/2007 | 4.52 | 4.45 | 4.3 | 4.23 | 0.22 | 2.89 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 11/7/2006 | | | 4.24 | | 0.47 | NA | 7.21 | 7.14 | 14.5 | | | - | Stick Up | | MW | |
| B-43 | | 5/24/2006 | 1.97 | 1.9 | 1.47 | 1.4 | 0.5 | 5.7 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 5/19/2005 | 5.36 | 5.29 | 4.77 | 4.7 | 0.59 | 2.39 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 10/8/2004 | 4.6 | 4.53 | 4 | 3.93 | 0.6 | 3.16 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 11/24/2003 | 4.87 | 4.8 | 4.46 | 4.39 | 0.41 | 2.72 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 10/31/2002 | 4.44 | 4.37 | 4.44 | 4.37 | <0.01 | 2.78 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 11/8/2001 | 5.2 | 5.13 | 5 | 4.93 | 0.2 | 2.19 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 11/9/2000 | 5.26 | 5.19 | 4.79 | 4.72 | 0.47 | 2.38 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 11/18/1999 | 3.13 | 3.06 | 2.64 | 2.57 | 0.49 | 4.53 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 5/21/1999 | 4.93 | 4.86 | 4.65 | 4.58 | 0.28 | 2.54 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 5/20/1999 | 5.35 | 5.28 | 4.58 | 4.51 | 0.77 | 2.57 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 12/16/1998 | 5.23 | 5.16 | 4.74 | 4.67 | 0.49 | 2.43 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 11/13/1998 | 5.42 | 5.35 | 4.92 | 4.85 | 0.5 | 2.25 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 11/12/1998 | 5.8 | 5.73 | 4.85 | 4.78 | 0.95 | 2.28 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 9/17/1998 | 5.71 | 5.64 | 4.65 | 4.58 | 1.06 | 2.47 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 11/13/1997 | 5.33 | 5.26 | 5.02 | 4.95 | 0.31 | 2.16 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 11/18/1996 | 5.41 | 5.34 | 5.11 | 5.04 | 0.3 | 2.07 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 6/6/1996 | 5.43 | 5.36 | 5.06 | 4.99 | 0.37 | 2.12 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-43 | | 12/18/1995 | 5.32 | 5.25 | 4.59 | 4.52 | 0.73 | 2.56 | 7.21 | 7.14 | 14.5 | B-43 | 0.9161 | 100% MIDDLE DISTILLATE | Stick Up | | MW | |
| B-44 | | 5/11/2017 | | | | | | NA | 8.21 | 7.16 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-44 | | 11/25/2008 | | | | | | NA | 8.21 | 7.16 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-44 | | 11/12/1998 | | | | | | NA | 8.21 | 7.16 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-44 | | 9/17/1998 | | | | | | NA | 8.21 | 7.16 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-44 | | 11/13/1997 | 2.12 | 1.07 | | | | 6.09 | 8.21 | 7.16 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-44 | | 11/18/1996 | 2.43 | 1.38 | | | | 5.78 | 8.21 | 7.16 | 15 | | | - | Stick Up | | MW | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-44 | | 12/18/1995 | 1.91 | 0.86 | | | | 6.3 | 8.21 | 7.16 | 15 | | | - | Stick Up | | MW | Destroyed |
| B-45 | | 5/11/2017 | 0.13 | -0.07 | | | | 4.969 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 5/11/2016 | 0.77 | 0.57 | | | | 4.33 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 5/5/2016 | 0.95 | 0.75 | | | | 4.149 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 5/15/2015 | 1.86 | 1.66 | | | | 3.24 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 12/4/2014 | 0.51 | 0.31 | | | | 4.59 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 5/14/2014 | 1.05 | 0.85 | | | | 4.05 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 10/16/2013 | 1.03 | 0.83 | | | | 4.07 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 3/28/2013 | 1.09 | 0.89 | | | | 4.01 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 5/9/2012 | 0.95 | 0.75 | | | | 4.15 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 5/18/2011 | 1.42 | 1.22 | | | | 3.68 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 7/30/2010 | | | | | | NA | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 6/22/2009 | 0.59 | 0.39 | | | | 4.51 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 11/25/2008 | 1.47 | 1.27 | | | | 3.63 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 6/6/2008 | 1.28 | 1.08 | | | | 3.82 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 6/4/2007 | 1.25 | 1.05 | | | | 3.85 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 11/7/2006 | | | | | | NA | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 5/24/2006 | 1.8 | 1.6 | | | | 3.3 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 5/19/2005 | 1.55 | 1.35 | | | | 3.55 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 10/8/2004 | 1.55 | 1.35 | | | | 3.55 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 11/24/2003 | 1.51 | 1.31 | | | | 3.59 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 10/31/2002 | 1.47 | 1.27 | | | | 3.63 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 11/8/2001 | 3.07 | 2.87 | | | | 2.03 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 11/9/2000 | 2.64 | 2.44 | | | | 2.46 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 11/18/1999 | 2.58 | 2.38 | | | | 2.52 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 11/12/1998 | 2.72 | 2.52 | | | | 2.38 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 8/26/1998 | 1.9 | 1.7 | | | | 3.2 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 11/13/1997 | 1.87 | 1.67 | | | | 3.23 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 11/18/1996 | 2.21 | 2.01 | | | | 2.89 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-45 | | 12/18/1995 | 1.54 | 1.34 | | | | 3.56 | 5.099 | 4.9 | 15 | | | - | Stick Up | | MW | |
| B-46 | | 5/11/2017 | 1.44 | 1.73 | | | | 6.59 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 5/11/2016 | 0.93 | 1.22 | | | | 7.1 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 5/15/2015 | 2.19 | 2.48 | | | | 5.84 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 12/4/2014 | 0.81 | 1.1 | | | | 7.22 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 5/14/2014 | 1.44 | 1.73 | | | | 6.59 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 10/16/2013 | 1.5 | 1.79 | | | | 6.53 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 3/28/2013 | 0.7 | 0.99 | | | | 7.33 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 5/9/2012 | 1.58 | 1.87 | | | | 6.45 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 5/18/2011 | 1.25 | 1.54 | | | | 6.78 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 7/30/2010 | | | | | | NA | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 6/22/2009 | 0.65 | 0.94 | | | | 7.38 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 11/25/2008 | 1.81 | 2.1 | | | | 6.22 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 6/6/2008 | 0.8 | 1.09 | | | | 7.23 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 6/4/2007 | 1.68 | 1.97 | | | | 6.35 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 11/7/2006 | | | | | | NA | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 5/24/2006 | 1.43 | 1.72 | | | | 6.6 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 5/19/2005 | 2.09 | 2.38 | | | | 5.94 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 10/8/2004 | 1.92 | 2.21 | | | | 6.11 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 11/24/2003 | 1.75 | 2.04 | | | | 6.28 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 10/31/2002 | 0.98 | 1.27 | | | | 7.05 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 11/8/2001 | 3.15 | 3.44 | | | | 4.88 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 11/9/2000 | 2.46 | 2.75 | | | | 5.57 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 11/18/1999 | 3.42 | 3.71 | | | | 4.61 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 11/12/1998 | 2.62 | 2.91 | | | | 5.41 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 11/13/1997 | 1.6 | 1.89 | | | | 6.43 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 11/18/1996 | 1.89 | 2.18 | | | | 6.14 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |
| B-46 | | 12/18/1995 | 1.48 | 1.77 | | | | 6.55 | 8.03 | 8.32 | 12 | | | - | Flush | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-47 | | 5/11/2017 | | | 1.47 | 1.17 | | NA | 8.3 | 8 | 13 | B-47 | 0.9796 | 100% RESIDUAL OIL TRACE% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-47 | | 5/12/2016 | 3.14 | 2.84 | 3.13 | 2.83 | 0.01 | 5.17 | 8.3 | 8 | 13 | B-47 | 0.9796 | 100% RESIDUAL OIL TRACE% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-47 | | 5/15/2015 | 3.7 | 3.4 | 3.69 | 3.39 | 0.01 | 4.61 | 8.3 | 8 | 13 | B-47 | 0.9796 | 100% RESIDUAL OIL TRACE% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-47 | | 12/4/2014 | 3.43 | 3.13 | 3.43 | 3.13 | <0.01 | 4.88 | 8.3 | 8 | 13 | B-47 | 0.9796 | 100% RESIDUAL OIL TRACE% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-47 | | 5/14/2014 | 3.01 | 2.71 | 3 | 2.7 | 0.01 | 5.3 | 8.3 | 8 | 13 | B-47 | 0.9796 | 100% RESIDUAL OIL TRACE% UNKNOWN AROMATICS | Stick Up | | MW | |
| B-47 | | 10/16/2013 | 3.36 | 3.06 | 3.36 | 3.06 | <0.01 | 4.95 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 3/28/2013 | 3.23 | 2.93 | 3.22 | 2.92 | 0.01 | 5.08 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 5/9/2012 | 3.25 | 2.95 | 3.23 | 2.93 | 0.02 | 5.07 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 5/18/2011 | 3.2 | 2.9 | 3.2 | 2.9 | <0.01 | 5.11 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 7/30/2010 | | | 2.91 | | 0.01 | NA | 8.3 | 8 | 13 | | | - | Stick Up | | MW | |
| B-47 | | 6/22/2009 | 2.55 | 2.25 | 2.54 | 2.24 | 0.01 | 5.76 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 11/25/2008 | 3.75 | 3.45 | 3.75 | 3.45 | <0.01 | 4.56 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 8/18/2008 | | | 2.92 | 2.62 | | NA | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 6/6/2008 | | | 3.24 | 2.94 | | NA | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 3/31/2008 | 3.26 | 2.96 | 3.25 | 2.95 | 0.01 | 5.05 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 11/15/2007 | 3.8 | 3.5 | 3.79 | 3.49 | 0.01 | 4.51 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 9/18/2007 | 3.56 | 3.26 | 3.55 | 3.25 | 0.01 | 4.75 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 6/4/2007 | 3.23 | 2.93 | 3.22 | 2.92 | 0.01 | 5.08 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 3/2/2007 | | | | | | NA | 8.3 | 8 | 13 | | | - | Stick Up | | MW | |
| B-47 | | 11/7/2006 | | | 3.66 | | <0.01 | NA | 8.3 | 8 | 13 | | | - | Stick Up | | MW | |
| B-47 | | 8/29/2006 | 3.12 | 2.82 | 3.12 | 2.82 | <0.01 | 5.19 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 5/24/2006 | 3.51 | 3.21 | 3.5 | 3.2 | 0.01 | 4.8 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 2/8/2006 | | | 3.78 | | 0.01 | 5.59 | 8.3 | 8 | 13 | | | - | Stick Up | | MW | |
| B-47 | | 7/1/2005 | | | 4.08 | | 0.01 | 5.43 | 8.3 | 8 | 13 | | | - | Stick Up | | MW | |
| B-47 | | 5/19/2005 | 4.19 | 3.89 | 4.18 | 3.88 | 0.01 | 4.12 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 3/9/2005 | 3.4 | 3.1 | 3.39 | 3.09 | 0.01 | 4.91 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 10/8/2004 | 4.24 | 3.94 | 4.24 | 3.94 | <0.01 | 4.07 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 9/17/2004 | | | | | | NA | 8.3 | 8 | 13 | | | - | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-47 | | 11/24/2003 | 3.68 | 3.38 | 3.6 | 3.3 | 0.08 | 4.69 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 10/31/2002 | 4.2 | 3.9 | 4.04 | 3.74 | 0.16 | 4.24 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 11/8/2001 | 5.17 | 4.87 | 5.13 | 4.83 | 0.04 | 3.16 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 11/9/2000 | 4.81 | 4.51 | 4.65 | 4.35 | 0.16 | 3.63 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 11/18/1999 | 5.14 | 4.84 | 5.1 | 4.8 | 0.04 | 3.19 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 11/12/1998 | 4.93 | 4.63 | 4.53 | 4.23 | 0.4 | 3.72 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 11/13/1997 | 4.1 | 3.8 | 4.03 | 3.73 | 0.07 | 4.26 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 11/18/1996 | 3.81 | 3.51 | 3.67 | 3.37 | 0.14 | 4.61 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-47 | | 12/18/1995 | 3.87 | 3.57 | 3.85 | 3.55 | 0.02 | 4.45 | 8.3 | 8 | 13 | B-144 | 0.8654 | 90% GASOLINE, 10% RESIDUAL OIL | Stick Up | | MW | |
| B-48 | | 5/17/2017 | 0.25 | 0.55 | | | | 6.25 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 5/11/2016 | | | | | | NA | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 5/15/2015 | 0.81 | 1.11 | | | | 5.69 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 12/4/2014 | 0 | 0.3 | | | | 6.5 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 5/14/2014 | 0.28 | 0.58 | | | | 6.22 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 10/16/2013 | 0.03 | 0.33 | | | | 6.47 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 3/28/2013 | 0.13 | 0.43 | | | | 6.37 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 5/9/2012 | 0 | 0.3 | | | | 6.5 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 5/18/2011 | 0.61 | 0.91 | | | | 5.89 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 7/29/2010 | | | | | | NA | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 6/22/2009 | | | | | | NA | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 11/25/2008 | 0.84 | 1.14 | | | | 5.66 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 6/6/2008 | | | | | | NA | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 11/15/2007 | 0.61 | 0.91 | | | | 5.89 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 6/4/2007 | 0.22 | 0.52 | | | | 6.28 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 11/7/2006 | | | | | | NA | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 5/24/2006 | 0.49 | 0.79 | | | | 6.01 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 5/19/2005 | 0.87 | 1.17 | | | | 5.63 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 10/8/2004 | 0.6 | 0.9 | | | | 5.9 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 9/17/2004 | 0.75 | 1.05 | | | | 5.75 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 11/24/2003 | 0.17 | 0.47 | | | | 6.33 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 10/31/2002 | | | | | | NA | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 11/8/2001 | | | | | | NA | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 11/9/2000 | 1.1 | 1.4 | | | | 5.4 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 11/18/1999 | 1.18 | 1.48 | | | | 5.32 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 11/12/1998 | 1.8 | 2.1 | | | | 4.7 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 11/13/1997 | 1 | 1.3 | | | | 5.5 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 11/18/1996 | 0.72 | 1.02 | | | | 5.78 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48 | | 12/18/1995 | 0.36 | 0.66 | | | | 6.14 | 6.5 | 6.8 | 14 | | | - | Flush | | MW | |
| B-48D | | 5/17/2017 | 11.5 | 10.85 | | | | -2.08 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 5/11/2016 | 11.46 | 10.81 | | | | -2.04 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 5/3/2016 | 11.07 | 10.42 | | | | -1.65 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 5/15/2015 | 11.38 | 10.73 | | | | -1.96 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 12/4/2014 | 11.91 | 11.26 | | | | -2.49 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 5/15/2014 | 10.71 | 10.06 | | | | -1.29 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 10/16/2013 | 11.64 | 10.99 | | | | -2.22 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 3/28/2013 | 12.36 | 11.71 | | | | -2.94 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 3/21/2013 | 11.93 | 11.28 | | | | -2.51 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 11/2/2012 | 11.66 | 11.01 | | | | -2.24 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 10/25/2012 | 11.66 | 11.01 | | | | -2.24 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 5/9/2012 | 10.98 | 10.33 | | | | -1.56 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 5/18/2011 | 10.46 | 9.81 | | | | -1.04 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-48D | | 7/29/2010 | | | | | | NA | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 6/22/2009 | 10.79 | 10.14 | | | | -1.37 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 11/25/2008 | 11.57 | 10.92 | | | | -2.15 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 6/6/2008 | 11.35 | 10.7 | | | | -1.93 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 11/15/2007 | 11.33 | 10.68 | | | | -1.91 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 6/4/2007 | 11.12 | 10.47 | | | | -1.7 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 11/7/2006 | | | | | | NA | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 5/24/2006 | 12.07 | 11.42 | | | | -2.65 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 5/19/2005 | 11.86 | 11.21 | | | | -2.44 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 10/8/2004 | 11.97 | 11.32 | | | | -2.55 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 9/17/2004 | 12.25 | 11.6 | | | | -2.83 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 11/24/2003 | 11.49 | 10.84 | | | | -2.07 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 10/31/2002 | 14.19 | 13.54 | | | | -4.77 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 11/8/2001 | 13.32 | 12.67 | | | | -3.9 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 11/9/2000 | 11.93 | 11.28 | | | | -2.51 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 11/18/1999 | 12.4 | 11.75 | | | | -2.98 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 11/12/1998 | 12.93 | 12.28 | | | | -3.51 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 11/13/1997 | 13.27 | 12.62 | | | | -3.85 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 11/18/1996 | 11.84 | 11.19 | | | | -2.42 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-48D | | 12/18/1995 | 13.25 | 12.6 | | | | -3.83 | 9.42 | 8.77 | 55 | | | - | Stick Up | | MW | |
| B-92 | | 5/11/2017 | 5.6 | 2.67 | | | | 4.63 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 12/1/2016 | 5.94 | 3.01 | | | | 4.29 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 5/11/2016 | 5.44 | 2.51 | | | | 4.79 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 11/19/2015 | 5.9 | 2.97 | | | | 4.33 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 5/15/2015 | 6.47 | 3.54 | | | | 3.76 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 2/13/2015 | 5.5 | 2.57 | | | | 4.73 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 12/4/2014 | 5.09 | 2.16 | | | | 5.14 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 5/14/2014 | 5.12 | 2.19 | | | | 5.11 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 10/16/2013 | 5.17 | 2.24 | | | | 5.06 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 7/12/2013 | 4.96 | 2.03 | | | | 5.27 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 3/28/2013 | 5.06 | 2.13 | | | | 5.17 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 5/9/2012 | 5.26 | 2.33 | | | | 4.97 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 5/18/2011 | 5.2 | 2.27 | | | | 5.03 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 7/29/2010 | | | | | | NA | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 6/22/2009 | 4.67 | 1.74 | | | | 5.56 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 11/25/2008 | 5.38 | 2.45 | | | | 4.85 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 8/18/2008 | 5.13 | 2.2 | | | | 5.1 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 6/6/2008 | 4.56 | 1.63 | | | | 5.67 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 3/31/2008 | 4.67 | 1.74 | | | | 5.56 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 11/15/2007 | 5.36 | 2.43 | | | | 4.87 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 9/18/2007 | 6.3 | 3.37 | | | | 3.93 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 6/4/2007 | 5.34 | 2.41 | | | | 4.89 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 3/2/2007 | 5.19 | 2.26 | | | | 5.04 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 11/7/2006 | | | | | | NA | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 8/29/2006 | 5.2 | 2.27 | | | | 5.03 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 5/24/2006 | 5.4 | 2.47 | | | | 4.83 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 2/8/2006 | | | | | | 6.2 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 7/1/2005 | | | | | | 5.39 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 5/19/2005 | 5.73 | 2.8 | | | | 4.5 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 3/9/2005 | 4.83 | 1.9 | | | | 5.4 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 10/8/2004 | 4.86 | 1.93 | | | | 5.37 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 9/17/2004 | 5.72 | 2.79 | | | | 4.51 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 6/25/2004 | 5.09 | 2.16 | | | | 5.14 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 3/3/2004 | 5.86 | 2.93 | | | | 4.37 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 11/24/2003 | 4.85 | 1.92 | | | | 5.38 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 11/18/2003 | 4.84 | 1.91 | | | | 5.39 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 8/27/2003 | 5.59 | 2.66 | | | | 4.64 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 7/7/2003 | 4.92 | 1.99 | | | | 5.31 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 3/12/2003 | 4.58 | 1.65 | | | | 5.65 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 10/31/2002 | 4.54 | 1.61 | | | | 5.69 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-92 | | 8/12/2002 | 6.2 | 3.27 | | | | 4.03 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 6/14/2002 | 5.13 | 2.2 | | | | 5.1 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 2/19/2002 | 6.42 | 3.49 | | | | 3.81 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 10/11/2001 | 6.25 | 3.32 | | | | 3.98 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 9/19/2001 | 6.59 | 3.66 | | | | 3.64 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 9/7/2001 | 6.43 | 3.5 | | | | 3.8 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 9/5/2001 | 6.41 | 3.48 | | | | 3.82 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 6/13/2001 | 4.71 | 1.78 | | | | 5.52 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 2/19/2001 | 4.95 | 2.02 | | | | 5.28 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 11/14/2000 | 5.62 | 2.69 | | | | 4.61 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 11/9/2000 | 5.96 | 3.03 | | | | 4.27 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 9/6/2000 | 4.81 | 1.88 | | | | 5.42 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 6/16/2000 | 4.95 | 2.02 | | | | 5.28 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 3/9/2000 | 5.32 | 2.39 | | | | 4.91 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 11/18/1999 | 5.7 | 2.77 | | | | 4.53 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 9/24/1999 | 4.34 | 1.41 | | | | 5.89 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 6/15/1999 | 5.4 | 2.47 | | | | 4.83 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 3/11/1999 | 5.04 | 2.11 | | | | 5.19 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 12/16/1998 | 6.55 | 3.62 | | | | 3.68 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 11/12/1998 | 6.68 | 3.75 | | | | 3.55 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 9/11/1998 | 5.97 | 3.04 | | | | 4.26 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 6/19/1998 | 4.71 | 1.78 | | | | 5.52 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 3/27/1998 | 4.68 | 1.75 | | | | 5.55 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 12/19/1997 | 5.85 | 2.92 | | | | 4.38 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 11/13/1997 | 5.45 | 2.52 | | | | 4.78 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 9/24/1997 | 5.63 | 2.7 | | | | 4.6 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 7/17/1997 | 6.17 | 3.24 | | | | 4.06 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 7/1/1997 | 5.84 | 2.91 | | | | 4.39 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 6/20/1997 | 5.49 | 2.56 | | | | 4.74 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 6/2/1997 | 5.09 | 2.16 | | | | 5.14 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 5/22/1997 | 5.72 | 2.79 | | | | 4.51 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 5/9/1997 | 4.77 | 1.84 | | | | 5.46 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 4/22/1997 | 4.87 | 1.94 | | | | 5.36 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 4/11/1997 | 5.11 | 2.18 | | | | 5.12 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 11/18/1996 | 5.02 | 2.09 | | | | 5.21 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-92 | | 12/18/1995 | 4.78 | 1.85 | | | | 5.45 | 10.23 | 7.3 | 15.5 | | | - | Stick Up | | MW | |
| B-93 | | 5/11/2017 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 9/28/2010 | 6.02 | 4.86 | | | | 6.81 | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 11/25/2008 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 8/18/2008 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 6/6/2008 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 3/31/2008 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 11/15/2007 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 9/18/2007 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 6/4/2007 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 3/2/2007 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 11/7/2006 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 8/29/2006 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 5/24/2006 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 2/8/2006 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 5/19/2005 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 3/9/2005 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 11/24/2003 | 0.96 | -0.2 | | | | 11.87 | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 10/31/2002 | 4.29 | 3.13 | | | | 8.54 | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 11/8/2001 | 6.34 | 5.18 | | | | 6.49 | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 11/9/2000 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 11/12/1998 | 4.23 | 3.07 | | | | 8.6 | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 11/13/1997 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-93 | | 11/18/1996 | | | | | | NA | 12.83 | 11.67 | 13.5 | | | - | Stick Up | | MW | Destroyed |
| B-94 | | 5/11/2017 | 7.28 | 4.14 | | | | 3.07 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-94 | | 5/11/2016 | 6.76 | 3.62 | | | | 3.59 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 5/15/2015 | 7.03 | 3.89 | | | | 3.32 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 12/4/2014 | 7.64 | 4.5 | | | | 2.71 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 5/14/2014 | 7.35 | 4.21 | | | | 3 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 10/16/2013 | 7.16 | 4.02 | | | | 3.19 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 3/28/2013 | 7.23 | 4.09 | | | | 3.12 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 5/9/2012 | 6.76 | 3.62 | | | | 3.59 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 5/18/2011 | 6.55 | 3.41 | | | | 3.8 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 7/29/2010 | | | | | | NA | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 6/22/2009 | 6.29 | 3.15 | | | | 4.06 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 11/25/2008 | 7.03 | 3.89 | | | | 3.32 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 6/6/2008 | 6.36 | 3.22 | | | | 3.99 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 11/15/2007 | 6.83 | 3.69 | | | | 3.52 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 6/4/2007 | 6.57 | 3.43 | | | | 3.78 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 11/7/2006 | | | | | | NA | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 5/24/2006 | 6.54 | 3.4 | | | | 3.81 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 5/19/2005 | 6.73 | 3.59 | | | | 3.62 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 10/8/2004 | 6.72 | 3.58 | | | | 3.63 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 11/24/2003 | 6.63 | 3.49 | | | | 3.72 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 10/31/2002 | 6.52 | 3.38 | | | | 3.83 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 11/8/2001 | 7.39 | 4.25 | | | | 2.96 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 11/9/2000 | 7.09 | 3.95 | | | | 3.26 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 11/18/1999 | 7.1 | 3.96 | | | | 3.25 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 11/12/1998 | 7.92 | 4.78 | | | | 2.43 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 11/13/1997 | 6.95 | 3.81 | | | | 3.4 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 11/18/1996 | 6.96 | 3.82 | | | | 3.39 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-94 | | 12/18/1995 | 6.77 | 3.63 | | | | 3.58 | 10.35 | 7.21 | 14 | | | - | Stick Up | | MW | |
| B-95 | GP U 677- | 5/11/2017 | 4.38 | 2.12 | | | | 4.487 | 8.867 | 6.608 | | | | - | Stick Up | | MW | |
| B-95 | GP U 677- | 5/11/2016 | 3.94 | 1.68 | | | | 4.93 | 8.867 | 6.608 | | | | - | Stick Up | | MW | |
| B-95 | GP U 677- | 5/15/2015 | 6.19 | 3.93 | | | | 2.68 | 8.867 | 6.608 | | | | - | Stick Up | | MW | |
| B-95 | GP U 677- | 12/4/2014 | 4.48 | 2.22 | | | | 4.39 | 8.867 | 6.608 | | | | - | Stick Up | | MW | |
| B-95 | GP U 677- | 5/14/2014 | 5.02 | 2.76 | | | | 3.85 | 8.867 | 6.608 | | | | - | Stick Up | | MW | |
| B-95 | GP U 677- | 10/16/2013 | 5 | 2.74 | | | | 3.87 | 8.867 | 6.608 | | | | - | Stick Up | | MW | |
| C-134D | | 5/11/2017 | 11.41 | 8.87 | | | | -2.011 | 9.399 | 6.855 | 70 | | | - | Stick Up | | MW | |
| C-134D | | 7/19/2016 | | | | | | -2.411 | 9.399 | 6.855 | 70 | | | - | Stick Up | | MW | |
| C-134D | | 5/11/2016 | 11.27 | 8.73 | | | | -1.87 | 9.399 | 6.855 | 70 | | | - | Stick Up | | MW | |
| C-134D | | 5/15/2015 | 10.88 | 8.34 | | | | -1.48 | 9.399 | 6.855 | 70 | | | - | Stick Up | | MW | |
| C-134D | | 12/4/2014 | 11.74 | 9.2 | | | | -2.34 | 9.399 | 6.855 | 70 | | | - | Stick Up | | MW | |
| C-134D | | 5/15/2014 | 10.59 | 8.05 | | | | -1.19 | 9.399 | 6.855 | 70 | | | - | Stick Up | | MW | |
| C-134D | | 10/17/2013 | 11.57 | 9.03 | | | | -2.17 | 9.399 | 6.855 | 70 | | | - | Stick Up | | MW | |
| C-134D | | 3/28/2013 | 12.26 | 9.72 | | | | -2.86 | 9.399 | 6.855 | 70 | | | - | Stick Up | | MW | |
| C-134D | | 3/21/2013 | 11.81 | 9.27 | | | | -2.41 | 9.399 | 6.855 | 70 | | | - | Stick Up | | MW | |
| C-134D | | 11/2/2012 | 11.56 | 9.02 | | | | -2.16 | 9.399 | 6.855 | 70 | | | - | Stick Up | | MW | |
| C-134D | | 10/25/2012 | 11.56 | 9.02 | | | | -2.16 | 9.399 | 6.855 | 70 | | | - | Stick Up | | MW | |
| C-134D | | 5/9/2012 | 10.89 | 8.35 | | | | -1.49 | 9.399 | 6.855 | 70 | | | - | Stick Up | | MW | |
| C-134D | | 5/18/2011 | 4.76 | 2.22 | | | | 4.64 | 9.399 | 6.855 | 70 | | | - | Stick Up | | MW | |
| C-134D | | 7/8/2010 | | | | | | NA | 9.399 | 6.855 | 70 | | | - | Stick Up | | MW | |
| PS-1 | | 11/25/2008 | | | | | | NA | 9.02 | | | | | - | | | MW | Destroyed |
| PZ-132A | | 5/11/2017 | 6.29 | 4.26 | | | | 3.86 | 10.15 | 8.12 | 10 | | | - | Stick Up | | Piezometer | |
| PZ-132A | | 5/11/2016 | 5.95 | 3.92 | | | | 4.2 | 10.15 | 8.12 | 10 | | | - | Stick Up | | Piezometer | |
| PZ-132A | | 5/15/2015 | 7.62 | 5.59 | | | | 2.53 | 10.15 | 8.12 | 10 | | | - | Stick Up | | Piezometer | |
| PZ-132A | | 12/9/2014 | 5.27 | 3.24 | | | | 4.88 | 10.15 | 8.12 | 10 | | | - | Stick Up | | Piezometer | |
| PZ-132A | | 5/15/2014 | 6.11 | 4.08 | | | | 4.04 | 10.15 | 8.12 | 10 | | | - | Stick Up | | Piezometer | |
| PZ-132A | | 10/16/2013 | 5.84 | 3.81 | | | | 4.31 | 10.15 | 8.12 | 10 | | | - | Stick Up | | Piezometer | |
| PZ-132A | | 11/25/2008 | | | | | | NA | 10.15 | 8.12 | 10 | | | - | Stick Up | | Piezometer | |
| PZ-132B | | 5/11/2017 | | | | | | NA | | | 10 | | | - | | | Piezometer | Destroyed |
| PZ-134A | | 5/11/2017 | | | | | | NA | | | 10 | | | - | | | Piezometer | Destroyed |
| PZ-134B | | 5/11/2017 | | | | | | NA | | | 10 | | | - | | | Piezometer | Destroyed |
| PZ-135A | | 5/11/2017 | | | | | | NA | 10.18 | 8.57 | 10 | | | - | Stick Up | | Piezometer | Damaged |
| PZ-135A | | 5/11/2016 | | | | | | NA | 10.18 | 8.57 | 10 | | | - | Stick Up | | Piezometer | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PZ-135A | | 5/15/2015 | | | | | | NA | 10.18 | 8.57 | 10 | | | - | Stick Up | | Piezomete | Damaged |
| PZ-135A | | 12/4/2014 | | | | | | NA | 10.18 | 8.57 | 10 | | | - | Stick Up | | Piezomete | Damaged |
| PZ-135A | | 5/15/2014 | 6.35 | 4.74 | | | | 3.83 | 10.18 | 8.57 | 10 | | | - | Stick Up | | Piezomete | Damaged |
| PZ-135A | | 10/16/2013 | 6.27 | 4.66 | | | | 3.91 | 10.18 | 8.57 | 10 | | | - | Stick Up | | Piezomete | Damaged |
| PZ-135A | | 11/25/2008 | | | | | | NA | 10.18 | 8.57 | 10 | | | - | Stick Up | | Piezomete | Damaged |
| PZ-135B | | 5/11/2017 | | | | | | NA | 10.21 | | 10 | | | - | | | Piezomete | Damaged |
| PZ-135B | | 5/11/2016 | | | | | | NA | 10.21 | | 10 | | | - | | | Piezomete | Damaged |
| PZ-135B | | 5/15/2015 | | | | | | NA | 10.21 | | 10 | | | - | | | Piezomete | Damaged |
| PZ-135B | | 12/4/2014 | | | | | | NA | 10.21 | | 10 | | | - | | | Piezomete | Damaged |
| PZ-135B | | 5/15/2014 | 6.48 | | | | | 3.73 | 10.21 | | 10 | | | - | | | Piezomete | Damaged |
| PZ-135B | | 10/16/2013 | 6.34 | | | | | 3.87 | 10.21 | | 10 | | | - | | | Piezomete | Damaged |
| PZ-135B | | 11/25/2008 | | | | | | NA | 10.21 | | 10 | | | - | | | Piezomete | Damaged |
| RW-9 | | 5/11/2017 | 6.04 | 3.16 | 4.86 | 1.98 | 1.18 | 3.67745 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 12/1/2016 | 6.47 | 3.59 | 5.6 | 2.72 | 0.87 | 2.99592 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 5/11/2016 | 5.66 | 2.78 | 4.91 | 2.03 | 0.75 | 3.71 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 11/19/2015 | 6.02 | 3.14 | 5.33 | 2.45 | 0.69 | 3.3 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 5/15/2015 | 6.11 | 3.23 | 5.5 | 2.62 | 0.61 | 3.14 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 12/4/2014 | 5.64 | 2.76 | 4.9 | 2.02 | 0.74 | 3.72 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 5/14/2014 | 5.63 | 2.75 | 4.85 | 1.97 | 0.78 | 3.76 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 10/16/2013 | 5.86 | 2.98 | 5.06 | 2.18 | 0.8 | 3.55 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 7/12/2013 | 5.53 | 2.65 | 4.74 | 1.86 | 0.79 | 3.87 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 3/28/2013 | 5.85 | 2.97 | 5.09 | 2.21 | 0.76 | 3.53 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 5/9/2012 | 5.65 | 2.77 | 4.9 | 2.02 | 0.75 | 3.72 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 5/18/2011 | 5.6 | 2.72 | 4.9 | 2.02 | 0.7 | 3.73 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 7/29/2010 | | | 5.6 | | 0.63 | NA | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/22/2009 | 5.23 | 2.35 | 4.47 | 1.59 | 0.76 | 4.15 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 3/23/2009 | 6.35 | 3.47 | 5.91 | 3.03 | 0.44 | 2.77 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 11/25/2008 | 5.63 | 2.75 | 4.91 | 2.03 | 0.72 | 3.71 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW-9 | | 8/18/2008 | 5.79 | 2.91 | 5.02 | 2.14 | 0.77 | 3.59 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 6/6/2008 | 6.58 | 3.7 | 4.93 | 2.05 | 1.65 | 3.52 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 3/31/2008 | 5.43 | 2.55 | 4.66 | 1.78 | 0.77 | 3.95 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 11/15/2007 | 5.85 | 2.97 | 5.07 | 2.19 | 0.78 | 3.54 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 9/18/2007 | 6.62 | 3.74 | 6.18 | 3.3 | 0.44 | 2.5 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 6/4/2007 | 5.68 | 2.8 | 4.92 | 2.04 | 0.76 | 3.7 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 3/2/2007 | 6.56 | 3.68 | 6.18 | 3.3 | 0.38 | 2.51 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 11/7/2006 | | | 4.98 | | 0.72 | 5.43 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 8/29/2006 | | | | | | NA | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 5/24/2006 | 5.86 | 2.98 | 5.05 | 2.17 | 0.81 | 3.56 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 2/8/2006 | | | 4.92 | | 0.86 | 5.43 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 7/1/2005 | | | 5.8 | | 0.62 | 4.59 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 5/19/2005 | 6.19 | 3.31 | 5.62 | 2.74 | 0.57 | 3.03 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 3/9/2005 | 5.02 | 2.14 | 5.01 | 2.13 | 0.01 | 3.75 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 10/8/2004 | 4.8 | 1.92 | 4.8 | 1.92 | <0.01 | 3.97 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 9/17/2004 | 6.05 | 3.17 | 6.05 | 3.17 | <0.01 | 2.72 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 9/2/2004 | 5.36 | 2.48 | 5.36 | 2.48 | <0.01 | 3.41 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 6/25/2004 | 5.53 | 2.65 | 5.53 | 2.65 | <0.01 | 3.24 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 6/10/2004 | 4.66 | 1.78 | 4.66 | 1.78 | <0.01 | 4.11 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 5/28/2004 | 4.79 | 1.91 | 4.78 | 1.9 | 0.01 | 3.98 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 5/12/2004 | 4.84 | 1.96 | 4.83 | 1.95 | 0.01 | 3.93 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 4/29/2004 | 5.02 | 2.14 | 5.02 | 2.14 | <0.01 | 3.75 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 4/15/2004 | | | | | | NA | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW-9 | | 4/2/2004 | 5.14 | 2.26 | 4.62 | 1.74 | 0.52 | 4.04 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 3/17/2004 | 5.65 | 2.77 | 5.17 | 2.29 | 0.48 | 3.5 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 3/3/2004 | 5.75 | 2.87 | | | | 3.01 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 2/17/2004 | 5.4 | 2.52 | | | | 3.36 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 2/3/2004 | 6.38 | 3.5 | | | | 2.38 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 1/6/2004 | 5.52 | 2.64 | | | | 3.24 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 12/22/2003 | 4.54 | 1.66 | | | | 4.22 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 11/18/2003 | 5.17 | 2.29 | | | | 3.59 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 11/5/2003 | 4.4 | 1.52 | | | | 4.36 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 10/22/2003 | 4.98 | 2.1 | 4.98 | 2.1 | <0.01 | 3.79 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 10/7/2003 | 5.28 | 2.4 | | | | 3.48 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 9/24/2003 | 4.75 | 1.87 | | | | 4.01 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 9/8/2003 | 5.17 | 2.29 | | | | 3.59 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 8/27/2003 | 5.1 | 2.22 | | | | 3.66 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 8/12/2003 | 4.91 | 2.03 | | | | 3.85 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 7/18/2003 | 4.94 | 2.06 | | | | 3.82 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 7/7/2003 | 4.73 | 1.85 | | | | 4.03 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/30/2003 | 4.53 | 1.65 | | | | 4.23 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/17/2003 | 4.35 | 1.47 | | | | 4.41 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/2/2003 | 4.63 | 1.75 | | | | 4.13 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 5/20/2003 | 5.02 | 2.14 | 5.02 | 2.14 | <0.01 | 3.75 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 5/8/2003 | 4.9 | 2.02 | | | | 3.86 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 4/25/2003 | 4.81 | 1.93 | 4.81 | 1.93 | <0.01 | 3.96 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 4/9/2003 | 4.59 | 1.71 | 4.59 | 1.71 | <0.01 | 4.18 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 3/26/2003 | 4.85 | 1.97 | 4.85 | 1.97 | <0.01 | 3.92 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 3/12/2003 | 5.22 | 2.34 | 5.21 | 2.33 | 0.01 | 3.55 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 2/27/2003 | 4.69 | 1.81 | 4.65 | 1.77 | 0.04 | 4.1 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 2/13/2003 | 5.8 | 2.92 | 5.76 | 2.88 | 0.04 | 2.99 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 1/28/2003 | 5.9 | 3.02 | 5.9 | 3.02 | <0.01 | 2.87 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 1/24/2003 | 5.94 | 3.06 | 5.94 | 3.06 | <0.01 | 2.83 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 12/30/2002 | 6.1 | 3.22 | 4.39 | 1.51 | 1.71 | 4.05 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 12/19/2002 | 6.89 | 4.01 | 5.84 | 2.96 | 1.05 | 2.72 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW-9 | | 12/4/2002 | 6.52 | 3.64 | 5.57 | 2.69 | 0.95 | 3.01 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 11/18/2002 | 4.6 | 1.72 | 4.17 | 1.29 | 0.43 | 4.51 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 10/31/2002 | 4.36 | 1.48 | 4.04 | 1.16 | 0.32 | 4.66 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 10/18/2002 | 4.87 | 1.99 | 4.57 | 1.69 | 0.3 | 4.13 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 10/4/2002 | 4.9 | 2.02 | | | | 3.86 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 9/17/2002 | 5.28 | 2.4 | | | | 3.48 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 9/4/2002 | 4.94 | 2.06 | | | | 3.82 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 8/12/2002 | 5.47 | 2.59 | | | | 3.29 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 7/22/2002 | 5.15 | 2.27 | | | | 3.61 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/27/2002 | 4.93 | 2.05 | | | | 3.83 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/14/2002 | 4.86 | 1.98 | | | | 3.9 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 5/31/2002 | 5.91 | 3.03 | 4.8 | 1.92 | 1.11 | 3.75 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 5/15/2002 | 4.94 | 2.06 | | | | 3.82 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 5/1/2002 | 4.8 | 1.92 | 4.78 | 1.9 | 0.02 | 3.98 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 4/19/2002 | 4.82 | 1.94 | 4.82 | 1.94 | <0.01 | 3.95 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 4/2/2002 | 4.84 | 1.96 | 4.84 | 1.96 | <0.01 | 3.93 | 8.76 | 5.88 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | Yes | RW | |
| RW-9 | | 3/19/2002 | 5.36 | 2.48 | | | | 3.4 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 3/5/2002 | 5.85 | 2.97 | | | | 2.91 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 2/19/2002 | 5.85 | 2.97 | | | | 2.91 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 1/21/2002 | 5.71 | 2.83 | | | | 3.05 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 1/9/2002 | 5.65 | 2.77 | | | | 3.11 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 12/28/2001 | 5.71 | 2.83 | | | | 3.05 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 12/11/2001 | 5.9 | 3.02 | | | | 2.86 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 10/31/2001 | 6.15 | 3.27 | | | | 2.61 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 10/17/2001 | 5.89 | 3.01 | | | | 2.87 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 10/2/2001 | 6.52 | 3.64 | | | | 2.24 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 9/19/2001 | 6.77 | 3.89 | | | | 1.99 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 9/5/2001 | 7.23 | 4.35 | | | | 1.53 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 8/21/2001 | 6.78 | 3.9 | | | | 1.98 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 8/9/2001 | 6.7 | 3.82 | | | | 2.06 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 7/26/2001 | 5.85 | 2.97 | | | | 2.91 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 7/10/2001 | 5.14 | 2.26 | | | | 3.62 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/13/2001 | 4.95 | 2.07 | | | | 3.81 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 5/29/2001 | 5.35 | 2.47 | | | | 3.41 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 5/17/2001 | 6.05 | 3.17 | | | | 2.71 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 5/3/2001 | 5.23 | 2.35 | | | | 3.53 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 4/16/2001 | 5.27 | 2.39 | | | | 3.49 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 4/6/2001 | 5.29 | 2.41 | | | | 3.47 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 3/20/2001 | 4.66 | 1.78 | | | | 4.1 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 3/6/2001 | 5.06 | 2.18 | | | | 3.7 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 2/19/2001 | 6.14 | 3.26 | | | | 2.62 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 2/6/2001 | 5.74 | 2.86 | | | | 3.02 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 1/23/2001 | 6.05 | 3.17 | | | | 2.71 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 1/9/2001 | 6.28 | 3.4 | | | | 2.48 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW-9 | | 12/12/2000 | 5.62 | 2.74 | | | | 3.14 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 11/28/2000 | 5.57 | 2.69 | | | | 3.19 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 11/14/2000 | 5.6 | 2.72 | | | | 3.16 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 10/31/2000 | 5.63 | 2.75 | | | | 3.13 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 10/18/2000 | 5.38 | 2.5 | | | | 3.38 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 10/2/2000 | 5.19 | 2.31 | | | | 3.57 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 9/19/2000 | 5.02 | 2.14 | | | | 3.74 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 9/6/2000 | 5.4 | 2.52 | | | | 3.36 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 8/23/2000 | 5.63 | 2.75 | | | | 3.13 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 8/9/2000 | 5.02 | 2.14 | | | | 3.74 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 7/25/2000 | 5.91 | 3.03 | | | | 2.85 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 7/11/2000 | 5.91 | 3.03 | | | | 2.85 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/27/2000 | 5.35 | 2.47 | | | | 3.41 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/16/2000 | 5.59 | 2.71 | | | | 3.17 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/1/2000 | 5.7 | 2.82 | | | | 3.06 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 5/19/2000 | 5.57 | 2.69 | | | | 3.19 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 5/4/2000 | 5.64 | 2.76 | | | | 3.12 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 4/20/2000 | 4.86 | 1.98 | | | | 3.9 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 4/5/2000 | 4.98 | 2.1 | | | | 3.78 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 3/22/2000 | 5.04 | 2.16 | | | | 3.72 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 3/9/2000 | 5.08 | 2.2 | | | | 3.68 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 2/24/2000 | 4.96 | 2.08 | | | | 3.8 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 2/11/2000 | 5.35 | 2.47 | | | | 3.41 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 1/26/2000 | 5.96 | 3.08 | | | | 2.8 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 1/14/2000 | 5.71 | 2.83 | | | | 3.05 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 12/30/1999 | 5.62 | 2.74 | | | | 3.14 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 12/16/1999 | 4.54 | 1.66 | | | | 4.22 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 12/6/1999 | 5.17 | 2.29 | | | | 3.59 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 12/1/1999 | 5.26 | 2.38 | | | | 3.5 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 11/18/1999 | 5.65 | 2.77 | | | | 3.11 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 11/4/1999 | 5.19 | 2.31 | | | | 3.57 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 10/19/1999 | 5.13 | 2.25 | | | | 3.63 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 10/7/1999 | 4.96 | 2.08 | | | | 3.8 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 9/24/1999 | 3.61 | 0.73 | | | | 5.15 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 9/9/1999 | 4.79 | 1.91 | | | | 3.97 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 8/27/1999 | 5.13 | 2.25 | | | | 3.63 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 8/12/1999 | 6.27 | 3.39 | | | | 2.49 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 7/30/1999 | 6.11 | 3.23 | | | | 2.65 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 7/16/1999 | 5.45 | 2.57 | | | | 3.31 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/30/1999 | 5.45 | 2.57 | | | | 3.31 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/15/1999 | 5.3 | 2.42 | | | | 3.46 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/2/1999 | 4.59 | 1.71 | | | | 4.17 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 5/19/1999 | 5.02 | 2.14 | | | | 3.74 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 5/4/1999 | 4.85 | 1.97 | | | | 3.91 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 4/20/1999 | 4.91 | 2.03 | | | | 3.85 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 4/12/1999 | 4.89 | 2.01 | | | | 3.87 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 3/29/1999 | 4.65 | 1.77 | | | | 4.11 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 3/11/1999 | 5.63 | 2.75 | | | | 3.13 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 3/2/1999 | 5.84 | 2.96 | | | | 2.92 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 2/10/1999 | 4.98 | 2.1 | | | | 3.78 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 1/29/1999 | 5.64 | 2.76 | | | | 3.12 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 1/15/1999 | 5.67 | 2.79 | | | | 3.09 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 12/29/1998 | 6.24 | 3.36 | | | | 2.52 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 12/16/1998 | 6.51 | 3.63 | | | | 2.25 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 12/1/1998 | 6.71 | 3.83 | | | | 2.05 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 11/20/1998 | 6.62 | 3.74 | | | | 2.14 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 11/4/1998 | 6.27 | 3.39 | | | | 2.49 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 10/23/1998 | 6.52 | 3.64 | | | | 2.24 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 10/9/1998 | 6.58 | 3.7 | | | | 2.18 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 9/25/1998 | 5.72 | 2.84 | | | | 3.04 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW-9 | | 9/11/1998 | 5.56 | 2.68 | | | | 3.2 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 8/28/1998 | 5.34 | 2.46 | | | | 3.42 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 8/14/1998 | 5.43 | 2.55 | | | | 3.33 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 7/31/1998 | 6.52 | 3.64 | | | | 2.24 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 7/16/1998 | 5.51 | 2.63 | | | | 3.25 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 7/2/1998 | 5.42 | 2.54 | | | | 3.34 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/19/1998 | 4.74 | 1.86 | | | | 4.02 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/5/1998 | 4.75 | 1.87 | | | | 4.01 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 5/20/1998 | 4.32 | 1.44 | | | | 4.44 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 4/23/1998 | 4.35 | 1.47 | | | | 4.41 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 4/10/1998 | 4.59 | 1.71 | | | | 4.17 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 3/27/1998 | 4.61 | 1.73 | | | | 4.15 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 3/12/1998 | 4.67 | 1.79 | | | | 4.09 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 2/27/1998 | 4.97 | 2.09 | | | | 3.79 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 2/10/1998 | 5.19 | 2.31 | | | | 3.57 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 1/30/1998 | 4.81 | 1.93 | | | | 3.95 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 1/16/1998 | 5.29 | 2.41 | | | | 3.47 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 12/19/1997 | 5.71 | 2.83 | | | | 3.05 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 12/4/1997 | 5.27 | 2.39 | | | | 3.49 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 11/21/1997 | 6.05 | 3.17 | | | | 2.71 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 11/7/1997 | 6.13 | 3.25 | | | | 2.63 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 10/24/1997 | 6.86 | 3.98 | | | | 1.9 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 10/10/1997 | 6.42 | 3.54 | | | | 2.34 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 9/24/1997 | 5.93 | 3.05 | | | | 2.83 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 9/12/1997 | 5.36 | 2.48 | | | | 3.4 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 8/28/1997 | 6.03 | 3.15 | | | | 2.73 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 8/14/1997 | 6.56 | 3.68 | | | | 2.2 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 8/1/1997 | 6.05 | 3.17 | | | | 2.71 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 7/17/1997 | 7.83 | 4.95 | | | | 0.93 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 7/1/1997 | 6.09 | 3.21 | | | | 2.67 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/20/1997 | 6.23 | 3.35 | | | | 2.53 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 6/2/1997 | 5.25 | 2.37 | | | | 3.51 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 5/22/1997 | 5.9 | 3.02 | | | | 2.86 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 5/9/1997 | 5.27 | 2.39 | | | | 3.49 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 4/22/1997 | 4.98 | 2.1 | | | | 3.78 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| RW-9 | | 4/11/1997 | 4.81 | 1.93 | | | | 3.95 | 8.76 | 5.88 | | | | - | Stick Up | Yes | RW | |
| SUMP-1 | | 5/11/2017 | 5.46 | | 5.44 | | 0.02 | 5.25731 | 10.7 | | 10 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | | Yes | RW - Inactive | |
| SUMP-1 | | 12/1/2016 | 5.56 | | 5.5 | | 0.06 | 5.19192 | 10.7 | | 10 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | | Yes | RW - Inactive | |
| SUMP-1 | | 8/12/2016 | 5.8 | | 5.71 | | 0.09 | 4.97789 | 10.7 | | 10 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | | Yes | RW - Inactive | |
| SUMP-1 | | 5/11/2016 | 5.52 | | 5.39 | | 0.13 | 5.29 | 10.7 | | 10 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | | Yes | RW - Inactive | |
| SUMP-1 | | 2/8/2016 | 5.25 | | 5.12 | | 0.13 | 5.56 | 10.7 | | 10 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | | Yes | RW - Inactive | |
| SUMP-1 | | 11/19/2015 | 5.71 | | 5.67 | | 0.04 | 5.02 | 10.7 | | 10 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | | Yes | RW - Inactive | |
| SUMP-1 | | 8/3/2015 | 5.48 | | 5.37 | | 0.11 | 5.32 | 10.7 | | 10 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | | Yes | RW - Inactive | |
| SUMP-1 | | 5/20/2015 | 6.05 | | 5.98 | | 0.07 | 4.71 | 10.7 | | 10 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | | Yes | RW - Inactive | |
| SUMP-1 | | 2/18/2015 | 5.9 | | 5.86 | | 0.04 | 4.83 | 10.7 | | 10 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | | Yes | RW - Inactive | |
| SUMP-1 | | 12/4/2014 | 5.5 | | 5.49 | | 0.01 | 5.21 | 10.7 | | 10 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | | Yes | RW - Inactive | |
| SUMP-1 | | 5/15/2014 | 5.4 | | 5.39 | | 0.01 | 5.31 | 10.7 | | 10 | B-144 | 0.8654 | 90% GASOLINE 10% MIDDLE DISTILLATE | | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUMP-1 | | 10/16/2013 | 5.8 | | 5.8 | | <0.01 | 4.91 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 7/12/2013 | 5.53 | | 5.52 | | 0.01 | 5.18 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/28/2013 | 5.58 | | 5.57 | | 0.01 | 5.13 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 5/9/2012 | 5.48 | | 5.47 | | 0.01 | 5.23 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 6/2/2011 | 5.64 | | 5.64 | | <0.01 | 5.07 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 10/25/2010 | 5.38 | | 5.38 | | <0.01 | 5.33 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 10/19/2010 | 5.36 | | | | | 5.34 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 10/13/2010 | 5.19 | | | | | 5.51 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 9/28/2010 | 6.3 | | 6.28 | | 0.02 | 4.42 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 7/29/2010 | | | 5.68 | | 0.02 | NA | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 6/22/2009 | 4.14 | | 4.13 | | 0.01 | 6.57 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 11/25/2008 | 6.56 | | 6.48 | | 0.08 | 4.21 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 6/6/2008 | 5.87 | | 5.84 | | 0.03 | 4.86 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 11/15/2007 | 5.86 | | 5.85 | | 0.01 | 4.85 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUMP-1 | | 9/18/2007 | 6.73 | | 6.65 | | 0.08 | 4.04 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 6/4/2007 | 6.27 | | 6.2 | | 0.07 | 4.49 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/2/2007 | 5.64 | | 5.61 | | 0.03 | 5.09 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 11/7/2006 | | | 5.74 | | 0.04 | NA | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 8/29/2006 | 5.27 | | 5.26 | | 0.01 | 5.44 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 5/24/2006 | 6.52 | | 6.51 | | 0.01 | 4.19 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 2/8/2006 | | | 5.39 | | 0.05 | 4.19 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 7/1/2005 | | | 7.4 | | <0.01 | 2.61 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 5/19/2005 | 7.3 | | | | | 3.4 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 4/20/2005 | 5.06 | | 5.05 | | 0.01 | 5.65 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/9/2005 | 5.36 | | 5.31 | | 0.05 | 5.38 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 1/12/2005 | 5.15 | | 5.14 | | 0.01 | 5.56 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 12/3/2004 | 5.4 | | | | | 5.3 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 11/24/2004 | 5.4 | | | | | 5.3 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 11/16/2004 | 5.4 | | | | | 5.3 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 11/12/2004 | 5.4 | | | | | 5.3 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 11/5/2004 | 5.4 | | | | | 5.3 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 10/22/2004 | 5.07 | | 5.04 | | 0.03 | 5.66 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 10/8/2004 | 6 | | | | | 4.7 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 9/24/2004 | 5.5 | | | | | 5.2 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 9/17/2004 | 6 | | | | | 4.7 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 9/10/2004 | 6 | | | | | 4.7 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 9/2/2004 | 6 | | | | | 4.7 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 8/24/2004 | 6 | | | | | 4.7 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUMP-1 | | 8/11/2004 | 6 | | | | | 4.7 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 8/4/2004 | 6 | | | | | 4.7 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 7/27/2004 | 6 | | | | | 4.7 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 7/21/2004 | 9.5 | | | | | 1.2 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 7/14/2004 | 9.5 | | | | | 1.2 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 7/9/2004 | 9.5 | | | | | 1.2 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 6/28/2004 | 9.5 | | | | | 1.2 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 6/10/2004 | 9.5 | | | | | 1.2 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 5/28/2004 | 9.5 | | | | | 1.2 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 5/18/2004 | 9.5 | | | | | 1.2 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 5/12/2004 | 10.4 | | | | | 0.3 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 5/7/2004 | 9.5 | | | | | 1.2 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 4/29/2004 | 9.5 | | | | | 1.2 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 4/22/2004 | 9.5 | | 9.5 | | <0.01 | 1.21 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 4/15/2004 | 9.5 | | 9 | | 0.5 | 1.63 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 4/6/2004 | 9.5 | | 9.5 | | <0.01 | 1.21 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 4/2/2004 | 9.5 | | 9.5 | | <0.01 | 1.21 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/25/2004 | 9.5 | | 9.5 | | <0.01 | 1.21 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/17/2004 | 9.45 | | 9.45 | | <0.01 | 1.26 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/11/2004 | 9.45 | | 9.45 | | <0.01 | 1.26 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/3/2004 | 9.43 | | | | | 1.27 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 2/17/2004 | 9.42 | | 9.42 | | <0.01 | 1.29 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 2/10/2004 | 9.47 | | 9.47 | | <0.01 | 1.24 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUMP-1 | | 2/3/2004 | 9.47 | | 9.47 | | <0.01 | 1.24 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 1/6/2004 | 9.45 | | 9.45 | | <0.01 | 1.26 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 12/30/2003 | 9.55 | | 9.55 | | <0.01 | 1.16 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 12/22/2003 | 9.46 | | 9.46 | | <0.01 | 1.25 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 12/8/2003 | 9.5 | | 9.5 | | <0.01 | 1.21 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 12/2/2003 | 7.35 | | 7.35 | | <0.01 | 3.36 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 11/19/2003 | 9.5 | | | | | 1.2 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 11/11/2003 | 9.5 | | | | | 1.2 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 11/5/2003 | 5.3 | | 5.3 | | <0.01 | 5.41 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 10/22/2003 | 5.66 | | 5.65 | | 0.01 | 5.05 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 10/13/2003 | 5.95 | | 5.93 | | 0.02 | 4.77 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 10/7/2003 | 5.96 | | 5.91 | | 0.05 | 4.78 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 10/1/2003 | 5.68 | | 5.68 | | <0.01 | 5.03 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUMP-1 | | 9/24/2003 | 5.55 | | 5.55 | | <0.01 | 5.16 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 9/8/2003 | 6.4 | | 6.4 | | <0.01 | 4.31 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 9/3/2003 | 6.58 | | 6.58 | | <0.01 | 4.13 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 8/27/2003 | 9.45 | | 9.45 | | <0.01 | 1.26 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 8/20/2003 | 9.5 | | 9.49 | | 0.01 | 1.21 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 8/12/2003 | 9.46 | | 9.45 | | 0.01 | 1.25 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 8/6/2003 | 9.5 | | 9.5 | | <0.01 | 1.21 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 7/24/2003 | 9.59 | | 9.59 | | <0.01 | 1.12 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 7/18/2003 | 9.43 | | 9.43 | | <0.01 | 1.28 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 6/30/2003 | 6 | | 6 | | <0.01 | 4.71 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 6/26/2003 | 5.83 | | 5.83 | | <0.01 | 4.88 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUMP-1 | | 6/17/2003 | 8.4 | | 8.4 | | <0.01 | 2.31 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 6/13/2003 | 7 | | | | | 3.7 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 6/2/2003 | 9.45 | | 9.45 | | <0.01 | 1.26 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 5/30/2003 | 7.45 | | 7.45 | | <0.01 | 3.26 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 5/20/2003 | 6.05 | | | | | 4.65 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 5/8/2003 | 10.61 | | 10.61 | | <0.01 | 0.1 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 4/28/2003 | 9.46 | | 9.43 | | 0.03 | 1.27 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 4/25/2003 | 10.71 | | 10.71 | | <0.01 | 0 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 4/9/2003 | 10.64 | | 10.64 | | <0.01 | 0.07 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 4/2/2003 | 10.55 | | 10.55 | | <0.01 | 0.16 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/26/2003 | 10.13 | | 10.13 | | <0.01 | 0.58 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/21/2003 | 7.87 | | 7.87 | | <0.01 | 2.84 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/12/2003 | 10.79 | | 10.79 | | <0.01 | -0.08 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUMP-1 | | 2/25/2003 | 10.69 | | 10.69 | | <0.01 | 0.02 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 2/21/2003 | 10.67 | | 10.67 | | <0.01 | 0.04 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 2/13/2003 | 10.65 | | 10.65 | | <0.01 | 0.06 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 2/6/2003 | 10.66 | | 10.66 | | <0.01 | 0.05 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 1/21/2003 | 10.64 | | 10.64 | | <0.01 | 0.07 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 1/10/2003 | 10.61 | | 10.61 | | <0.01 | 0.1 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 12/30/2002 | 10.6 | | 10.6 | | <0.01 | 0.11 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 12/27/2002 | 8.43 | | 8.4 | | 0.03 | 2.3 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 12/19/2002 | 7.64 | | 7.64 | | <0.01 | 3.07 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 12/4/2002 | 8.16 | | 8.15 | | 0.01 | 2.55 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 11/26/2002 | 7.55 | | 7.55 | | <0.01 | 3.16 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUMP-1 | | 11/19/2002 | 7.53 | | 7.53 | | <0.01 | 3.18 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 11/5/2002 | 11.39 | | 11.39 | | <0.01 | -0.68 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 10/22/2002 | 11.35 | | 11.35 | | <0.01 | -0.64 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 10/18/2002 | 11.34 | | 11.34 | | <0.01 | -0.63 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 10/10/2002 | 11.37 | | 11.37 | | <0.01 | -0.66 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 10/4/2002 | 11.35 | | | | | -0.65 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 9/23/2002 | 11.4 | | 11.4 | | <0.01 | -0.69 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 9/20/2002 | 11.34 | | 11.34 | | <0.01 | -0.63 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 9/4/2002 | 11.3 | | 11.3 | | <0.01 | -0.59 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 8/27/2002 | 11.35 | | 11.35 | | <0.01 | -0.64 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 8/12/2002 | 11.35 | | 11.35 | | <0.01 | -0.64 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 8/9/2002 | 9.77 | | 9.77 | | <0.01 | 0.94 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUMP-1 | | 7/31/2002 | 11.32 | | 11.32 | | <0.01 | -0.61 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 7/22/2002 | 9.72 | | 9.72 | | <0.01 | 0.99 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 7/16/2002 | 11.48 | | | | | -0.78 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 7/12/2002 | 10.2 | | | | | 0.5 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 7/1/2002 | 11.33 | | 11.33 | | <0.01 | -0.62 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 6/27/2002 | 10.2 | | | | | 0.5 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 6/19/2002 | 10.18 | | 10.18 | | <0.01 | 0.53 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 6/14/2002 | 9.7 | | 9.55 | | 0.15 | 1.13 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 6/7/2002 | 8.77 | | 8.66 | | 0.11 | 2.03 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 5/31/2002 | 8.82 | | 8.77 | | 0.05 | 1.92 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 5/21/2002 | 10.31 | | 10.31 | | <0.01 | 0.4 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 5/15/2002 | 10.28 | | 10.28 | | <0.01 | 0.43 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 5/1/2002 | 10.21 | | 10.21 | | <0.01 | 0.5 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 4/24/2002 | 10.16 | | 10.16 | | <0.01 | 0.55 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUMP-1 | | 4/19/2002 | 10.34 | | 10.34 | | <0.01 | 0.37 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 4/12/2002 | 10.3 | | 10.3 | | <0.01 | 0.41 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 4/2/2002 | 10.33 | | 10.33 | | <0.01 | 0.38 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/26/2002 | 10.29 | | 10.29 | | <0.01 | 0.42 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/19/2002 | 9.14 | | 8.96 | | 0.18 | 1.72 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/11/2002 | 10.32 | | 10.32 | | <0.01 | 0.39 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/5/2002 | 10.32 | | 10.32 | | <0.01 | 0.39 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/1/2002 | 10.31 | | 10.31 | | <0.01 | 0.4 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 2/19/2002 | 10.31 | | 10.31 | | <0.01 | 0.4 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 2/11/2002 | 10.32 | | 10.3 | | 0.02 | 0.4 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 2/7/2002 | 10.33 | | 10.31 | | 0.02 | 0.39 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUMP-1 | | 1/21/2002 | 10.33 | | 10.32 | | 0.01 | 0.38 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 1/15/2002 | 10.28 | | 10.25 | | 0.03 | 0.45 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 1/4/2002 | 10.1 | | 10.03 | | 0.07 | 0.66 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 12/20/2001 | 10.24 | | 10.21 | | 0.03 | 0.49 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 12/11/2001 | 10.73 | | 9 | | 1.73 | 1.47 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 6/3/1997 | 9.9 | | 9.81 | | 0.09 | 0.88 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 5/27/1997 | 9.96 | | 9.96 | | <0.01 | 0.75 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 5/20/1997 | 9.97 | | 9.97 | | <0.01 | 0.74 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 5/6/1997 | 9.95 | | 9.95 | | <0.01 | 0.76 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 5/2/1997 | 9.96 | | 9.96 | | <0.01 | 0.75 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 4/22/1997 | 9.95 | | 9.95 | | <0.01 | 0.76 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUMP-1 | | 4/18/1997 | 9.95 | | 9.95 | | <0.01 | 0.76 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 4/8/1997 | 9.94 | | 9.94 | | <0.01 | 0.77 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 4/4/1997 | 9.71 | | 9.65 | | 0.06 | 1.04 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/26/1997 | 9.8 | | 9.79 | | 0.01 | 0.91 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/21/1997 | 9.97 | | 9.97 | | <0.01 | 0.74 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/13/1997 | 9.97 | | 9.97 | | <0.01 | 0.74 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 3/6/1997 | 9.95 | | 9.95 | | <0.01 | 0.76 | 10.7 | | 10 | B-129 | 0.8654 | 75% MIDDLE DISTILLATE, 20% HEAVIER MATERIAL (CRUDE/RESIDUAL), 5% GASOLINE | | Yes | RW - Inactive | |
| SUMP-1 | | 2/26/1997 | 9.96 | | | | | 0.74 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 2/20/1997 | 9.96 | | | | | 0.74 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 2/11/1997 | 9.96 | | | | | 0.74 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 2/7/1997 | 9.97 | | | | | 0.73 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 1/29/1997 | 9.97 | | | | | 0.73 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 1/22/1997 | 9.97 | | | | | 0.73 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 1/15/1997 | 9.96 | | | | | 0.74 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 1/8/1997 | 9.97 | | | | | 0.73 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 12/31/1996 | 9.96 | | | | | 0.74 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 12/26/1996 | 9.97 | | | | | 0.73 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 12/20/1996 | 9.96 | | | | | 0.74 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 12/12/1996 | 9.96 | | | | | 0.74 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 12/3/1996 | 10.01 | | | | | 0.69 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 11/26/1996 | 9.97 | | | | | 0.73 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 11/22/1996 | 9.96 | | | | | 0.74 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 11/8/1996 | 9.86 | | | | | 0.84 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 11/5/1996 | 9.97 | | | | | 0.73 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 11/1/1996 | 9.98 | | | | | 0.72 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 10/30/1996 | 9.96 | | | | | 0.74 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| SUMP-1 | | 10/25/1996 | 8.61 | | | | | 2.09 | 10.7 | | 10 | | | - | | Yes | RW - Inactive | |
| U-1 | | 5/11/2017 | 7.39 | 3.91 | | | | 3.31 | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 12/1/2016 | | | | | | NA | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 5/11/2016 | | | | | | NA | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 11/19/2015 | | | | | | NA | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 5/15/2015 | | | | | | NA | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| U-1 | | 12/4/2014 | 6.61 | 3.13 | | | | 4.09 | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 5/14/2014 | 7.3 | 3.82 | | | | 3.4 | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 10/16/2013 | 8.21 | 4.73 | | | | 2.49 | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 7/12/2013 | 7.72 | 4.24 | | | | 2.98 | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 3/28/2013 | 8.1 | 4.62 | | | | 2.6 | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 5/9/2012 | 8.06 | 4.58 | | | | 2.64 | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 5/19/2011 | 7.59 | 4.11 | | | | 3.11 | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 7/29/2010 | | | | | | NA | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 6/22/2009 | 7.36 | 3.88 | | | | 3.34 | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 11/25/2008 | 5.66 | 2.18 | | | | 5.04 | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 6/6/2008 | 5.54 | 2.06 | | | | 5.16 | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 11/15/2007 | 7.63 | 4.15 | | | | 3.07 | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 6/4/2007 | 7.71 | 4.23 | | | | 2.99 | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 11/7/2006 | | | | | | NA | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-1 | | 5/24/2006 | 7.64 | 4.16 | | | | 3.06 | 10.7 | 7.22 | | | | - | Stick Up | | MW | Damaged |
| U-2 | | 5/11/2017 | 6.75 | 4.49 | | | | 2.64 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 12/1/2016 | 6.19 | 3.93 | | | | 3.2 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 5/11/2016 | 6.59 | 4.33 | | | | 2.8 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 11/19/2015 | 7.5 | 5.24 | | | | 1.89 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 5/15/2015 | 7.28 | 5.02 | | | | 2.11 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 12/4/2014 | 6.06 | 3.8 | | | | 3.33 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 5/14/2014 | 6.21 | 3.95 | | | | 3.18 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 10/16/2013 | 6.71 | 4.45 | | | | 2.68 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 3/28/2013 | 6.46 | 4.2 | | | | 2.93 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 5/9/2012 | 6.07 | 3.81 | | | | 3.32 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 5/19/2011 | 5.38 | 3.12 | | | | 4.01 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 7/29/2010 | | | | | | NA | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 6/22/2009 | 5.97 | 3.71 | | | | 3.42 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 11/25/2008 | 4.82 | 2.56 | | | | 4.57 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 6/6/2008 | 4.46 | 2.2 | | | | 4.93 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 11/15/2007 | 6.3 | 4.04 | | | | 3.09 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 6/4/2007 | 6.59 | 4.33 | | | | 2.8 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 11/7/2006 | | | | | | NA | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-2 | | 5/24/2006 | 6.42 | 4.16 | | | | 2.97 | 9.39 | 7.13 | | | | - | Stick Up | | MW | |
| U-3 | | 5/11/2017 | 7.5 | 4.54 | 5.79 | 2.83 | 1.71 | 3.68749 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 12/1/2016 | 7.78 | 4.82 | 6.8 | 3.84 | 0.98 | 2.81517 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 5/11/2016 | 7.01 | 4.05 | 5.84 | 2.88 | 1.17 | 3.74 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 11/19/2015 | 7.38 | 4.42 | 6.81 | 3.85 | 0.57 | 2.88 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 5/15/2015 | 6.99 | 4.03 | 6.55 | 3.59 | 0.44 | 3.17 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 12/4/2014 | 7.6 | 4.64 | 6.28 | 3.32 | 1.32 | 3.27 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 5/14/2014 | 7.12 | 4.16 | 5.64 | 2.68 | 1.48 | 3.88 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 10/16/2013 | 7.85 | 4.89 | 6.33 | 3.37 | 1.52 | 3.18 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| U-3 | | 3/28/2013 | 7.06 | 4.1 | 6.49 | 3.53 | 0.57 | 3.2 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 5/9/2012 | 7.23 | 4.27 | 6.15 | 3.19 | 1.08 | 3.45 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 5/19/2011 | 6.49 | 3.53 | 6.01 | 3.05 | 0.48 | 3.7 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 7/29/2010 | | | 5.55 | | 1.35 | NA | 9.8 | 6.84 | | | | - | Stick Up | | MW | |
| U-3 | | 6/22/2009 | 6.79 | 3.83 | 6 | 3.04 | 0.79 | 3.65 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 3/23/2009 | 8.02 | 5.06 | 7.61 | 4.65 | 0.41 | 2.11 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 11/25/2008 | 5.8 | 2.84 | 5.1 | 2.14 | 0.7 | 4.57 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 6/6/2008 | 5.38 | 2.42 | 4.71 | 1.75 | 0.67 | 4.96 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 11/15/2007 | 6.9 | 3.94 | 6.52 | 3.56 | 0.38 | 3.21 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 6/4/2007 | 7.01 | 4.05 | 6.72 | 3.76 | 0.29 | 3.03 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-3 | | 11/7/2006 | | | 6.21 | | 0.69 | NA | 9.8 | 6.84 | | | | - | Stick Up | | MW | |
| U-3 | | 5/24/2006 | 7.13 | 4.17 | 6.72 | 3.76 | 0.41 | 3 | 9.8 | 6.84 | | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | MW | |
| U-4 | | 5/11/2017 | 3.92 | 1.34 | | | | 5.3 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 12/1/2016 | 3.43 | 0.85 | | | | 5.79 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 8/19/2016 | | | | | | 5.44 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 5/11/2016 | 3.81 | 1.23 | | | | 5.41 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 5/5/2016 | 3.89 | 1.31 | | | | 5.33 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 11/19/2015 | 4.8 | 2.22 | | | | 4.42 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 5/15/2015 | 6.49 | 3.91 | | | | 2.73 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 12/4/2014 | 3.47 | 0.89 | | | | 5.75 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 5/14/2014 | 4.7 | 2.12 | | | | 4.52 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 10/16/2013 | 3.28 | 0.7 | | | | 5.94 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 3/28/2013 | 3.42 | 0.84 | | | | 5.8 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 5/9/2012 | 4.32 | 1.74 | | | | 4.9 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 5/18/2011 | 5.65 | 3.07 | | | | 3.57 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 7/29/2010 | | | 5.21 | | <0.01 | NA | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 6/22/2009 | 5.66 | 3.08 | | | | 3.56 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 11/25/2008 | 3.21 | 0.63 | | | | 6.01 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 6/6/2008 | 4.91 | 2.33 | | | | 4.31 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 11/15/2007 | 3.61 | 1.03 | | | | 5.61 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 6/4/2007 | 4.16 | 1.58 | | | | 5.06 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 11/7/2006 | | | | | | NA | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-4 | | 5/24/2006 | 3.71 | 1.13 | | | | 5.51 | 9.22 | 6.64 | | | | - | Stick Up | | MW | |
| U-5 | | 5/11/2017 | 8.17 | 5.98 | | | | 1.62 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 12/1/2016 | 5.98 | 3.79 | | | | 3.81 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 5/11/2016 | 7.52 | 5.33 | | | | 2.27 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 11/19/2015 | 8.9 | 6.71 | | | | 0.89 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 5/15/2015 | 8.61 | 6.42 | | | | 1.18 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 12/4/2014 | 6.58 | 4.39 | | | | 3.21 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 5/14/2014 | 7.52 | 5.33 | | | | 2.27 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| U-5 | | 10/16/2013 | 7.27 | 5.08 | | | | 2.52 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 3/28/2013 | 7.61 | 5.42 | | | | 2.18 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 5/9/2012 | 7.46 | 5.27 | | | | 2.33 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 5/19/2011 | 7.09 | 4.9 | | | | 2.7 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 7/29/2010 | | | | | | NA | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 6/22/2009 | 5.32 | 3.13 | | | | 4.47 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 11/25/2008 | 5.3 | 3.11 | | | | 4.49 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 6/6/2008 | 5.11 | 2.92 | | | | 4.68 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 11/15/2007 | 5.21 | 3.02 | | | | 4.58 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 6/4/2007 | 6.97 | 4.78 | | | | 2.82 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 11/7/2006 | | | | | | NA | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| U-5 | | 5/24/2006 | 6.73 | 4.54 | | | | 3.06 | 9.79 | 7.6 | | | | - | Stick Up | | MW | |
| URS-1 | B-132U | 5/11/2017 | 5.75 | | | | | 4.27 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 8/19/2016 | | | | | | 3.34 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 5/11/2016 | 5.68 | | | | | 4.34 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 5/9/2016 | 5.39 | | | | | 4.63 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 5/15/2015 | 7.42 | | | | | 2.6 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 12/4/2014 | 5.82 | | | | | 4.2 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 5/15/2014 | 5.79 | | | | | 4.23 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 10/16/2013 | 5.52 | | | | | 4.5 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 3/28/2013 | 6.07 | | | | | 3.95 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 5/9/2012 | 5.9 | | | | | 4.12 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 5/18/2011 | 6.08 | | | | | 3.94 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 7/30/2010 | | | | | | NA | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 6/22/2009 | 5.39 | | | | | 4.63 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 3/23/2009 | 6.95 | | | | | 3.07 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 11/25/2008 | 5.96 | | | | | 4.06 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 6/6/2008 | 6.55 | | | | | 3.47 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 11/15/2007 | 6.05 | | | | | 3.97 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 6/4/2007 | 6.14 | | | | | 3.88 | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 11/7/2006 | | | | | | NA | 10.02 | | | | | - | | | MW | |
| URS-1 | B-132U | 5/24/2006 | 6.07 | | | | | 3.95 | 10.02 | | | | | - | | | MW | |
| URS-2 | B-133U | 5/11/2017 | 3.99 | | | | | 3.9 | 7.89 | | | | | - | | | MW | Unable to l |
| URS-2 | B-133U | 5/11/2016 | 3.83 | | | | | 4.06 | 7.89 | | | | | - | | | MW | Unable to l |
| URS-2 | B-133U | 5/15/2015 | 4.61 | | | | | 3.28 | 7.89 | | | | | - | | | MW | Unable to l |
| URS-2 | B-133U | 12/4/2014 | 4.28 | | | | | 3.61 | 7.89 | | | | | - | | | MW | Unable to l |
| URS-2 | B-133U | 5/14/2014 | 3.73 | | | | | 4.16 | 7.89 | | | | | - | | | MW | Unable to l |
| URS-2 | B-133U | 10/16/2013 | 4.48 | | | | | 3.41 | 7.89 | | | | | - | | | MW | Unable to l |
| URS-2 | B-133U | 3/28/2013 | 4.44 | | | | | 3.45 | 7.89 | | | | | - | | | MW | Unable to l |
| URS-2 | B-133U | 5/9/2012 | 4.45 | | | | | 3.44 | 7.89 | | | | | - | | | MW | Unable to l |
| URS-2 | B-133U | 5/19/2011 | 4.03 | | | | | 3.86 | 7.89 | | | | | - | | | MW | Unable to l |
| URS-2 | B-133U | 11/25/2008 | | | | | | NA | 7.89 | | | | | - | | | MW | Unable to l |
| URS-2 | B-133U | 6/6/2008 | 1.95 | | | | | 5.94 | 7.89 | | | | | - | | | MW | Unable to l |
| URS-2 | B-133U | 11/15/2007 | 4.46 | | | | | 3.43 | 7.89 | | | | | - | | | MW | Unable to l |
| URS-2 | B-133U | 6/4/2007 | 4.75 | | | | | 3.14 | 7.89 | | | | | - | | | MW | Unable to l |
| URS-2 | B-133U | 11/7/2006 | | | | | | NA | 7.89 | | | | | - | | | MW | Unable to l |
| URS-2 | B-133U | 5/24/2006 | 4.69 | | | | | 3.2 | 7.89 | | | | | - | | | MW | Unable to l |
| URS-3 | B-134U | 5/11/2017 | 4.12 | | 4.12 | | <0.01 | 3.48811 | 7.6 | | 18 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | MW | |
| URS-3 | B-134U | 8/19/2016 | | | | | | 3.4 | 7.6 | | 18 | | | - | | | MW | |
| URS-3 | B-134U | 5/11/2016 | 3.99 | | | | | 3.61 | 7.6 | | 18 | | | - | | | MW | |
| URS-3 | B-134U | 5/9/2016 | 3.9 | | | | | 3.7 | 7.6 | | 18 | | | - | | | MW | |
| URS-3 | B-134U | 5/15/2015 | 4.53 | | | | | 3.07 | 7.6 | | 18 | | | - | | | MW | |
| URS-3 | B-134U | 12/4/2014 | 4.38 | | | | | 3.22 | 7.6 | | 18 | | | - | | | MW | |
| URS-3 | B-134U | 5/14/2014 | 3.98 | | | | | 3.62 | 7.6 | | 18 | | | - | | | MW | |
| URS-3 | B-134U | 10/16/2013 | 4.15 | | | | | 3.45 | 7.6 | | 18 | | | - | | | MW | |
| URS-3 | B-134U | 7/12/2013 | 3.72 | | | | | 3.88 | 7.6 | | 18 | | | - | | | MW | |
| URS-3 | B-134U | 3/28/2013 | 4.05 | | | | | 3.55 | 7.6 | | 18 | | | - | | | MW | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| URS-3 | B-134U | 5/9/2012 | 3.78 | | 3.78 | | <0.01 | 3.83 | 7.6 | | 18 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | MW | |
| URS-3 | B-134U | 5/18/2011 | 3.96 | | 3.96 | | <0.01 | 3.65 | 7.6 | | 18 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | MW | |
| URS-3 | B-134U | 7/29/2010 | | | | | | NA | 7.6 | | 18 | | | - | | | MW | |
| URS-3 | B-134U | 6/22/2009 | 3.5 | | | | | 4.1 | 7.6 | | 18 | | | - | | | MW | |
| URS-3 | B-134U | 11/25/2008 | 4.35 | | | | | 3.25 | 7.6 | | 18 | | | - | | | MW | |
| URS-3 | B-134U | 6/6/2008 | 3.98 | | | | | 3.62 | 7.6 | | 18 | | | - | | | MW | |
| URS-3 | B-134U | 11/15/2007 | 4.52 | | | | | 3.08 | 7.6 | | 18 | | | - | | | MW | |
| URS-3 | B-134U | 6/4/2007 | 11.35 | | | | | -3.75 | 7.6 | | 18 | | | - | | | MW | |
| URS-3 | B-134U | 11/7/2006 | | | | | | NA | 7.6 | | 18 | | | - | | | MW | |
| URS-3 | B-134U | 5/24/2006 | 4.18 | | | | | 3.42 | 7.6 | | 18 | | | - | | | MW | |
| URS-4 | B-135U | 5/11/2017 | 9.96 | | | | | -0.019 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 8/19/2016 | | | | | | 2.421 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 5/11/2016 | 9.09 | | | | | 0.85 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 5/9/2016 | 8.45 | | | | | 1.491 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 5/15/2015 | 7.74 | | | | | 2.2 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 12/4/2014 | 7.5 | | | | | 2.44 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 5/15/2014 | 7.2 | | | | | 2.74 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 10/16/2013 | 6.59 | | | | | 3.35 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 3/28/2013 | 10.53 | | | | | -0.59 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 5/9/2012 | 9.63 | | | | | 0.31 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 5/18/2011 | 7.81 | | | | | 2.13 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 7/30/2010 | | | | | | NA | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 6/22/2009 | 8.84 | | | | | 1.1 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 3/23/2009 | 7.06 | | | | | 2.88 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 11/25/2008 | 6.98 | | | | | 2.96 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 6/6/2008 | 9.75 | | | | | 0.19 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 11/15/2007 | 8.32 | | | | | 1.62 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 6/4/2007 | 7.88 | | | | | 2.06 | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 11/7/2006 | | | | | | NA | 9.941 | | | | | - | | | MW | |
| URS-4 | B-135U | 5/24/2006 | 7.35 | | | | | 2.59 | 9.941 | | | | | - | | | MW | |
| URS-5 | B-136U | 5/11/2017 | 5.3 | | | | | 2.64 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 8/19/2016 | | | | | | 2.65 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 5/11/2016 | 5.11 | | 5.11 | | <0.01 | 2.84 | 7.94 | | 14 | B-39 | 0.8734 | 98% MIDDLE DISTILLATE, 2% GASOLINE | | | MW | |
| URS-5 | B-136U | 5/10/2016 | 5.15 | | | | | 2.79 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 5/15/2015 | 5.52 | | | | | 2.42 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 12/4/2014 | 5.23 | | | | | 2.71 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 5/14/2014 | 5.22 | | | | | 2.72 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 10/16/2013 | 5.18 | | | | | 2.76 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 3/28/2013 | 5 | | | | | 2.94 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 5/9/2012 | 5.25 | | | | | 2.69 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 5/18/2011 | 5.26 | | | | | 2.68 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 7/29/2010 | | | | | | NA | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 6/22/2009 | 4.87 | | | | | 3.07 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 3/23/2009 | 5.64 | | | | | 2.3 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 11/25/2008 | 5.26 | | | | | 2.68 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 6/6/2008 | 5.36 | | | | | 2.58 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 11/15/2007 | 5.32 | | | | | 2.62 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 6/4/2007 | 5.3 | | | | | 2.64 | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 11/7/2006 | | | | | | NA | 7.94 | | 14 | | | - | | | MW | |
| URS-5 | B-136U | 5/24/2006 | 5.37 | | | | | 2.57 | 7.94 | | 14 | | | - | | | MW | |
| WP16-2 | | 11/25/2008 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 6/6/2008 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 11/15/2007 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 6/4/2007 | | | | | | NA | | 13.59 | | | | - | | | | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP16-2 | | 11/7/2006 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 5/24/2006 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 5/19/2005 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 10/8/2004 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 9/17/2004 | 8.76 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 6/28/2004 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 3/3/2004 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 11/25/2003 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 11/18/2003 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 8/27/2003 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 7/7/2003 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 3/12/2003 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 8/12/2002 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 6/14/2002 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 2/19/2002 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 11/8/2001 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 6/13/2001 | | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 2/19/2001 | 4.72 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 11/14/2000 | 8.35 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 9/6/2000 | 7.41 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 6/16/2000 | 7.42 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 3/9/2000 | 8.26 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 11/18/1999 | 8.09 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 9/24/1999 | 7.09 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 9/9/1999 | 7.74 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 8/27/1999 | 8.28 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 8/12/1999 | 8.58 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 7/30/1999 | 8.21 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 7/13/1999 | 8.16 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 6/30/1999 | 8.01 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 6/15/1999 | 7.89 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 6/2/1999 | 7.62 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 5/20/1999 | 7.75 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 5/4/1999 | 7.74 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 4/20/1999 | 7.62 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 4/12/1999 | 7.67 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 3/25/1999 | 7.93 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 3/11/1999 | 8.14 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 3/2/1999 | 8.14 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 2/9/1999 | 8.25 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 1/29/1999 | 8.82 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 1/15/1999 | 9.19 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 12/30/1998 | 9.15 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 12/17/1998 | 8.96 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 12/4/1998 | 8.98 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 11/20/1998 | 8.93 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 11/4/1998 | 8.78 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 10/23/1998 | 8.51 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 10/9/1998 | 8.65 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 9/25/1998 | 8.35 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 9/10/1998 | 8.32 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 8/28/1998 | 8.14 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 8/13/1998 | 8.19 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 7/31/1998 | 8.06 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 7/16/1998 | 7.8 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 7/2/1998 | 7.67 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 6/19/1998 | 7.49 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 6/5/1998 | 7.69 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 5/21/1998 | 7.39 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 4/23/1998 | 7.41 | | | | | NA | | 13.59 | | | | - | | | | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP16-2 | | 4/10/1998 | 7.61 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 3/27/1998 | 7.59 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 3/12/1998 | 7.55 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 2/27/1998 | 7.58 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 2/10/1998 | 7.91 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 1/30/1998 | 7.6 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 1/16/1998 | 7.86 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 12/19/1997 | 8.63 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 12/4/1997 | 8.24 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 11/21/1997 | 8.19 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 11/7/1997 | 8.19 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 10/24/1997 | 8.61 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 10/10/1997 | 8.41 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 9/26/1997 | 7.93 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 9/12/1997 | 7.79 | | 7.79 | | <0.01 | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 8/28/1997 | 7.9 | | 7.87 | | 0.03 | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 8/15/1997 | 7.88 | | 7.86 | | 0.02 | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 8/1/1997 | 7.84 | | 7.82 | | 0.02 | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 7/17/1997 | 8.01 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 7/1/1997 | 7.86 | | 7.86 | | <0.01 | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 6/20/1997 | 7.83 | | 7.8 | | 0.03 | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 6/3/1997 | 7.63 | | 7.63 | | <0.01 | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 5/22/1997 | 8.05 | | 8.05 | | <0.01 | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 5/9/1997 | 7.51 | | | | | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 4/24/1997 | 7.6 | | 7.6 | | <0.01 | NA | | 13.59 | | | | - | | | | |
| WP16-2 | | 4/11/1997 | 7.62 | | 7.62 | | <0.01 | NA | | 13.59 | | | | - | | | | |
| WP16-5 | | 11/25/2008 | | | | | | NA | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 6/6/2008 | | | | | | NA | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 11/15/2007 | | | | | | NA | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 6/4/2007 | | | | | | NA | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 11/7/2006 | | | | | | NA | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 5/24/2006 | | | | | | NA | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 5/19/2005 | 7.25 | | | | | 6.32 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 10/8/2004 | 6.67 | | | | | 6.9 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 9/17/2004 | 6.95 | | | | | 6.62 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 6/28/2004 | 6.71 | | | | | 6.86 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 3/3/2004 | 7.61 | | | | | 5.96 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 11/25/2003 | 6.72 | | | | | 6.85 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 11/18/2003 | 6.7 | | | | | 6.87 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 8/27/2003 | 6.82 | | | | | 6.75 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 7/7/2003 | 6.73 | | | | | 6.84 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 3/12/2003 | 6.5 | | | | | 7.07 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 10/31/2002 | 6.23 | | | | | 7.34 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 8/12/2002 | 7.28 | | | | | 6.29 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 6/14/2002 | 6.63 | | | | | 6.94 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 2/19/2002 | 7.8 | | | | | 5.77 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 11/8/2001 | 8.4 | | | | | 5.17 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 9/5/2001 | 7.81 | | | | | 5.76 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 6/13/2001 | 6.68 | | | | | 6.89 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 2/19/2001 | 6.8 | | | | | 6.77 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 11/14/2000 | 7.54 | | | | | 6.03 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 9/6/2000 | 6.44 | | | | | 7.13 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 6/16/2000 | 6.56 | | | | | 7.01 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 3/9/2000 | 7.28 | | | | | 6.29 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 11/18/1999 | 7.42 | | | | | 6.15 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 9/24/1999 | 6.06 | | | | | 7.51 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 6/15/1999 | 7.1 | | | | | 6.47 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 3/11/1999 | 6.82 | | | | | 6.75 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 12/17/1998 | 8.22 | | | | | 5.35 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 9/10/1998 | 7.23 | | | | | 6.34 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP16-5 | | 6/19/1998 | 6.4 | | | | | 7.17 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 3/27/1998 | 6.55 | | | | | 7.02 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 12/19/1997 | 7.47 | | | | | 6.1 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 9/26/1997 | 7.24 | | | | | 6.33 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 7/17/1997 | 5.41 | | | | | 8.16 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 7/1/1997 | 5.44 | | | | | 8.13 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 6/20/1997 | 5.47 | | | | | 8.1 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 6/3/1997 | 5.23 | | | | | 8.34 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 5/22/1997 | 5.31 | | | | | 8.26 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 5/9/1997 | 5.18 | | | | | 8.39 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 4/24/1997 | 5.25 | | | | | 8.32 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP16-5 | | 4/11/1997 | 5.35 | | | | | 8.22 | 13.57 | | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 11/25/2008 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 8/18/2008 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 6/6/2008 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 3/31/2008 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 11/15/2007 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 9/18/2007 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 6/4/2007 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 3/2/2007 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 11/7/2006 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 8/29/2006 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 5/24/2006 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 2/8/2006 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 7/1/2005 | | | | | | 4.83 | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 5/19/2005 | 2.74 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 3/9/2005 | 1.93 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 10/8/2004 | 3.08 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 9/17/2004 | 3.01 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 6/25/2004 | 2.49 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 3/3/2004 | 2.86 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 11/25/2003 | 2 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 11/18/2003 | 2 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 8/27/2003 | 2.07 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 7/7/2003 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 3/12/2003 | 1.98 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 10/31/2002 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 8/12/2002 | 2.77 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 6/14/2002 | 1.99 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 2/19/2002 | 3.08 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 11/8/2001 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 9/19/2001 | 4.05 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 6/13/2001 | 1.99 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 2/19/2001 | 2.98 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 11/14/2000 | 2.75 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 9/6/2000 | 2.35 | | 2.35 | | <0.01 | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 6/16/2000 | 2.56 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 3/9/2000 | 2.4 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 11/18/1999 | 2.88 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 9/24/1999 | 1.01 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 9/9/1999 | 1.98 | | 1.98 | | <0.01 | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 8/27/1999 | 2.18 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 8/12/1999 | 3.57 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 7/30/1999 | | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 7/16/1999 | 2.75 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 6/30/1999 | 2.52 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 6/15/1999 | 2.39 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 6/2/1999 | 1.8 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 5/19/1999 | 2.34 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 5/4/1999 | 2.19 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-1 | | 4/20/1999 | 2.65 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 4/12/1999 | 2.69 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 3/29/1999 | 2.41 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 3/11/1999 | 3.15 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 3/2/1999 | 3.11 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 2/10/1999 | 2.37 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 1/29/1999 | 2.85 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 1/15/1999 | 2.71 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 12/29/1998 | 3.93 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 12/16/1998 | 4.21 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 12/1/1998 | 4.31 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 11/20/1998 | 4.13 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 11/4/1998 | 3.72 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 10/23/1998 | 3.93 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 10/9/1998 | 3.97 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 9/25/1998 | 3.05 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 9/11/1998 | 2.95 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 8/28/1998 | 2.83 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 8/14/1998 | 2.93 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 7/31/1998 | 2.93 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 7/16/1998 | 2.85 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 7/2/1998 | 2.66 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 6/19/1998 | 2.16 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 6/5/1998 | 2.15 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 5/20/1998 | 1.98 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 4/23/1998 | 1.83 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 4/10/1998 | 2.03 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 3/27/1998 | 2.02 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 3/12/1998 | 2.32 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 2/27/1998 | 2.37 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 2/10/1998 | 2.58 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 1/30/1998 | 2.34 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 1/16/1998 | 2.85 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 12/19/1997 | 3.18 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 12/4/1997 | 2.84 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 11/21/1997 | 3.56 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 11/7/1997 | 3.67 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 10/24/1997 | 4.32 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 10/10/1997 | 3.89 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 9/24/1997 | 3.36 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 9/12/1997 | 2.93 | | | | | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 8/28/1997 | 3.31 | | 3.29 | | 0.02 | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 8/14/1997 | 3.86 | | 3.86 | | <0.01 | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 8/1/1997 | 3.49 | | 3.42 | | 0.07 | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 7/17/1997 | 4.43 | | 4.06 | | 0.37 | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 7/1/1997 | 3.49 | | 3.44 | | 0.05 | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 6/20/1997 | 3.8 | | 3.51 | | 0.29 | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 6/2/1997 | 2.7 | | 2.62 | | 0.08 | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 5/22/1997 | 3.26 | | 3.08 | | 0.18 | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 5/9/1997 | 2.49 | | 2.44 | | 0.05 | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 4/22/1997 | 1.93 | | 1.74 | | 0.19 | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-1 | | 4/11/1997 | 2.24 | | 2.07 | | 0.17 | NA | | 7.9 | 9 | | | - | | | Temporary | Destroyed |
| WP9-2 | | 11/25/2008 | | | | | | NA | 6.01 | | 10.5 | | | - | | | Temporary | Unable to l |
| WP9-2 | | 8/18/2008 | | | | | | NA | 6.01 | | 10.5 | | | - | | | Temporary | Unable to l |
| WP9-2 | | 6/6/2008 | | | | | | NA | 6.01 | | 10.5 | | | - | | | Temporary | Unable to l |
| WP9-2 | | 3/31/2008 | | | | | | NA | 6.01 | | 10.5 | | | - | | | Temporary | Unable to l |
| WP9-2 | | 11/15/2007 | 3.33 | | 2.25 | | 1.08 | 3.56 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-2 | | 9/18/2007 | 4.35 | | 3.32 | | 1.03 | 2.5 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/4/2007 | 4.25 | | 1.82 | | 2.43 | 3.73 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/2/2007 | 4.43 | | 3.32 | | 1.11 | 2.48 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 11/7/2006 | | | 2.04 | | 1.65 | NA | 6.01 | | 10.5 | | | - | | | Temporary | Unable to l |
| WP9-2 | | 8/29/2006 | 3.28 | | 2.19 | | 1.09 | 3.61 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/24/2006 | 4.17 | | 1.99 | | 2.18 | 3.61 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 2/8/2006 | | | 1.9 | | 2.12 | 5.71 | 6.01 | | 10.5 | | | - | | | Temporary | Unable to l |
| WP9-2 | | 7/1/2005 | | | 2.88 | | 1.41 | 4.86 | 6.01 | | 10.5 | | | - | | | Temporary | Unable to l |
| WP9-2 | | 5/19/2005 | 4.25 | | 2.67 | | 1.58 | 3.04 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/9/2005 | 4.21 | | 1.85 | | 2.36 | 3.71 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/8/2004 | 3.64 | | 1.74 | | 1.9 | 3.91 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/17/2004 | 4.39 | | 3.05 | | 1.34 | 2.71 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/2/2004 | 4.45 | | 2.22 | | 2.23 | 3.37 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/25/2004 | 4.41 | | 2.46 | | 1.95 | 3.18 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/10/2004 | 4.18 | | 1.35 | | 2.83 | 4.13 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/28/2004 | 4.3 | | 1.52 | | 2.78 | 3.97 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/12/2004 | 4.35 | | 1.58 | | 2.77 | 3.91 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 4/29/2004 | 4.31 | | 1.85 | | 2.46 | 3.7 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 4/15/2004 | 4.12 | | 1.38 | | 2.74 | 4.11 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 4/2/2004 | 4.14 | | 1.49 | | 2.65 | 4.02 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/17/2004 | 4.11 | | 2.2 | | 1.91 | 3.45 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/3/2004 | 4.31 | | 2.78 | | 1.53 | 2.94 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-2 | | 2/17/2004 | 4.05 | | 2.36 | | 1.69 | 3.33 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 2/3/2004 | 4.06 | | 3.61 | | 0.45 | 2.32 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 1/6/2004 | 4.21 | | 2.18 | | 2.03 | 3.45 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 12/22/2003 | 3.39 | | 1.51 | | 1.88 | 4.15 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 11/25/2003 | 3.96 | | 2.13 | | 1.83 | 3.53 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 11/18/2003 | 4.03 | | 2.1 | | 1.93 | 3.55 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 11/5/2003 | 3.04 | | 1.35 | | 1.69 | 4.34 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/22/2003 | 3.33 | | 2.04 | | 1.29 | 3.73 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/7/2003 | 3.57 | | 2.34 | | 1.23 | 3.44 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/24/2003 | 3.72 | | 1.65 | | 2.07 | 3.97 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/8/2003 | 3.76 | | 2.08 | | 1.68 | 3.61 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 8/27/2003 | 4.03 | | 1.98 | | 2.05 | 3.64 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 8/12/2003 | 4.2 | | 1.73 | | 2.47 | 3.81 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 7/18/2003 | 3.65 | | 1.76 | | 1.89 | 3.89 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 7/7/2003 | | | | | | NA | 6.01 | | 10.5 | | | - | | | Temporary | Unable to l |
| WP9-2 | | 6/30/2003 | 2.47 | | 1.25 | | 1.22 | 4.53 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/17/2003 | 3.5 | | 1.05 | | 2.45 | 4.5 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/2/2003 | 4 | | 1.37 | | 2.63 | 4.14 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/20/2003 | 3.84 | | 1.89 | | 1.95 | 3.75 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/8/2003 | 3.85 | | 1.74 | | 2.11 | 3.87 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-2 | | 4/25/2003 | 3.5 | | 1.64 | | 1.86 | 4.02 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 4/9/2003 | 3.2 | | 1.49 | | 1.71 | 4.2 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/26/2003 | 3.48 | | 1.7 | | 1.78 | 3.97 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/12/2003 | 3.7 | | 2.09 | | 1.61 | 3.62 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 2/27/2003 | 2.91 | | 1.64 | | 1.27 | 4.13 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 2/13/2003 | 3.75 | | 2.97 | | 0.78 | 2.89 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 1/28/2003 | 3.96 | | 3.05 | | 0.91 | 2.79 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 1/24/2003 | 4.3 | | 2.9 | | 1.4 | 2.85 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 12/30/2002 | 2.82 | | 1.88 | | 0.94 | 3.95 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 12/19/2002 | 4.05 | | 3.09 | | 0.96 | 2.74 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 12/4/2002 | 3.81 | | 2.79 | | 1.02 | 3.03 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 11/18/2002 | 2.41 | | 1.45 | | 0.96 | 4.38 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/31/2002 | 1.76 | | 1.41 | | 0.35 | 4.53 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/18/2002 | 2.35 | | 1.86 | | 0.49 | 4.06 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/4/2002 | 2.76 | | 2.16 | | 0.6 | 3.74 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/17/2002 | 3.32 | | 2.51 | | 0.81 | 3.35 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/4/2002 | 2.48 | | 2.27 | | 0.21 | 3.7 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 8/12/2002 | 3.7 | | 2.61 | | 1.09 | 3.19 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 7/22/2002 | 3.59 | | 2.26 | | 1.33 | 3.5 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/27/2002 | 3.63 | | 2.01 | | 1.62 | 3.69 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-2 | | 6/14/2002 | 3.25 | | 2.01 | | 1.24 | 3.77 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/31/2002 | 3.59 | | 2.15 | | 1.44 | 3.59 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/15/2002 | 3.68 | | 2.01 | | 1.67 | 3.69 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/1/2002 | 3.05 | | 1.95 | | 1.1 | 3.85 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 4/19/2002 | 3.19 | | 2.01 | | 1.18 | 3.78 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 4/2/2002 | 2.88 | | 2.05 | | 0.83 | 3.8 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/19/2002 | 3.5 | | 2.57 | | 0.93 | 3.26 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/5/2002 | 3.78 | | 3.08 | | 0.7 | 2.8 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 2/19/2002 | 3.77 | | 3.07 | | 0.7 | 2.81 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 2/7/2002 | 3.65 | | 3.14 | | 0.51 | 2.77 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 1/21/2002 | 3.31 | | 2.97 | | 0.34 | 2.98 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 1/9/2002 | 3.29 | | 2.99 | | 0.3 | 2.96 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 12/11/2001 | 3.93 | | 3.16 | | 0.77 | 2.7 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 11/8/2001 | 3.69 | | 3.69 | | <0.01 | 2.33 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/31/2001 | 4.15 | | 3.42 | | 0.73 | 2.45 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/17/2001 | 4.32 | | 3.04 | | 1.28 | 2.73 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/2/2001 | 4.31 | | 3.33 | | 0.98 | 2.5 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/19/2001 | 4.41 | | 4.16 | | 0.25 | 1.8 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/5/2001 | 4.91 | | 4.56 | | 0.35 | 1.38 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 8/21/2001 | 4.4 | | 4.06 | | 0.34 | 1.89 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-2 | | 8/9/2001 | 4.48 | | 4.01 | | 0.47 | 1.91 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 7/26/2001 | 4.39 | | 2.92 | | 1.47 | 2.81 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 7/10/2001 | 4.13 | | 2.15 | | 1.98 | 3.49 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/13/2001 | 4.39 | | 1.85 | | 2.54 | 3.68 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/29/2001 | 4.3 | | 2.35 | | 1.95 | 3.29 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/17/2001 | 4.37 | | 3.18 | | 1.19 | 2.61 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/3/2001 | 4.23 | | 2.21 | | 2.02 | 3.42 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 4/16/2001 | 4.53 | | 2.18 | | 2.35 | 3.39 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 4/6/2001 | 4.17 | | 2.3 | | 1.87 | 3.36 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/20/2001 | 4.02 | | 1.58 | | 2.44 | 3.97 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/6/2001 | 4 | | 2.2 | | 1.8 | 3.47 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 2/19/2001 | 4.46 | | 3.35 | | 1.11 | 2.45 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 2/6/2001 | 4.28 | | 2.92 | | 1.36 | 2.83 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 1/23/2001 | 3.84 | | 3.36 | | 0.48 | 2.56 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 1/9/2001 | 4.41 | | 3.56 | | 0.85 | 2.29 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 12/12/2000 | 3.84 | | 2.86 | | 0.98 | 2.97 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 11/28/2000 | 3.9 | | 2.79 | | 1.11 | 3.01 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 11/14/2000 | 3.82 | | 2.76 | | 1.06 | 3.05 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/31/2000 | 4.25 | | 2.71 | | 1.54 | 3.01 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/18/2000 | 4.09 | | 2.45 | | 1.64 | 3.25 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-2 | | 10/2/2000 | 4.51 | | 2.08 | | 2.43 | 3.47 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/19/2000 | 4.28 | | 1.97 | | 2.31 | 3.6 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/6/2000 | 4.43 | | 2.37 | | 2.06 | 3.25 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 8/23/2000 | 4.35 | | 2.68 | | 1.67 | 3.02 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 8/9/2000 | 4.43 | | 1.87 | | 2.56 | 3.66 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 7/25/2000 | 4.72 | | 3.05 | | 1.67 | 2.65 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 7/11/2000 | 5.03 | | 3.21 | | 1.82 | 2.46 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/27/2000 | 4.83 | | 2.44 | | 2.39 | 3.12 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/16/2000 | 4.87 | | 2.75 | | 2.12 | 2.86 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/1/2000 | 4.77 | | 2.76 | | 2.01 | 2.87 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/19/2000 | 4.83 | | 2.75 | | 2.08 | 2.87 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/4/2000 | 4.71 | | 2.86 | | 1.85 | 2.8 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 4/20/2000 | 4.37 | | 2.01 | | 2.36 | 3.55 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 4/5/2000 | 4.69 | | 2.07 | | 2.62 | 3.45 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/22/2000 | 3.98 | | 2.33 | | 1.65 | 3.37 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/9/2000 | 4.41 | | 2.24 | | 2.17 | 3.36 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 2/24/2000 | 4.43 | | 2.11 | | 2.32 | 3.46 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 2/11/2000 | 4.49 | | 2.56 | | 1.93 | 3.09 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 1/26/2000 | 4.66 | | 3.41 | | 1.25 | 2.36 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 1/14/2000 | 4.58 | | 2.97 | | 1.61 | 2.74 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-2 | | 12/30/1999 | 4.57 | | 2.9 | | 1.67 | 2.8 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 12/16/1999 | 4.32 | | 1.66 | | 2.66 | 3.85 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 12/6/1999 | 4.19 | | 2.38 | | 1.81 | 3.29 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 12/1/1999 | 4.35 | | 2.5 | | 1.85 | 3.16 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 11/18/1999 | 4.4 | | 2.98 | | 1.42 | 2.76 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 11/4/1999 | 5.45 | | 2.38 | | 3.07 | 3.05 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/19/1999 | 4.56 | | 2.35 | | 2.21 | 3.24 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/7/1999 | 4.51 | | 1.99 | | 2.52 | 3.54 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/24/1999 | 3.03 | | 0.76 | | 2.27 | 4.82 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/9/1999 | 4.09 | | 2.01 | | 2.08 | 3.61 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 8/27/1999 | 4.03 | | 2.45 | | 1.58 | 3.26 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 8/12/1999 | 4.75 | | 3.68 | | 1.07 | 2.13 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 7/30/1999 | 4.86 | | 3.46 | | 1.4 | 2.29 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 7/16/1999 | 4.63 | | 2.69 | | 1.94 | 2.95 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/30/1999 | 4.89 | | 2.63 | | 2.26 | 2.95 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/15/1999 | 4.84 | | 2.46 | | 2.38 | 3.1 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/2/1999 | 4.66 | | 1.59 | | 3.07 | 3.84 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/19/1999 | 4.75 | | 2.09 | | 2.66 | 3.42 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/4/1999 | 2.7 | | 1.94 | | 0.76 | 3.93 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 4/20/1999 | 4.54 | | 2 | | 2.54 | 3.53 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-2 | | 4/12/1999 | 4.46 | | 2.08 | | 2.38 | 3.48 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/29/1999 | 4.47 | | 1.79 | | 2.68 | 3.71 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/11/1999 | 4.75 | | 2.9 | | 1.85 | 2.76 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/2/1999 | 5.02 | | 3.1 | | 1.92 | 2.55 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 2/10/1999 | 4.12 | | 2.25 | | 1.87 | 3.41 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 1/29/1999 | 5.1 | | 2.77 | | 2.33 | 2.8 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 1/15/1999 | 3.69 | | 3.18 | | 0.51 | 2.73 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 12/29/1998 | 4.5 | | 3.68 | | 0.82 | 2.18 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 12/16/1998 | 4.65 | | 3.96 | | 0.69 | 1.92 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 12/1/1998 | 4.77 | | 4.22 | | 0.55 | 1.69 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 11/20/1998 | 4.72 | | 4.14 | | 0.58 | 1.76 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 11/4/1998 | 4.61 | | 3.68 | | 0.93 | 2.15 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/23/1998 | 4.72 | | 4.03 | | 0.69 | 1.85 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/9/1998 | 4.69 | | 4.11 | | 0.58 | 1.79 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/25/1998 | 4.54 | | 3 | | 1.54 | 2.72 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/11/1998 | 4.44 | | 2.81 | | 1.63 | 2.89 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 8/28/1998 | 4.58 | | 2.51 | | 2.07 | 3.11 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 8/14/1998 | 4.61 | | 2.64 | | 1.97 | 3 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 7/31/1998 | 4.69 | | 2.72 | | 1.97 | 2.92 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 7/16/1998 | 4.89 | | 2.87 | | 2.02 | 2.76 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-2 | | 7/2/1998 | 5.08 | | 2.46 | | 2.62 | 3.06 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/19/1998 | 4.77 | | 1.73 | | 3.04 | 3.71 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/5/1998 | 4.67 | | 1.79 | | 2.88 | 3.68 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/20/1998 | 4.48 | | 1.34 | | 3.14 | 4.08 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 4/23/1998 | 4.54 | | 1.26 | | 3.28 | 4.13 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 4/10/1998 | 4.73 | | 1.65 | | 3.08 | 3.78 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/27/1998 | 4.65 | | 1.52 | | 3.13 | 3.9 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 3/12/1998 | 4.48 | | 1.79 | | 2.69 | 3.71 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 2/27/1998 | 4.66 | | 2.18 | | 2.48 | 3.36 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 2/10/1998 | 4.65 | | 2.42 | | 2.23 | 3.17 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 1/30/1998 | 4.56 | | 2.01 | | 2.55 | 3.52 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 1/16/1998 | 4.31 | | 2.68 | | 1.63 | 3.02 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 12/19/1997 | 4.49 | | 3.1 | | 1.39 | 2.65 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 12/4/1997 | 4.35 | | 2.61 | | 1.74 | 3.07 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 11/21/1997 | 4.62 | | 3.51 | | 1.11 | 2.29 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 11/7/1997 | 4.74 | | 3.54 | | 1.2 | 2.24 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/24/1997 | 5.01 | | 4.38 | | 0.63 | 1.51 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 10/10/1997 | 4.93 | | 3.86 | | 1.07 | 1.95 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/24/1997 | 4.81 | | 3.13 | | 1.68 | 2.56 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 9/12/1997 | 4.48 | | 2.67 | | 1.81 | 3 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-2 | | 8/28/1997 | 4.95 | | 3.26 | | 1.69 | 2.43 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 8/14/1997 | 5.28 | | 3.89 | | 1.39 | 1.86 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 8/1/1997 | 5.04 | | 3.57 | | 1.47 | 2.16 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 7/17/1997 | 5.25 | | 4.19 | | 1.06 | 1.62 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 7/1/1997 | 4.95 | | 3.41 | | 1.54 | 2.31 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/20/1997 | 5.39 | | 3.45 | | 1.94 | 2.19 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 6/2/1997 | 4.71 | | 2.46 | | 2.25 | 3.13 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/22/1997 | 5.12 | | 2.96 | | 2.16 | 2.64 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 5/9/1997 | 4.98 | | 2.23 | | 2.75 | 3.26 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 4/22/1997 | 4.42 | | 1.55 | | 2.87 | 3.92 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-2 | | 4/11/1997 | 4.79 | | 1.84 | | 2.95 | 3.61 | 6.01 | | 10.5 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Unable to l |
| WP9-3 | | 5/17/2017 | 1.8 | | | | | 4.36 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 12/1/2016 | 1.52 | | 1.48 | | 0.04 | 4.67246 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 5/11/2016 | 2.04 | | | | | 4.12 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 11/19/2015 | 2.3 | | | | | 3.86 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 5/15/2015 | | | | | | NA | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 2/13/2015 | 2.11 | | | | | 4.05 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 12/4/2014 | 1.45 | | | | | 4.71 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 5/14/2014 | 2.08 | | | | | 4.08 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 10/16/2013 | 1.82 | | | | | 4.34 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 7/12/2013 | 1.93 | | | | | 4.23 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 3/28/2013 | 1.89 | | 1.89 | | <0.01 | 4.28 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 5/9/2012 | 1.56 | | | | | 4.6 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 5/18/2011 | 1.7 | | | | | 4.46 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 7/30/2010 | | | | | | NA | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 6/22/2009 | 1.14 | | | | | 5.02 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 11/25/2008 | 2.13 | | | | | 4.03 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 8/18/2008 | 1.3 | | | | | 4.86 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 6/6/2008 | | | | | | NA | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 3/31/2008 | 1.85 | | | | | 4.31 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 11/15/2007 | 1.91 | | | | | 4.25 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 9/18/2007 | 4.2 | | | | | 1.96 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 6/4/2007 | 2.46 | | | | | 3.7 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 3/2/2007 | 2.26 | | | | | 3.9 | 6.16 | | 9 | | | - | | | Temporary | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-3 | | 11/7/2006 | | | 3.05 | | 0.39 | NA | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 8/29/2006 | | | | | | NA | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 5/24/2006 | 2.66 | | | | | 3.5 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 2/8/2006 | | | | | | 4.63 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 7/1/2005 | | | 3.36 | | <0.01 | 3.73 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 5/19/2005 | 3.1 | | | | | 3.06 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 3/9/2005 | 2.14 | | | | | 4.02 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 10/8/2004 | 2.34 | | | | | 3.82 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 9/17/2004 | 3.82 | | | | | 2.34 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 9/2/2004 | 3.13 | | | | | 3.03 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 6/25/2004 | 3.22 | | | | | 2.94 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 6/10/2004 | 2.62 | | | | | 3.54 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 5/28/2004 | 2.76 | | | | | 3.4 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 5/12/2004 | 2.55 | | | | | 3.61 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 4/29/2004 | | | | | | NA | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 4/15/2004 | | | | | | NA | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 4/2/2004 | 2.07 | | 2.05 | | 0.02 | 4.11 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 3/17/2004 | 2.06 | | 2.04 | | 0.02 | 4.12 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 3/3/2004 | 3.37 | | 3.03 | | 0.34 | 3.07 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 2/17/2004 | 3.01 | | 2.67 | | 0.34 | 3.43 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 2/3/2004 | 4.24 | | 4.23 | | 0.01 | 1.93 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 1/6/2004 | 1.89 | | | | | 4.27 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 12/22/2003 | | | | | | NA | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 11/25/2003 | 2.52 | | | | | 3.64 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 11/18/2003 | 2.49 | | | | | 3.67 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 11/5/2003 | 1.42 | | | | | 4.74 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 10/22/2003 | | | | | | NA | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 10/7/2003 | 1.66 | | | | | 4.5 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 9/24/2003 | 0.98 | | | | | 5.18 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 9/8/2003 | 1.64 | | | | | 4.52 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 8/27/2003 | 1.85 | | | | | 4.31 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 8/12/2003 | 1.21 | | | | | 4.95 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 7/18/2003 | 2.25 | | | | | 3.91 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 7/7/2003 | 1.98 | | 1.97 | | 0.01 | 4.19 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 6/30/2003 | 1.79 | | | | | 4.37 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 6/17/2003 | 2.06 | | | | | 4.1 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 6/2/2003 | 1.62 | | | | | 4.54 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 5/20/2003 | 2.31 | | | | | 3.85 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 5/8/2003 | 2.64 | | | | | 3.52 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 4/25/2003 | 2.55 | | | | | 3.61 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 4/9/2003 | 2.04 | | | | | 4.12 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 3/26/2003 | 2.49 | | | | | 3.67 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 3/12/2003 | 2.26 | | | | | 3.9 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 2/27/2003 | | | | | | NA | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 2/13/2003 | 2.06 | | 2.06 | | <0.01 | 4.11 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 1/28/2003 | 3.58 | | | | | 2.58 | 6.16 | | 9 | | | - | | | Temporary | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-3 | | 1/24/2003 | 3.51 | | | | | 2.65 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 12/30/2002 | 1.96 | | | | | 4.2 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 12/19/2002 | 2.73 | | | | | 3.43 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 12/4/2002 | 2.38 | | | | | 3.78 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 11/18/2002 | | | | | | NA | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 10/31/2002 | 1.6 | | | | | 4.56 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 10/18/2002 | 1.82 | | 1.76 | | 0.06 | 4.39 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 10/4/2002 | 2.36 | | 2.34 | | 0.02 | 3.82 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 9/17/2002 | 2.86 | | | | | 3.3 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 9/4/2002 | 2.37 | | 2.36 | | 0.01 | 3.8 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 8/12/2002 | 3.94 | | 3.65 | | 0.29 | 2.46 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 7/22/2002 | 3.8 | | 3.28 | | 0.52 | 2.78 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 6/27/2002 | 3.48 | | 2.82 | | 0.66 | 3.22 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 6/14/2002 | 3.3 | | 2.95 | | 0.35 | 3.14 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 5/31/2002 | 3.53 | | 3.11 | | 0.42 | 2.97 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 5/15/2002 | 3.06 | | 2.92 | | 0.14 | 3.21 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 5/1/2002 | 2.88 | | 2.7 | | 0.18 | 3.43 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 4/19/2002 | 3.39 | | 2.88 | | 0.51 | 3.18 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 4/2/2002 | 3.3 | | 2.71 | | 0.59 | 3.34 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 3/19/2002 | 3.33 | | | | | 2.83 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 3/5/2002 | 3.77 | | | | | 2.39 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 2/19/2002 | 3.76 | | 3.76 | | <0.01 | 2.41 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 2/7/2002 | 5.45 | | | | | 0.71 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 1/21/2002 | 4.18 | | 3.3 | | 0.88 | 2.69 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 1/9/2002 | 3.99 | | 3.34 | | 0.65 | 2.7 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 12/28/2001 | 3.53 | | 3.41 | | 0.12 | 2.73 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 12/11/2001 | 3.64 | | | | | 2.52 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 11/8/2001 | 6 | | | | | 0.16 | 6.16 | | 9 | | | - | | | Temporary | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-3 | | 10/31/2001 | 3.92 | | 3.91 | | 0.01 | 2.25 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 10/17/2001 | 3.73 | | 3.73 | | <0.01 | 2.44 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 10/2/2001 | 4.05 | | 3.78 | | 0.27 | 2.33 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 9/19/2001 | 4.62 | | 4.58 | | 0.04 | 1.57 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 9/5/2001 | 5.01 | | 5.01 | | <0.01 | 1.16 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 8/21/2001 | 4.51 | | 4.51 | | <0.01 | 1.66 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 8/9/2001 | 4.45 | | 4.45 | | <0.01 | 1.72 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 7/26/2001 | 3.61 | | 3.61 | | <0.01 | 2.56 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 7/10/2001 | 2.98 | | | | | 3.18 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 6/13/2001 | 2.71 | | | | | 3.45 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 5/29/2001 | 3.27 | | | | | 2.89 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 5/17/2001 | 3.79 | | 3.79 | | <0.01 | 2.38 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 5/3/2001 | 3.12 | | | | | 3.04 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 4/16/2001 | 3.15 | | | | | 3.01 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 4/6/2001 | 3.22 | | | | | 2.94 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 3/20/2001 | 2.58 | | | | | 3.58 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 3/6/2001 | 2.97 | | | | | 3.19 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 2/19/2001 | 3.9 | | 3.9 | | <0.01 | 2.27 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 2/6/2001 | 3.41 | | 3.41 | | <0.01 | 2.76 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 1/23/2001 | 3.77 | | 3.77 | | <0.01 | 2.4 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 1/9/2001 | 4.05 | | 4.05 | | <0.01 | 2.12 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 12/12/2000 | 3.3 | | 3.3 | | <0.01 | 2.87 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 11/28/2000 | 3.32 | | 3.32 | | <0.01 | 2.85 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 11/14/2000 | 3.2 | | 3.2 | | <0.01 | 2.97 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 10/31/2000 | 3.3 | | 3.24 | | 0.06 | 2.91 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-3 | | 10/18/2000 | 3.16 | | 3.16 | | <0.01 | 3.01 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 10/2/2000 | 2.95 | | 2.95 | | <0.01 | 3.22 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 9/19/2000 | 2.85 | | 2.85 | | <0.01 | 3.32 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 9/6/2000 | 3.09 | | 3.09 | | <0.01 | 3.08 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 8/23/2000 | 3.37 | | | | | 2.79 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 8/9/2000 | 2.76 | | | | | 3.4 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 7/25/2000 | 3.61 | | 3.61 | | <0.01 | 2.56 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 7/11/2000 | 3.65 | | 3.65 | | <0.01 | 2.52 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 6/27/2000 | 3.11 | | 3.11 | | <0.01 | 3.06 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 6/16/2000 | 3.29 | | 3.29 | | <0.01 | 2.88 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 6/1/2000 | 3.55 | | 3.53 | | 0.02 | 2.63 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 5/19/2000 | 3.35 | | 3.35 | | <0.01 | 2.82 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 5/4/2000 | 3.38 | | 3.38 | | <0.01 | 2.79 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 4/20/2000 | 2.74 | | 2.74 | | <0.01 | 3.43 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 4/5/2000 | 2.75 | | 2.75 | | <0.01 | 3.42 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 3/22/2000 | 2.8 | | 2.8 | | <0.01 | 3.37 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 3/9/2000 | 2.74 | | | | | 3.42 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 2/24/2000 | 2.66 | | 2.66 | | <0.01 | 3.51 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 2/11/2000 | 3.02 | | 3.02 | | <0.01 | 3.15 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 1/26/2000 | 3.65 | | 3.65 | | <0.01 | 2.52 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 1/14/2000 | 3.34 | | 3.34 | | <0.01 | 2.83 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 12/30/1999 | 3.25 | | 3.25 | | <0.01 | 2.92 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-3 | | 12/16/1999 | 2.32 | | 2.32 | | <0.01 | 3.85 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 12/6/1999 | 2.84 | | 2.84 | | <0.01 | 3.33 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 12/1/1999 | 2.81 | | 2.81 | | <0.01 | 3.36 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 11/18/1999 | 3.26 | | 3.26 | | <0.01 | 2.91 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 11/4/1999 | 2.82 | | | | | 3.34 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 10/19/1999 | 2.74 | | | | | 3.42 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 10/7/1999 | 2.5 | | | | | 3.66 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 9/24/1999 | 1.26 | | | | | 4.9 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 9/9/1999 | 2.55 | | 2.55 | | <0.01 | 3.62 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 8/27/1999 | 2.69 | | 2.69 | | <0.01 | 3.48 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 8/12/1999 | 3.91 | | | | | 2.25 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 7/30/1999 | 4.1 | | 3.69 | | 0.41 | 2.39 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 7/16/1999 | 3.11 | | 3.11 | | <0.01 | 3.06 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 6/30/1999 | 3.11 | | 3.11 | | <0.01 | 3.06 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 6/15/1999 | 2.97 | | 2.97 | | <0.01 | 3.2 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 6/2/1999 | 2.26 | | 2.26 | | <0.01 | 3.91 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 5/19/1999 | 2.61 | | | | | 3.55 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 5/4/1999 | 2.45 | | 2.45 | | <0.01 | 3.72 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 4/20/1999 | 2.63 | | | | | 3.53 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 4/12/1999 | 2.65 | | 2.65 | | <0.01 | 3.52 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 3/29/1999 | 2.53 | | | | | 3.63 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 3/11/1999 | 3.26 | | | | | 2.9 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 3/2/1999 | 3.38 | | | | | 2.78 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 2/10/1999 | 2.69 | | | | | 3.47 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 1/29/1999 | 3.16 | | | | | 3 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 1/15/1999 | 3.2 | | | | | 2.96 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 12/29/1998 | 3.69 | | | | | 2.47 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 12/16/1998 | 4.08 | | | | | 2.08 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 12/1/1998 | 4.24 | | | | | 1.92 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 11/20/1998 | 4.08 | | | | | 2.08 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 11/4/1998 | 3.75 | | | | | 2.41 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 10/23/1998 | 3.99 | | | | | 2.17 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 10/9/1998 | 4.04 | | | | | 2.12 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 9/25/1998 | 3.17 | | | | | 2.99 | 6.16 | | 9 | | | - | | | Temporary | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-3 | | 9/11/1998 | 3.05 | | | | | 3.11 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 8/28/1998 | 2.82 | | | | | 3.34 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 8/14/1998 | 2.95 | | | | | 3.21 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 7/31/1998 | 2.96 | | 2.96 | | <0.01 | 3.21 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 7/16/1998 | 2.94 | | 2.94 | | <0.01 | 3.23 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 7/2/1998 | 2.89 | | 2.89 | | <0.01 | 3.28 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 6/19/1998 | 2.26 | | | | | 3.9 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 6/5/1998 | 2.24 | | | | | 3.92 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 5/20/1998 | 1.91 | | | | | 4.25 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 4/23/1998 | 1.79 | | | | | 4.37 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 4/10/1998 | 2.2 | | 2.2 | | <0.01 | 3.97 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 3/27/1998 | 2.03 | | 2.03 | | <0.01 | 4.14 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 3/12/1998 | 2.27 | | | | | 3.89 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 2/27/1998 | 2.53 | | 2.53 | | <0.01 | 3.64 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 2/10/1998 | 2.61 | | 2.61 | | <0.01 | 3.56 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 1/30/1998 | 2.32 | | 2.32 | | <0.01 | 3.85 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 1/16/1998 | 2.82 | | 2.82 | | <0.01 | 3.35 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 12/19/1997 | 3.13 | | 3.13 | | <0.01 | 3.04 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 12/4/1997 | 2.7 | | 2.7 | | <0.01 | 3.47 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 11/21/1997 | 3.44 | | 3.44 | | <0.01 | 2.73 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 11/7/1997 | 3.59 | | | | | 2.57 | 6.16 | | 9 | | | - | | | Temporary | Damaged |
| WP9-3 | | 10/24/1997 | 4.23 | | 4.23 | | <0.01 | 1.94 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 10/10/1997 | 3.8 | | 3.8 | | <0.01 | 2.37 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 9/24/1997 | 3.29 | | 3.29 | | <0.01 | 2.88 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 9/12/1997 | 2.74 | | 2.73 | | 0.01 | 3.43 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 8/28/1997 | 3.4 | | 3.23 | | 0.17 | 2.9 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-3 | | 8/14/1997 | 4.04 | | 3.85 | | 0.19 | 2.27 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 8/1/1997 | 3.53 | | 3.36 | | 0.17 | 2.77 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 7/17/1997 | 4.27 | | 4.03 | | 0.24 | 2.08 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 7/1/1997 | 3.48 | | 3.37 | | 0.11 | 2.77 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 6/20/1997 | 3.74 | | 3.48 | | 0.26 | 2.63 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 6/2/1997 | 2.79 | | 2.52 | | 0.27 | 3.59 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 5/22/1997 | 3.26 | | 3.02 | | 0.24 | 3.09 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 5/9/1997 | 2.53 | | 2.4 | | 0.13 | 3.74 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 4/22/1997 | 1.81 | | 1.76 | | 0.05 | 4.39 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-3 | | 4/11/1997 | 2.18 | | 2.07 | | 0.11 | 4.07 | 6.16 | | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | | | Temporary | Damaged |
| WP9-4 | | 5/17/2017 | 4.87 | 1.63 | | | | 4.17 | 9.04 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 12/1/2016 | 4.01 | 0.77 | 3.53 | 0.29 | 0.48 | 5.41947 | 9.04 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 5/11/2016 | 5.07 | 1.83 | | | | 3.97 | 9.04 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 11/19/2015 | 5.63 | 2.39 | | | | 3.41 | 9.04 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 5/15/2015 | 5.82 | 2.75 | | | | 3.05 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 12/4/2014 | 4.09 | 1.02 | | | | 4.78 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 5/14/2014 | 2.44 | -0.63 | | | | 6.43 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 10/16/2013 | 5.68 | 2.61 | | | | 3.19 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 3/28/2013 | 5.88 | 2.81 | | | | 2.99 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 5/9/2012 | 5.83 | 2.76 | | | | 3.04 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 5/18/2011 | 5.68 | 2.61 | | | | 3.19 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 7/30/2010 | | | | | | NA | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 6/22/2009 | 3.54 | 0.47 | | | | 5.33 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 3/23/2009 | 6.28 | 3.21 | | | | 2.59 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 11/25/2008 | 4.92 | 1.85 | | | | 3.95 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 8/18/2008 | 4.83 | 1.76 | | | | 4.04 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 6/6/2008 | 5.13 | 2.06 | | | | 3.74 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 3/31/2008 | 4.82 | 1.75 | | | | 4.05 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 11/15/2007 | 5.22 | 2.15 | 5.15 | 2.08 | 0.07 | 3.71 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 9/18/2007 | 6.56 | 3.49 | 6.21 | 3.14 | 0.35 | 2.59 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 6/4/2007 | 5.09 | 2.02 | 4.97 | 1.9 | 0.12 | 3.88 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 3/2/2007 | 5.71 | 2.64 | | | | 3.16 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-4 | | 11/7/2006 | | | 5.07 | | <0.01 | NA | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 8/29/2006 | | | | | | NA | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 5/24/2006 | 5.7 | 2.63 | 5.7 | 2.63 | <0.01 | 3.18 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 2/8/2006 | | | | | | 4.64 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 7/1/2005 | | | 6.19 | | 0.03 | 3.89 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 5/19/2005 | 6.03 | 2.96 | 5.1 | 2.03 | 0.93 | 3.59 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 3/9/2005 | 5.37 | 2.3 | 5.3 | 2.23 | 0.07 | 3.56 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 10/8/2004 | 5.14 | 2.07 | 5 | 1.93 | 0.14 | 3.84 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 9/17/2004 | 6.27 | 3.2 | 6.13 | 3.06 | 0.14 | 2.71 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 9/2/2004 | 5.68 | 2.61 | 5.6 | 2.53 | 0.08 | 3.25 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 6/25/2004 | 5.85 | 2.78 | 5.78 | 2.71 | 0.07 | 3.08 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 6/10/2004 | 5.11 | 2.04 | 4.91 | 1.84 | 0.2 | 3.92 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 5/28/2004 | 5.21 | 2.14 | 5.12 | 2.05 | 0.09 | 3.73 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 5/12/2004 | 5.12 | 2.05 | 4.99 | 1.92 | 0.13 | 3.86 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 4/29/2004 | 5.16 | 2.09 | 5.05 | 1.98 | 0.11 | 3.8 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 4/15/2004 | | | | | | NA | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 4/2/2004 | 5.53 | 2.46 | 4.85 | 1.78 | 0.68 | 3.89 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 3/17/2004 | 5.66 | 2.59 | 5.09 | 2.02 | 0.57 | 3.67 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 3/3/2004 | 5.85 | 2.78 | | | | 3.02 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 2/17/2004 | 5.53 | 2.46 | | | | 3.34 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 2/3/2004 | 6.62 | 3.55 | 6.62 | 3.55 | <0.01 | 2.26 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 1/6/2004 | 5.53 | 2.46 | 5.53 | 2.46 | <0.01 | 3.35 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 12/22/2003 | 4.3 | 1.23 | | | | 4.57 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 11/25/2003 | 5.25 | 2.18 | 5.25 | 2.18 | <0.01 | 3.63 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 11/18/2003 | 5.25 | 2.18 | 5.25 | 2.18 | <0.01 | 3.63 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-4 | | 11/5/2003 | 4.6 | 1.53 | 4.6 | 1.53 | <0.01 | 4.28 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 10/22/2003 | 4.63 | 1.56 | 4.63 | 1.56 | <0.01 | 4.25 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 10/7/2003 | 5.3 | 2.23 | 5.3 | 2.23 | <0.01 | 3.58 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 9/24/2003 | 4.51 | 1.44 | | | | 4.36 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 9/8/2003 | 5.02 | 1.95 | 5.02 | 1.95 | <0.01 | 3.86 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 8/27/2003 | 5.21 | 2.14 | | | | 3.66 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 8/12/2003 | 4.67 | 1.6 | 4.66 | 1.59 | 0.01 | 4.21 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 7/18/2003 | 5.03 | 1.96 | | | | 3.84 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 7/7/2003 | 4.79 | 1.72 | | | | 4.08 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 6/30/2003 | 4.69 | 1.62 | | | | 4.18 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 6/17/2003 | 4.25 | 1.18 | | | | 4.62 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 6/2/2003 | 4.29 | 1.22 | 4.28 | 1.21 | 0.01 | 4.59 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 5/20/2003 | 4.85 | 1.78 | 4.85 | 1.78 | <0.01 | 4.03 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 5/8/2003 | 4.92 | 1.85 | | | | 3.95 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 4/25/2003 | 4.89 | 1.82 | 4.89 | 1.82 | <0.01 | 3.99 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 4/9/2003 | 4.65 | 1.58 | 4.65 | 1.58 | <0.01 | 4.23 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 3/26/2003 | 4.94 | 1.87 | 4.91 | 1.84 | 0.03 | 3.95 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 3/12/2003 | 4.71 | 1.64 | 4.71 | 1.64 | <0.01 | 4.17 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 2/27/2003 | 3.64 | 0.57 | 3.64 | 0.57 | <0.01 | 5.24 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 2/13/2003 | 5.9 | 2.83 | 5.89 | 2.82 | 0.01 | 2.98 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 1/28/2003 | 6.1 | 3.03 | 6.05 | 2.98 | 0.05 | 2.81 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 1/24/2003 | 6.05 | 2.98 | 5.98 | 2.91 | 0.07 | 2.88 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 12/30/2002 | 4.85 | 1.78 | 4.6 | 1.53 | 0.25 | 4.22 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 12/19/2002 | 6.25 | 3.18 | 5.97 | 2.9 | 0.28 | 2.85 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-4 | | 12/4/2002 | 5.97 | 2.9 | 5.11 | 2.04 | 0.86 | 3.6 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 11/18/2002 | 4.9 | 1.83 | 4.13 | 1.06 | 0.77 | 4.59 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 10/31/2002 | 4.69 | 1.62 | 3.98 | 0.91 | 0.71 | 4.76 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 10/18/2002 | 5.02 | 1.95 | 4.14 | 1.07 | 0.88 | 4.56 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 10/4/2002 | 5.02 | 1.95 | 4.88 | 1.81 | 0.14 | 3.96 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 9/17/2002 | 5.53 | 2.46 | 5.33 | 2.26 | 0.2 | 3.5 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 9/4/2002 | 5.06 | 1.99 | 4.92 | 1.85 | 0.14 | 3.92 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 8/12/2002 | 6.18 | 3.11 | 5.6 | 2.53 | 0.58 | 3.16 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 7/22/2002 | 5.85 | 2.78 | 5.32 | 2.25 | 0.53 | 3.45 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 6/27/2002 | 6 | 2.93 | 4.85 | 1.78 | 1.15 | 3.8 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 6/14/2002 | 5.86 | 2.79 | 4.96 | 1.89 | 0.9 | 3.74 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 5/31/2002 | 6.45 | 3.38 | 4.99 | 1.92 | 1.46 | 3.6 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 5/15/2002 | 4.91 | 1.84 | 4.91 | 1.84 | <0.01 | 3.97 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 5/1/2002 | 4.87 | 1.8 | | | | 4 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 4/19/2002 | 4.99 | 1.92 | | | | 3.88 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 4/2/2002 | 4.93 | 1.86 | | | | 3.94 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 3/19/2002 | 5.37 | 2.3 | | | | 3.5 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 3/5/2002 | 5.94 | 2.87 | | | | 2.93 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 2/19/2002 | 5.94 | 2.87 | | | | 2.93 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 2/7/2002 | 5.92 | 2.85 | | | | 2.95 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 1/21/2002 | 5.83 | 2.76 | | | | 3.04 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 1/9/2002 | 5.76 | 2.69 | | | | 3.11 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 12/28/2001 | 5.65 | 2.58 | | | | 3.22 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 12/11/2001 | 6.02 | 2.95 | | | | 2.85 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 11/8/2001 | 6.67 | 3.6 | | | | 2.2 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 10/31/2001 | 6.3 | 3.23 | | | | 2.57 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 10/17/2001 | 5.92 | 2.85 | | | | 2.95 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 10/2/2001 | 6.29 | 3.22 | | | | 2.58 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 9/19/2001 | 7.01 | 3.94 | | | | 1.86 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 9/5/2001 | 7.32 | 4.25 | 7.27 | 4.2 | 0.05 | 1.59 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 8/21/2001 | 6.93 | 3.86 | | | | 1.94 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 8/9/2001 | 6.86 | 3.79 | | | | 2.01 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-4 | | 7/26/2001 | 6.08 | 3.01 | | | | 2.79 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 7/10/2001 | 5.51 | 2.44 | | | | 3.36 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 6/13/2001 | 5.23 | 2.16 | | | | 3.64 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 5/29/2001 | 5.5 | 2.43 | | | | 3.37 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 5/17/2001 | 6.02 | 2.95 | 6.02 | 2.95 | <0.01 | 2.86 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 5/3/2001 | 5.56 | 2.49 | | | | 3.31 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 4/16/2001 | 5.36 | 2.29 | | | | 3.51 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 4/6/2001 | 5.46 | 2.39 | | | | 3.41 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 3/20/2001 | 4.83 | 1.76 | | | | 4.04 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 3/6/2001 | 5.26 | 2.19 | | | | 3.61 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 2/19/2001 | 6.35 | 3.28 | | | | 2.52 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 2/6/2001 | 5.54 | 2.47 | 5.54 | 2.47 | <0.01 | 3.34 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 1/23/2001 | 6.26 | 3.19 | | | | 2.61 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 1/9/2001 | 6.47 | 3.4 | 6.47 | 3.4 | <0.01 | 2.41 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 12/12/2000 | 5.76 | 2.69 | 5.76 | 2.69 | <0.01 | 3.12 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 11/28/2000 | 5.76 | 2.69 | 5.75 | 2.68 | 0.01 | 3.12 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 11/14/2000 | 5.86 | 2.79 | 5.75 | 2.68 | 0.11 | 3.1 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 10/31/2000 | 6.02 | 2.95 | 5.63 | 2.56 | 0.39 | 3.17 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 10/18/2000 | 6.07 | 3 | 5.44 | 2.37 | 0.63 | 3.31 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 10/2/2000 | 5.77 | 2.7 | 5.27 | 2.2 | 0.5 | 3.51 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 9/19/2000 | 5.26 | 2.19 | 5.26 | 2.19 | <0.01 | 3.62 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 9/6/2000 | 5.56 | 2.49 | 5.56 | 2.49 | <0.01 | 3.32 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 8/23/2000 | 5.82 | 2.75 | | | | 3.05 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 8/9/2000 | 5.24 | 2.17 | | | | 3.63 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 7/25/2000 | 6.08 | 3.01 | | | | 2.79 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 7/11/2000 | 6.05 | 2.98 | | | | 2.82 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 6/27/2000 | 5.51 | 2.44 | | | | 3.36 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 6/16/2000 | 5.72 | 2.65 | | | | 3.15 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 6/1/2000 | 5.58 | 2.51 | | | | 3.29 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 5/19/2000 | 5.78 | 2.71 | | | | 3.09 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 5/4/2000 | 5.79 | 2.72 | | | | 3.08 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 4/20/2000 | 5.03 | 1.96 | | | | 3.84 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 4/5/2000 | 5.1 | 2.03 | | | | 3.77 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 3/22/2000 | 4.94 | 1.87 | | | | 3.93 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 3/9/2000 | 5.29 | 2.22 | | | | 3.58 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 2/24/2000 | 5.17 | 2.1 | | | | 3.7 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 2/11/2000 | 5.57 | 2.5 | | | | 3.3 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-4 | | 1/26/2000 | 6.15 | 3.08 | 6.15 | 3.08 | <0.01 | 2.73 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 1/14/2000 | 5.94 | 2.87 | 5.94 | 2.87 | <0.01 | 2.94 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 12/30/1999 | 5.87 | 2.8 | 5.87 | 2.8 | <0.01 | 3.01 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 12/16/1999 | 4.82 | 1.75 | 4.81 | 1.74 | 0.01 | 4.06 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 12/6/1999 | 5.35 | 2.28 | 5.35 | 2.28 | <0.01 | 3.53 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 12/1/1999 | 5.51 | 2.44 | 5.45 | 2.38 | 0.06 | 3.41 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 11/18/1999 | 5.99 | 2.92 | 5.65 | 2.58 | 0.34 | 3.16 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 11/4/1999 | 5.47 | 2.4 | 5.09 | 2.02 | 0.38 | 3.71 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 10/19/1999 | 5.41 | 2.34 | 5.01 | 1.94 | 0.4 | 3.78 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 10/7/1999 | 4.81 | 1.74 | | | | 4.06 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 9/24/1999 | 3.59 | 0.52 | | | | 5.28 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 9/9/1999 | 4.76 | 1.69 | | | | 4.11 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 8/27/1999 | 4.99 | 1.92 | | | | 3.88 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 8/12/1999 | 6.28 | 3.21 | | | | 2.59 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 7/30/1999 | 6.22 | 3.15 | 6.1 | 3.03 | 0.12 | 2.75 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 7/16/1999 | 5.46 | 2.39 | | | | 3.41 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 6/30/1999 | 5.72 | 2.65 | | | | 3.15 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 6/15/1999 | 5.51 | 2.44 | | | | 3.36 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 6/2/1999 | 4.75 | 1.68 | 4.75 | 1.68 | <0.01 | 4.13 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 5/19/1999 | 5.24 | 2.17 | | | | 3.63 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 5/4/1999 | 5.01 | 1.94 | | | | 3.86 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 4/20/1999 | 5.06 | 1.99 | | | | 3.81 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 4/12/1999 | 5.01 | 1.94 | | | | 3.86 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 3/29/1999 | 4.88 | 1.81 | | | | 3.99 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 3/11/1999 | 5.78 | 2.71 | | | | 3.09 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 3/2/1999 | 5.98 | 2.91 | | | | 2.89 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 2/10/1999 | 5.16 | 2.09 | | | | 3.71 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 1/29/1999 | 5.72 | 2.65 | | | | 3.15 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 1/15/1999 | 5.43 | 2.36 | | | | 3.44 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 12/29/1998 | 6.37 | 3.3 | | | | 2.5 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 12/16/1998 | 6.67 | 3.6 | | | | 2.2 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 12/1/1998 | 6.85 | 3.78 | | | | 2.02 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 11/20/1998 | 6.79 | 3.72 | | | | 2.08 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 11/4/1998 | 6.36 | 3.29 | | | | 2.51 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 10/23/1998 | 6.6 | 3.53 | | | | 2.27 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 10/9/1998 | 6.63 | 3.56 | | | | 2.24 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 9/25/1998 | 5.89 | 2.82 | | | | 2.98 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |
| WP9-4 | | 9/11/1998 | 5.73 | 2.66 | | | | 3.14 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary Well Point | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-4 | | 8/28/1998 | 5.47 | 2.4 | | | | 3.4 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 8/14/1998 | 5.61 | 2.54 | | | | 3.26 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 7/31/1998 | 5.54 | 2.47 | 5.54 | 2.47 | <0.01 | 3.34 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 7/16/1998 | 5.68 | 2.61 | 5.68 | 2.61 | <0.01 | 3.2 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 7/2/1998 | 5.51 | 2.44 | | | | 3.36 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 6/19/1998 | 4.85 | 1.78 | 4.85 | 1.78 | <0.01 | 4.03 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 6/5/1998 | 4.92 | 1.85 | | | | 3.95 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 5/20/1998 | 4.57 | 1.5 | 4.54 | 1.47 | 0.03 | 4.32 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 4/23/1998 | 4.41 | 1.34 | 4.41 | 1.34 | <0.01 | 4.47 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 4/10/1998 | 4.62 | 1.55 | 4.62 | 1.55 | <0.01 | 4.26 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 3/27/1998 | 4.64 | 1.57 | 4.64 | 1.57 | <0.01 | 4.24 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 3/12/1998 | 4.86 | 1.79 | 4.86 | 1.79 | <0.01 | 4.02 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 2/27/1998 | 5.12 | 2.05 | 5.12 | 2.05 | <0.01 | 3.76 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 2/10/1998 | 5.26 | 2.19 | | | | 3.61 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 1/30/1998 | 4.88 | 1.81 | | | | 3.99 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 1/16/1998 | 5.36 | 2.29 | | | | 3.51 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 12/19/1997 | 5.76 | 2.69 | | | | 3.11 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 12/4/1997 | 5.33 | 2.26 | | | | 3.54 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 11/21/1997 | 6.13 | 3.06 | | | | 2.74 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 11/7/1997 | 6.22 | 3.15 | | | | 2.65 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 10/24/1997 | 6.91 | 3.84 | 6.91 | 3.84 | <0.01 | 1.97 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 10/10/1997 | 6.48 | 3.41 | | | | 2.39 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 9/24/1997 | 5.91 | 2.84 | | | | 2.96 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 9/12/1997 | 5.42 | 2.35 | | | | 3.45 | 8.87 | 5.8 | 9 | | | - | Stick Up | | Temporary | Well Point |
| WP9-4 | | 8/28/1997 | 5.9 | 2.83 | 5.84 | 2.77 | 0.06 | 3.02 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 8/14/1997 | 6.63 | 3.56 | 6.42 | 3.35 | 0.21 | 2.41 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 8/1/1997 | 6.12 | 3.05 | 5.94 | 2.87 | 0.18 | 2.9 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 7/17/1997 | 6.98 | 3.91 | 6.6 | 3.53 | 0.38 | 2.2 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |
| WP9-4 | | 7/1/1997 | 6.19 | 3.12 | 5.97 | 2.9 | 0.22 | 2.86 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary | Well Point |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-4 | | 6/20/1997 | 6.37 | 3.3 | 6.06 | 2.99 | 0.31 | 2.75 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 6/2/1997 | 5.33 | 2.26 | 5.18 | 2.11 | 0.15 | 3.66 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 5/22/1997 | 5.94 | 2.87 | 5.58 | 2.51 | 0.36 | 3.22 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 5/9/1997 | 5.26 | 2.19 | 4.99 | 1.92 | 0.27 | 3.83 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 4/22/1997 | 4.54 | 1.47 | 4.34 | 1.27 | 0.2 | 4.49 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-4 | | 4/11/1997 | 4.89 | 1.82 | 4.64 | 1.57 | 0.25 | 4.18 | 8.87 | 5.8 | 9 | WP9-2 | 0.8114 | 80% AVIATION GASOLINE, 20% MIDDLE DISTILLATE | Stick Up | | Temporary Well Point | |
| WP9-5 | | 11/25/2008 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 8/18/2008 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 6/6/2008 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 3/31/2008 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 11/15/2007 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 9/18/2007 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 6/4/2007 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 3/2/2007 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 11/7/2006 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 8/29/2006 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 5/24/2006 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 2/8/2006 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 5/19/2005 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 3/17/2005 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 3/9/2005 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 10/8/2004 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 9/17/2004 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 6/25/2004 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 3/3/2004 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 11/25/2003 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 11/18/2003 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 8/27/2003 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 7/7/2003 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 3/12/2003 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 10/31/2002 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 8/12/2002 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 6/14/2002 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 11/8/2001 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 10/17/2001 | 6.58 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 9/19/2001 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 6/13/2001 | 0.93 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 2/19/2001 | 2 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 11/14/2000 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 9/6/2000 | 1.36 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 6/16/2000 | 1.32 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 3/9/2000 | 1.27 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 12/6/1999 | | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 11/18/1999 | 1.89 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 9/24/1999 | 0.58 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 6/15/1999 | 0.18 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 3/11/1999 | 1.55 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 12/16/1998 | 2.45 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WP9-5 | | 9/11/1998 | 1.65 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 6/19/1998 | 4.46 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 3/27/1998 | 4.36 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 12/19/1997 | 5.32 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 9/24/1997 | 5.37 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 7/17/1997 | 6.16 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 7/1/1997 | 5.62 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 6/20/1997 | 5.58 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 6/2/1997 | 4.51 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 5/22/1997 | 5.25 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 5/9/1997 | 4.4 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 4/22/1997 | 4.14 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-5 | | 4/11/1997 | 4.49 | | | | | NA | | -1.05 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 12/31/2011 | | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 7/30/2010 | | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 11/25/2008 | | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 3/12/2003 | | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 10/31/2002 | | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 8/12/2002 | | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 6/14/2002 | | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 2/19/2002 | | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 11/8/2001 | 3.84 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 9/6/2000 | | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 6/16/2000 | | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 3/9/2000 | 4.93 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 12/6/1999 | 4.76 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 11/18/1999 | 5.27 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 9/24/1999 | 4.59 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 6/15/1999 | 4.55 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 3/11/1999 | 4.88 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 12/16/1998 | 6.27 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 9/11/1998 | 5.07 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 6/19/1998 | 4.62 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 3/27/1998 | 4.61 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 12/19/1997 | 5.06 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 9/24/1997 | 5.16 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 7/17/1997 | 5.84 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 7/1/1997 | 5.48 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 6/20/1997 | 5.01 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 6/2/1997 | 4.33 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 5/22/1997 | 5.19 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 5/9/1997 | 4.38 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 4/22/1997 | 4.63 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WP9-6 | | 4/11/1997 | 4.83 | | | | | NA | | 10.02 | 10.5 | | | - | | | Temporary | Destroyed |
| WPM-1 | | 11/25/2008 | | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 6/6/2008 | | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 11/15/2007 | | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 6/4/2007 | | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 11/7/2006 | | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 5/24/2006 | | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 5/19/2005 | | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 10/8/2004 | | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 9/17/2004 | | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 6/28/2004 | | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 3/3/2004 | | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 11/25/2003 | | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 11/18/2003 | | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 8/27/2003 | 7.22 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 7/7/2003 | 7.11 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 3/12/2003 | 7.3 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-1 | | 10/31/2002 | 6.52 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 8/12/2002 | 7.59 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 6/14/2002 | 7.13 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 2/19/2002 | 8.12 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 11/8/2001 | 9.01 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 9/5/2001 | 7.73 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 6/13/2001 | 7.15 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 2/19/2001 | 7.43 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 11/14/2000 | 7.57 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 9/6/2000 | 7.04 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 6/16/2000 | 7.27 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 3/9/2000 | 7.69 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 11/18/1999 | 8.05 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 9/24/1999 | 6.95 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 6/15/1999 | 7.09 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 3/11/1999 | 6.97 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 12/17/1998 | 8.67 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 9/10/1998 | 7.31 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 6/19/1998 | 6.74 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 3/27/1998 | 6.93 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 12/19/1997 | 7.93 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 9/26/1997 | 7.57 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 7/17/1997 | 6.84 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 7/1/1997 | 6.94 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 6/20/1997 | 7.04 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 6/3/1997 | 6.72 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 5/22/1997 | 7.18 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 5/9/1997 | 6.91 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 4/24/1997 | 6.96 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-1 | | 4/11/1997 | 7.27 | | | | | NA | | 13.8 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 11/25/2008 | | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 6/6/2008 | | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 11/15/2007 | | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 6/4/2007 | | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 11/7/2006 | | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 5/24/2006 | | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 5/19/2005 | | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 10/8/2004 | | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 6/28/2004 | | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 3/3/2004 | | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 11/25/2003 | 2.92 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 11/18/2003 | 2.89 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 8/27/2003 | 3.5 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 7/7/2003 | | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 3/12/2003 | 2.18 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 10/31/2002 | 1.58 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 8/12/2002 | 4.03 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 6/14/2002 | 2.4 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 2/19/2002 | 4.06 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 11/8/2001 | 4.77 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 9/5/2001 | 4.35 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 6/13/2001 | 3.01 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 2/19/2001 | 2.51 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 11/14/2000 | 3.61 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 9/6/2000 | 2.67 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 6/16/2000 | 2.81 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 3/9/2000 | 3.55 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 11/18/1999 | 3.7 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 9/24/1999 | 2.26 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 6/15/1999 | 3.41 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-10 | | 3/11/1999 | 2.92 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 12/17/1998 | 4.58 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 9/10/1998 | 3.78 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 6/19/1998 | 2.65 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 3/27/1998 | 2.51 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 12/19/1997 | 3.85 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 9/26/1997 | 3.81 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 7/17/1997 | 3.03 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 7/1/1997 | 2.72 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 6/20/1997 | 2.55 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 6/3/1997 | 1.74 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 5/22/1997 | 2.35 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 5/9/1997 | 1.91 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 4/24/1997 | 1.96 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-10 | | 4/11/1997 | 2.14 | | | | | NA | | 9.99 | | | | - | | | Temporary | Destroyed |
| WPM-11 | | 5/11/2017 | 1.04 | 1.39 | | | | 5.469 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 5/11/2016 | 0.88 | 1.23 | | | | 5.63 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 5/15/2015 | 0.86 | 1.21 | | | | 5.65 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 12/4/2014 | 1.09 | 1.44 | | | | 5.42 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 5/14/2014 | 0.88 | 1.23 | | | | 5.63 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 10/16/2013 | 1.11 | 1.46 | 1.1 | 1.45 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 3/28/2013 | 0.87 | 1.22 | | | | 5.64 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 5/9/2012 | 0.85 | 1.2 | | | | 5.66 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 6/2/2011 | 1.1 | 1.45 | | | | 5.41 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 7/30/2010 | | | | | | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 6/22/2009 | 0.99 | 1.34 | | | | 5.52 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 3/23/2009 | 1.19 | 1.54 | | | | 5.32 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 11/25/2008 | 1.76 | 2.11 | 1.76 | 2.11 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 6/6/2008 | 1.13 | 1.48 | | | | 5.38 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 11/15/2007 | 1.71 | 2.06 | | | | 4.8 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 6/4/2007 | 1.13 | 1.48 | | | | 5.38 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 11/7/2006 | | | 1.87 | | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 5/24/2006 | 1.29 | 1.64 | | | | 5.22 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 5/19/2005 | 1.7 | 2.05 | | | | 4.81 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 10/8/2004 | 1.8 | 2.15 | 1.8 | 2.15 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 9/17/2004 | 1.16 | 1.51 | 1.16 | 1.51 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 6/28/2004 | 1.15 | 1.5 | | | | 5.36 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 6/10/2004 | 1.12 | 1.47 | | | | 5.39 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 5/28/2004 | 1.18 | 1.53 | | | | 5.33 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 5/12/2004 | 1.14 | 1.49 | | | | 5.37 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 4/29/2004 | 1.29 | 1.64 | | | | 5.22 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 4/15/2004 | 1.19 | 1.54 | | | | 5.32 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 4/2/2004 | 1.15 | 1.5 | | | | 5.36 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 3/17/2004 | 1.17 | 1.52 | | | | 5.34 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 3/3/2004 | 1.64 | 1.99 | | | | 4.87 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 2/17/2004 | 1 | 1.35 | | | | 5.51 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 2/3/2004 | 3.26 | 3.61 | | | | 3.25 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 1/6/2004 | 1.3 | 1.65 | | | | 5.21 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 12/22/2003 | 1.4 | 1.75 | | | | 5.11 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 11/25/2003 | 1.68 | 2.03 | | | | 4.83 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 11/18/2003 | 1.68 | 2.03 | | | | 4.83 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 11/5/2003 | 1.5 | 1.85 | | | | 5.01 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 10/22/2003 | 1.15 | 1.5 | | | | 5.36 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 10/7/2003 | 1.87 | 2.22 | | | | 4.64 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 9/24/2003 | 1.25 | 1.6 | | | | 5.26 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 9/8/2003 | 1.19 | 1.54 | | | | 5.32 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 8/27/2003 | 1.13 | 1.48 | | | | 5.38 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 8/12/2003 | 1.16 | 1.51 | | | | 5.35 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 7/18/2003 | 1.18 | 1.53 | | | | 5.33 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 7/7/2003 | 1.05 | 1.4 | | | | 5.46 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-11 | | 6/30/2003 | 1.24 | 1.59 | | | | 5.27 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 6/17/2003 | 1.1 | 1.45 | | | | 5.41 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 6/2/2003 | 1.3 | 1.65 | | | | 5.21 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 5/8/2003 | 1.4 | 1.75 | | | | 5.11 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 4/25/2003 | 1.45 | 1.8 | | | | 5.06 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 4/9/2003 | 0.91 | 1.26 | | | | 5.6 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 3/26/2003 | 1.14 | 1.49 | | | | 5.37 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 3/12/2003 | 1.19 | 1.54 | | | | 5.32 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 2/27/2003 | 1.53 | 1.88 | | | | 4.98 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 2/13/2003 | 2.16 | 2.51 | | | | 4.35 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 1/28/2003 | 3.26 | 3.61 | | | | 3.25 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 1/24/2003 | 3.21 | 3.56 | | | | 3.3 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 12/19/2002 | 1.87 | 2.22 | | | | 4.64 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 12/4/2002 | 2.11 | 2.46 | | | | 4.4 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 11/18/2002 | 1.74 | 2.09 | | | | 4.77 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 10/31/2002 | 1.82 | 2.17 | 1.82 | 2.17 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 10/18/2002 | 1.94 | 2.29 | | | | 4.57 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 10/4/2002 | 1.75 | 2.1 | | | | 4.76 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 9/17/2002 | 1.69 | 2.04 | | | | 4.82 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 9/4/2002 | 1.58 | 1.93 | | | | 4.93 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 8/21/2002 | 1.85 | 2.2 | | | | 4.66 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 8/12/2002 | 1.49 | 1.84 | | | | 5.02 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 6/27/2002 | 1.22 | 1.57 | | | | 5.29 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 6/14/2002 | 1.2 | 1.55 | | | | 5.31 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 5/31/2002 | 1.25 | 1.6 | | | | 5.26 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 3/19/2002 | 1.75 | 2.1 | | | | 4.76 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 3/5/2002 | 1.83 | 2.18 | | | | 4.68 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 2/19/2002 | 2.05 | 2.4 | | | | 4.46 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 2/7/2002 | 1.82 | 2.17 | | | | 4.69 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 1/21/2002 | 1.87 | 2.22 | | | | 4.64 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 1/9/2002 | 1.87 | 2.22 | | | | 4.64 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 12/28/2001 | 2.22 | 2.57 | | | | 4.29 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 12/11/2001 | 2.82 | 3.17 | | | | 3.69 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 11/27/2001 | 3.45 | 3.8 | | | | 3.06 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 10/31/2001 | 3.2 | 3.55 | | | | 3.31 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 10/17/2001 | 2.4 | 2.75 | | | | 4.11 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 10/2/2001 | 2 | 2.35 | 2 | 2.35 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 9/19/2001 | 1.96 | 2.31 | 1.96 | 2.31 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 9/5/2001 | 1.86 | 2.21 | 1.86 | 2.21 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 8/21/2001 | 1.31 | 1.66 | 1.31 | 1.66 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 8/9/2001 | 1.26 | 1.61 | 1.26 | 1.61 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 7/26/2001 | 1.02 | 1.37 | 1.02 | 1.37 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 7/10/2001 | 0.76 | 1.11 | 0.76 | 1.11 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 6/28/2001 | 0.95 | 1.3 | 0.95 | 1.3 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 6/13/2001 | 1.34 | 1.69 | 1.34 | 1.69 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 5/29/2001 | 1.21 | 1.56 | 1.21 | 1.56 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 5/17/2001 | 1.76 | 2.11 | 1.76 | 2.11 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 5/3/2001 | 1.37 | 1.72 | | | | 5.14 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 4/16/2001 | 1.08 | 1.43 | | | | 5.43 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 4/6/2001 | 1.15 | 1.5 | | | | 5.36 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 3/20/2001 | 1.28 | 1.63 | | | | 5.23 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 3/6/2001 | 1.03 | 1.38 | | | | 5.48 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 2/19/2001 | 1.27 | 1.62 | | | | 5.24 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 2/6/2001 | 0.68 | 1.03 | | | | 5.83 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 1/23/2001 | 1.19 | 1.54 | | | | 5.32 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 1/10/2001 | 1.72 | 2.07 | | | | 4.79 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 12/12/2000 | 1.97 | 2.32 | 1.97 | 2.32 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 11/28/2000 | 1.85 | 2.2 | 1.85 | 2.2 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 11/14/2000 | 1.85 | 2.2 | 1.85 | 2.2 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 10/31/2000 | 2.35 | 2.7 | 2.35 | 2.7 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-11 | | 10/2/2000 | 1.37 | 1.72 | 1.37 | 1.72 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 9/19/2000 | 1.09 | 1.44 | 1.09 | 1.44 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 9/6/2000 | 1.19 | 1.54 | 1.19 | 1.54 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 8/22/2000 | 1.17 | 1.52 | 1.17 | 1.52 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 8/9/2000 | 0.86 | 1.21 | 0.86 | 1.21 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 7/25/2000 | 0.98 | 1.33 | 0.98 | 1.33 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 7/11/2000 | 0.92 | 1.27 | 0.92 | 1.27 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 6/27/2000 | 1.06 | 1.41 | 1.06 | 1.41 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 6/16/2000 | 1.34 | 1.69 | 1.34 | 1.69 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 5/31/2000 | 1.45 | 1.8 | 1.45 | 1.8 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 5/19/2000 | 0.93 | 1.28 | 0.93 | 1.28 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 5/2/2000 | 1.52 | 1.87 | 1.52 | 1.87 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 4/20/2000 | 6.26 | 6.61 | 6.26 | 6.61 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 4/4/2000 | 6.01 | 6.36 | 6.01 | 6.36 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 3/22/2000 | 6 | 6.35 | 6 | 6.35 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 3/9/2000 | 6.37 | 6.72 | 6.37 | 6.72 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 2/24/2000 | 6.19 | 6.54 | 6.19 | 6.54 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 2/11/2000 | 5.94 | 6.29 | 5.94 | 6.29 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 1/26/2000 | 7.68 | 8.03 | 7.68 | 8.03 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 1/13/2000 | 6.33 | 6.68 | 6.33 | 6.68 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 12/29/1999 | 6.42 | 6.77 | 6.42 | 6.77 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 12/14/1999 | 6.38 | 6.73 | 6.38 | 6.73 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 12/1/1999 | 7.02 | 7.37 | 7.02 | 7.37 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 11/18/1999 | 7.51 | 7.86 | | | | -1 | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 11/3/1999 | 6.4 | 6.75 | 6.4 | 6.75 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 10/20/1999 | 6.11 | 6.46 | 6.11 | 6.46 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 10/7/1999 | 6.65 | 7 | 6.65 | 7 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 9/24/1999 | 6.28 | 6.63 | 6.28 | 6.63 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 9/9/1999 | 6.13 | 6.48 | 6.13 | 6.48 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 8/27/1999 | 6.05 | 6.4 | 6.05 | 6.4 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 8/12/1999 | 6.46 | 6.81 | 6.45 | 6.8 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 7/30/1999 | 5.99 | 6.34 | 5.98 | 6.33 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 7/13/1999 | 6.21 | 6.56 | 6.21 | 6.56 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 6/30/1999 | 6.21 | 6.56 | 6.1 | 6.45 | 0.11 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 6/15/1999 | 6.38 | 6.73 | 6.38 | 6.73 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 6/2/1999 | 6.19 | 6.54 | 6.19 | 6.54 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 5/20/1999 | 6.55 | 6.9 | 6.5 | 6.85 | 0.05 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 5/4/1999 | 6.49 | 6.84 | 6.49 | 6.84 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 4/20/1999 | 6.3 | 6.65 | 6.24 | 6.59 | 0.06 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 4/12/1999 | 6.08 | 6.43 | 6.08 | 6.43 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 3/25/1999 | 6.25 | 6.6 | 6.25 | 6.6 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 3/11/1999 | 7.1 | 7.45 | 6.35 | 6.7 | 0.75 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 3/2/1999 | 6.39 | 6.74 | 6.39 | 6.74 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 2/9/1999 | 6.28 | 6.63 | 6.28 | 6.63 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 1/29/1999 | 6.63 | 6.98 | 6.63 | 6.98 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 1/15/1999 | 6.87 | 7.22 | 6.87 | 7.22 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 12/30/1998 | 7.33 | 7.68 | 7.32 | 7.67 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 12/17/1998 | 7.69 | 8.04 | 7.69 | 8.04 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 12/4/1998 | 7.84 | 8.19 | 7.84 | 8.19 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 11/20/1998 | 7.97 | 8.32 | 7.97 | 8.32 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 11/4/1998 | 7.73 | 8.08 | 7.73 | 8.08 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 10/23/1998 | 7.48 | 7.83 | 7.48 | 7.83 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 10/9/1998 | 6.89 | 7.24 | 6.88 | 7.23 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 9/25/1998 | 7.1 | 7.45 | 6.9 | 7.25 | 0.2 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 9/10/1998 | 6.49 | 6.84 | 6.49 | 6.84 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 8/28/1998 | 6.12 | 6.47 | 6.11 | 6.46 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 8/13/1998 | 6.17 | 6.52 | 6.16 | 6.51 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 7/31/1998 | 5.68 | 6.03 | 5.68 | 6.03 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 7/16/1998 | 5.82 | 6.17 | 5.81 | 6.16 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |
| WPM-11 | | 7/2/1998 | 6.11 | 6.46 | 6.11 | 6.46 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary Well Point | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-11 | | 6/19/1998 | 5.96 | 6.31 | 5.95 | 6.3 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 6/5/1998 | 6.06 | 6.41 | 6.05 | 6.4 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 5/21/1998 | 5.98 | 6.33 | 5.97 | 6.32 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 4/23/1998 | 6.43 | 6.78 | 6.1 | 6.45 | 0.33 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 4/10/1998 | 6.09 | 6.44 | 6.08 | 6.43 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 3/27/1998 | 6.2 | 6.55 | 6.19 | 6.54 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 3/12/1998 | 6.39 | 6.74 | 6.38 | 6.73 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 2/27/1998 | 6.28 | 6.63 | 6.28 | 6.63 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 2/10/1998 | 6.54 | 6.89 | 6.53 | 6.88 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 1/30/1998 | 6.23 | 6.58 | 6.22 | 6.57 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 1/16/1998 | 6.22 | 6.57 | 6.22 | 6.57 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 12/19/1997 | 7.03 | 7.38 | 7.02 | 7.37 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 12/4/1997 | 6.63 | 6.98 | 6.62 | 6.97 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 11/21/1997 | 7.02 | 7.37 | 7.01 | 7.36 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 11/7/1997 | 6.9 | 7.25 | 6.89 | 7.24 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 10/24/1997 | 7.5 | 7.85 | 7.5 | 7.85 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 10/10/1997 | 7.03 | 7.38 | 7.02 | 7.37 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 9/26/1997 | 6.79 | 7.14 | 6.79 | 7.14 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 9/12/1997 | 6.42 | 6.77 | 6.42 | 6.77 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 8/28/1997 | 5.88 | 6.23 | 5.87 | 6.22 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 8/15/1997 | 5.98 | 6.33 | 5.96 | 6.31 | 0.02 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 8/1/1997 | 5.8 | 6.15 | 5.79 | 6.14 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 7/17/1997 | 5.64 | 5.99 | 5.64 | 5.99 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 7/1/1997 | 5.89 | 6.24 | 5.88 | 6.23 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 6/20/1997 | 6.09 | 6.44 | 6.08 | 6.43 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 6/3/1997 | 5.84 | 6.19 | 5.83 | 6.18 | 0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 5/22/1997 | 6.02 | 6.37 | 6.02 | 6.37 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 5/9/1997 | 6.05 | 6.4 | 6.05 | 6.4 | <0.01 | NA | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 4/24/1997 | 5.57 | 5.92 | | | | 0.94 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-11 | | 4/11/1997 | 6.18 | 6.53 | | | | 0.33 | 6.509 | 6.858 | | | | - | Flush | | Temporary | Well Point |
| WPM-2 | | 5/11/2017 | | | | | | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 5/11/2016 | | | | | | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 5/15/2015 | | | | | | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 12/4/2014 | 3.74 | 4.23 | | | | 3.73 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 5/14/2014 | | | | | | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 10/16/2013 | 3.54 | 4.03 | | | | 3.93 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 3/28/2013 | | | | | | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 5/9/2012 | | | | | | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 5/18/2011 | 5.55 | 6.04 | | | | 1.92 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 7/30/2010 | | | | | | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/22/2009 | 8.17 | 8.66 | | | | -0.7 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 11/25/2008 | 8.22 | 8.71 | | | | -0.75 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/6/2008 | 7.16 | 7.65 | | | | 0.31 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 11/15/2007 | 8.3 | 8.79 | | | | -0.83 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/4/2007 | 7.89 | 8.38 | | | | -0.42 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 11/7/2006 | | | | | | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 5/24/2006 | 7.84 | 8.33 | | | | -0.37 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 5/19/2005 | 7.75 | 8.24 | | | | -0.28 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 10/8/2004 | 7.68 | 8.17 | | | | -0.21 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 9/17/2004 | 7.94 | 8.43 | | | | -0.47 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/28/2004 | 7.69 | 8.18 | | | | -0.22 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 3/3/2004 | 8.57 | 9.06 | | | | -1.1 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 11/25/2003 | 7.88 | 8.37 | | | | -0.41 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 11/18/2003 | 7.85 | 8.34 | | | | -0.38 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 8/27/2003 | 7.98 | 8.47 | | | | -0.51 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 7/7/2003 | 7.57 | 8.06 | | | | -0.1 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 3/12/2003 | 7.36 | 7.85 | | | | 0.11 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 10/31/2002 | 7.35 | 7.84 | | | | 0.12 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 8/12/2002 | 8.71 | 9.2 | | | | -1.24 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/14/2002 | 6.27 | 6.76 | | | | 1.2 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-2 | | 2/19/2002 | 8.84 | 9.33 | | | | -1.37 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 11/8/2001 | 9.15 | 9.64 | | | | -1.68 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 9/5/2001 | 8.87 | 9.36 | 8.87 | 9.36 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/13/2001 | 7.55 | 8.04 | | | | -0.08 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 2/19/2001 | 7.91 | 8.4 | | | | -0.44 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 11/14/2000 | 8.19 | 8.68 | | | | -0.72 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 9/6/2000 | 7.64 | 8.13 | 7.64 | 8.13 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/16/2000 | 7.56 | 8.05 | | | | -0.09 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 3/9/2000 | 7.99 | 8.48 | | | | -0.52 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 11/18/1999 | 8.43 | 8.92 | | | | -0.96 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 9/24/1999 | 7.45 | 7.94 | | | | 0.02 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 9/9/1999 | 7.93 | 8.42 | | | | -0.46 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 8/27/1999 | 8.31 | 8.8 | | | | -0.84 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 8/12/1999 | 8.79 | 9.28 | | | | -1.32 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 7/30/1999 | 8.31 | 8.8 | 8.31 | 8.8 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 7/13/1999 | 8.17 | 8.66 | | | | -0.7 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/30/1999 | 8.04 | 8.53 | | | | -0.57 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/15/1999 | 7.76 | 8.25 | | | | -0.29 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/2/1999 | 7.47 | 7.96 | | | | 0 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 5/20/1999 | 7.74 | 8.23 | | | | -0.27 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 5/4/1999 | 7.52 | 8.01 | | | | -0.05 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 4/20/1999 | 7.35 | 7.84 | | | | 0.12 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 4/12/1999 | 6.71 | 7.2 | | | | 0.76 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 3/25/1999 | 7.1 | 7.59 | | | | 0.37 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 3/11/1999 | 7.64 | 8.13 | | | | -0.17 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 3/2/1999 | 7.91 | 8.4 | | | | -0.44 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 2/9/1999 | 7.71 | 8.2 | | | | -0.24 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 1/29/1999 | 8.22 | 8.71 | | | | -0.75 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 1/15/1999 | 8.73 | 9.22 | | | | -1.26 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 12/30/1998 | 9.18 | 9.67 | | | | -1.71 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 12/17/1998 | 9.02 | 9.51 | | | | -1.55 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 12/4/1998 | 9.03 | 9.52 | | | | -1.56 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 11/20/1998 | 8.89 | 9.38 | | | | -1.42 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 11/4/1998 | 9.21 | 9.7 | | | | -1.74 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 10/23/1998 | 9.08 | 9.57 | | | | -1.61 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 10/9/1998 | 9.17 | 9.66 | | | | -1.7 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 9/25/1998 | 8.96 | 9.45 | | | | -1.49 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 9/10/1998 | 8.95 | 9.44 | | | | -1.48 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 8/28/1998 | 8.67 | 9.16 | | | | -1.2 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 8/13/1998 | 8.75 | 9.24 | | | | -1.28 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 7/31/1998 | 8.65 | 9.14 | | | | -1.18 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 7/21/1998 | 8.36 | 8.85 | 8.36 | 8.85 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 7/16/1998 | 8.27 | 8.76 | | | | -0.8 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 7/9/1998 | 8.18 | 8.67 | | | | -0.71 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 7/2/1998 | 8.27 | 8.76 | | | | -0.8 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/24/1998 | 8.09 | 8.58 | | | | -0.62 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/19/1998 | 8.03 | 8.52 | | | | -0.56 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/11/1998 | 8.31 | 8.8 | 8.31 | 8.8 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/5/1998 | 8.12 | 8.61 | 8.12 | 8.61 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 5/29/1998 | 8.06 | 8.55 | 8.06 | 8.55 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 5/21/1998 | 7.75 | 8.24 | | | | -0.28 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 5/20/1998 | 7.75 | 8.24 | 7.75 | 8.24 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 5/14/1998 | 7.78 | 8.27 | | | | -0.31 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 4/28/1998 | 8.27 | 8.76 | 8.27 | 8.76 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 4/23/1998 | 7.84 | 8.33 | | | | -0.37 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 4/15/1998 | 7.98 | 8.47 | 7.98 | 8.47 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 4/10/1998 | 8.11 | 8.6 | | | | -0.64 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 4/2/1998 | 7.99 | 8.48 | 7.99 | 8.48 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 3/27/1998 | 7.89 | 8.38 | | | | -0.42 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 3/19/1998 | 7.91 | 8.4 | 7.91 | 8.4 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-2 | | 3/12/1998 | 8.06 | 8.55 | | | | -0.59 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 3/6/1998 | 8.01 | 8.5 | 8.01 | 8.5 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 2/27/1998 | 7.84 | 8.33 | | | | -0.37 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 2/18/1998 | 8.01 | 8.5 | 8.01 | 8.5 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 2/10/1998 | 8.28 | 8.77 | 8.28 | 8.77 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 2/3/1998 | 7.62 | 8.11 | 7.62 | 8.11 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 1/30/1998 | 7.33 | 7.82 | 7.33 | 7.82 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 1/21/1998 | 8.1 | 8.59 | | | | -0.63 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 1/16/1998 | 8.31 | 8.8 | | | | -0.84 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 1/6/1998 | 8.64 | 9.13 | | | | -1.17 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 12/31/1997 | 8.83 | 9.32 | | | | -1.36 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 12/19/1997 | 8.96 | 9.45 | | | | -1.49 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 12/4/1997 | 8.65 | 9.14 | | | | -1.18 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 11/25/1997 | 8.67 | 9.16 | | | | -1.2 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 11/21/1997 | 8.71 | 9.2 | | | | -1.24 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 11/14/1997 | 8.38 | 8.87 | 8.38 | 8.87 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 11/7/1997 | 8.65 | 9.14 | | | | -1.18 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 10/30/1997 | 8.98 | 9.47 | | | | -1.51 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 10/24/1997 | 9.07 | 9.56 | | | | -1.6 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 10/14/1997 | 8.86 | 9.35 | | | | -1.39 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 10/10/1997 | 8.79 | 9.28 | | | | -1.32 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 10/7/1997 | 8.79 | 9.28 | | | | -1.32 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 10/3/1997 | 8.62 | 9.11 | | | | -1.15 | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 9/30/1997 | 8.39 | 8.88 | 8.39 | 8.88 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 9/26/1997 | 8.38 | 8.87 | 8.38 | 8.87 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 9/23/1997 | 8.13 | 8.62 | 8.13 | 8.62 | <0.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 9/18/1997 | 8.1 | 8.59 | 8.07 | 8.56 | 0.03 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 9/16/1997 | 8.3 | 8.79 | 8.22 | 8.71 | 0.08 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 9/12/1997 | 8.57 | 9.06 | 8.4 | 8.89 | 0.17 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 9/9/1997 | 8.29 | 8.78 | 8.25 | 8.74 | 0.04 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 9/5/1997 | 8.31 | 8.8 | 8.12 | 8.61 | 0.19 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 8/28/1997 | 8.15 | 8.64 | 7.65 | 8.14 | 0.5 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 8/15/1997 | 8.27 | 8.76 | 7.86 | 8.35 | 0.41 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 8/1/1997 | 8.86 | 9.35 | 7.85 | 8.34 | 1.01 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 7/17/1997 | 8.16 | 8.65 | 8.04 | 8.53 | 0.12 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 7/1/1997 | 8.39 | 8.88 | 7.78 | 8.27 | 0.61 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/20/1997 | 8.38 | 8.87 | 7.67 | 8.16 | 0.71 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 6/3/1997 | 8.29 | 8.78 | 7.63 | 8.12 | 0.66 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 5/22/1997 | 8.41 | 8.9 | 7.78 | 8.27 | 0.63 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 5/9/1997 | 8.08 | 8.57 | 7.28 | 7.77 | 0.8 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 4/24/1997 | 8.13 | 8.62 | 7.49 | 7.98 | 0.64 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-2 | | 4/11/1997 | 7.83 | 8.32 | 7.31 | 7.8 | 0.52 | NA | 7.47 | 7.964 | | | | - | Flush | | Temporary | unable to a |
| WPM-3 | | 5/11/2017 | 3.34 | 3.27 | | | | 4.691 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/11/2016 | 3.09 | 3.02 | | | | 4.94 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/15/2015 | 3.46 | 3.39 | | | | 4.57 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/4/2014 | 3.41 | 3.34 | | | | 4.62 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/14/2014 | 3.1 | 3.03 | | | | 4.93 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/16/2013 | 3.29 | 3.22 | | | | 4.74 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/28/2013 | | | | | | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/9/2012 | 0.11 | 0.04 | | | | 7.92 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/18/2011 | | | | | | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 7/30/2010 | | | | | | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/22/2009 | 8.18 | 8.11 | | | | -0.15 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/23/2009 | 7.33 | 7.26 | | | | 0.7 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/25/2008 | 8.21 | 8.14 | | | | -0.18 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/6/2008 | 7.11 | 7.04 | | | | 0.92 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/15/2007 | 8.38 | 8.31 | | | | -0.35 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/4/2007 | 8.16 | 8.09 | | | | -0.13 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/7/2006 | | | | | | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/24/2006 | 7.78 | 7.71 | | | | 0.25 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-3 | | 5/19/2005 | 8.24 | 8.17 | | | | -0.21 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/8/2004 | 7.99 | 7.92 | | | | 0.04 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 9/17/2004 | 8.29 | 8.22 | | | | -0.26 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/28/2004 | 7.95 | 7.88 | | | | 0.08 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/10/2004 | 7.66 | 7.59 | | | | 0.37 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/28/2004 | 7.79 | 7.72 | | | | 0.24 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/12/2004 | 7.76 | 7.69 | | | | 0.27 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 4/29/2004 | 7.76 | 7.69 | | | | 0.27 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 4/15/2004 | 7.32 | 7.25 | | | | 0.71 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 4/2/2004 | 7.97 | 7.9 | | | | 0.06 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/17/2004 | 7.93 | 7.86 | | | | 0.1 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/3/2004 | 8.79 | 8.72 | | | | -0.76 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 2/17/2004 | 9.06 | 8.99 | | | | -1.03 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 2/3/2004 | 9.15 | 9.08 | | | | -1.12 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 1/6/2004 | 7.56 | 7.49 | | | | 0.47 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/22/2003 | 7.51 | 7.44 | | | | 0.52 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/25/2003 | 7.79 | 7.72 | | | | 0.24 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/18/2003 | 7.78 | 7.71 | | | | 0.25 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/5/2003 | 7.71 | 7.64 | | | | 0.32 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/22/2003 | 8 | 7.93 | | | | 0.03 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/7/2003 | 8.31 | 8.24 | | | | -0.28 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 9/24/2003 | 7.38 | 7.31 | | | | 0.65 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 9/8/2003 | 7.9 | 7.83 | | | | 0.13 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 8/27/2003 | 8.07 | 8 | | | | -0.04 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 8/12/2003 | 7.65 | 7.58 | | | | 0.38 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 7/18/2003 | 8.07 | 8 | | | | -0.04 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 7/7/2003 | 7.89 | 7.82 | | | | 0.14 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/30/2003 | 7.8 | 7.73 | | | | 0.23 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/17/2003 | 7.64 | 7.57 | | | | 0.39 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/2/2003 | 7.72 | 7.65 | | | | 0.31 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/8/2003 | 8.09 | 8.02 | | | | -0.06 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 4/25/2003 | 8.08 | 8.01 | | | | -0.05 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 4/9/2003 | 7.67 | 7.6 | | | | 0.36 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/26/2003 | 7.92 | 7.85 | | | | 0.11 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/12/2003 | 8.14 | 8.07 | | | | -0.11 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 2/27/2003 | 8.38 | 8.31 | | | | -0.35 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 2/13/2003 | 9.31 | 9.24 | | | | -1.28 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 1/28/2003 | 9.37 | 9.3 | | | | -1.34 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 1/24/2003 | 9.14 | 9.07 | | | | -1.11 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/30/2002 | 8.42 | 8.35 | | | | -0.39 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/19/2002 | 8.33 | 8.26 | | | | -0.3 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/4/2002 | 8.6 | 8.53 | | | | -0.57 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/18/2002 | 7.75 | 7.68 | | | | 0.28 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/31/2002 | 7.72 | 7.65 | | | | 0.31 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/18/2002 | 8.25 | 8.18 | | | | -0.22 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/4/2002 | 8.84 | 8.77 | | | | -0.81 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 9/17/2002 | 9.01 | 8.94 | | | | -0.98 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 9/4/2002 | 8.94 | 8.87 | | | | -0.91 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 8/21/2002 | 9.49 | 9.42 | | | | -1.46 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 8/12/2002 | 9.19 | 9.12 | | | | -1.16 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 7/22/2002 | 8.52 | 8.45 | | | | -0.49 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/27/2002 | 8.26 | 8.19 | | | | -0.23 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/14/2002 | 8.28 | 8.21 | | | | -0.25 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/31/2002 | 8.32 | 8.25 | | | | -0.29 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/15/2002 | 8.52 | 8.45 | | | | -0.49 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/1/2002 | 8.48 | 8.41 | | | | -0.45 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 4/19/2002 | 8.73 | 8.66 | | | | -0.7 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 4/2/2002 | 8.95 | 8.88 | | | | -0.92 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/19/2002 | 9.39 | 9.32 | | | | -1.36 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/5/2002 | 9.39 | 9.32 | | | | -1.36 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-3 | | 2/19/2002 | 9.36 | 9.29 | | | | -1.33 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 2/7/2002 | 9.26 | 9.19 | | | | -1.23 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 1/21/2002 | 9.2 | 9.13 | | | | -1.17 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 1/9/2002 | 8.92 | 8.85 | | | | -0.89 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/28/2001 | 8.88 | 8.81 | | | | -0.85 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/11/2001 | 9.28 | 9.21 | | | | -1.25 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/27/2001 | 9.59 | 9.52 | | | | -1.56 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/8/2001 | 9.45 | 9.38 | | | | -1.42 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/31/2001 | 9.49 | 9.42 | | | | -1.46 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/17/2001 | 9.12 | 9.05 | | | | -1.09 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/2/2001 | 9.41 | 9.34 | | | | -1.38 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 9/19/2001 | 9.39 | 9.32 | | | | -1.36 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 9/5/2001 | 9.35 | 9.28 | | | | -1.32 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 8/21/2001 | 9.22 | 9.15 | | | | -1.19 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 8/9/2001 | 8.97 | 8.9 | | | | -0.94 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 7/26/2001 | 8.24 | 8.17 | 8.24 | 8.17 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 7/10/2001 | 7.76 | 7.69 | 7.76 | 7.69 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/28/2001 | 8.37 | 8.3 | | | | -0.34 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/13/2001 | 8.57 | 8.5 | | | | -0.54 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/29/2001 | 8.33 | 8.26 | | | | -0.3 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/17/2001 | 8.9 | 8.83 | | | | -0.87 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/3/2001 | 8.78 | 8.71 | | | | -0.75 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 4/16/2001 | 8.45 | 8.38 | | | | -0.42 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 4/6/2001 | 8.5 | 8.43 | | | | -0.47 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/20/2001 | 8.57 | 8.5 | | | | -0.54 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/6/2001 | 8.24 | 8.17 | | | | -0.21 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 2/19/2001 | 8.72 | 8.65 | 8.72 | 8.65 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 2/6/2001 | 8.69 | 8.62 | 8.69 | 8.62 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 1/23/2001 | 8.9 | 8.83 | 8.9 | 8.83 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 1/10/2001 | 8.94 | 8.87 | | | | -0.91 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/12/2000 | 8.54 | 8.47 | | | | -0.51 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/28/2000 | 8.4 | 8.33 | 8.4 | 8.33 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/14/2000 | 8.32 | 8.25 | | | | -0.29 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/31/2000 | 8.39 | 8.32 | | | | -0.36 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/18/2000 | 8.6 | 8.53 | | | | -0.57 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/2/2000 | 7.88 | 7.81 | | | | 0.15 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 9/19/2000 | 7.93 | 7.86 | | | | 0.1 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 9/6/2000 | 7.73 | 7.66 | 7.73 | 7.66 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 8/22/2000 | 8.08 | 8.01 | | | | -0.05 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 8/9/2000 | 7.91 | 7.84 | | | | 0.12 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 7/25/2000 | 8.13 | 8.06 | | | | -0.1 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 7/11/2000 | 8.15 | 8.08 | | | | -0.12 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/27/2000 | 7.99 | 7.92 | | | | 0.04 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/16/2000 | 8.09 | 8.02 | | | | -0.06 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/31/2000 | 8.1 | 8.03 | 8.1 | 8.03 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/19/2000 | 8.06 | 7.99 | | | | -0.03 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/2/2000 | 8.18 | 8.11 | 8.18 | 8.11 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 4/20/2000 | 8.11 | 8.04 | | | | -0.08 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 4/4/2000 | 8.42 | 8.35 | | | | -0.39 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/22/2000 | 8.56 | 8.49 | | | | -0.53 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/9/2000 | 8.91 | 8.84 | 8.91 | 8.84 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 2/24/2000 | 8.97 | 8.9 | 8.97 | 8.9 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 2/11/2000 | 8.91 | 8.84 | | | | -0.88 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 1/26/2000 | 8.99 | 8.92 | 8.99 | 8.92 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 1/13/2000 | 8.72 | 8.65 | | | | -0.69 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/29/1999 | 8.64 | 8.57 | | | | -0.61 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/14/1999 | 8.04 | 7.97 | | | | -0.01 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/1/1999 | 8.54 | 8.47 | | | | -0.51 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/18/1999 | 8.68 | 8.61 | | | | -0.65 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/3/1999 | 8.1 | 8.03 | | | | -0.07 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-3 | | 10/20/1999 | 7.97 | 7.9 | | | | 0.06 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/7/1999 | 8.07 | 8 | | | | -0.04 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 9/24/1999 | 7.44 | 7.37 | 7.44 | 7.37 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 9/9/1999 | 8.12 | 8.05 | | | | -0.09 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 8/27/1999 | 8.22 | 8.15 | | | | -0.19 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 8/12/1999 | 8.92 | 8.85 | 8.92 | 8.85 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 7/30/1999 | 8.65 | 8.58 | 8.62 | 8.55 | 0.03 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 7/13/1999 | 8.62 | 8.55 | | | | -0.59 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/30/1999 | 8.43 | 8.36 | | | | -0.4 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/15/1999 | 8.37 | 8.3 | | | | -0.34 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/2/1999 | 8.21 | 8.14 | | | | -0.18 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/20/1999 | 8.18 | 8.11 | | | | -0.15 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/4/1999 | 8.38 | 8.31 | | | | -0.35 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 4/20/1999 | 8.34 | 8.27 | | | | -0.31 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 4/12/1999 | 8.44 | 8.37 | | | | -0.41 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/25/1999 | 8.52 | 8.45 | | | | -0.49 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/11/1999 | 8.6 | 8.53 | 8.6 | 8.53 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/2/1999 | 8.78 | 8.71 | 8.78 | 8.71 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 2/9/1999 | 8.75 | 8.68 | 8.75 | 8.68 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 1/29/1999 | 8.93 | 8.86 | 8.93 | 8.86 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 1/15/1999 | 8.84 | 8.77 | 8.84 | 8.77 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/30/1998 | 9.04 | 8.97 | | | | -1.01 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/17/1998 | 8.93 | 8.86 | 8.93 | 8.86 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/4/1998 | 8.88 | 8.81 | 8.88 | 8.81 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/20/1998 | 8.91 | 8.84 | | | | -0.88 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/4/1998 | 8.87 | 8.8 | | | | -0.84 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/23/1998 | 8.68 | 8.61 | | | | -0.65 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/9/1998 | 8.51 | 8.44 | | | | -0.48 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 9/25/1998 | 8.74 | 8.67 | | | | -0.71 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 9/10/1998 | 8.57 | 8.5 | 8.57 | 8.5 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 8/28/1998 | 8.42 | 8.35 | 8.42 | 8.35 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 8/13/1998 | 8.41 | 8.34 | 8.41 | 8.34 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 7/31/1998 | 8.23 | 8.16 | | | | -0.2 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 7/16/1998 | 8.1 | 8.03 | | | | -0.07 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 7/2/1998 | 8.02 | 7.95 | | | | 0.01 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/19/1998 | 7.9 | 7.83 | | | | 0.13 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/5/1998 | 8.1 | 8.03 | | | | -0.07 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 5/21/1998 | 8.21 | 8.14 | | | | -0.18 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 4/23/1998 | 8.08 | 8.01 | | | | -0.05 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 4/10/1998 | 8.22 | 8.15 | | | | -0.19 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/27/1998 | 8.32 | 8.25 | 8.32 | 8.25 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 3/12/1998 | 8.39 | 8.32 | 8.39 | 8.32 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 2/27/1998 | 8.38 | 8.31 | 8.38 | 8.31 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 2/10/1998 | 8.52 | 8.45 | 8.52 | 8.45 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 1/30/1998 | 8.32 | 8.25 | 8.29 | 8.22 | 0.03 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 1/16/1998 | 8.54 | 8.47 | 8.54 | 8.47 | <0.01 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/19/1997 | 8.53 | 8.46 | | | | -0.5 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 12/4/1997 | 8.28 | 8.21 | | | | -0.25 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/21/1997 | 8.43 | 8.36 | | | | -0.4 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 11/7/1997 | 8.4 | 8.33 | | | | -0.37 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/24/1997 | 8.83 | 8.76 | | | | -0.8 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 10/10/1997 | 8.7 | 8.63 | | | | -0.67 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 9/26/1997 | 8.39 | 8.32 | | | | -0.36 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 9/12/1997 | 8.11 | 8.04 | | | | -0.08 | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 8/28/1997 | 7.76 | 7.69 | 7.68 | 7.61 | 0.08 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 8/15/1997 | 7.95 | 7.88 | 7.85 | 7.78 | 0.1 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 8/1/1997 | 7.95 | 7.88 | 7.78 | 7.71 | 0.17 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 7/17/1997 | 8.1 | 8.03 | 8.01 | 7.94 | 0.09 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 7/1/1997 | 7.83 | 7.76 | 7.75 | 7.68 | 0.08 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |
| WPM-3 | | 6/20/1997 | 7.85 | 7.78 | 7.79 | 7.72 | 0.06 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary Well Point | |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-3 | | 6/3/1997 | 7.96 | 7.89 | 7.81 | 7.74 | 0.15 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary | Well Point |
| WPM-3 | | 5/22/1997 | 8.23 | 8.16 | 8.04 | 7.97 | 0.19 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary | Well Point |
| WPM-3 | | 5/9/1997 | 7.99 | 7.92 | 7.78 | 7.71 | 0.21 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary | Well Point |
| WPM-3 | | 4/24/1997 | 8.21 | 8.14 | 7.88 | 7.81 | 0.33 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary | Well Point |
| WPM-3 | | 4/11/1997 | 8.61 | 8.54 | 8.02 | 7.95 | 0.59 | NA | 8.031 | 7.964 | | | | - | Stick Up | | Temporary | Well Point |
| WPM-4 | | 11/25/2008 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 5/19/2005 | 8.3 | 7.25 | | | | 5.76 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 9/17/2004 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 6/28/2004 | 5.5 | 4.45 | | | | 8.56 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 3/3/2004 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 11/25/2003 | 7.32 | 6.27 | | | | 6.74 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 11/18/2003 | 7.28 | 6.23 | | | | 6.78 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 8/27/2003 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 7/7/2003 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 3/12/2003 | 6.17 | 5.12 | | | | 7.89 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 8/12/2002 | 5.15 | 4.1 | | | | 8.91 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 6/14/2002 | 5.1 | 4.05 | | | | 8.96 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 2/19/2002 | 5.05 | 4 | | | | 9.01 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 11/8/2001 | 8.9 | 7.85 | | | | 5.16 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 9/5/2001 | 5.05 | 4 | | | | 9.01 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 6/13/2001 | 5.1 | 4.05 | | | | 8.96 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 2/19/2001 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 11/14/2000 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 9/6/2000 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 6/16/2000 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 3/9/2000 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 11/18/1999 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 9/24/1999 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 6/15/1999 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 3/11/1999 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 12/17/1998 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 9/10/1998 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 6/19/1998 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 3/27/1998 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 12/19/1997 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 9/26/1997 | | | | | | NA | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 7/17/1997 | 7.24 | 6.19 | | | | 6.82 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 7/1/1997 | 7.26 | 6.21 | | | | 6.8 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 6/20/1997 | 7.24 | 6.19 | | | | 6.82 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 6/3/1997 | 6.77 | 5.72 | | | | 7.29 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 5/22/1997 | 7.22 | 6.17 | | | | 6.84 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 5/9/1997 | 6.86 | 5.81 | | | | 7.2 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 4/24/1997 | 6.97 | 5.92 | | | | 7.09 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-4 | | 4/11/1997 | 7.06 | 6.01 | | | | 7 | 14.06 | 13.01 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 6/6/2008 | | | | | | NA | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 11/15/2007 | 5.18 | 4.13 | | | | 9 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 6/4/2007 | | | | | | NA | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 11/7/2006 | | | | | | NA | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 5/24/2006 | 6.01 | 4.96 | | | | 8.17 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 5/19/2005 | 7.84 | 6.79 | | | | 6.34 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 10/8/2004 | 6.96 | 5.91 | | | | 7.22 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 9/17/2004 | 7.34 | 6.29 | | | | 6.84 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 6/28/2004 | 7.02 | 5.97 | | | | 7.16 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 3/3/2004 | 7.77 | 6.72 | | | | 6.41 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 11/25/2003 | | | | | | NA | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 11/18/2003 | | | | | | NA | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 8/27/2003 | 7.08 | 6.03 | | | | 7.1 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 7/7/2003 | 7.12 | 6.07 | | | | 7.06 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 3/12/2003 | | | | | | NA | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 8/12/2002 | 7.65 | 6.6 | | | | 6.53 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-5 | | 6/14/2002 | 6.05 | 5 | | | | 8.13 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 2/19/2002 | 7.9 | 6.85 | | | | 6.28 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 11/8/2001 | | | | | | NA | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 9/5/2001 | 8.32 | 7.27 | | | | 5.86 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 6/13/2001 | 7.06 | 6.01 | | | | 7.12 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 2/19/2001 | 6.47 | 5.42 | | | | 7.71 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 11/14/2000 | 8.17 | 7.12 | | | | 6.01 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 9/6/2000 | 5.96 | 4.91 | | | | 8.22 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 6/16/2000 | 5.96 | 4.91 | | | | 8.22 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 3/9/2000 | 7.66 | 6.61 | | | | 6.52 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 11/18/1999 | 8.52 | 7.47 | | | | 5.66 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 9/24/1999 | 6.02 | 4.97 | | | | 8.16 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 6/15/1999 | 7.07 | 6.02 | | | | 7.11 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 3/11/1999 | 6.45 | 5.4 | | | | 7.73 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 12/17/1998 | 8.5 | 7.45 | | | | 5.68 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 9/10/1998 | 7.85 | 6.8 | | | | 6.33 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 6/19/1998 | 6.27 | 5.22 | | | | 7.91 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 3/27/1998 | 6.82 | 5.77 | | | | 7.36 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 12/19/1997 | 8.21 | 7.16 | | | | 5.97 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 9/26/1997 | 7.81 | 6.76 | | | | 6.37 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 7/17/1997 | 7.78 | 6.73 | | | | 6.4 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 7/1/1997 | 7.87 | 6.82 | | | | 6.31 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 6/20/1997 | 7.73 | 6.68 | | | | 6.45 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 6/3/1997 | 5.91 | 4.86 | | | | 8.27 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 5/22/1997 | 7.44 | 6.39 | | | | 6.74 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 5/9/1997 | 6.39 | 5.34 | | | | 7.79 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 4/24/1997 | 6.53 | 5.48 | | | | 7.65 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-5 | | 4/11/1997 | 7.39 | 6.34 | | | | 6.79 | 14.18 | 13.13 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 11/25/2008 | | | | | | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 6/6/2008 | | | | | | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 11/15/2007 | | | | | | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 6/4/2007 | | | | | | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 11/7/2006 | | | | | | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 5/24/2006 | | | | | | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 5/19/2005 | | | | | | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 10/8/2004 | 7.85 | 6.8 | | | | 6.5 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 9/17/2004 | | | | | | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 6/28/2004 | | | | | | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 3/3/2004 | 6.33 | 5.28 | | | | 8.02 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 11/25/2003 | 6.95 | 5.9 | | | | 7.4 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 11/18/2003 | 6.93 | 5.88 | | | | 7.42 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 8/27/2003 | 7.44 | 6.39 | | | | 6.91 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 7/7/2003 | 7.13 | 6.08 | | | | 7.22 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 3/12/2003 | 6.64 | 5.59 | | | | 7.71 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 10/31/2002 | 6.37 | 5.32 | | | | 7.98 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 8/12/2002 | 7.75 | 6.7 | | | | 6.6 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 6/14/2002 | 7.2 | 6.15 | | | | 7.15 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 2/19/2002 | 7.4 | 6.35 | | | | 6.95 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 11/8/2001 | 8.66 | 7.61 | | | | 5.69 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 9/5/2001 | 8.42 | 7.37 | | | | 5.93 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 6/13/2001 | 7.1 | 6.05 | | | | 7.25 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 2/19/2001 | 6.61 | 5.56 | | | | 7.74 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 11/14/2000 | 7.38 | 6.33 | | | | 6.97 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 9/6/2000 | 6.86 | 5.81 | | | | 7.49 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 6/16/2000 | 7.25 | 6.2 | | | | 7.1 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 3/9/2000 | 7 | 5.95 | | | | 7.35 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 11/18/1999 | 7.16 | 6.11 | | | | 7.19 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 9/24/1999 | 6.72 | 5.67 | 6.72 | 5.67 | <0.01 | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 9/9/1999 | 7.56 | 6.51 | | | | 6.79 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 8/27/1999 | 7.67 | 6.62 | | | | 6.68 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-6 | | 8/12/1999 | 7.72 | 6.67 | | | | 6.63 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 7/30/1999 | 7.55 | 6.5 | | | | 6.8 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 7/13/1999 | 7.38 | 6.33 | | | | 6.97 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 6/30/1999 | 7.28 | 6.23 | | | | 7.07 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 6/15/1999 | 7.15 | 6.1 | | | | 7.2 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 6/2/1999 | 6.95 | 5.9 | | | | 7.4 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 5/20/1999 | 7.15 | 6.1 | | | | 7.2 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 5/4/1999 | 6.95 | 5.9 | | | | 7.4 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 4/20/1999 | 6.78 | 5.73 | | | | 7.57 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 4/12/1999 | 6.47 | 5.42 | | | | 7.88 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 3/25/1999 | 6.37 | 5.32 | | | | 7.98 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 3/11/1999 | 6.56 | 5.51 | | | | 7.79 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 3/2/1999 | 6.67 | 5.62 | 6.67 | 5.62 | <0.01 | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 2/9/1999 | 6.54 | 5.49 | 6.54 | 5.49 | <0.01 | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 1/29/1999 | 6.73 | 5.68 | | | | 7.62 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 1/15/1999 | 7.71 | 6.66 | | | | 6.64 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 12/17/1998 | 8.31 | 7.26 | 8.1 | 7.05 | 0.21 | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 9/10/1998 | 7.74 | 6.69 | 7.74 | 6.69 | <0.01 | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 6/19/1998 | 6.97 | 5.92 | 6.97 | 5.92 | <0.01 | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 3/27/1998 | 6.39 | 5.34 | | | | 7.96 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 12/19/1997 | 7.19 | 6.14 | | | | 7.16 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 9/26/1997 | 7.38 | 6.33 | | | | 6.97 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 7/17/1997 | 7.34 | 6.29 | | | | 7.01 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 7/1/1997 | 7.15 | 6.1 | | | | 7.2 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 6/20/1997 | 7.07 | 6.02 | | | | 7.28 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 6/3/1997 | 6.88 | 5.83 | | | | 7.47 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 5/22/1997 | 6.89 | 5.84 | | | | 7.46 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 5/9/1997 | 6.73 | 5.68 | | | | 7.62 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 4/24/1997 | 6.73 | 5.68 | | | | 7.62 | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-6 | | 4/11/1997 | 6.68 | 5.63 | 6.68 | 5.63 | <0.01 | NA | 14.35 | 13.3 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-7 | | 11/25/2008 | | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 6/6/2008 | | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 11/15/2007 | | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 6/4/2007 | | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 11/7/2006 | | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 5/24/2006 | | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 5/19/2005 | | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 10/8/2004 | | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 9/17/2004 | | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 6/28/2004 | 7.64 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 3/3/2004 | 8.37 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 11/25/2003 | 7.68 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 11/18/2003 | 7.7 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 8/27/2003 | 8.2 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 7/7/2003 | | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 3/12/2003 | 7.26 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 10/31/2002 | | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 8/12/2002 | 8.92 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 6/14/2002 | 8.11 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 2/19/2002 | 8.77 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 11/8/2001 | 9.51 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 9/5/2001 | 9.12 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 6/13/2001 | 7.83 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 2/19/2001 | | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 11/14/2000 | 8.56 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 9/6/2000 | 7.69 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 6/16/2000 | 8.17 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 3/9/2000 | 8.18 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 11/18/1999 | 8.31 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 9/24/1999 | 6.99 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-7 | | 6/15/1999 | 8.29 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 3/11/1999 | 7.83 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 12/17/1998 | 9.28 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 9/10/1998 | 8.73 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 6/19/1998 | 7.73 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 3/27/1998 | 7.46 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 12/19/1997 | 8.5 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 9/26/1997 | 8.45 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 7/17/1997 | 8.93 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 7/1/1997 | 8.55 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 6/20/1997 | 8.41 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 6/3/1997 | 8.14 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 5/22/1997 | 8.25 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 5/9/1997 | 7.84 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 4/24/1997 | 7.84 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-7 | | 4/11/1997 | 7.81 | | | | | NA | | 14.68 | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/18/2011 | | | | | | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 7/30/2010 | | | | | | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/22/2009 | 8.67 | | | | | 3.94 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 11/25/2008 | 8.7 | | | | | 3.91 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/6/2008 | 7.93 | | | | | 4.68 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 11/15/2007 | 8.62 | | | | | 3.99 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/4/2007 | 8.25 | | | | | 4.36 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 11/7/2006 | | | | | | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/24/2006 | 8.3 | | | | | 4.31 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/19/2005 | 8.18 | | | | | 4.43 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 10/8/2004 | 8.02 | | | | | 4.59 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 9/17/2004 | 8.21 | | | | | 4.4 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/28/2004 | 7.97 | | | | | 4.64 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/10/2004 | 7.9 | | | | | 4.71 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/28/2004 | 7.87 | | | | | 4.74 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/12/2004 | 8.88 | | | | | 3.73 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/29/2004 | 7.93 | | | | | 4.68 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/15/2004 | 7.89 | | | | | 4.72 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/2/2004 | 8.21 | | | | | 4.4 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 3/17/2004 | 8.58 | | | | | 4.03 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 3/3/2004 | 9.1 | | | | | 3.51 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 2/17/2004 | 9.22 | | | | | 3.39 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 2/3/2004 | 9.25 | | | | | 3.36 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 1/6/2004 | 8.27 | | | | | 4.34 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 12/22/2003 | 8.12 | | | | | 4.49 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 11/25/2003 | 8.15 | | | | | 4.46 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 11/18/2003 | 8.16 | | | | | 4.45 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 11/5/2003 | 8.03 | | | | | 4.58 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 10/22/2003 | 8.19 | | | | | 4.42 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 10/7/2003 | 8.15 | | | | | 4.46 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 9/24/2003 | 7.82 | | | | | 4.79 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 9/8/2003 | 8.13 | | | | | 4.48 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 8/27/2003 | 8.15 | | | | | 4.46 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 8/12/2003 | 7.94 | | | | | 4.67 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 7/18/2003 | 8 | | | | | 4.61 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 7/7/2003 | 7.87 | | | | | 4.74 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/30/2003 | 7.82 | | | | | 4.79 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/17/2003 | 7.79 | | | | | 4.82 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/2/2003 | 8.02 | | | | | 4.59 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/8/2003 | 8.14 | | | | | 4.47 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/25/2003 | 8.02 | | | | | 4.59 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/9/2003 | 8.03 | | | | | 4.58 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 3/26/2003 | 8.01 | | | | | 4.6 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 3/12/2003 | 8.3 | | | | | 4.31 | 12.61 | | | | | - | | | Temporary | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-8 | RWM-8 | 2/27/2003 | 8.69 | | | | | 3.92 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 2/13/2003 | 9.24 | | | | | 3.37 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 1/28/2003 | 9.07 | | | | | 3.54 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 1/24/2003 | 9 | | | | | 3.61 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 12/30/2002 | 8.55 | | | | | 4.06 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 12/19/2002 | 8.49 | | | | | 4.12 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 12/4/2002 | 8.53 | | | | | 4.08 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 11/18/2002 | 7.96 | | | | | 4.65 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 10/31/2002 | 8.07 | | | | | 4.54 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 10/18/2002 | 8.25 | | | | | 4.36 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 10/4/2002 | 8.7 | | | | | 3.91 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 9/17/2002 | 8.78 | | | | | 3.83 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 9/4/2002 | 8.83 | | | | | 3.78 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 8/21/2002 | 9.03 | | | | | 3.58 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 8/12/2002 | 8.87 | | | | | 3.74 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 7/22/2002 | 8.41 | | | | | 4.2 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/27/2002 | 8.07 | | | | | 4.54 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/14/2002 | 8.06 | | | | | 4.55 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/31/2002 | 8.16 | | | | | 4.45 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/15/2002 | 8.3 | | | | | 4.31 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/1/2002 | 8.3 | | | | | 4.31 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/19/2002 | 8.49 | | | | | 4.12 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/2/2002 | 8.69 | | | | | 3.92 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 3/19/2002 | 9.24 | | | | | 3.37 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 3/5/2002 | 9.32 | | | | | 3.29 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 2/19/2002 | 9.31 | | | | | 3.3 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 2/7/2002 | 9.28 | | | | | 3.33 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 1/21/2002 | 9.43 | | | | | 3.18 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 1/9/2002 | 9.31 | | | | | 3.3 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 12/28/2001 | 9.15 | | | | | 3.46 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 12/11/2001 | 9.47 | | | | | 3.14 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 11/27/2001 | 9.44 | | | | | 3.17 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 11/8/2001 | 9.22 | | | | | 3.39 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 10/31/2001 | 9.17 | | | | | 3.44 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 10/17/2001 | 9 | | | | | 3.61 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 10/2/2001 | 9.02 | | | | | 3.59 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 9/19/2001 | 9.05 | | | | | 3.56 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 9/5/2001 | 8.93 | | | | | 3.68 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 8/21/2001 | 8.77 | | | | | 3.84 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 8/9/2001 | 8.62 | | | | | 3.99 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 7/26/2001 | 8.21 | | | | | 4.4 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 7/10/2001 | 7.1 | | | | | 5.51 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/28/2001 | 7.91 | | | | | 4.7 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/13/2001 | 8.02 | | | | | 4.59 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/29/2001 | 7.96 | | | | | 4.65 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/17/2001 | 8.41 | | | | | 4.2 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/3/2001 | 8.21 | | | | | 4.4 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/16/2001 | 8.03 | | | | | 4.58 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/6/2001 | 8.09 | | | | | 4.52 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 3/20/2001 | 8.36 | | | | | 4.25 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 3/6/2001 | 8.17 | | | | | 4.44 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 2/19/2001 | 8.82 | | | | | 3.79 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 2/6/2001 | 9.02 | | | | | 3.59 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 1/23/2001 | 9.29 | | | | | 3.32 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 1/10/2001 | 9.37 | | | | | 3.24 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 12/12/2000 | 9.01 | | | | | 3.6 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 11/28/2000 | 8.85 | | | | | 3.76 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 11/14/2000 | 8.64 | | | | | 3.97 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 10/31/2000 | 8.47 | | | | | 4.14 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 10/18/2000 | 8.13 | | 8.13 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-8 | RWM-8 | 10/2/2000 | 7.82 | | | | | 4.79 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 9/19/2000 | 7.95 | | | | | 4.66 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 9/6/2000 | 7.93 | | | | | 4.68 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 8/22/2000 | 8.02 | | | | | 4.59 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 8/9/2000 | 7.88 | | | | | 4.73 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 7/25/2000 | 8.07 | | | | | 4.54 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 7/11/2000 | 8.08 | | | | | 4.53 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/27/2000 | 7.93 | | | | | 4.68 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/16/2000 | 7.97 | | | | | 4.64 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/31/2000 | 8.01 | | 8.01 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/19/2000 | 8.04 | | | | | 4.57 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/2/2000 | 8.06 | | | | | 4.55 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/20/2000 | 7.99 | | | | | 4.62 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/4/2000 | 7.98 | | | | | 4.63 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 3/22/2000 | 8.21 | | | | | 4.4 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 3/9/2000 | 8.75 | | | | | 3.86 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 2/24/2000 | 9.08 | | | | | 3.53 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 2/11/2000 | 9.42 | | | | | 3.19 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 1/26/2000 | 9.14 | | | | | 3.47 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 1/13/2000 | 9 | | | | | 3.61 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 12/29/1999 | 8.55 | | | | | 4.06 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 12/14/1999 | 8.56 | | | | | 4.05 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 12/1/1999 | 8.76 | | | | | 3.85 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 11/18/1999 | 8.81 | | | | | 3.8 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 11/3/1999 | 8.03 | | 8.03 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 10/20/1999 | 8.12 | | 8.12 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 10/7/1999 | 8.04 | | | | | 4.57 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 9/24/1999 | 7.82 | | 7.82 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 9/9/1999 | 8.18 | | | | | 4.43 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 8/27/1999 | 8.44 | | 8.44 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 8/12/1999 | 8.9 | | | | | 3.71 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 7/30/1999 | 8.6 | | 8.55 | | 0.05 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 7/13/1999 | 8.47 | | 8.46 | | 0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/30/1999 | 8.26 | | 8.26 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/15/1999 | 8.11 | | 8.11 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/2/1999 | 8.03 | | | | | 4.58 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/20/1999 | 8.18 | | 8.18 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/4/1999 | 8.03 | | 8.03 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/20/1999 | 8.02 | | | | | 4.59 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/12/1999 | 8.06 | | 8.06 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 3/25/1999 | 8.32 | | 8.32 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 3/11/1999 | 8.55 | | 8.55 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 3/2/1999 | 8.75 | | 8.73 | | 0.02 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 2/9/1999 | 9.03 | | | | | 3.58 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 1/29/1999 | 9.17 | | | | | 3.44 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 1/15/1999 | 9.6 | | | | | 3.01 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 12/30/1998 | 9.41 | | | | | 3.2 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 12/17/1998 | 9.33 | | | | | 3.28 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 12/4/1998 | 9.31 | | | | | 3.3 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 11/20/1998 | 9.21 | | | | | 3.4 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 11/4/1998 | 9 | | | | | 3.61 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 10/23/1998 | 8.91 | | 8.91 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 10/9/1998 | 8.96 | | 8.96 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 9/25/1998 | 8.8 | | 8.8 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 9/10/1998 | 8.81 | | 8.66 | | 0.15 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 8/28/1998 | 8.82 | | 8.4 | | 0.42 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 8/13/1998 | 8.83 | | 8.44 | | 0.39 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 7/31/1998 | 8.79 | | 8.36 | | 0.43 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 7/16/1998 | 8.19 | | 8.16 | | 0.03 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 7/2/1998 | 8.16 | | 8.05 | | 0.11 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-8 | RWM-8 | 6/19/1998 | 7.98 | | 7.92 | | 0.06 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/5/1998 | 8.13 | | 8.02 | | 0.11 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/21/1998 | 7.98 | | 7.96 | | 0.02 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/23/1998 | 7.95 | | 7.95 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/10/1998 | 8.15 | | 8.1 | | 0.05 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 3/27/1998 | 8.16 | | 8.05 | | 0.11 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 12/19/1997 | 9.09 | | | | | 3.52 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 9/26/1997 | 8.28 | | | | | 4.33 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 7/17/1997 | 8.39 | | | | | 4.22 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 7/1/1997 | 8.19 | | | | | 4.42 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/20/1997 | 8.17 | | | | | 4.44 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 6/3/1997 | 8.08 | | | | | 4.53 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/22/1997 | 8.17 | | | | | 4.44 | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 5/9/1997 | 7.95 | | 7.95 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/24/1997 | 8.01 | | 8.01 | | <0.01 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-8 | RWM-8 | 4/11/1997 | 8.41 | | 8.11 | | 0.3 | NA | 12.61 | | | | | - | | | Temporary | Destroyed |
| WPM-9 | | 6/6/2008 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/15/2007 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/4/2007 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/7/2006 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/24/2006 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/19/2005 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/8/2004 | 3.62 | 2.57 | | | | 12.88 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/17/2004 | 8.2 | 7.15 | 8.19 | 7.14 | 0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/28/2004 | 7.94 | 6.89 | 7.94 | 6.89 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/10/2004 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/28/2004 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/12/2004 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/29/2004 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/15/2004 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/2/2004 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/17/2004 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/3/2004 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 2/17/2004 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 2/3/2004 | | | | | | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 1/6/2004 | 8.32 | 7.27 | | | | 8.18 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 12/22/2003 | 8.56 | 7.51 | | | | 7.94 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/25/2003 | 8.44 | 7.39 | | | | 8.06 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/18/2003 | 8.41 | 7.36 | | | | 8.09 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/5/2003 | 7.75 | 6.7 | 7.75 | 6.7 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/22/2003 | 8.41 | 7.36 | 8.41 | 7.36 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/7/2003 | 8.29 | 7.24 | 8.29 | 7.24 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/24/2003 | 8.01 | 6.96 | 8.01 | 6.96 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/8/2003 | 8.4 | 7.35 | 8.4 | 7.35 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 8/27/2003 | 8.5 | 7.45 | 8.5 | 7.45 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 8/12/2003 | 8.2 | 7.15 | 8.19 | 7.14 | 0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/18/2003 | 8.42 | 7.37 | 8.42 | 7.37 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/7/2003 | 8.14 | 7.09 | | | | 8.36 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/30/2003 | 7.97 | 6.92 | 7.97 | 6.92 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/17/2003 | 7.69 | 6.64 | 7.69 | 6.64 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/2/2003 | 7.8 | 6.75 | 7.73 | 6.68 | 0.07 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/8/2003 | 8.37 | 7.32 | 8.37 | 7.32 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/25/2003 | 7.97 | 6.92 | 7.97 | 6.92 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/9/2003 | 8.25 | 7.2 | 8.25 | 7.2 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/26/2003 | 8.03 | 6.98 | | | | 8.47 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/12/2003 | 8.64 | 7.59 | | | | 7.86 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 2/27/2003 | 9.03 | 7.98 | | | | 7.47 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 2/13/2003 | 9.69 | 8.64 | 9.69 | 8.64 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 1/28/2003 | 9.33 | 8.28 | | | | 7.17 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 1/24/2003 | 9.55 | 8.5 | | | | 6.95 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-9 | | 12/30/2002 | 8.79 | 7.74 | | | | 7.71 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 12/19/2002 | 8.75 | 7.7 | | | | 7.75 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 12/4/2002 | 8.68 | 7.63 | 8.68 | 7.63 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/18/2002 | 8.21 | 7.16 | 8.21 | 7.16 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/31/2002 | 8.17 | 7.12 | 8.17 | 7.12 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/18/2002 | 8.42 | 7.37 | 8.41 | 7.36 | 0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/4/2002 | 8.85 | 7.8 | 8.82 | 7.77 | 0.03 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/17/2002 | 9.03 | 7.98 | 8.95 | 7.9 | 0.08 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/4/2002 | 8.95 | 7.9 | 8.89 | 7.84 | 0.06 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 8/21/2002 | 9.3 | 8.25 | 9.24 | 8.19 | 0.06 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 8/12/2002 | 9.22 | 8.17 | 9.15 | 8.1 | 0.07 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/22/2002 | 8.72 | 7.67 | 8.58 | 7.53 | 0.14 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/27/2002 | 8.32 | 7.27 | 8.31 | 7.26 | 0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/14/2002 | 8.7 | 7.65 | 8.58 | 7.53 | 0.12 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/31/2002 | 8.48 | 7.43 | 8.28 | 7.23 | 0.2 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/15/2002 | 8.71 | 7.66 | 8.53 | 7.48 | 0.18 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/1/2002 | 8.81 | 7.76 | 8.68 | 7.63 | 0.13 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/19/2002 | 8.91 | 7.86 | 8.75 | 7.7 | 0.16 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/2/2002 | 8.99 | 7.94 | 8.73 | 7.68 | 0.26 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/19/2002 | 9.8 | 8.75 | 9.35 | 8.3 | 0.45 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/5/2002 | 10 | 8.95 | 9.45 | 8.4 | 0.55 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 2/19/2002 | 10 | 8.95 | 9.43 | 8.38 | 0.57 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 2/7/2002 | 9.53 | 8.48 | 9.27 | 8.22 | 0.26 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 1/21/2002 | 9.99 | 8.94 | 9.42 | 8.37 | 0.57 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 1/9/2002 | 10.1 | 9.05 | 9.44 | 8.39 | 0.66 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 12/28/2001 | 9.41 | 8.36 | 9.25 | 8.2 | 0.16 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 12/11/2001 | 10.14 | 9.09 | 9.51 | 8.46 | 0.63 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/27/2001 | 10.08 | 9.03 | 9.46 | 8.41 | 0.62 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/8/2001 | 9.41 | 8.36 | 9.41 | 8.36 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/31/2001 | 9.35 | 8.3 | 9.35 | 8.3 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/17/2001 | 9.16 | 8.11 | | | | 7.34 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/2/2001 | 9.24 | 8.19 | 9.24 | 8.19 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/19/2001 | 9.2 | 8.15 | 9.2 | 8.15 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/5/2001 | 9.19 | 8.14 | 9.19 | 8.14 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 8/21/2001 | 9.01 | 7.96 | | | | 7.49 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 8/9/2001 | 8.87 | 7.82 | | | | 7.63 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/26/2001 | 8.57 | 7.52 | | | | 7.93 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/10/2001 | 8.17 | 7.12 | 8.17 | 7.12 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/28/2001 | 8.07 | 7.02 | | | | 8.43 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/13/2001 | 8.31 | 7.26 | 8.31 | 7.26 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/29/2001 | 8.12 | 7.07 | 8.12 | 7.07 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/17/2001 | 8.71 | 7.66 | 8.71 | 7.66 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/3/2001 | 8.46 | 7.41 | 8.46 | 7.41 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/16/2001 | 8.18 | 7.13 | 8.18 | 7.13 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/6/2001 | 8.31 | 7.26 | | | | 8.19 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/20/2001 | 8.61 | 7.56 | 8.61 | 7.56 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/6/2001 | 8.52 | 7.47 | | | | 7.98 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 2/19/2001 | 8.89 | 7.84 | 8.76 | 7.71 | 0.13 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 2/6/2001 | 9.1 | 8.05 | 8.95 | 7.9 | 0.15 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 1/23/2001 | 9.32 | 8.27 | 9.14 | 8.09 | 0.18 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 1/10/2001 | 10.07 | 9.02 | 9.6 | 8.55 | 0.47 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 12/12/2000 | 9.16 | 8.11 | | | | 7.34 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/28/2000 | 8.98 | 7.93 | | | | 7.52 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/14/2000 | 8.95 | 7.9 | | | | 7.55 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/31/2000 | 8.75 | 7.7 | | | | 7.75 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/18/2000 | 8.35 | 7.3 | | | | 8.15 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/2/2000 | 8.05 | 7 | | | | 8.45 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/19/2000 | 8.13 | 7.08 | | | | 8.37 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/6/2000 | 8.22 | 7.17 | | | | 8.28 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 8/22/2000 | 8.31 | 7.26 | 8.31 | 7.26 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-9 | | 8/9/2000 | 8.13 | 7.08 | | | | 8.37 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/25/2000 | 8.34 | 7.29 | | | | 8.16 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/11/2000 | 8.42 | 7.37 | | | | 8.08 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/27/2000 | 8.17 | 7.12 | 8.17 | 7.12 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/16/2000 | 8.26 | 7.21 | 8.26 | 7.21 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/31/2000 | 8.14 | 7.09 | 8.14 | 7.09 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/19/2000 | 8.25 | 7.2 | 8.25 | 7.2 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/2/2000 | 8.17 | 7.12 | | | | 8.33 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/20/2000 | 8.13 | 7.08 | 8.13 | 7.08 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/4/2000 | 8.17 | 7.12 | 8.17 | 7.12 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/22/2000 | 8.54 | 7.49 | 8.42 | 7.37 | 0.12 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/9/2000 | 9.26 | 8.21 | 8.98 | 7.93 | 0.28 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 2/24/2000 | 9.34 | 8.29 | 9.26 | 8.21 | 0.08 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 2/11/2000 | 10.58 | 9.53 | 9.52 | 8.47 | 1.06 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 1/26/2000 | 10.47 | 9.42 | 9.58 | 8.53 | 0.89 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 1/13/2000 | 9.09 | 8.04 | 9.09 | 8.04 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 12/29/1999 | 9.27 | 8.22 | | | | 7.23 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 12/14/1999 | 8.72 | 7.67 | | | | 7.78 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 12/1/1999 | 8.97 | 7.92 | | | | 7.53 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/18/1999 | 8.95 | 7.9 | | | | 7.55 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/3/1999 | 8.37 | 7.32 | 8.37 | 7.32 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/20/1999 | 8.34 | 7.29 | 8.34 | 7.29 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/7/1999 | 8.21 | 7.16 | 8.21 | 7.16 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/24/1999 | 7.91 | 6.86 | 7.91 | 6.86 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/9/1999 | 8.51 | 7.46 | 8.51 | 7.46 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 8/27/1999 | 8.95 | 7.9 | 8.74 | 7.69 | 0.21 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 8/12/1999 | 9.47 | 8.42 | 9.23 | 8.18 | 0.24 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/30/1999 | 8.83 | 7.78 | 8.81 | 7.76 | 0.02 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/13/1999 | 8.83 | 7.78 | 8.83 | 7.78 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/30/1999 | 8.61 | 7.56 | 8.61 | 7.56 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/15/1999 | 8.45 | 7.4 | 8.44 | 7.39 | 0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/2/1999 | 8.11 | 7.06 | 8.11 | 7.06 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/20/1999 | 8.26 | 7.21 | 8.26 | 7.21 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/4/1999 | 8.31 | 7.26 | 8.28 | 7.23 | 0.03 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/20/1999 | 8.23 | 7.18 | 8.13 | 7.08 | 0.1 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/12/1999 | 8.43 | 7.38 | 8.28 | 7.23 | 0.15 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/25/1999 | 8.87 | 7.82 | 8.55 | 7.5 | 0.32 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/11/1999 | 9.1 | 8.05 | 8.77 | 7.72 | 0.33 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/2/1999 | 9.35 | 8.3 | 9.12 | 8.07 | 0.23 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 2/9/1999 | 9.07 | 8.02 | | | | 7.43 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 1/29/1999 | 9.36 | 8.31 | 9.36 | 8.31 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 1/15/1999 | 10.44 | 9.39 | 9.53 | 8.48 | 0.91 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 12/30/1998 | 10.58 | 9.53 | 9.55 | 8.5 | 1.03 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 12/17/1998 | 10.25 | 9.2 | 9.35 | 8.3 | 0.9 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 12/4/1998 | 10.39 | 9.34 | 9.35 | 8.3 | 1.04 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/20/1998 | 9.75 | 8.7 | 9.25 | 8.2 | 0.5 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/4/1998 | 9.33 | 8.28 | 9.25 | 8.2 | 0.08 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/23/1998 | 9.19 | 8.14 | 9.19 | 8.14 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/9/1998 | 9.07 | 8.02 | 9.07 | 8.02 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/25/1998 | 8.92 | 7.87 | 8.92 | 7.87 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/10/1998 | 8.89 | 7.84 | | | | 7.61 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 8/28/1998 | 9.73 | 8.68 | | | | 6.77 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 8/13/1998 | 8.77 | 7.72 | 8.77 | 7.72 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/31/1998 | 8.79 | 7.74 | 8.78 | 7.73 | 0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/21/1998 | 8.6 | 7.55 | 8.6 | 7.55 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/16/1998 | 8.44 | 7.39 | 8.44 | 7.39 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/9/1998 | 8.33 | 7.28 | | | | 8.17 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/2/1998 | 8.48 | 7.43 | 8.48 | 7.43 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/24/1998 | 8.21 | 7.16 | 8.21 | 7.16 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/19/1998 | 8.15 | 7.1 | 8.15 | 7.1 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |

**Table 3**

**LNAPL Monitoring Well Historical Summary Data**
**Philadelphia Refining Complex, AOI 6**

| Well ID | Former Well ID | Measurement Date | Depth to Water (ft btoc) | Depth to Water from Grade | Depth to LNAPL | Depth to LNAPL from Grade | Product Thickness | Corrected Water Level Elevation | Top of Casing Elevation | Ground Surface Elevation | Total Depth of Well | Reference Well ID | Product Density | Product Description | Flush/Stick-up | Recovery Well | Well Type | Well Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WPM-9 | | 6/11/1998 | 8.55 | 7.5 | 8.55 | 7.5 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/5/1998 | 8.34 | 7.29 | 8.34 | 7.29 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/29/1998 | 8.29 | 7.24 | 8.29 | 7.24 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/21/1998 | 8.14 | 7.09 | 8.14 | 7.09 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/20/1998 | 7.76 | 6.71 | 7.76 | 6.71 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/14/1998 | 7.92 | 6.87 | 7.92 | 6.87 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/28/1998 | 8.38 | 7.33 | 8.38 | 7.33 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/23/1998 | 7.93 | 6.88 | 7.93 | 6.88 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/15/1998 | 8.27 | 7.22 | 8.27 | 7.22 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/10/1998 | 8.47 | 7.42 | 8.35 | 7.3 | 0.12 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/2/1998 | 8.27 | 7.22 | 8.27 | 7.22 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/27/1998 | 8.36 | 7.31 | 8.36 | 7.31 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/19/1998 | 8.32 | 7.27 | 8.32 | 7.27 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/12/1998 | 8.25 | 7.2 | 8.25 | 7.2 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 3/6/1998 | 8.47 | 7.42 | 8.29 | 7.24 | 0.18 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 2/27/1998 | 8.5 | 7.45 | 8.21 | 7.16 | 0.29 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 2/18/1998 | 8.83 | 7.78 | 8.3 | 7.25 | 0.53 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 2/10/1998 | 9.02 | 7.97 | 8.57 | 7.52 | 0.45 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 2/3/1998 | 9.06 | 8.01 | 8.65 | 7.6 | 0.41 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 1/30/1998 | 8.97 | 7.92 | 8.38 | 7.33 | 0.59 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 1/21/1998 | 9.34 | 8.29 | 8.83 | 7.78 | 0.51 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 1/16/1998 | 9.58 | 8.53 | 8.74 | 7.69 | 0.84 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 1/6/1998 | 10.11 | 9.06 | 9.09 | 8.04 | 1.02 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 12/31/1997 | 10.07 | 9.02 | 9.1 | 8.05 | 0.97 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 12/19/1997 | 10.41 | 9.36 | 9.15 | 8.1 | 1.26 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 12/4/1997 | 9.52 | 8.47 | 9.52 | 8.47 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/25/1997 | 9.17 | 8.12 | 9.17 | 8.12 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/21/1997 | 9.11 | 8.06 | 9.11 | 8.06 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/14/1997 | 8.67 | 7.62 | 8.64 | 7.59 | 0.03 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 11/7/1997 | 9.06 | 8.01 | 8.81 | 7.76 | 0.25 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/30/1997 | 9.46 | 8.41 | 9.41 | 8.36 | 0.05 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/24/1997 | 9.6 | 8.55 | 9.51 | 8.46 | 0.09 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/14/1997 | 9.18 | 8.13 | 9.18 | 8.13 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/10/1997 | 9.05 | 8 | 9.05 | 8 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/7/1997 | 8.98 | 7.93 | 8.98 | 7.93 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 10/3/1997 | 8.87 | 7.82 | 8.87 | 7.82 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/30/1997 | 8.64 | 7.59 | 8.64 | 7.59 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/26/1997 | 8.67 | 7.62 | 8.67 | 7.62 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/23/1997 | 8.43 | 7.38 | | | | 8.07 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/18/1997 | 8.33 | 7.28 | | | | 8.17 | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/16/1997 | 8.46 | 7.41 | 8.46 | 7.41 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/12/1997 | 8.46 | 7.41 | 8.46 | 7.41 | <0.01 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/9/1997 | 8.61 | 7.56 | 8.53 | 7.48 | 0.08 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 9/5/1997 | 8.65 | 7.6 | 8.35 | 7.3 | 0.3 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 8/28/1997 | 8.67 | 7.62 | 8.12 | 7.07 | 0.55 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 8/15/1997 | 8.75 | 7.7 | 8.04 | 6.99 | 0.71 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 8/1/1997 | 8.67 | 7.62 | 8.18 | 7.13 | 0.49 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/17/1997 | 8.98 | 7.93 | 8.38 | 7.33 | 0.6 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 7/1/1997 | 8.65 | 7.6 | 8.08 | 7.03 | 0.57 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/20/1997 | 8.55 | 7.5 | 8.08 | 7.03 | 0.47 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 6/3/1997 | 8.54 | 7.49 | 7.97 | 6.92 | 0.57 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/22/1997 | 8.76 | 7.71 | 8.14 | 7.09 | 0.62 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 5/9/1997 | 8.48 | 7.43 | 7.9 | 6.85 | 0.58 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/24/1997 | 8.29 | 7.24 | 7.91 | 6.86 | 0.38 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |
| WPM-9 | | 4/11/1997 | 8.47 | 7.42 | 7.83 | 6.78 | 0.64 | NA | 16.5 | 15.45 | | | | - | Stick Up | | Temporary | Destroyed |

**Table 4**

**Summary of Well Gauging**
Philadelphia Refining Complex, AOI 6

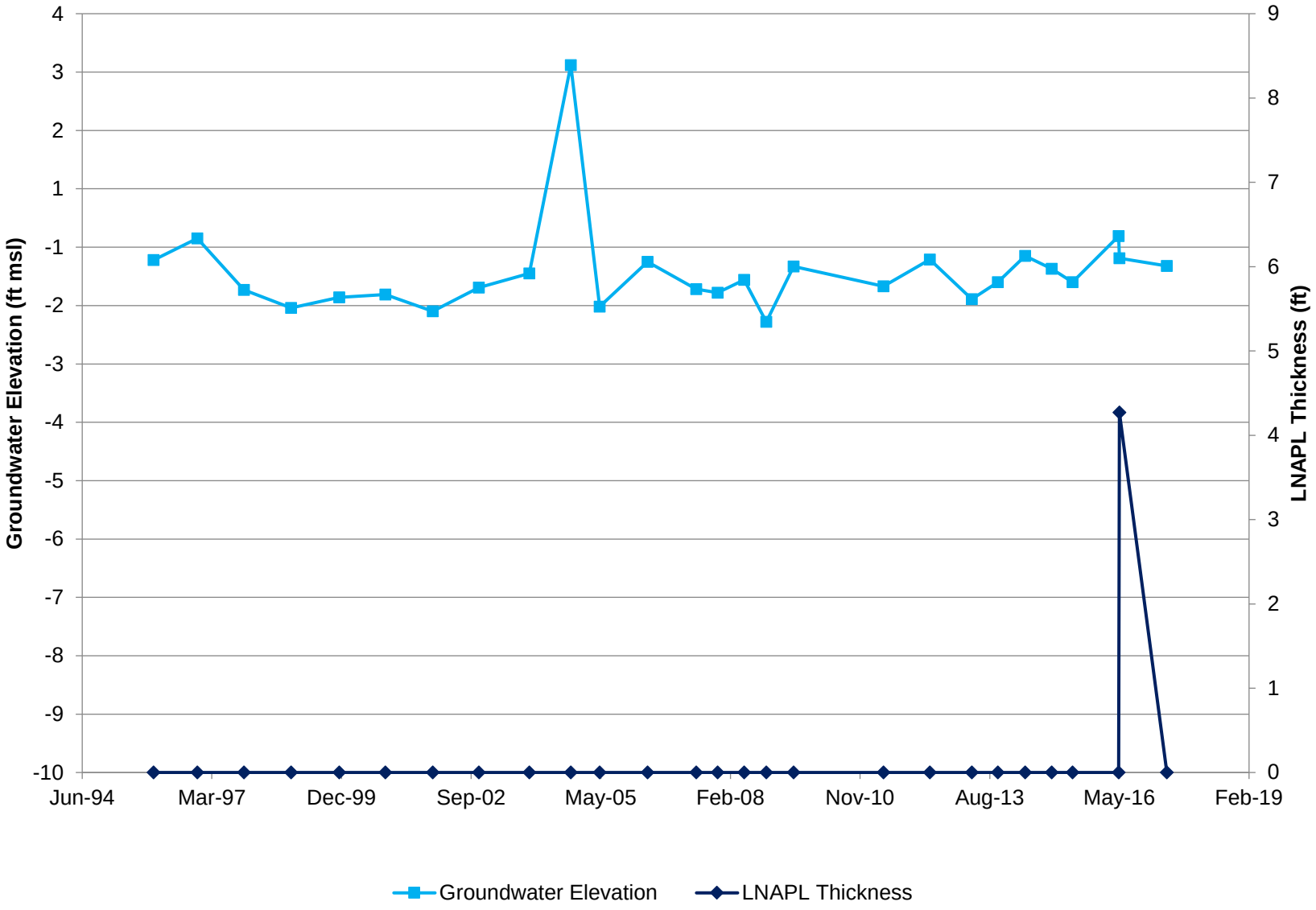
| Year | Number of Well Gauged | Number of wells with NAPL | % of Wells Gauged with LNAPL |
|---|---|---|---|
| 1995 | 22 | 6 | 27% |
| 1996 | 25 | 7 | 28% |
| 1997 | 45 | 17 | 38% |
| 1998 | 44 | 14 | 32% |
| 1999 | 42 | 15 | 36% |
| 2000 | 41 | 15 | 37% |
| 2001 | 60 | 27 | 45% |
| 2002 | 57 | 29 | 51% |
| 2003 | 63 | 28 | 44% |
| 2004 | 61 | 27 | 44% |
| 2005 | 62 | 28 | 45% |
| 2006 | 86 | 30 | 35% |
| 2007 | 86 | 28 | 33% |
| 2008 | 95 | 24 | 25% |
| 2009 | 68 | 24 | 35% |
| 2010 | 73 | 24 | 33% |
| 2011 | 73 | 25 | 34% |
| 2012 | 71 | 22 | 31% |
| 2013 | 80 | 26 | 33% |
| 2014 | 79 | 24 | 30% |
| 2015 | 79 | 23 | 29% |
| 2016 | 84 | 26 | 31% |
| 2017 | 95 | 21 | 22% |

Notes:

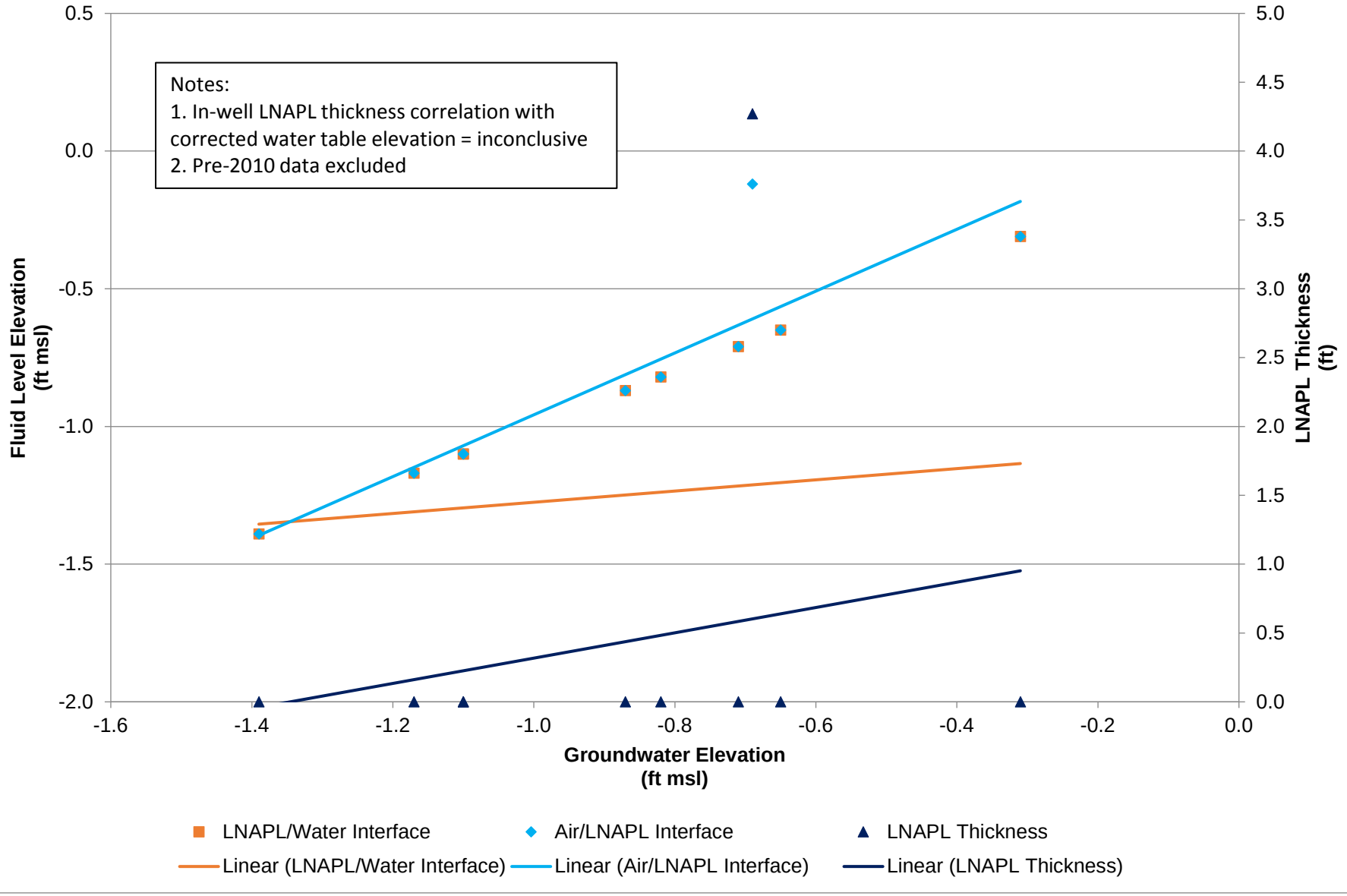
1. Wells Screened in the unconfined aquifer are included in the counts.
2. Measurable apparent LNAPL thickness and observed sheen are considered LNAPL indicators for these counts.

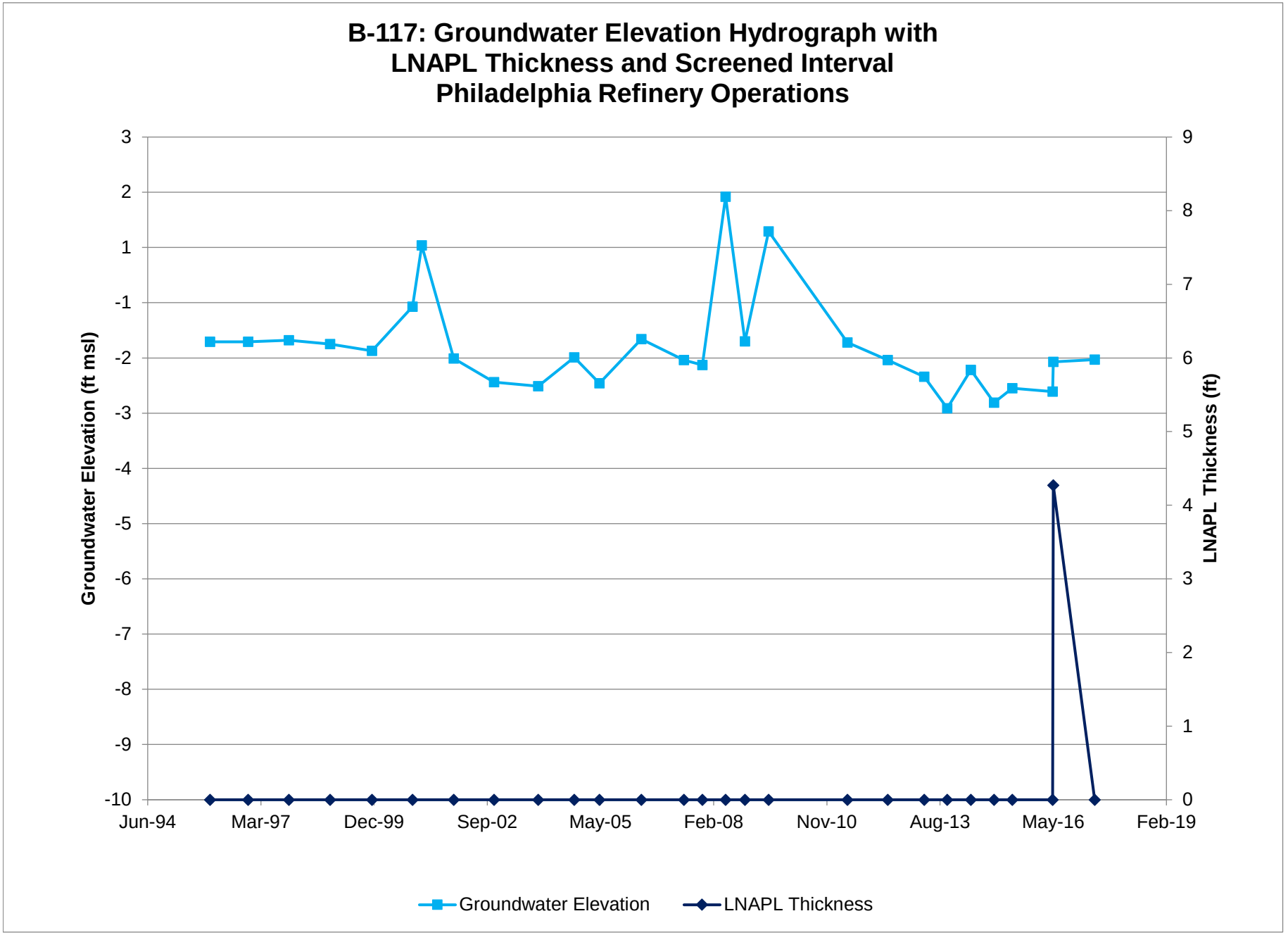
# Appendix F.1
# Well Gauging Data Plots

# B-116: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations

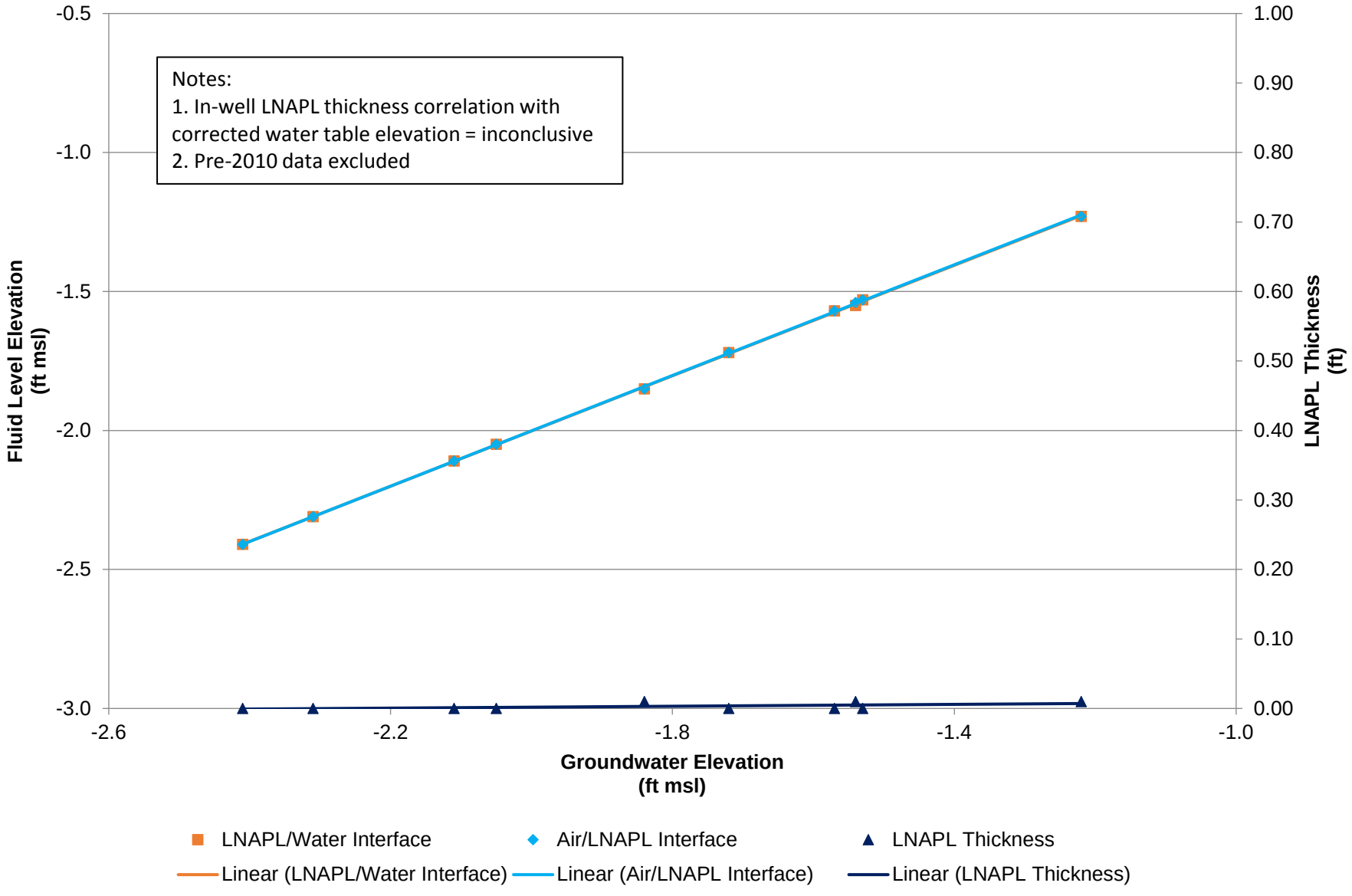


# B-116: Diagnostic Gauge Plot
# Philadelphia Refinery Operations

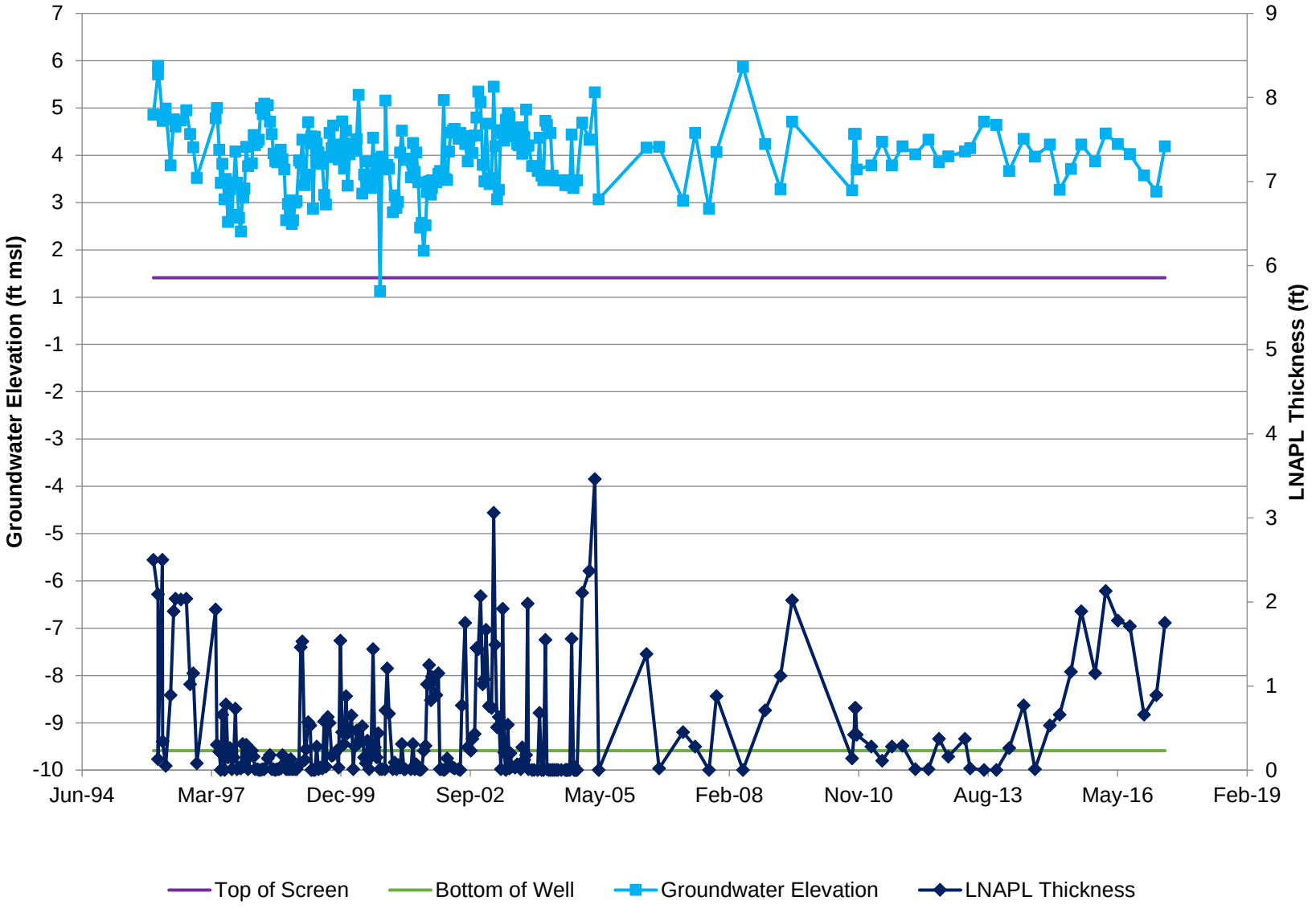



B-117: Groundwater Elevation Hydrograph with
LNAPL Thickness and Screened Interval
Philadelphia Refinery Operations
Groundwater Elevation (ft msl)
LNAPL Thickness (ft)
3
2
1
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
9
8
7
6
5
4
3
2
1
0
Jun-94
Mar-97
Dec-99
Sep-02
May-05
Feb-08
Nov-10
Aug-13
May-16
Feb-19
Groundwater Elevation
LNAPL Thickness

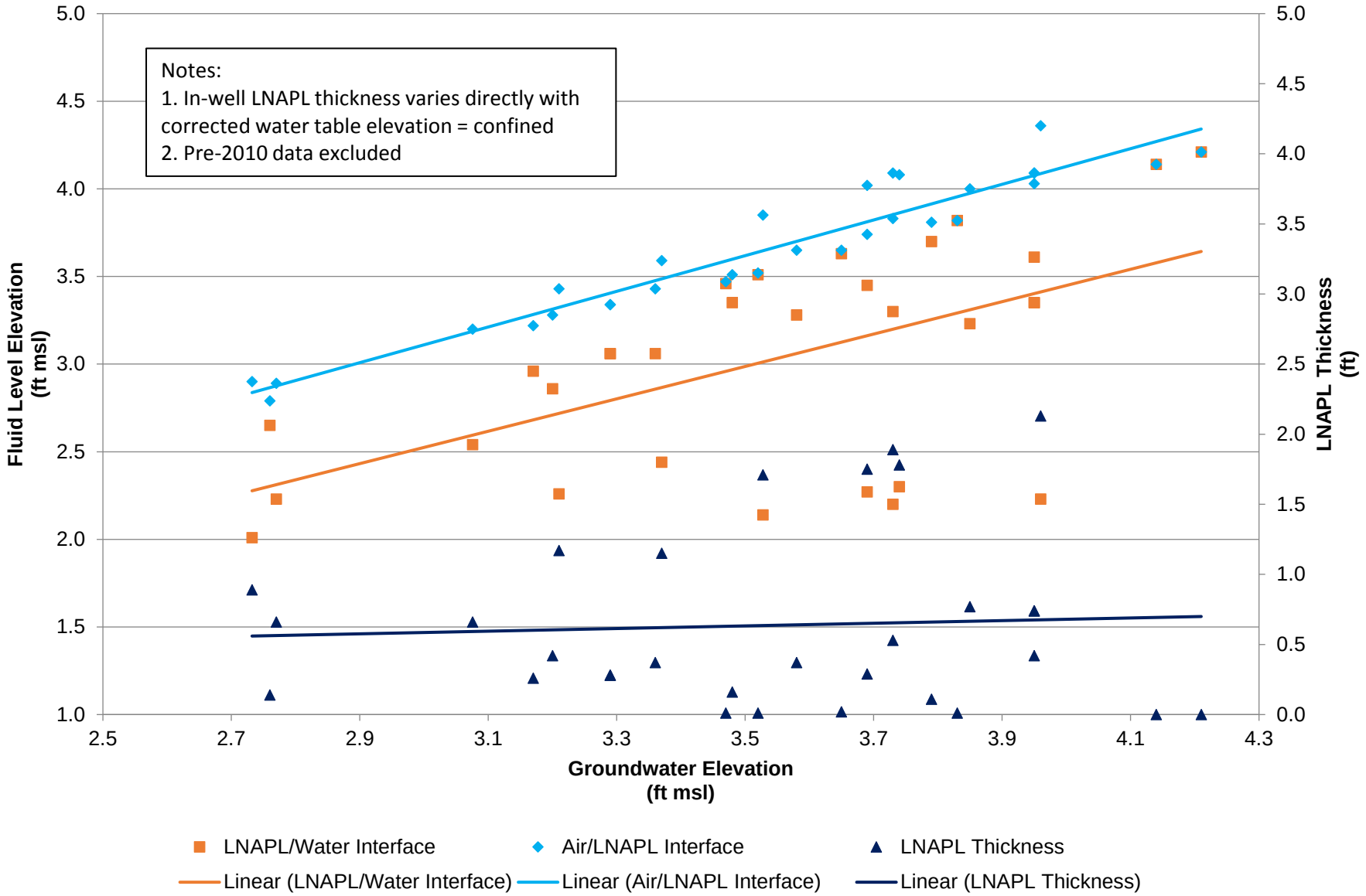
# B-117: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



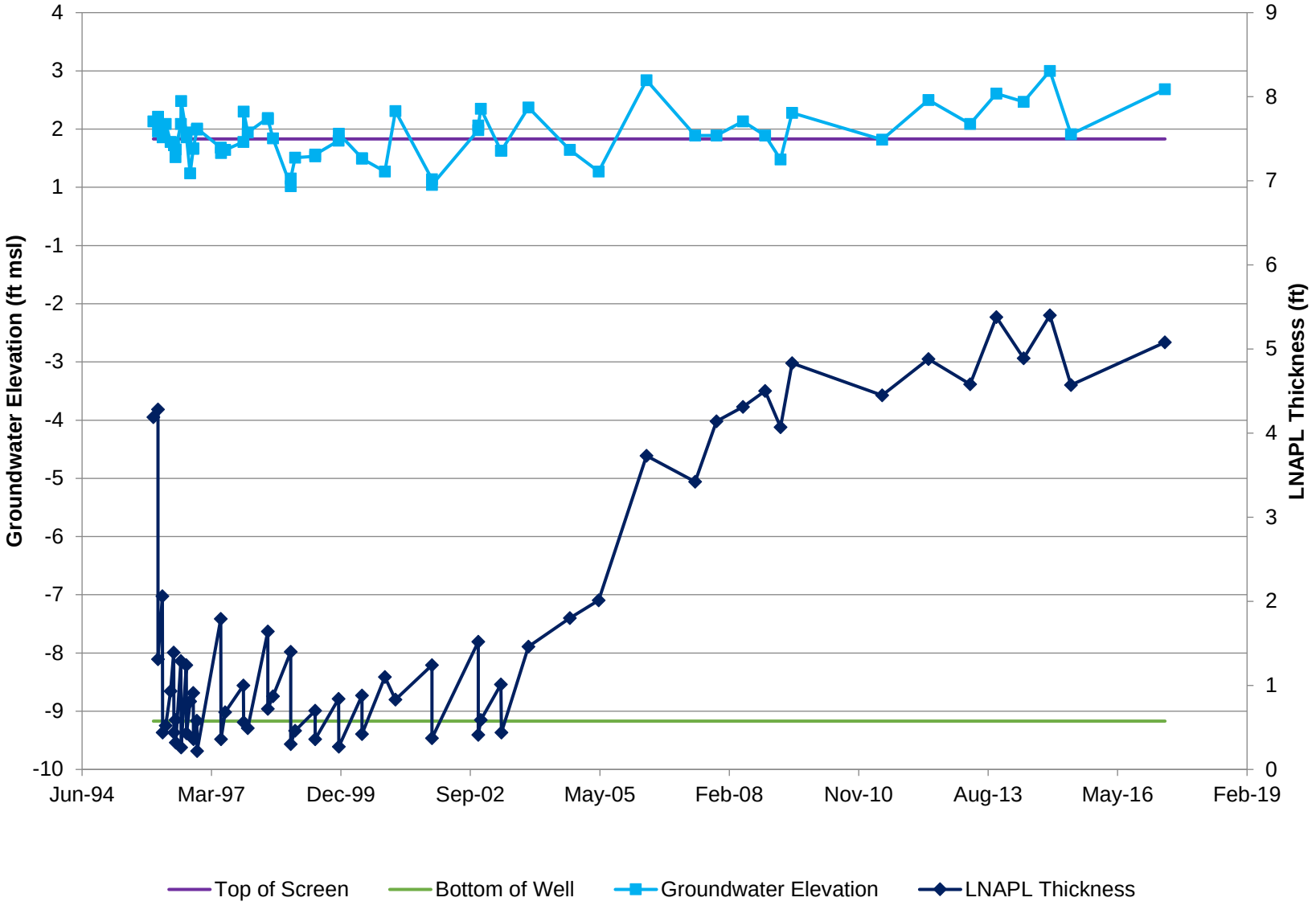
# B-124: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



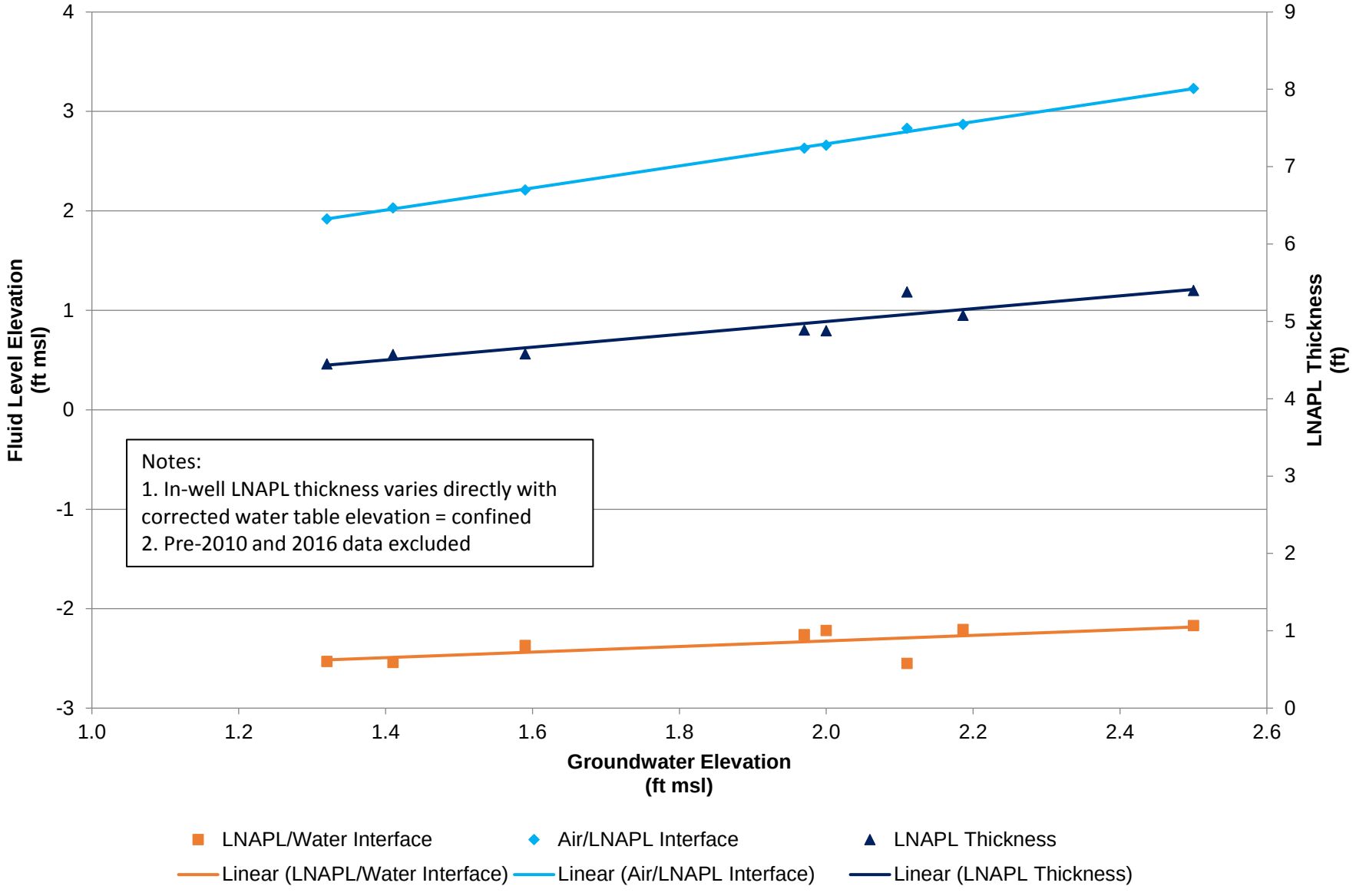
# B-124: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



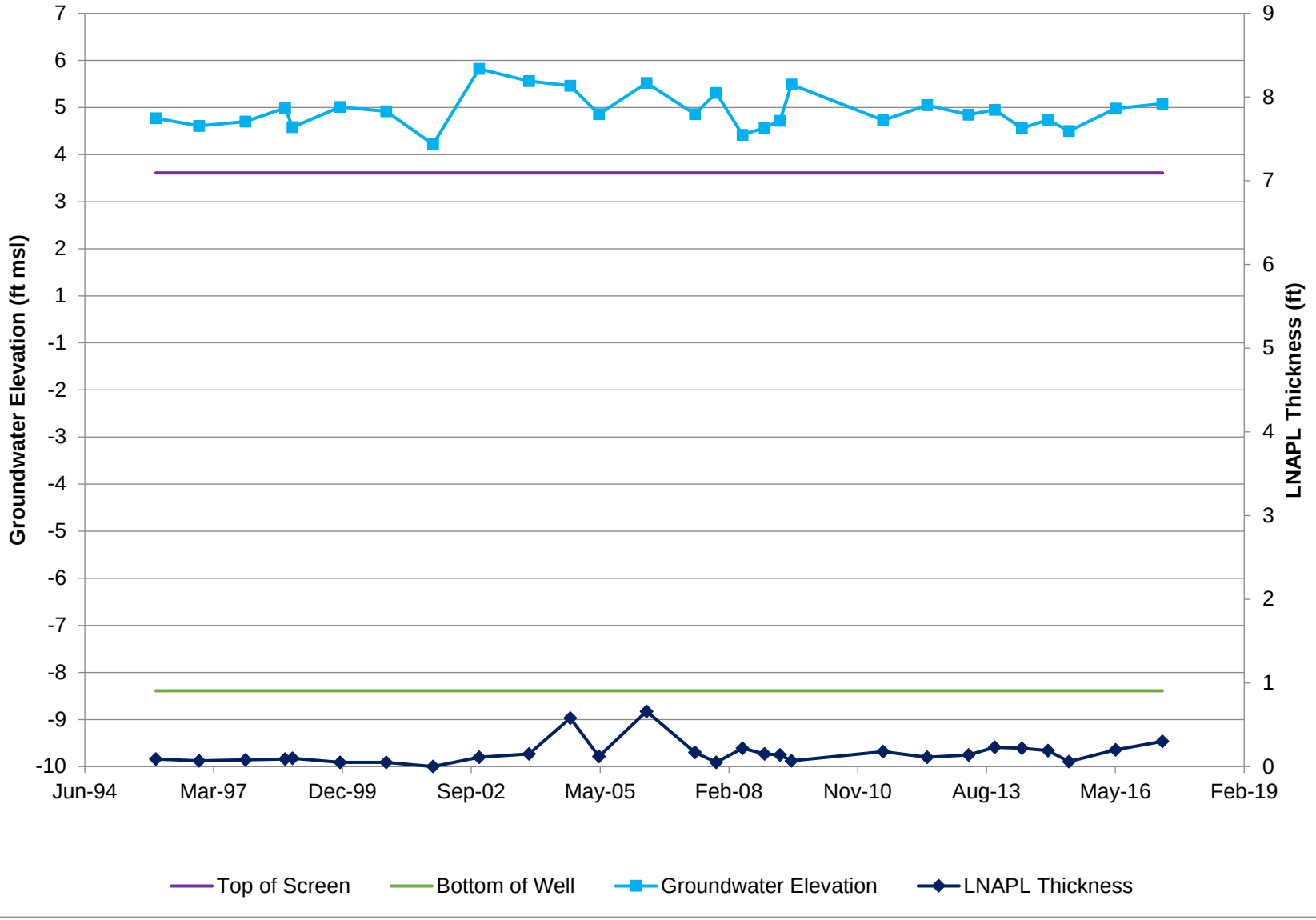
# B-129: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



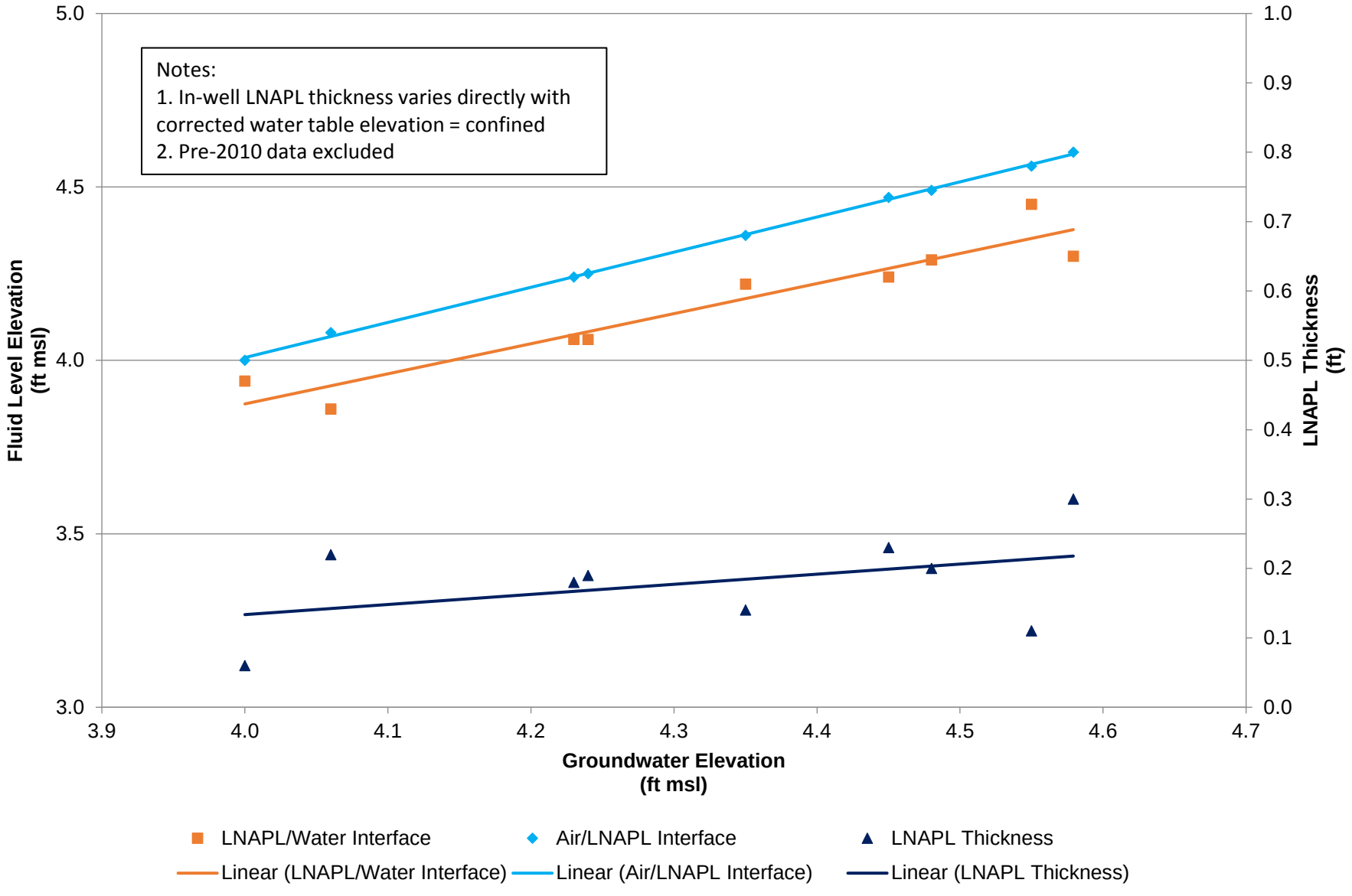
# B-129: Diagnostic Gauge Plot
# Philadelphia Refinery Operations

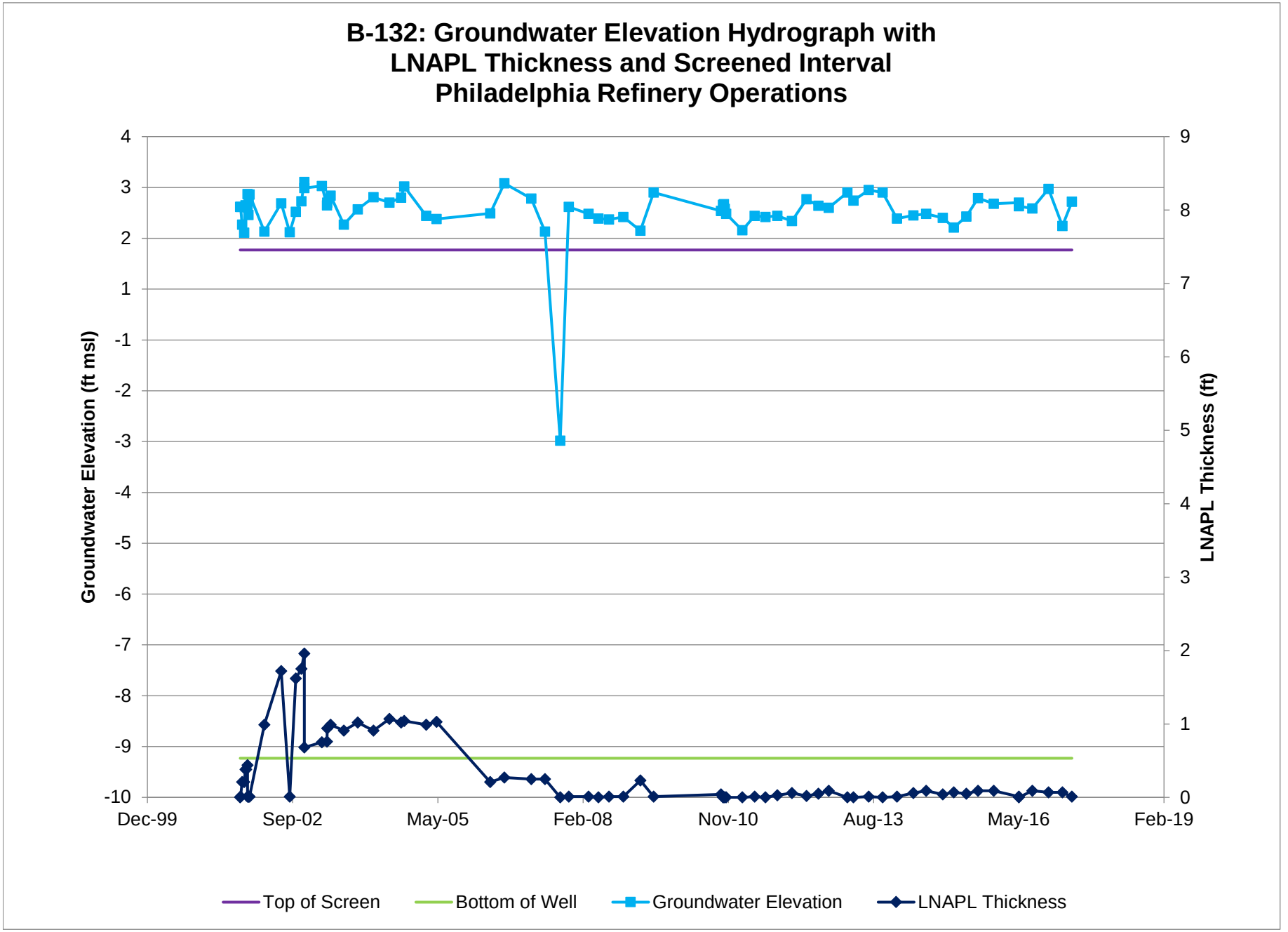


# B-130: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations

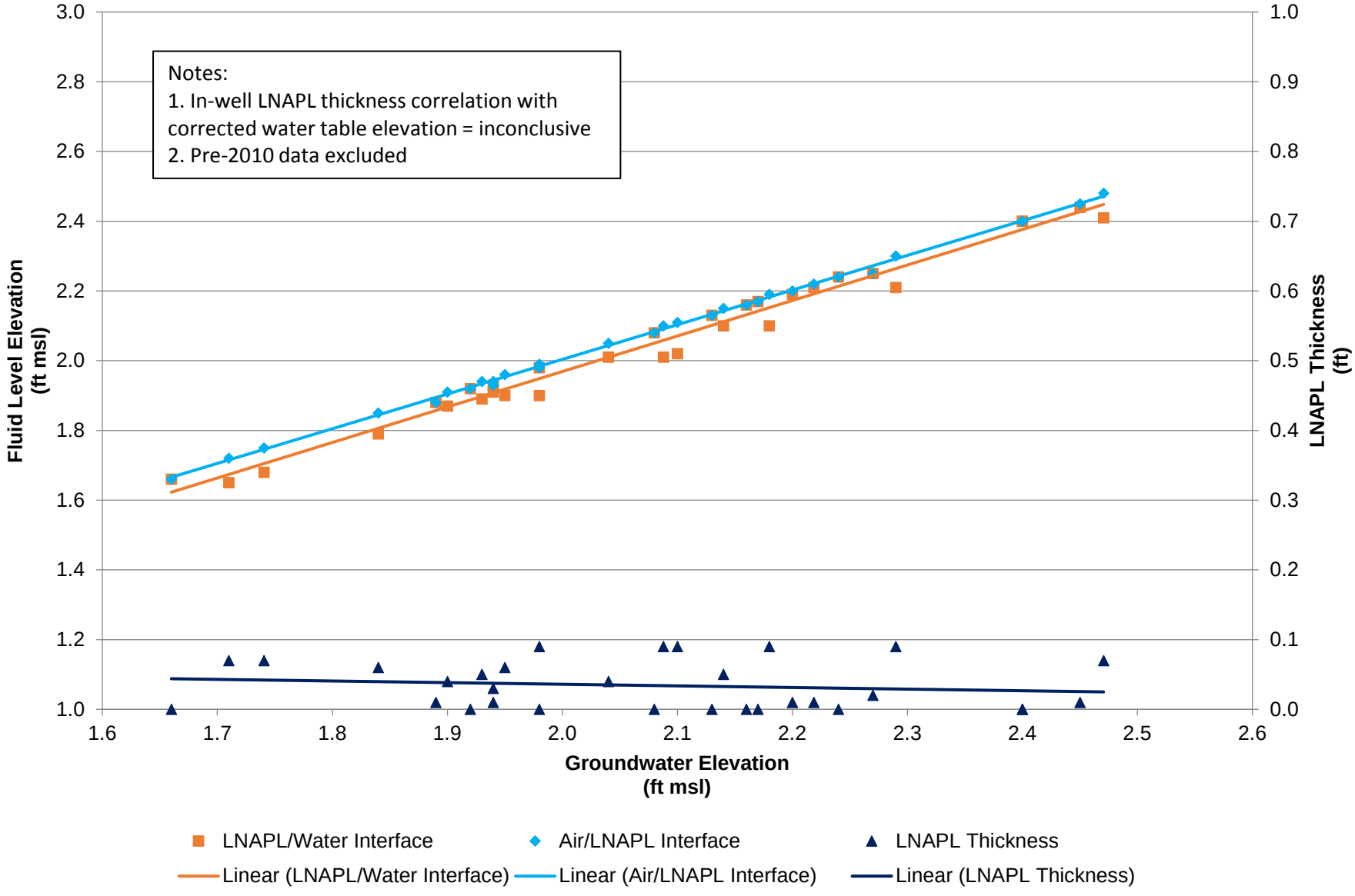


# B-130: Diagnostic Gauge Plot
# Philadelphia Refinery Operations

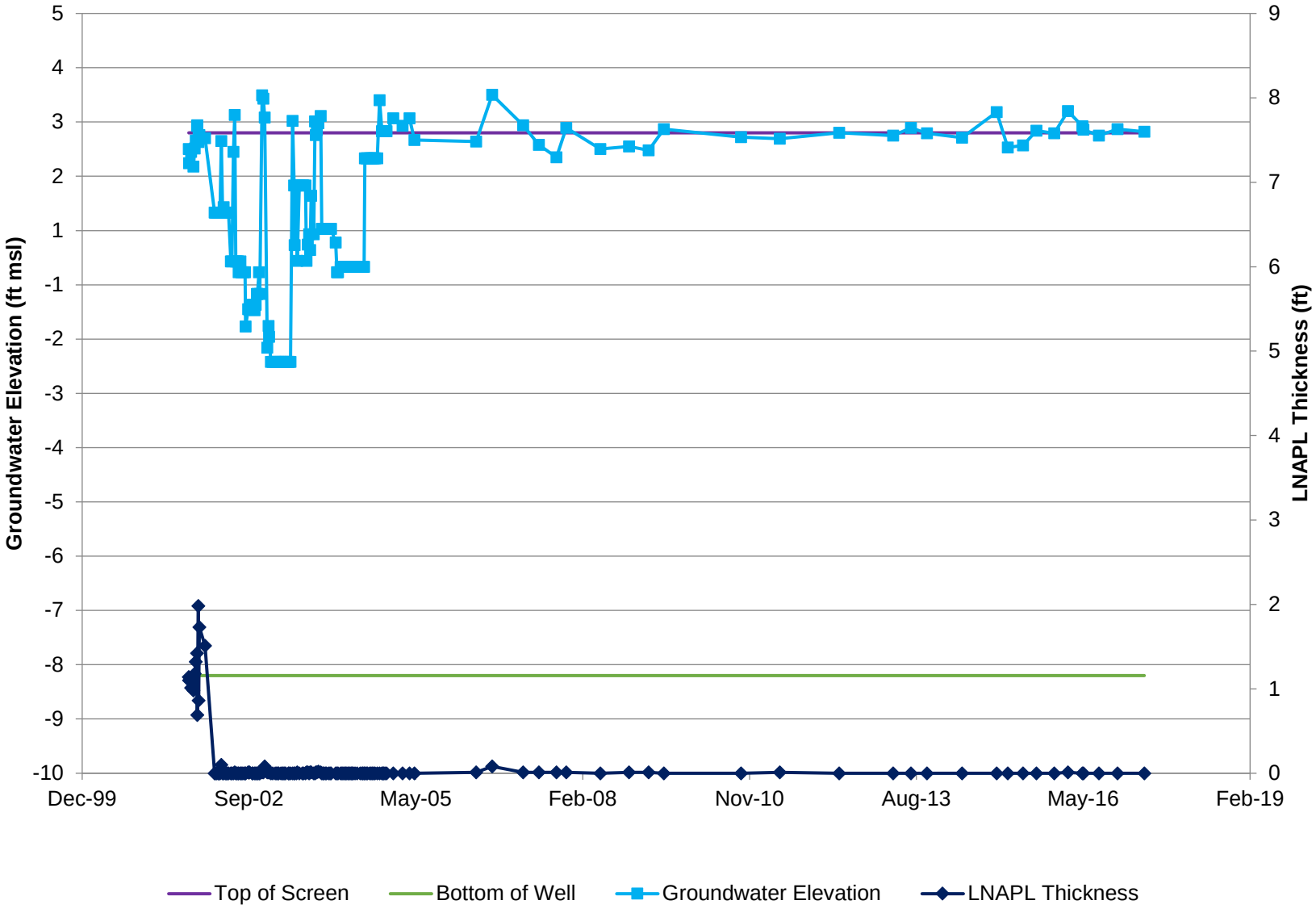



B-132: Groundwater Elevation Hydrograph with
LNAPL Thickness and Screened Interval
Philadelphia Refinery Operations
Groundwater Elevation (ft msl)
LNAPL Thickness (ft)
4
3
2
1
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
9
8
7
6
5
4
3
2
1
0
Dec-99
Sep-02
May-05
Feb-08
Nov-10
Aug-13
May-16
Feb-19
Top of Screen
Bottom of Well
Groundwater Elevation
LNAPL Thickness

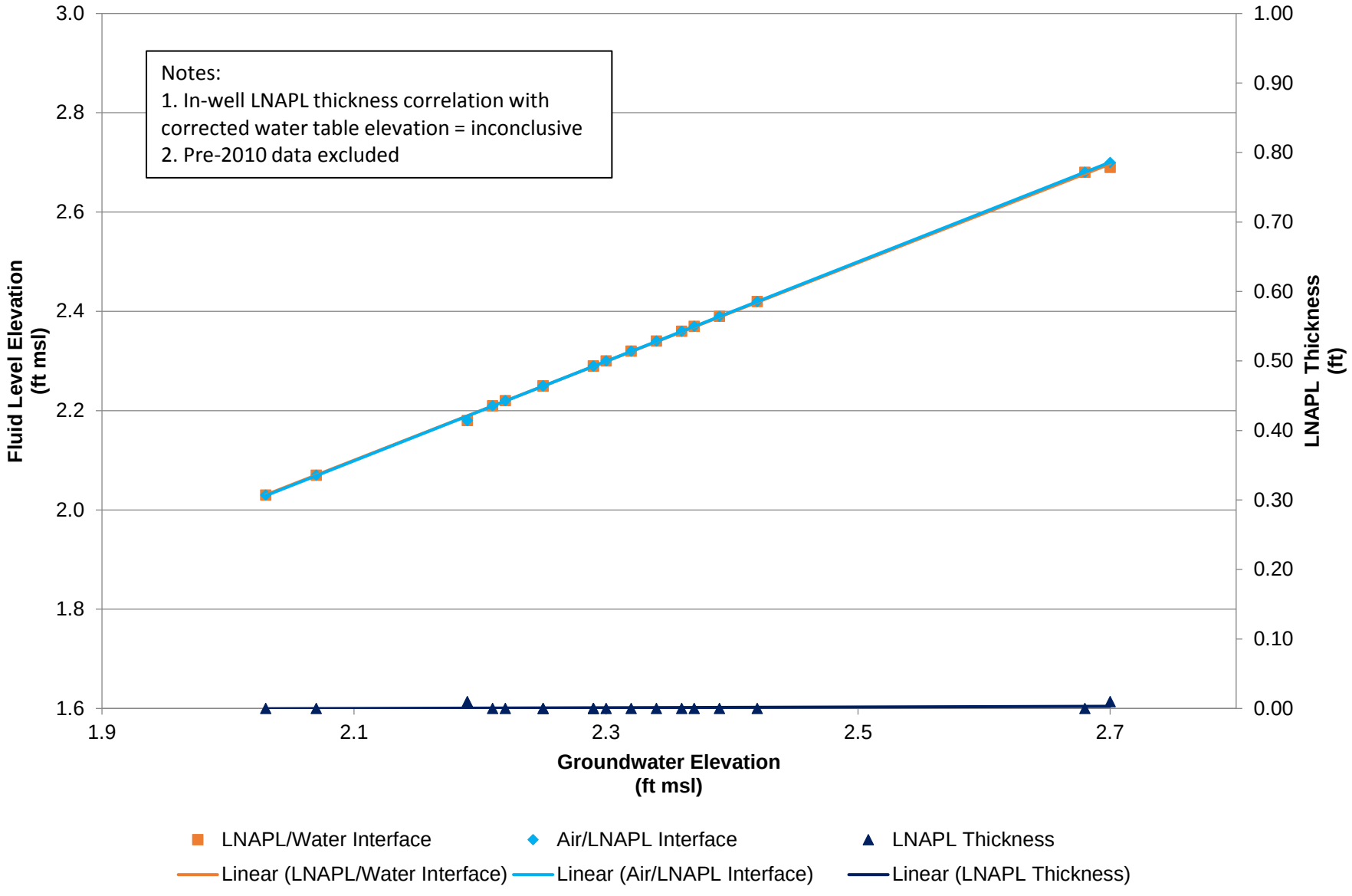
# B-132: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



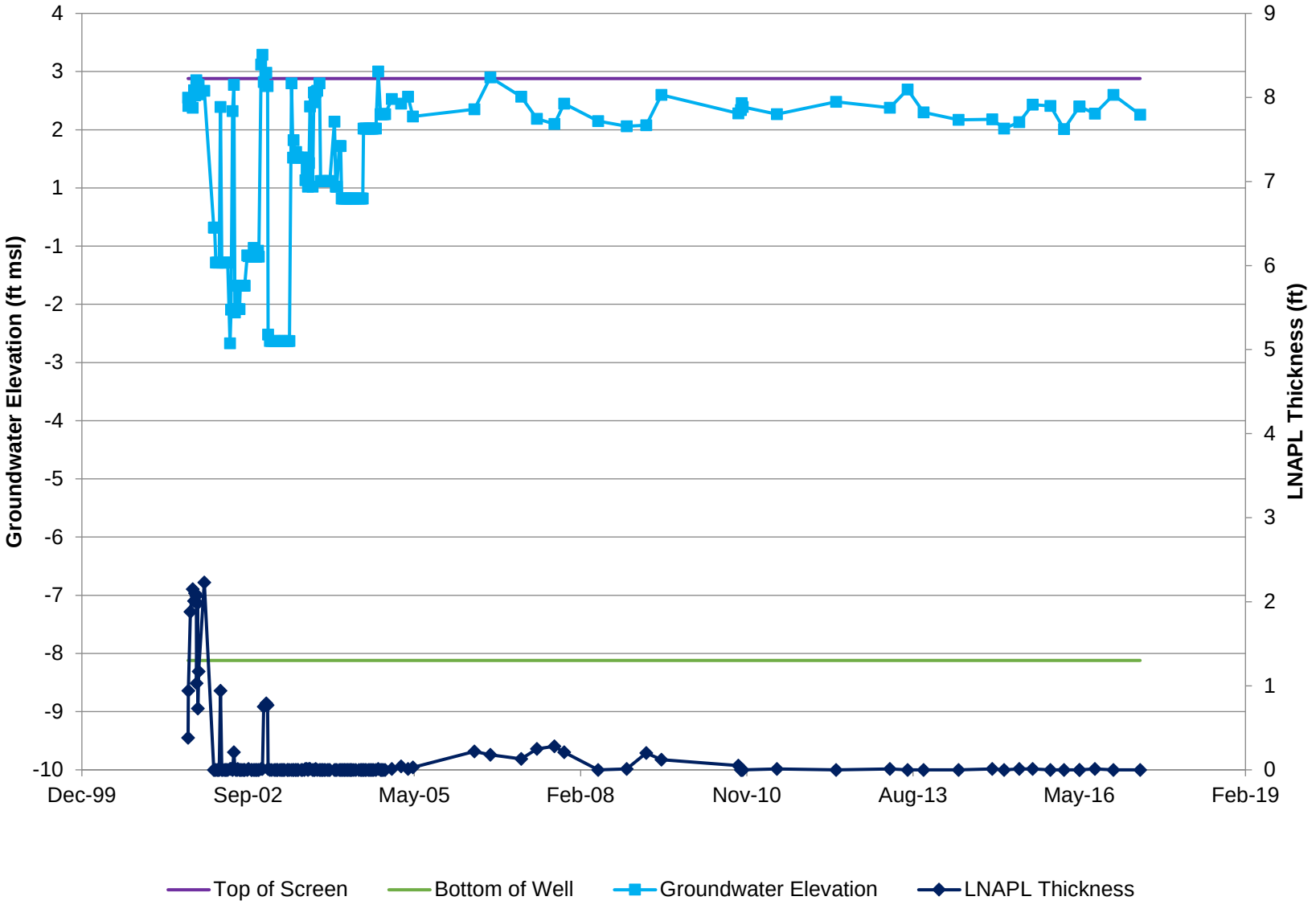
# B-133: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



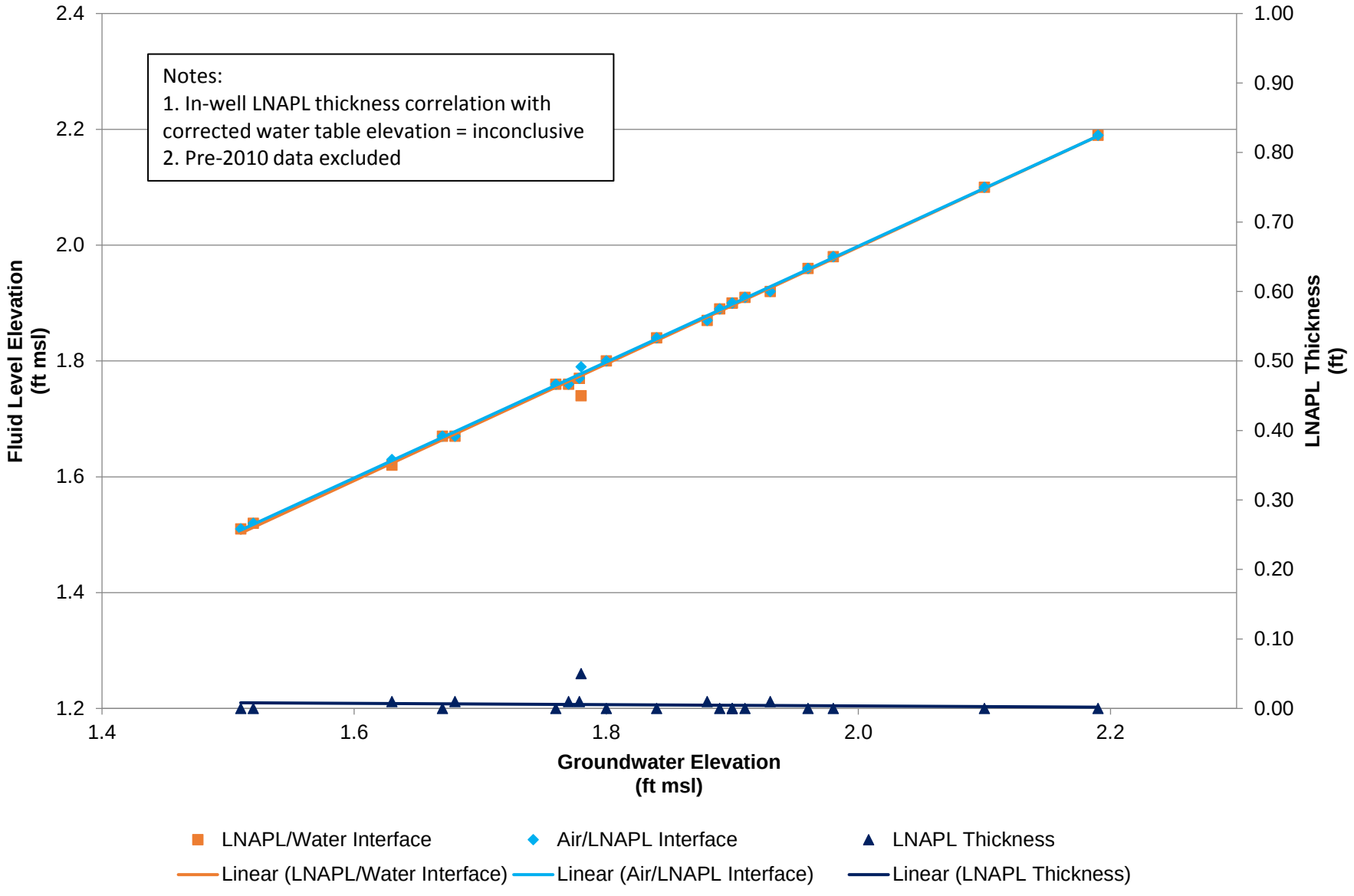
# B-133: Diagnostic Gauge Plot
# Philadelphia Refinery Operations

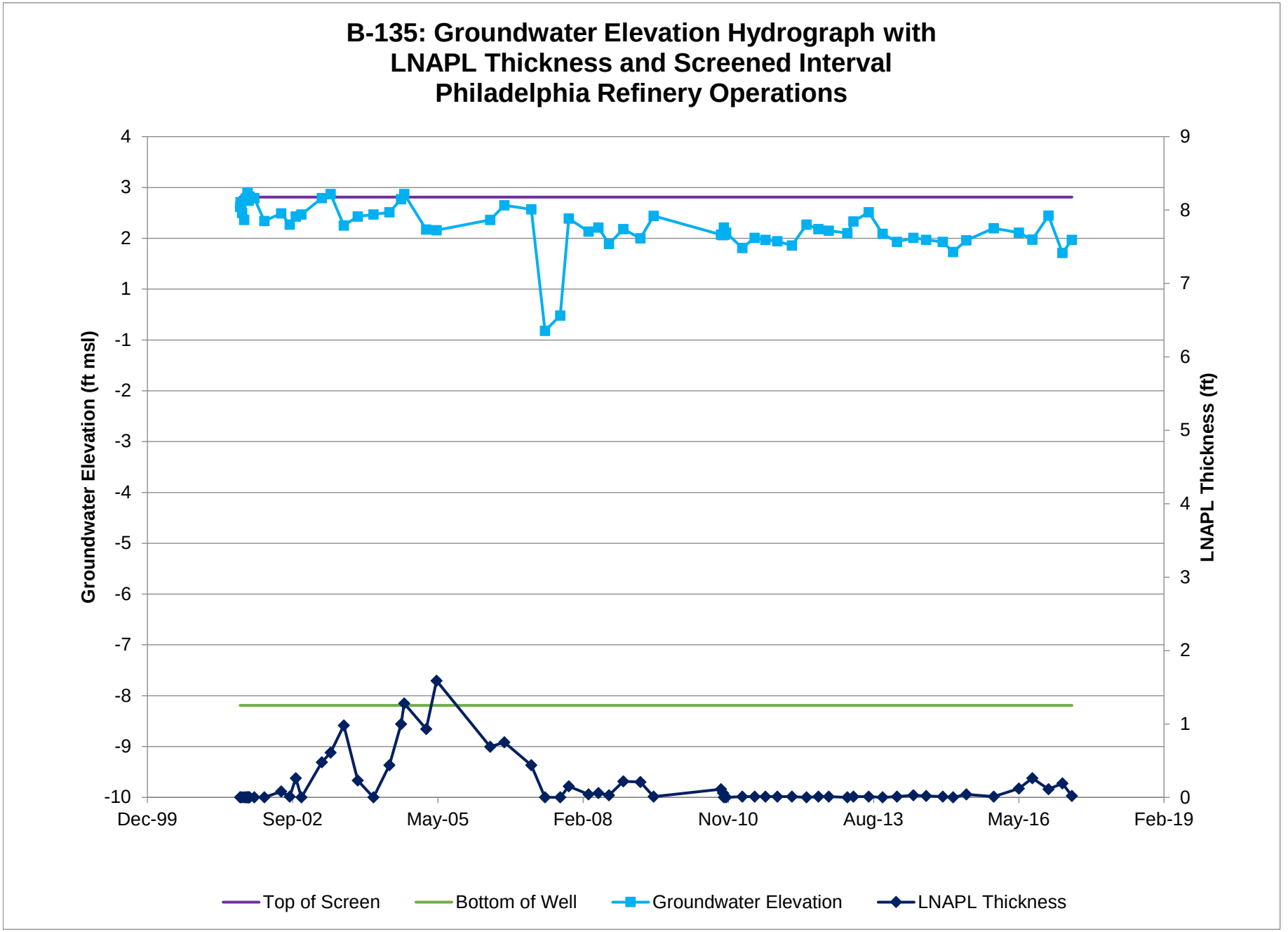


# B-134: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations

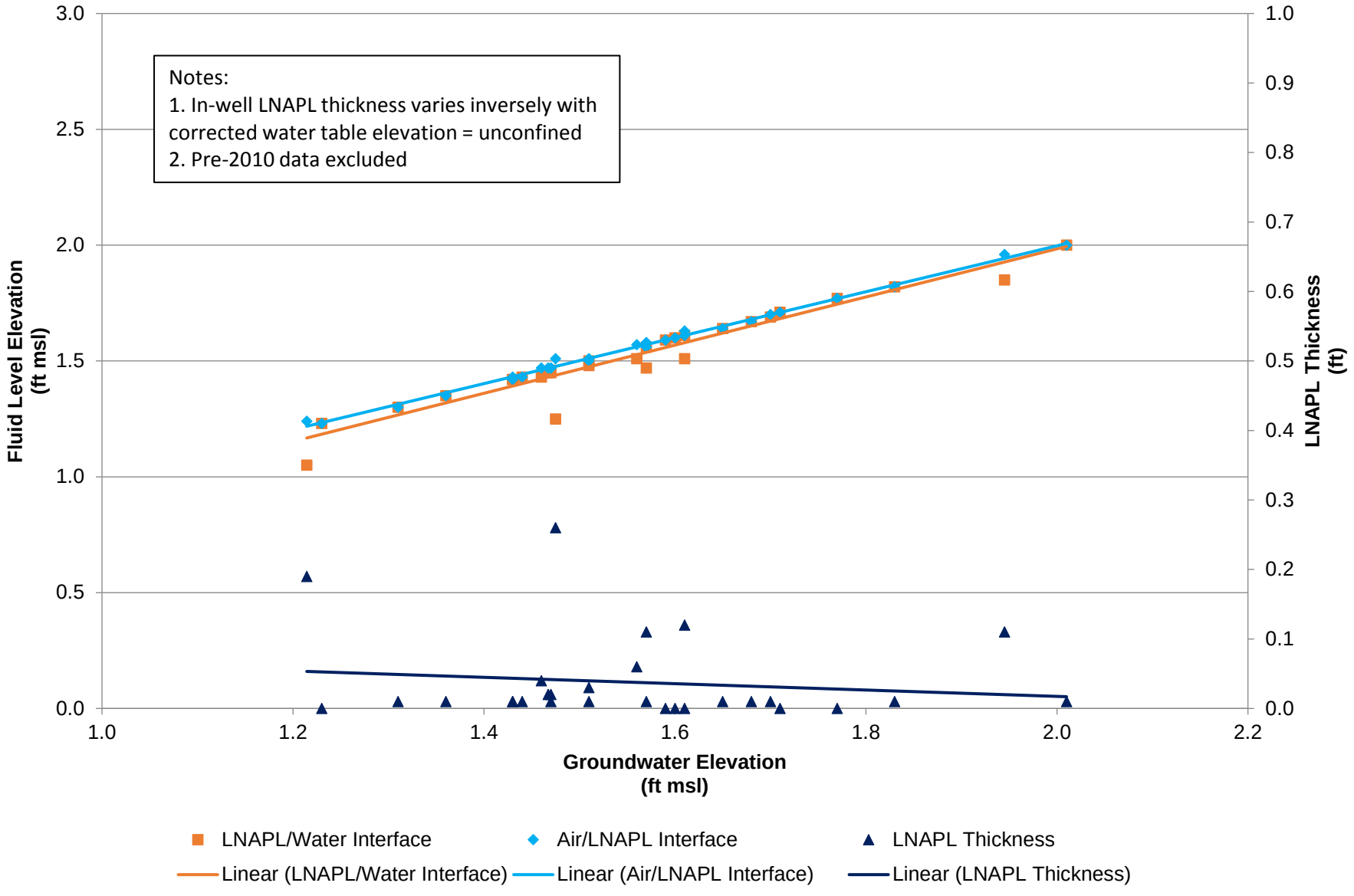


# B-134: Diagnostic Gauge Plot
# Philadelphia Refinery Operations

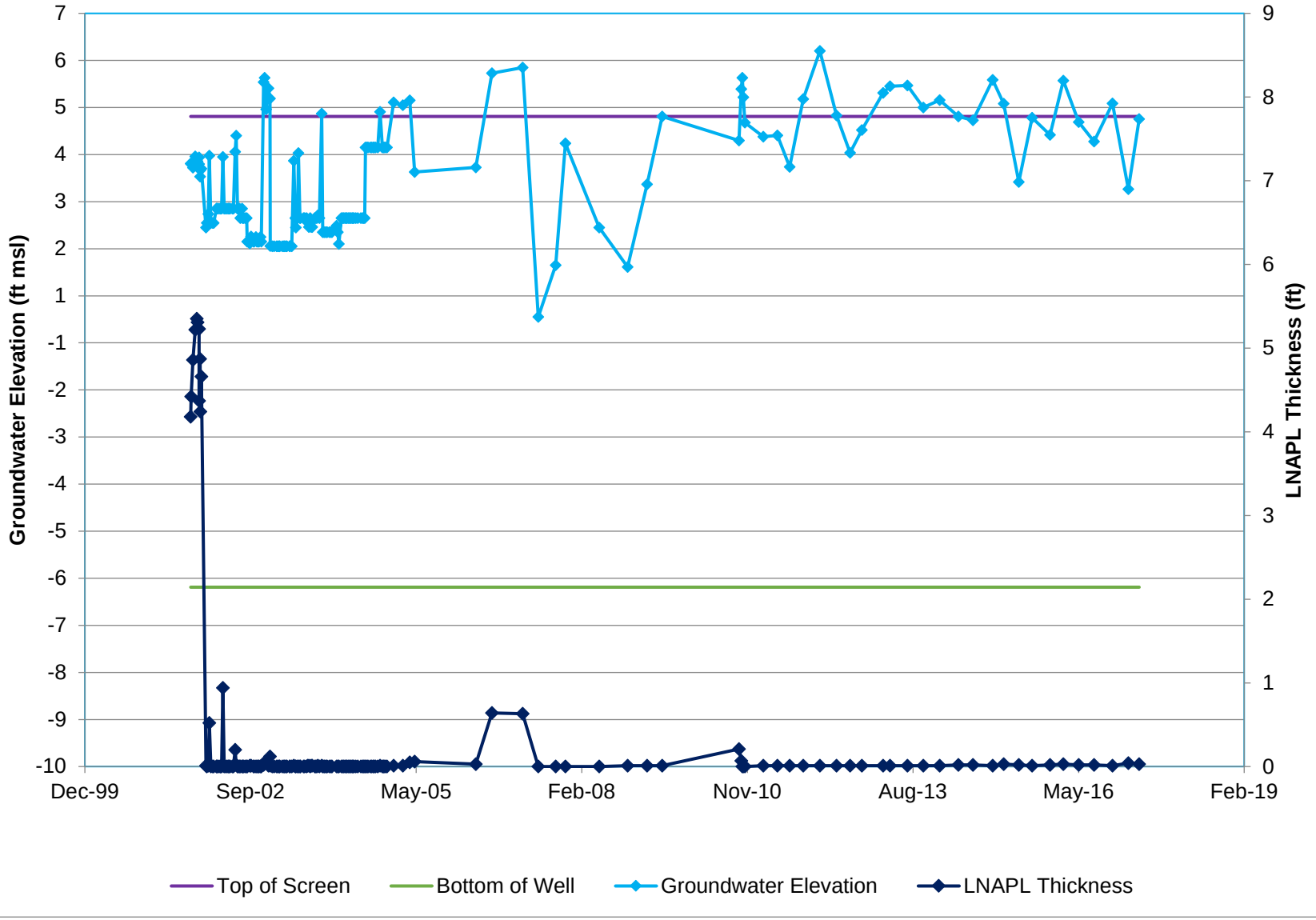



B-135: Groundwater Elevation Hydrograph with
LNAPL Thickness and Screened Interval
Philadelphia Refinery Operations
Groundwater Elevation (ft msl)
LNAPL Thickness (ft)
4
3
2
1
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
9
8
7
6
5
4
3
2
1
0
Dec-99
Sep-02
May-05
Feb-08
Nov-10
Aug-13
May-16
Feb-19
Top of Screen
Bottom of Well
Groundwater Elevation
LNAPL Thickness

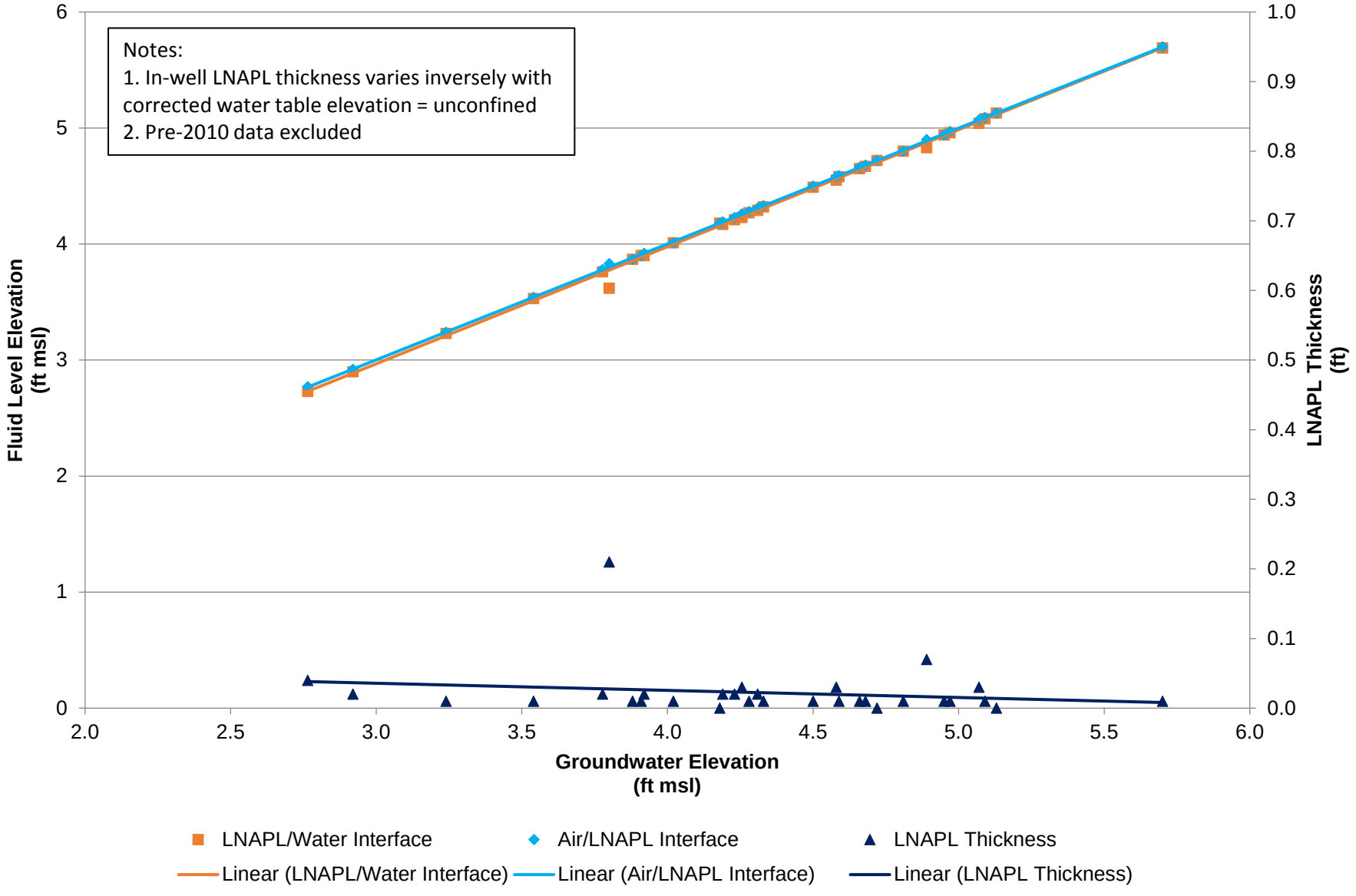
# B-135: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



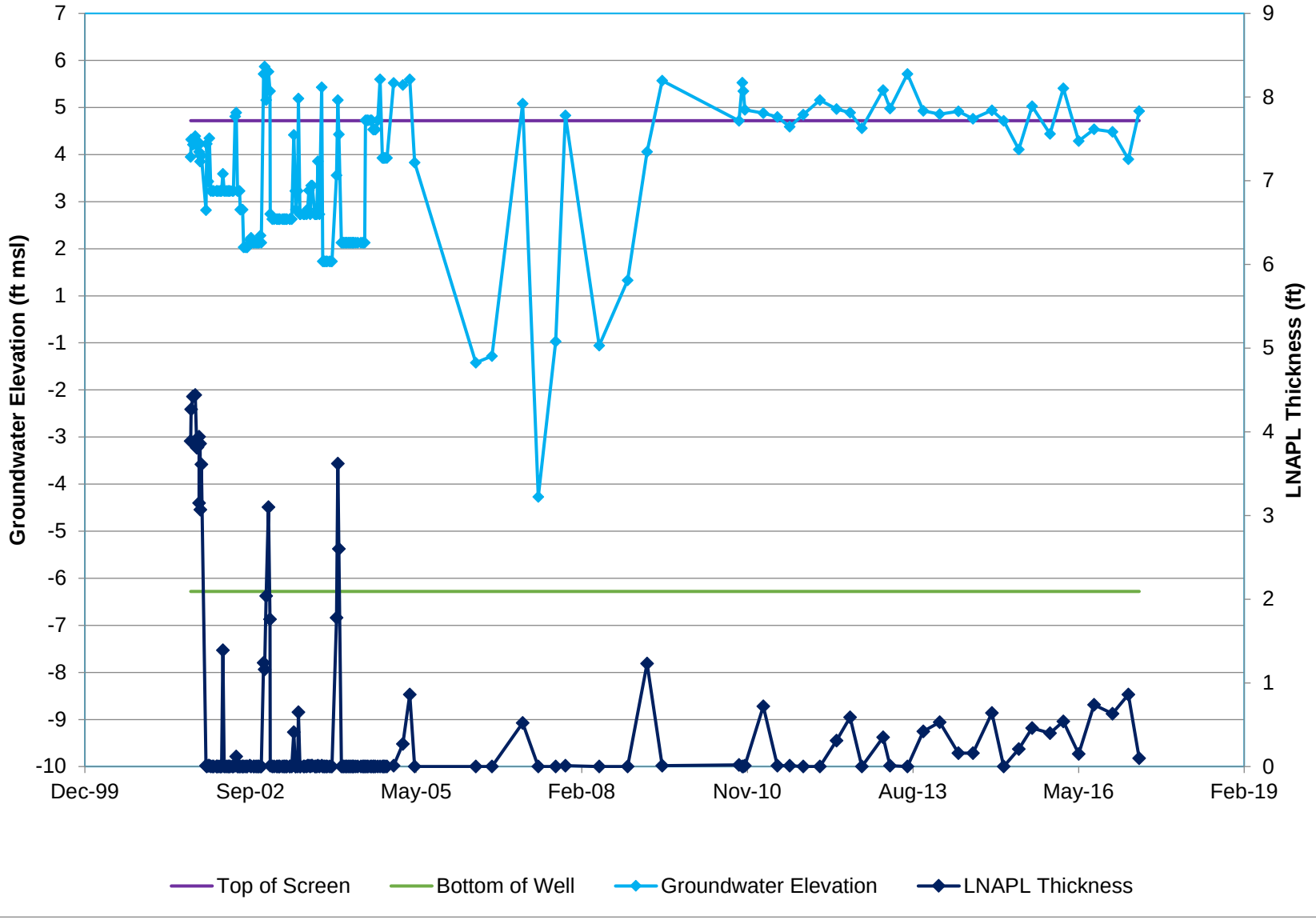
# B-136: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



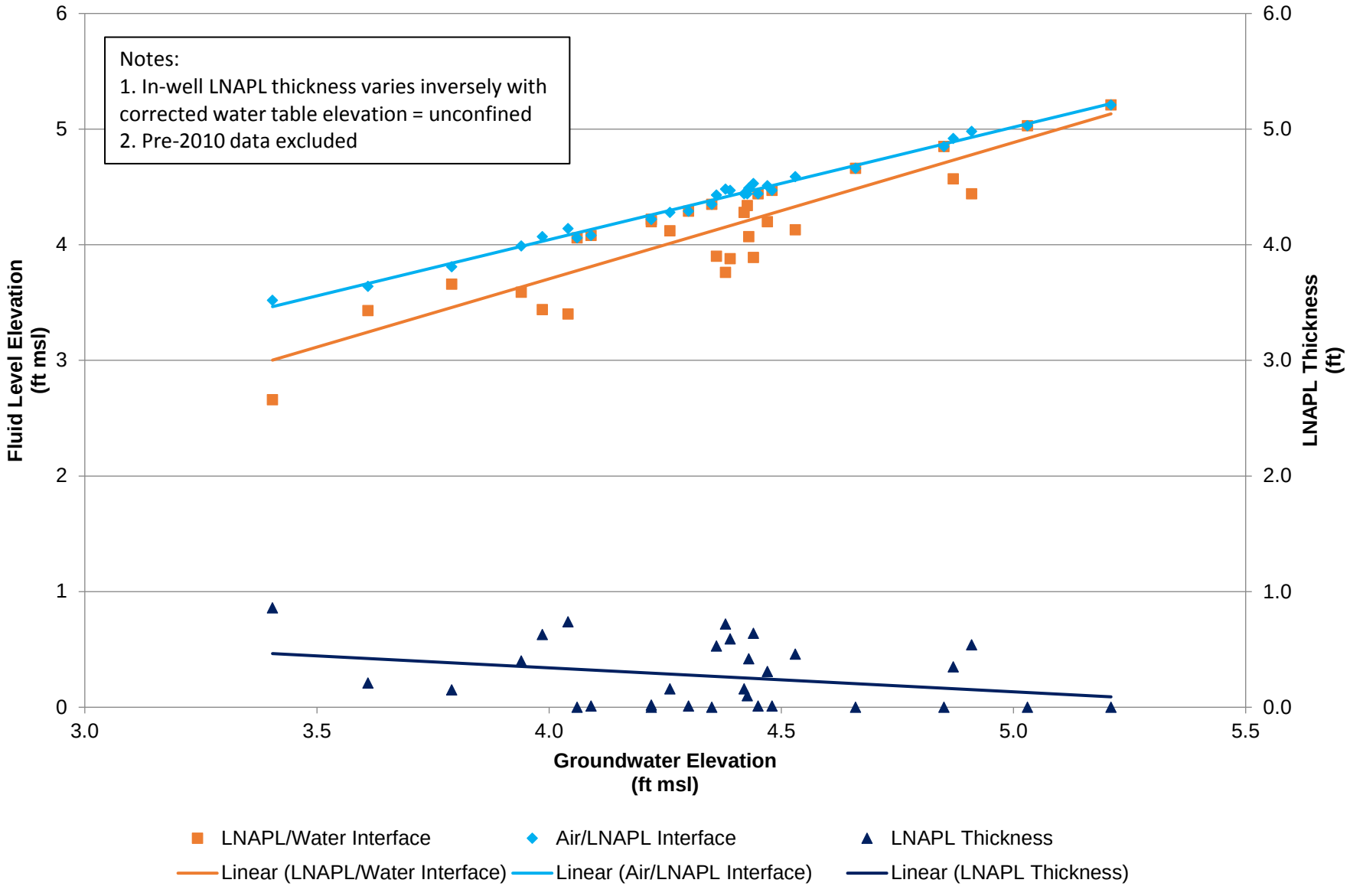
# B-136: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



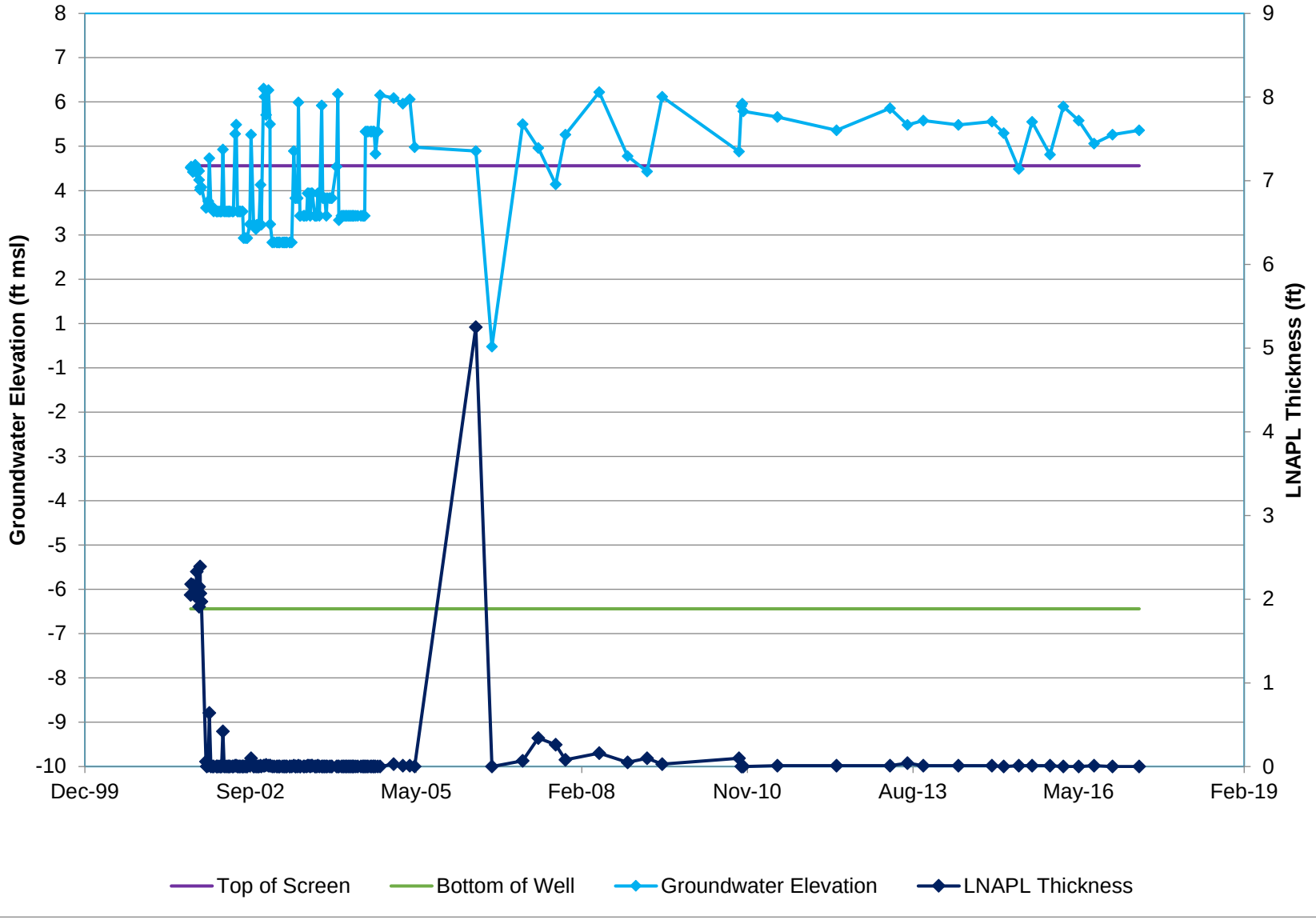
# B-137: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



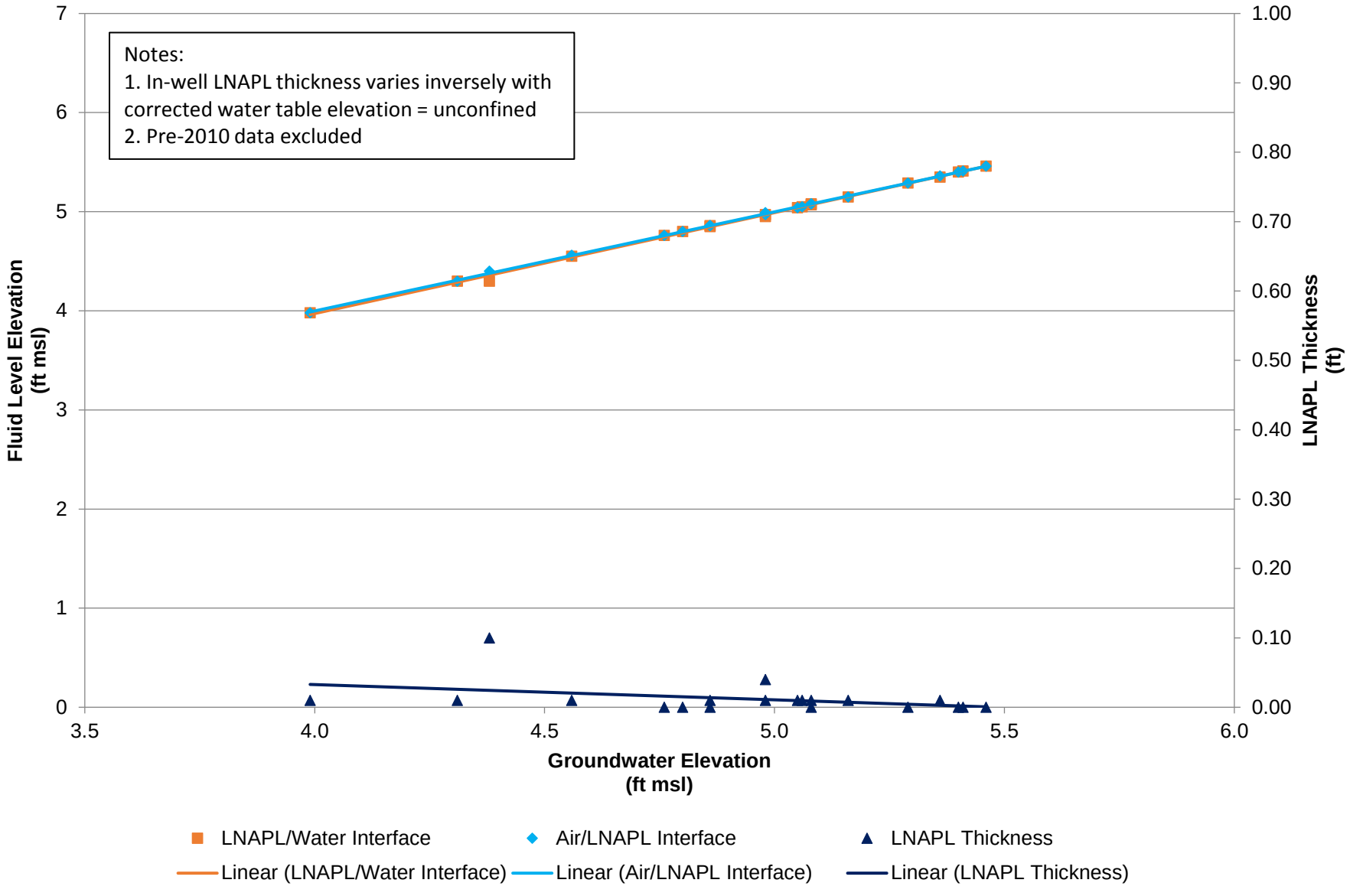
# B-137: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



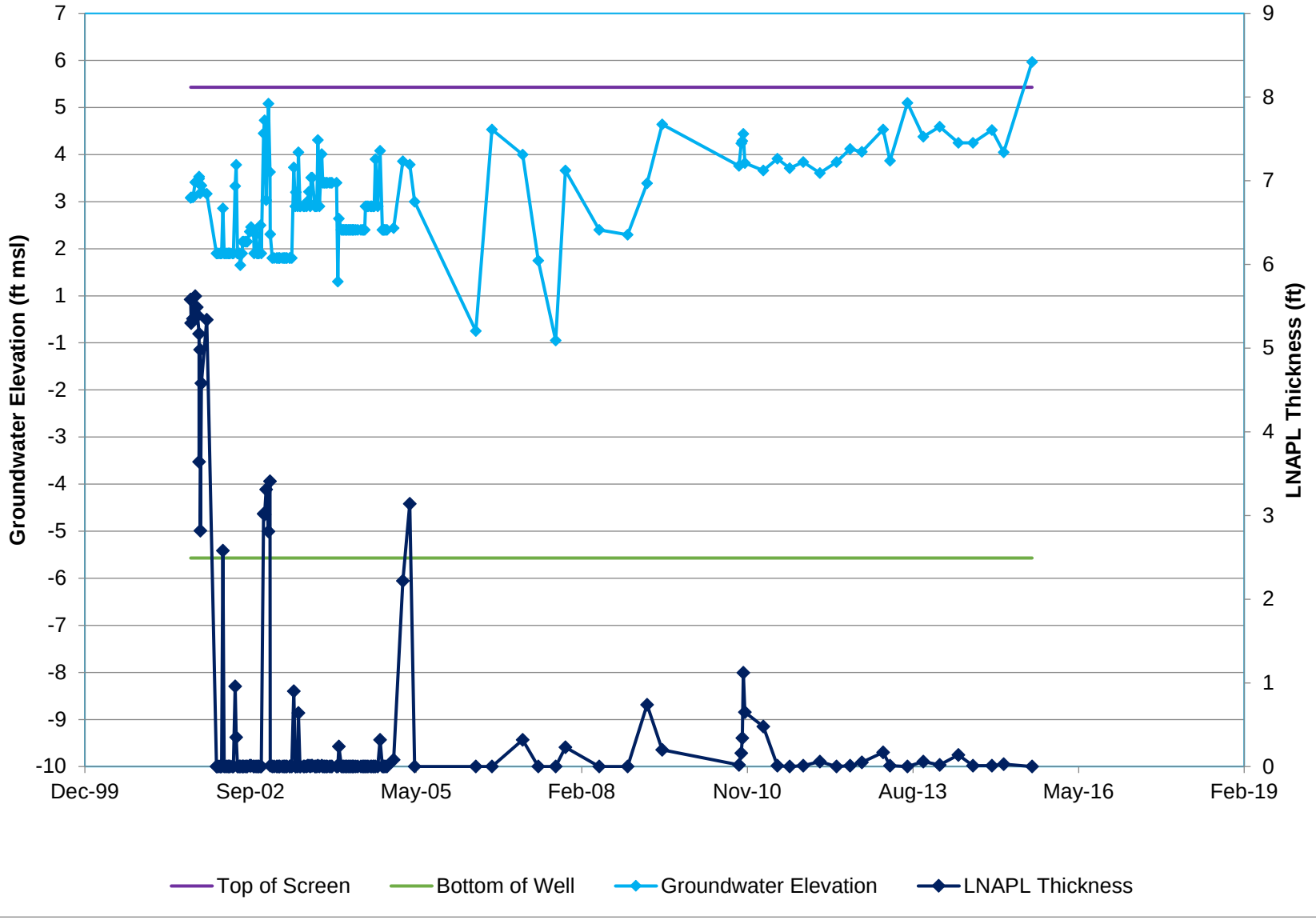
# B-138: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



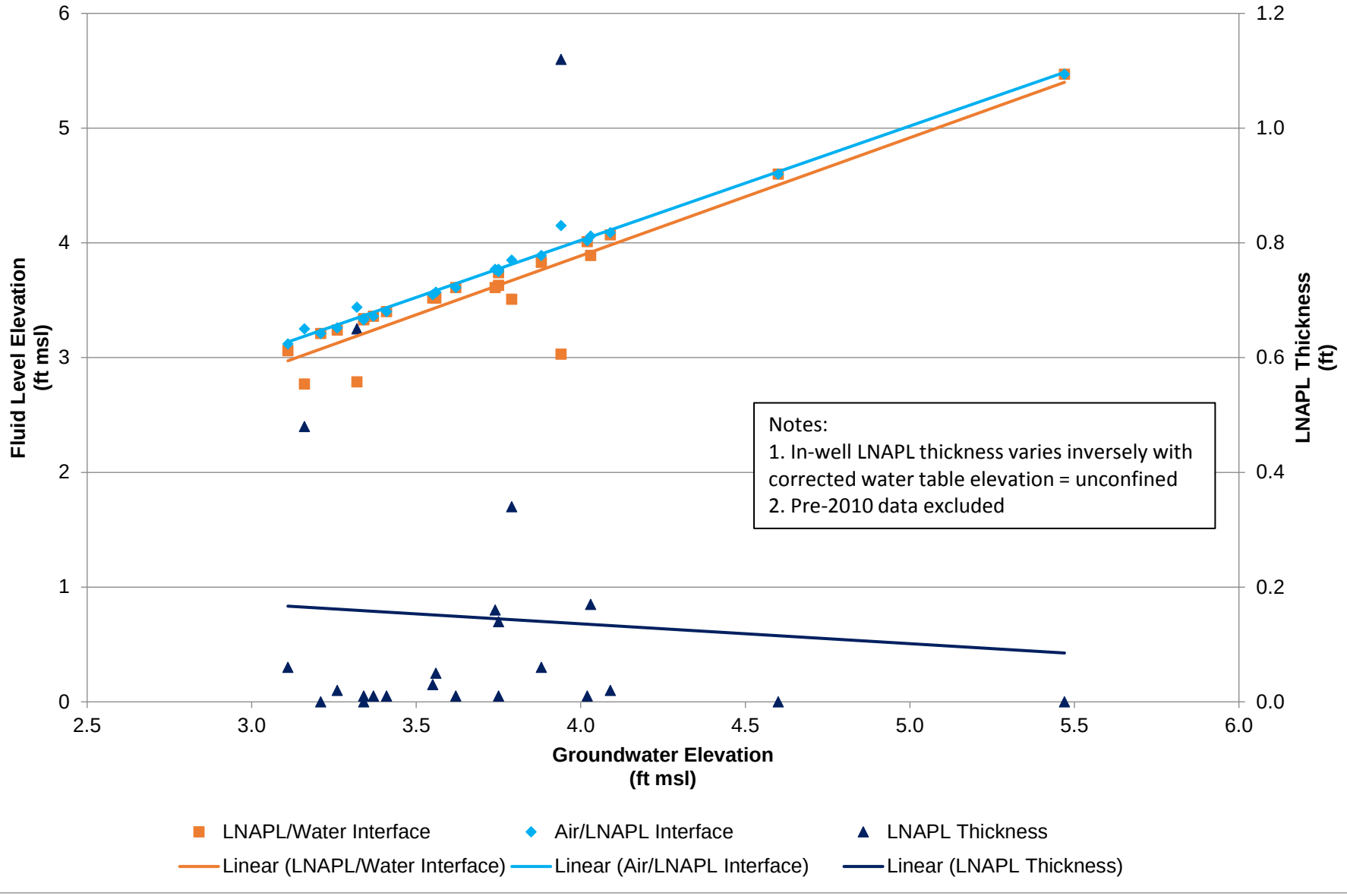
# B-138: Diagnostic Gauge Plot
# Philadelphia Refinery Operations

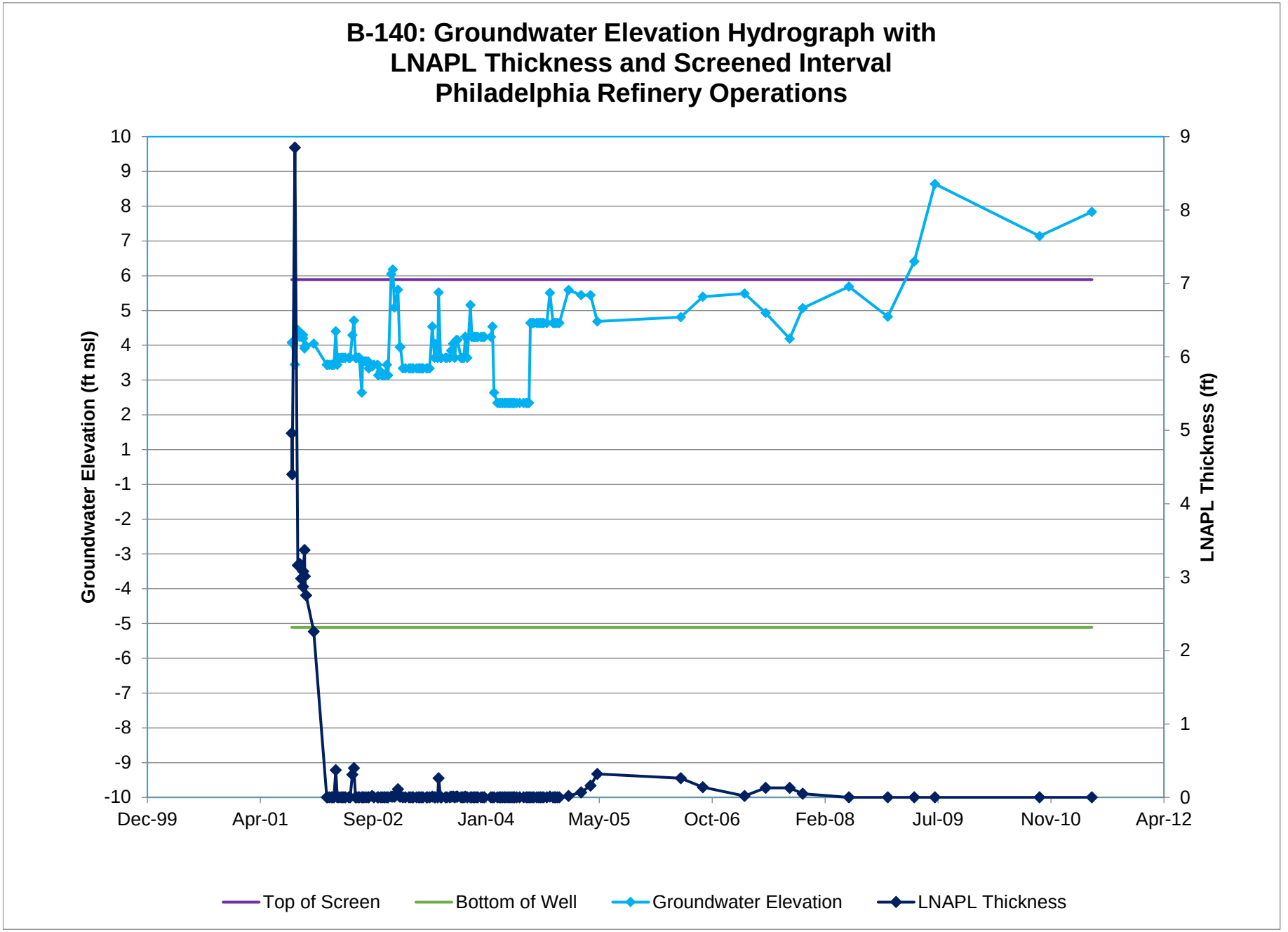


# B-139: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations

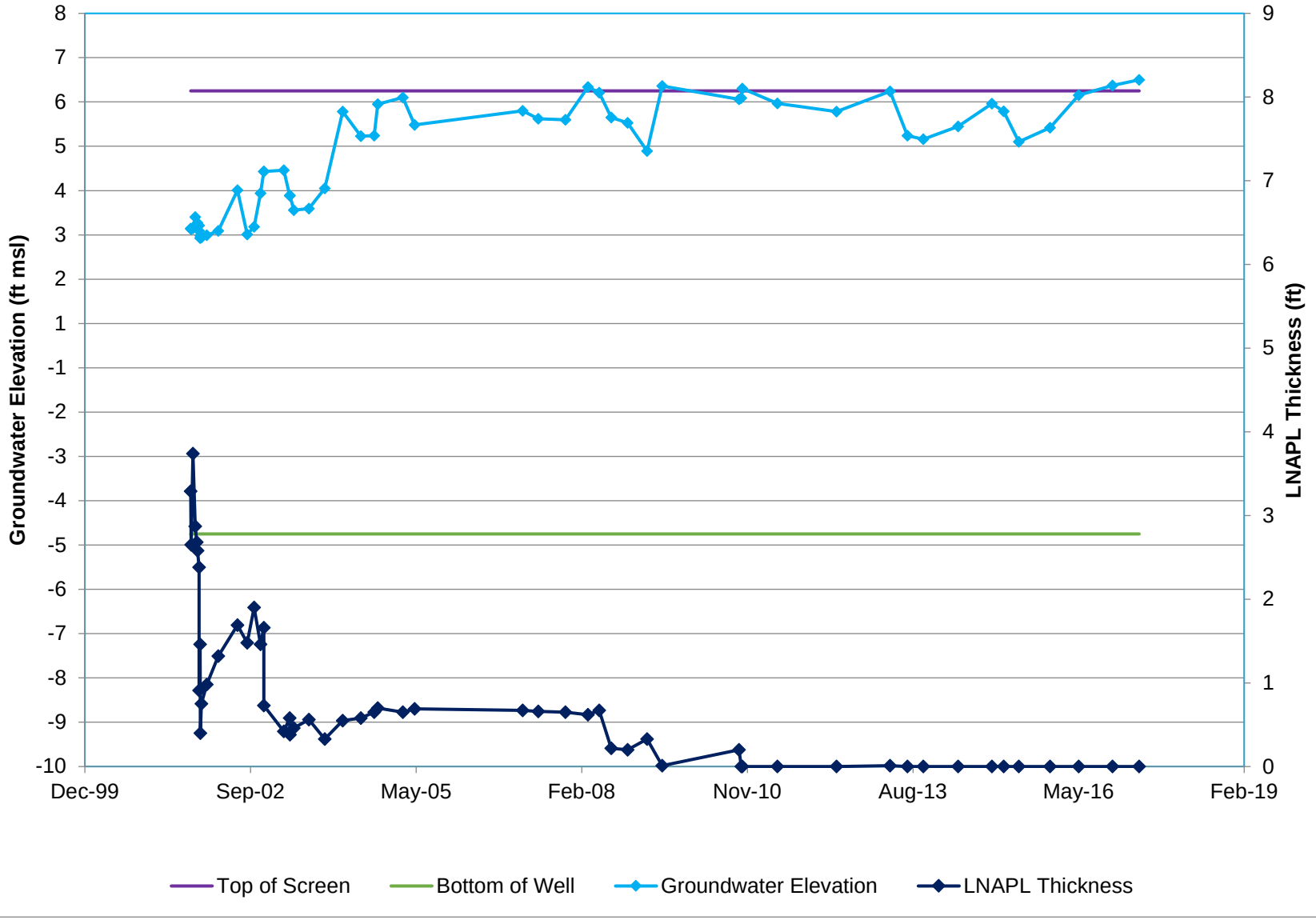


# B-139: Diagnostic Gauge Plot
# Philadelphia Refinery Operations

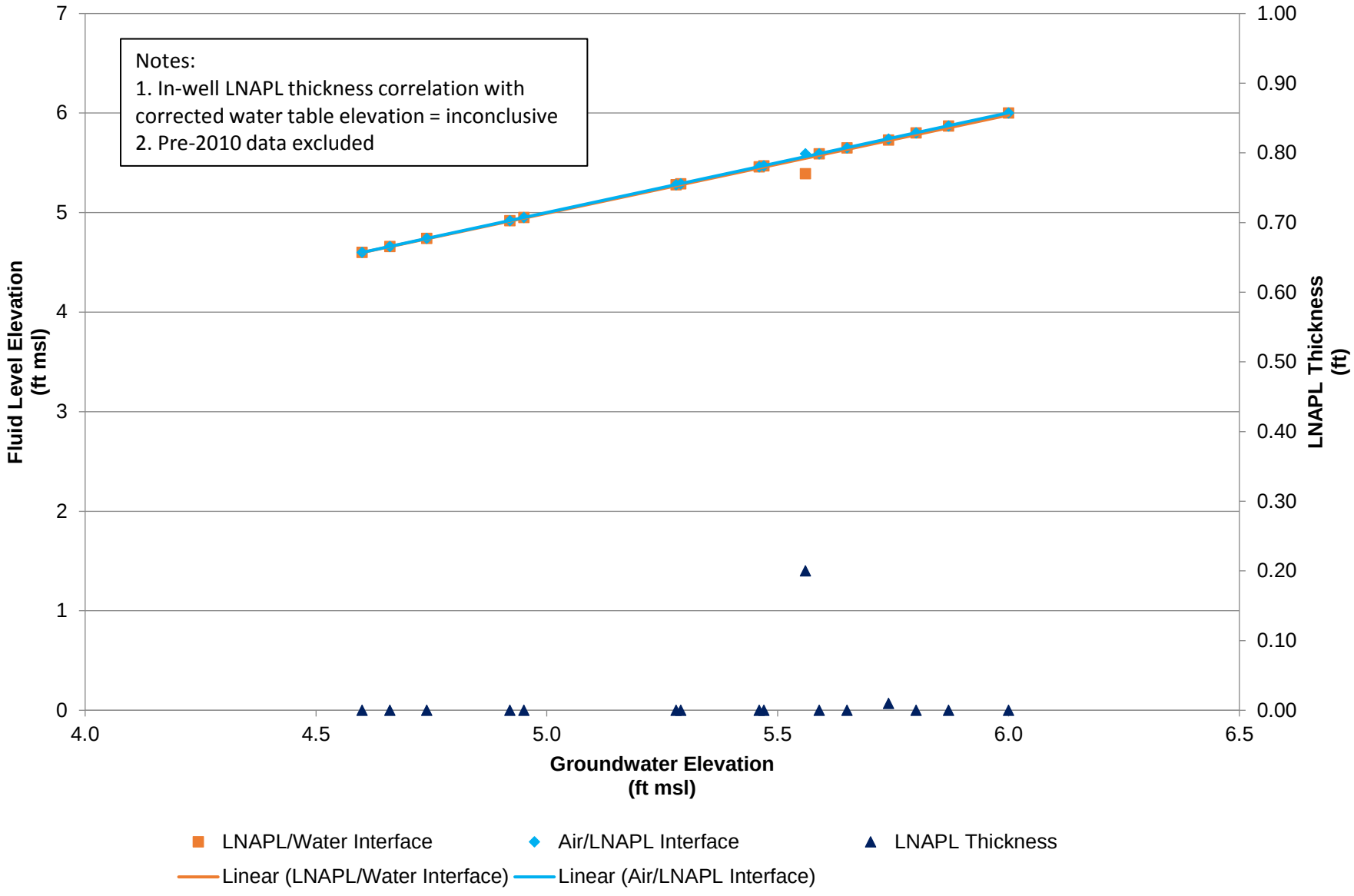



B-140: Groundwater Elevation Hydrograph with
LNAPL Thickness and Screened Interval
Philadelphia Refinery Operations
Groundwater Elevation (ft msl)
LNAPL Thickness (ft)
10
9
8
7
6
5
4
3
2
1
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
9
8
7
6
5
4
3
2
1
0
Dec-99
Apr-01
Sep-02
Jan-04
May-05
Oct-06
Feb-08
Jul-09
Nov-10
Apr-12
Top of Screen
Bottom of Well
Groundwater Elevation
LNAPL Thickness

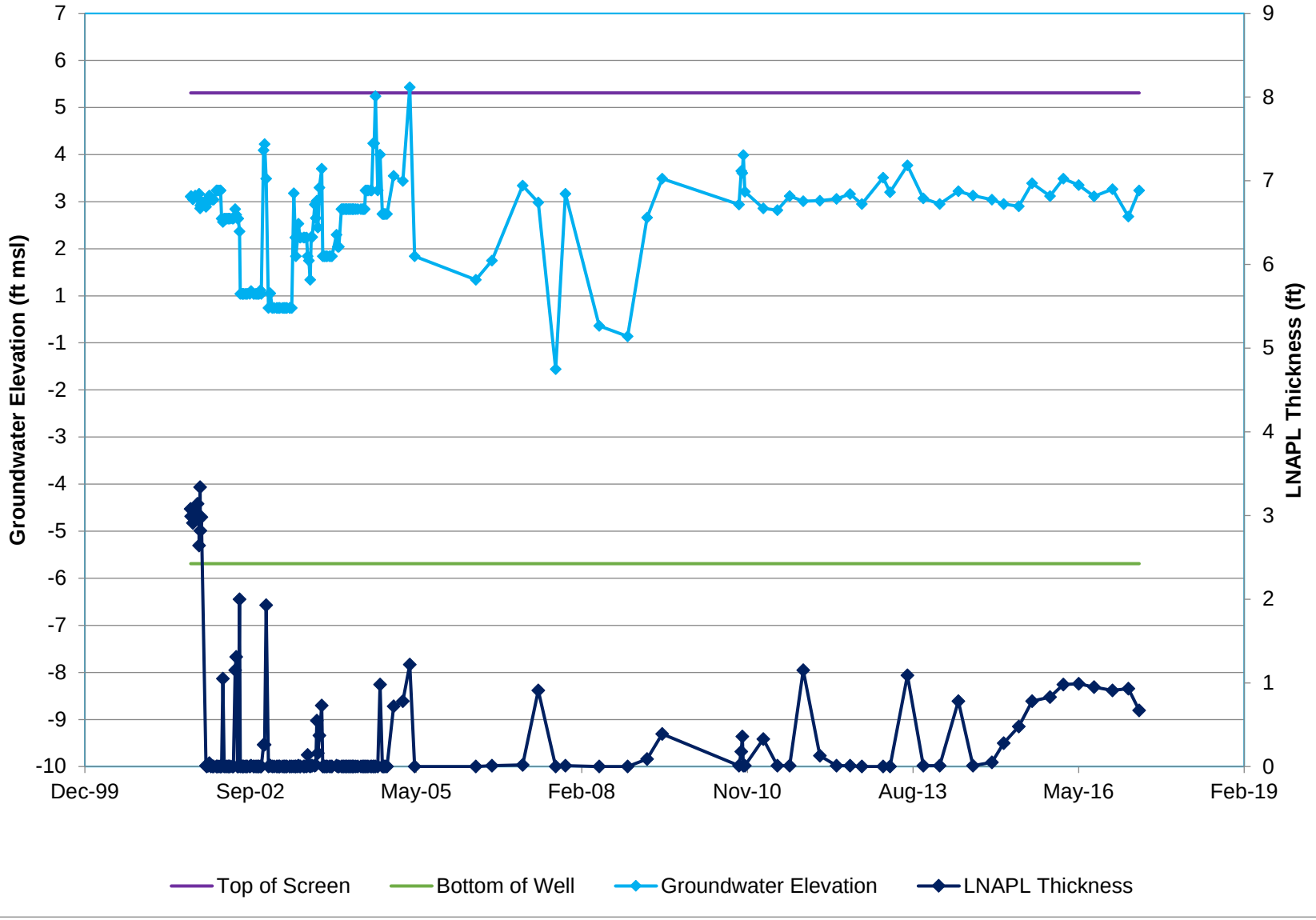
# B-141: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



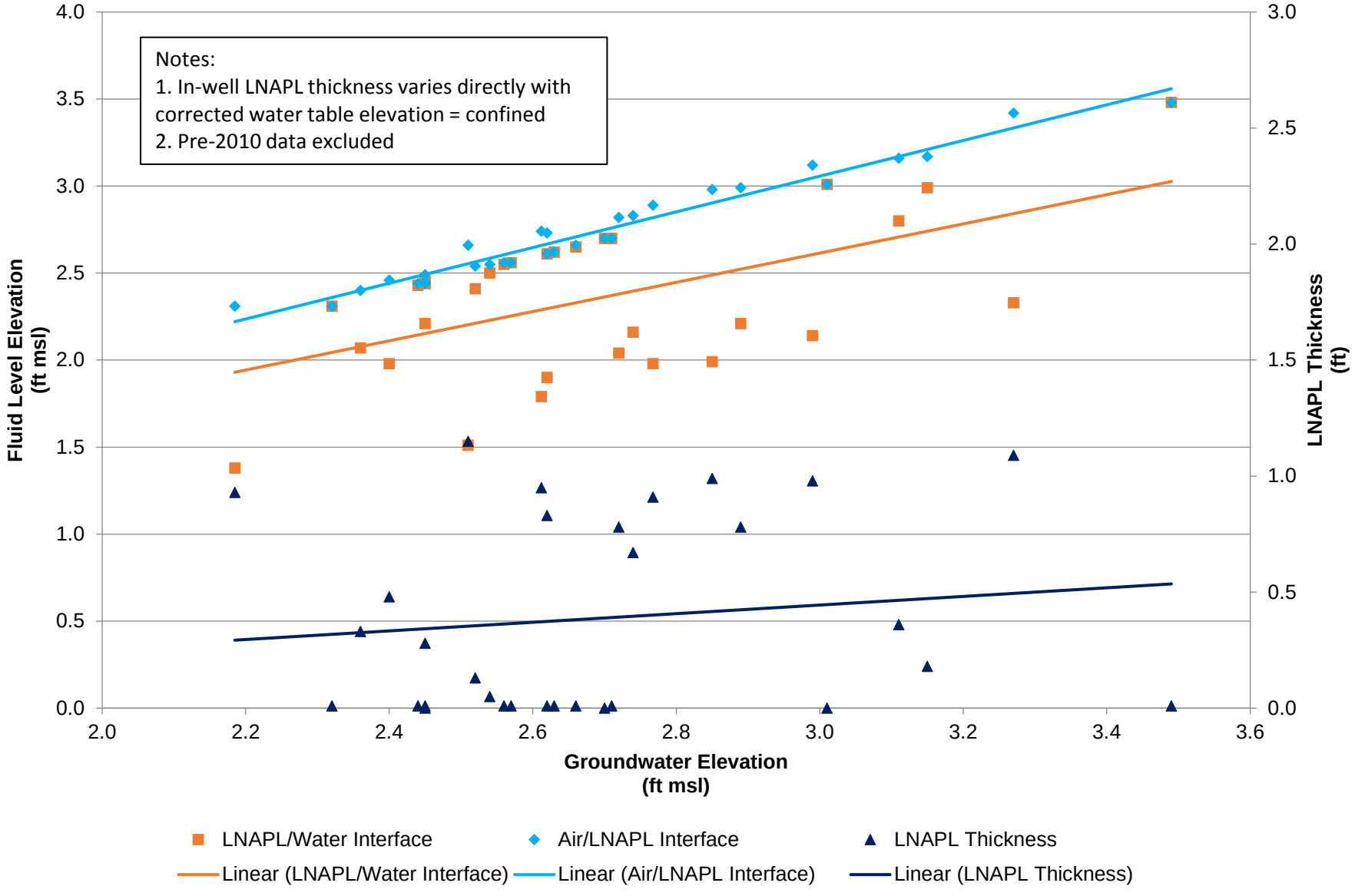
# B-141: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



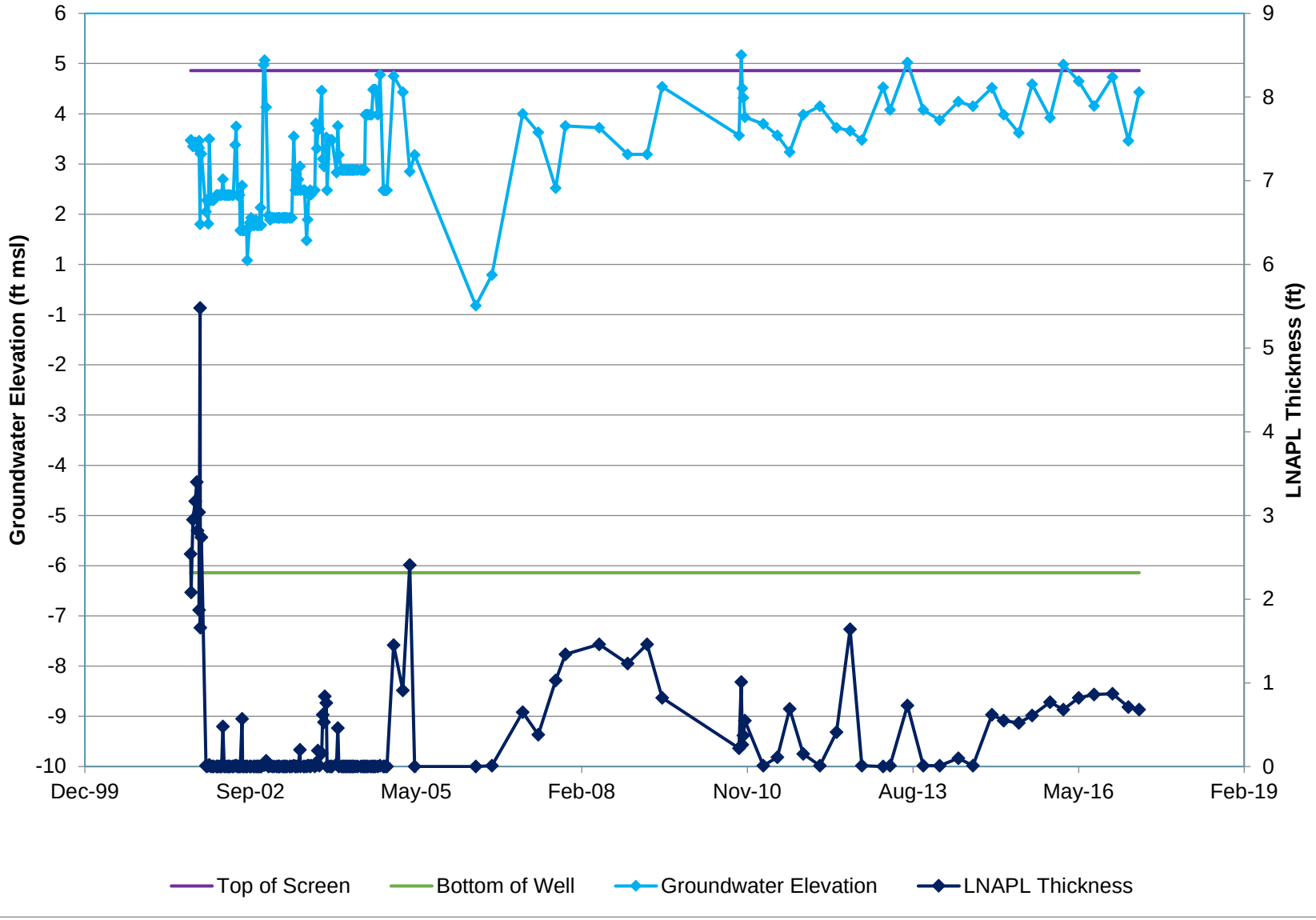
# B-142: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



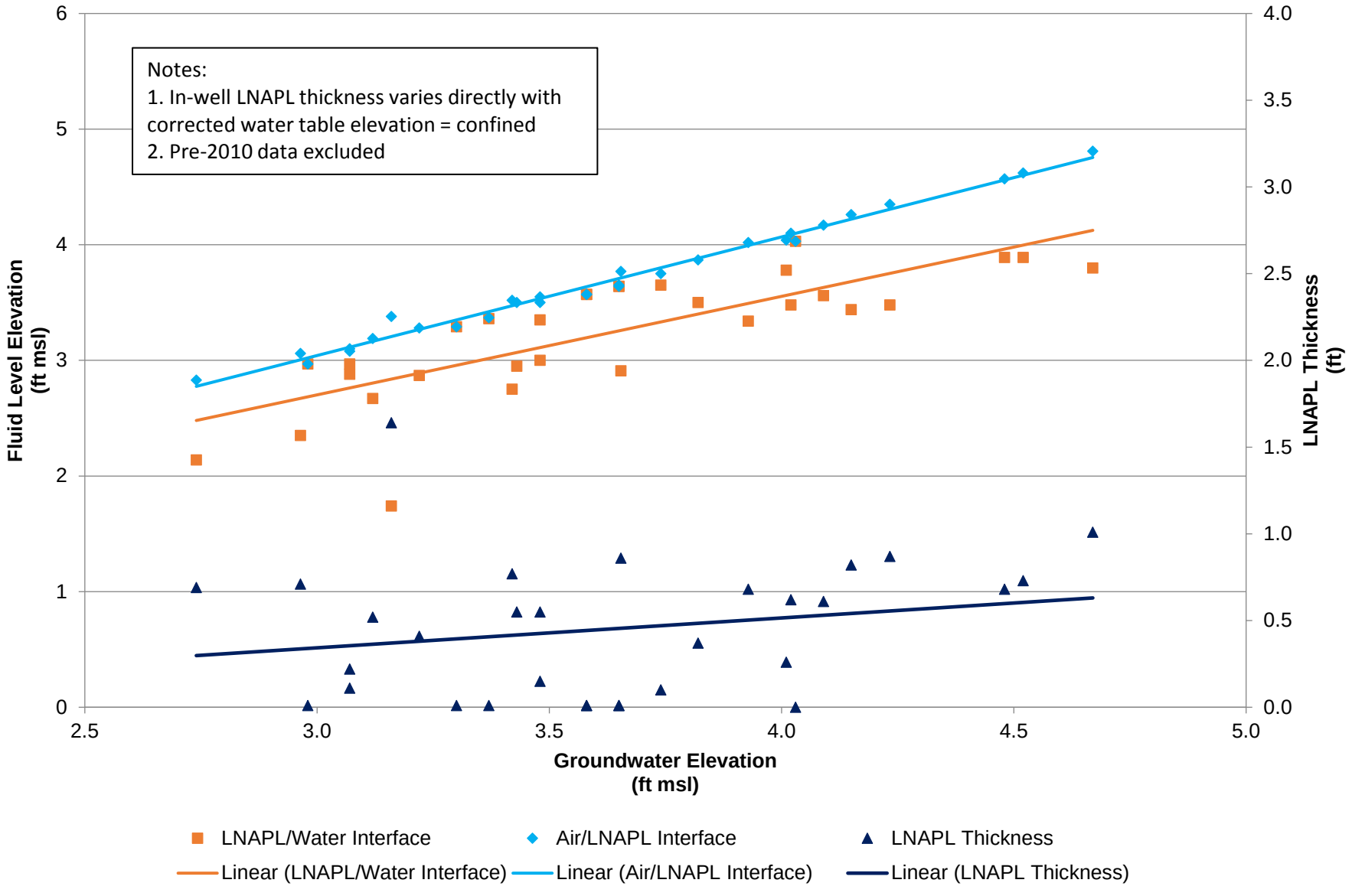
# B-142: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



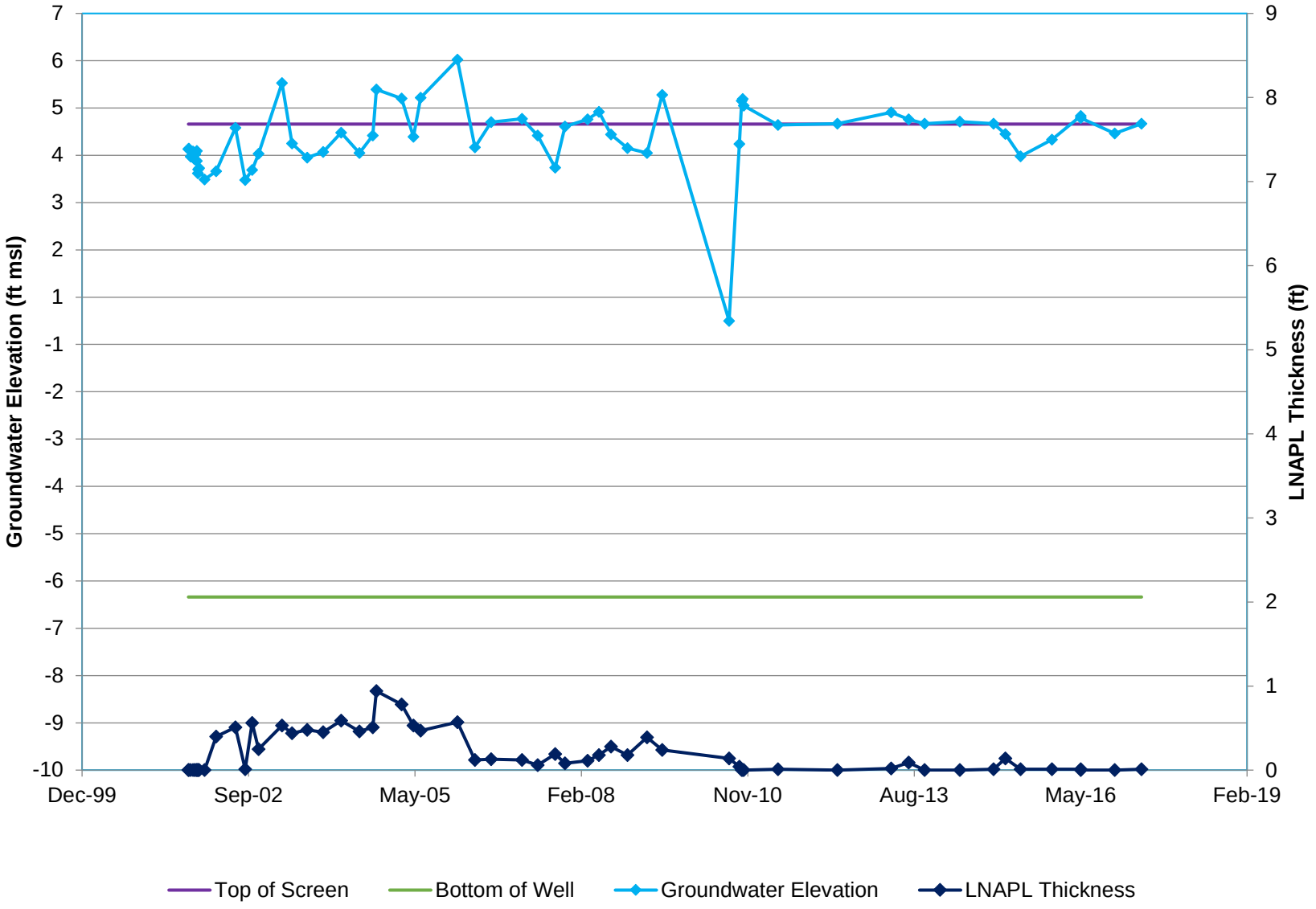
# B-143: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



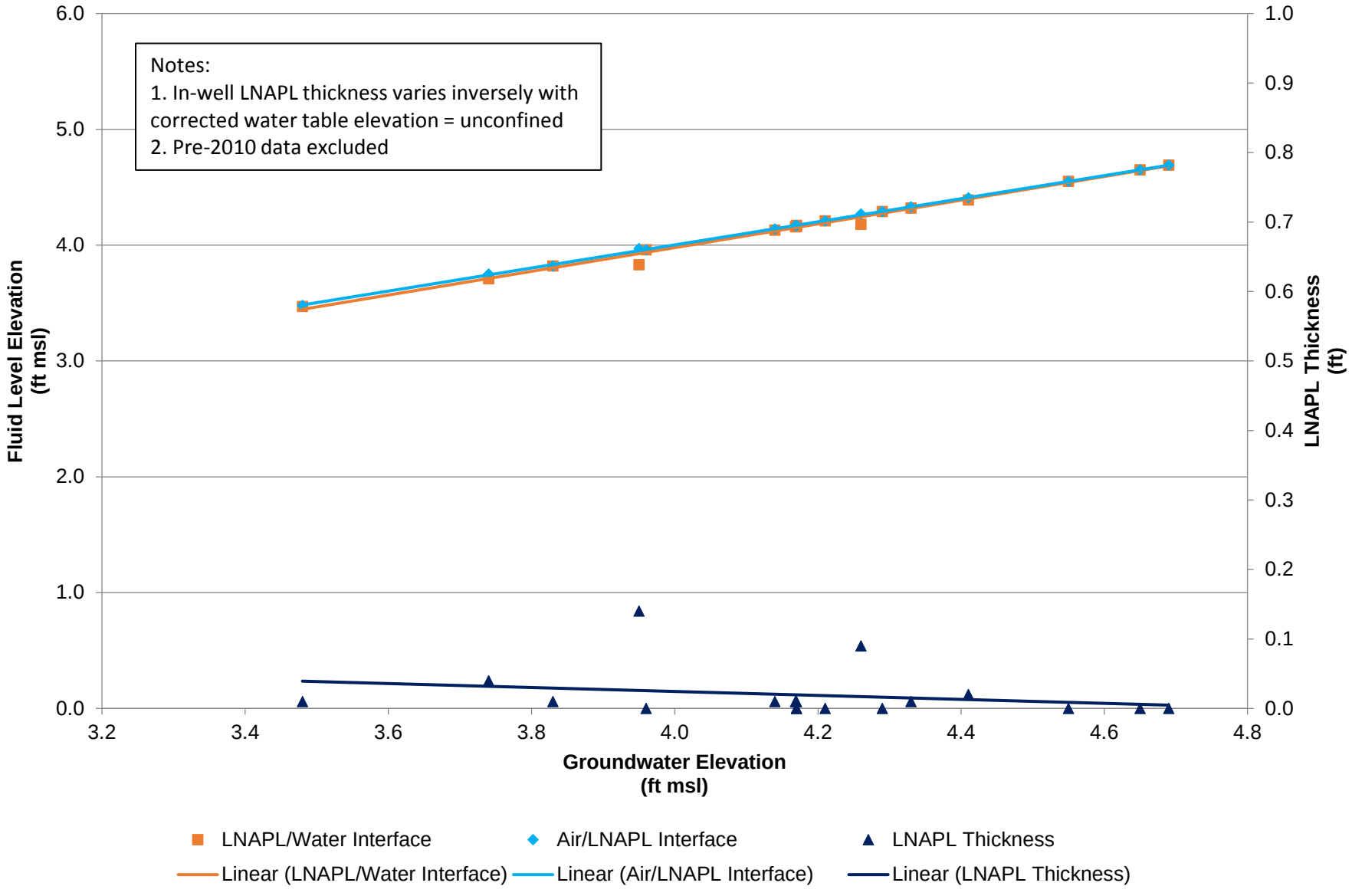
# B-143: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



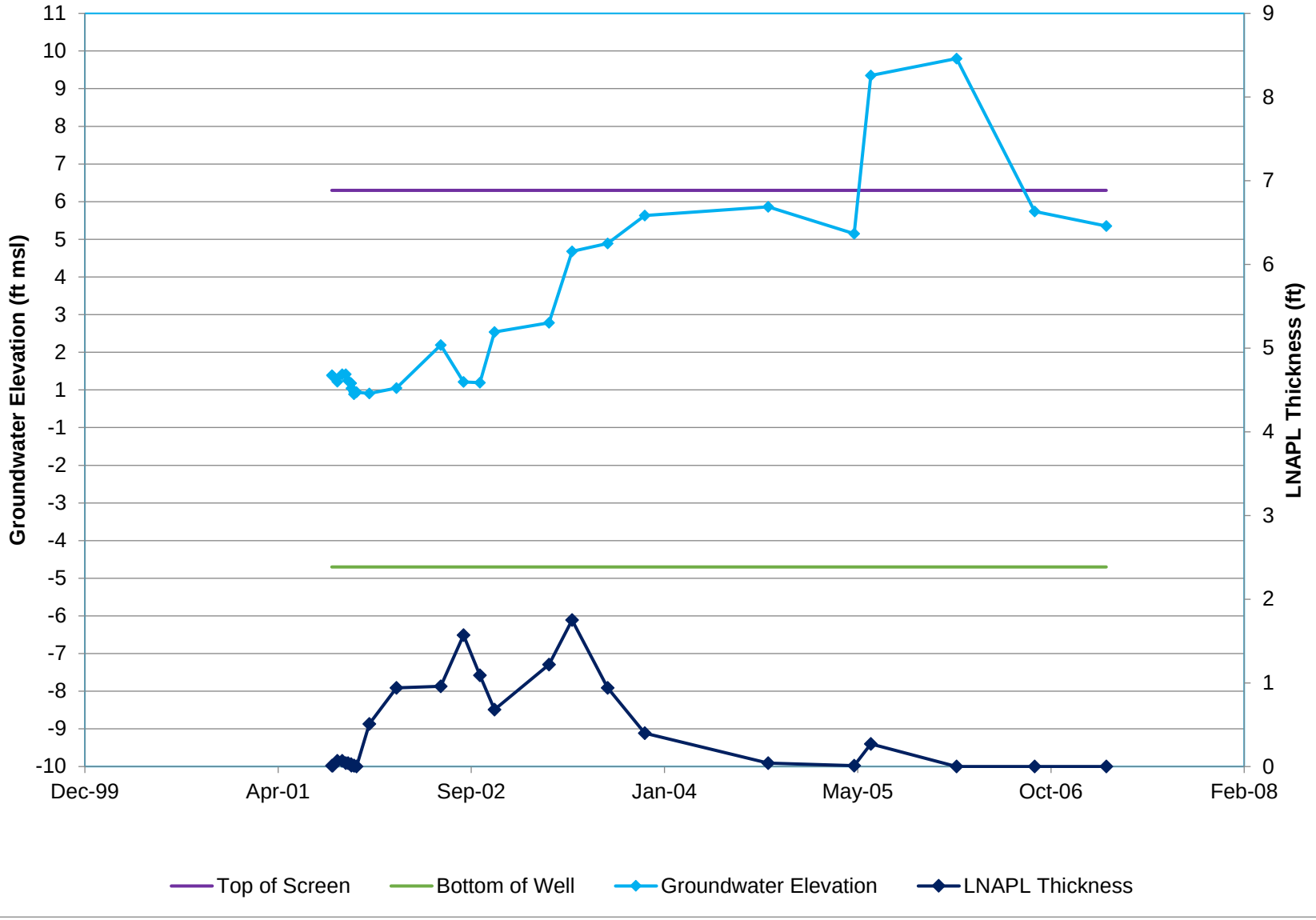
# B-144: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



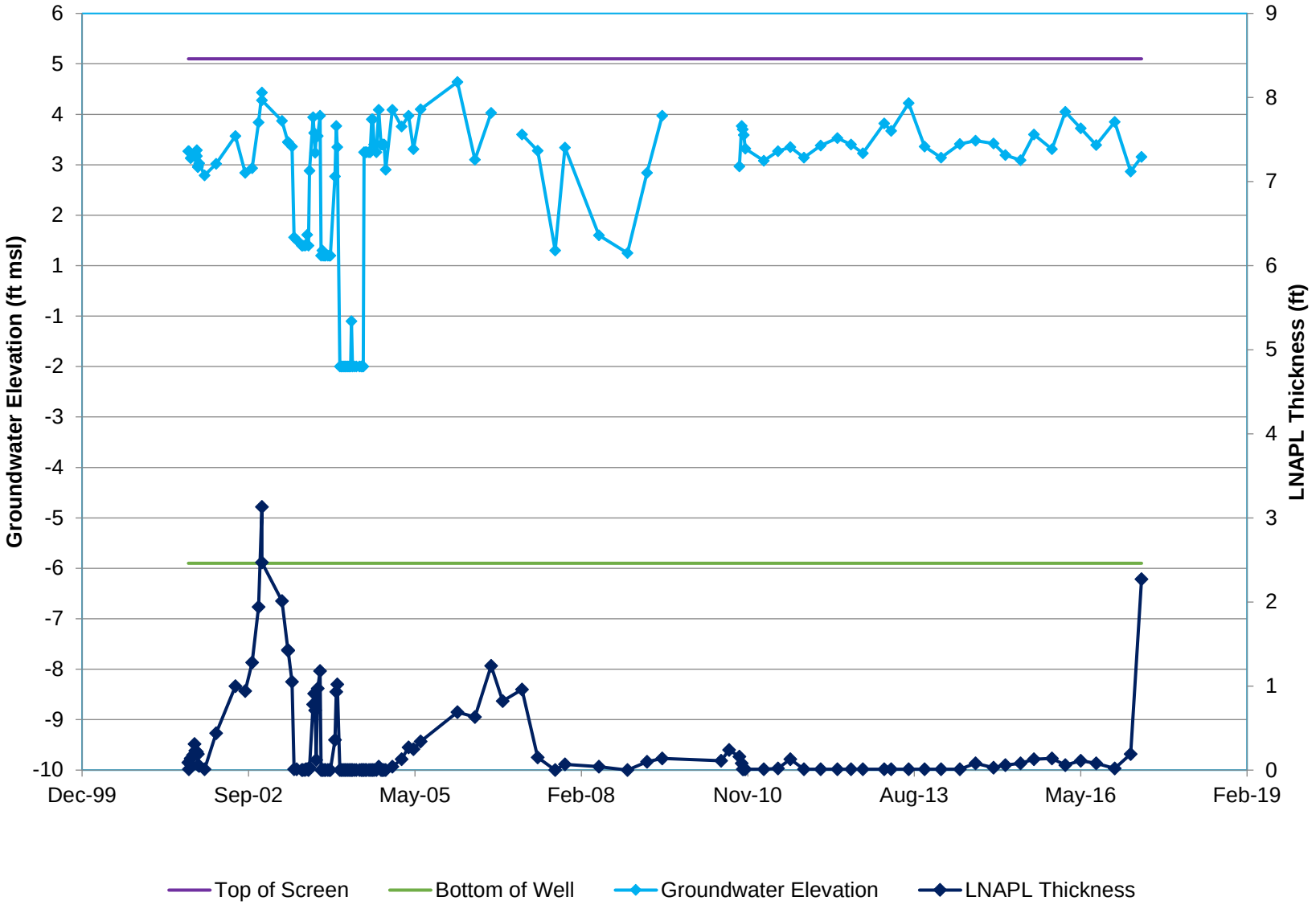
# B-144: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



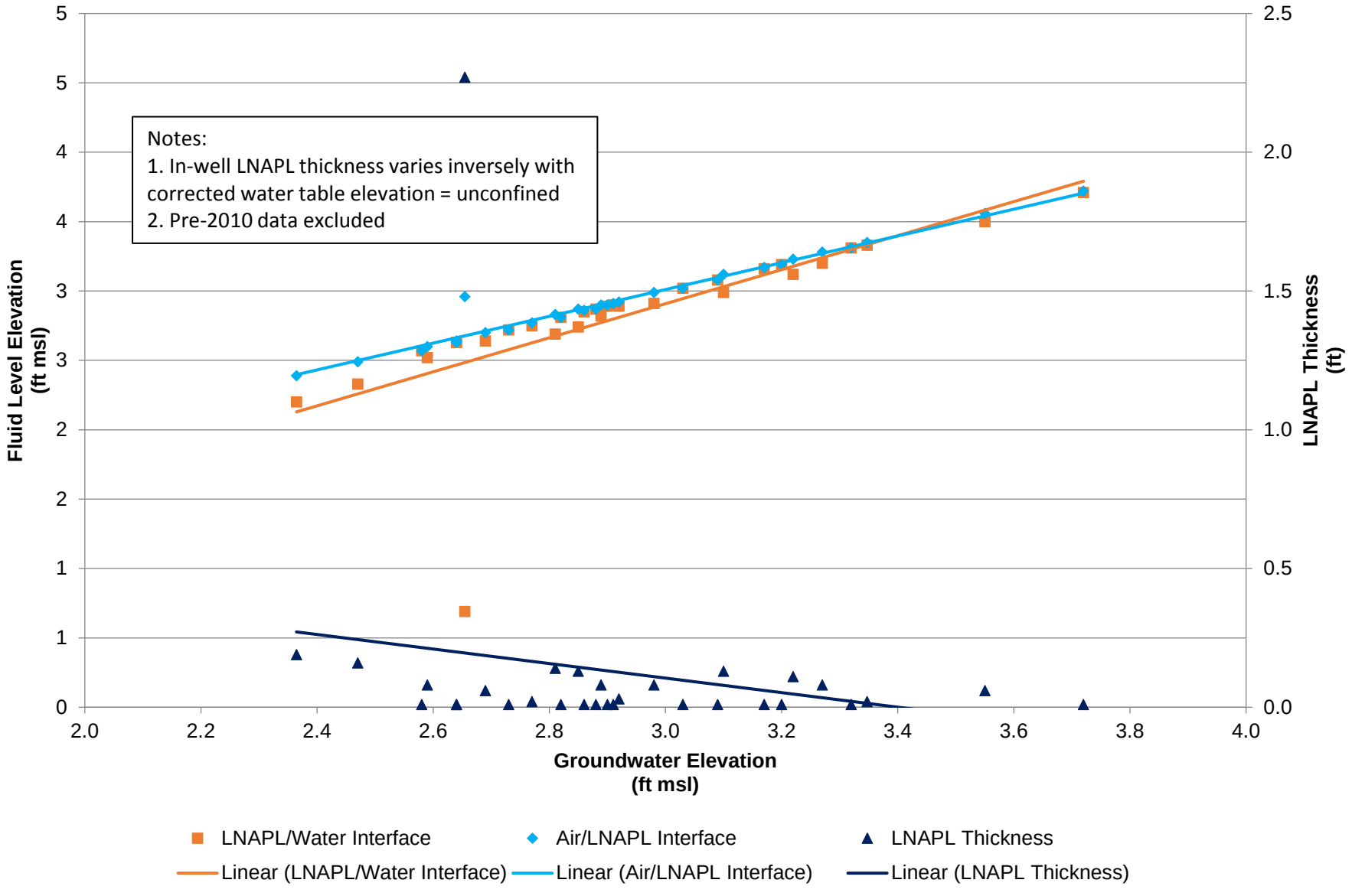
# B-146: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



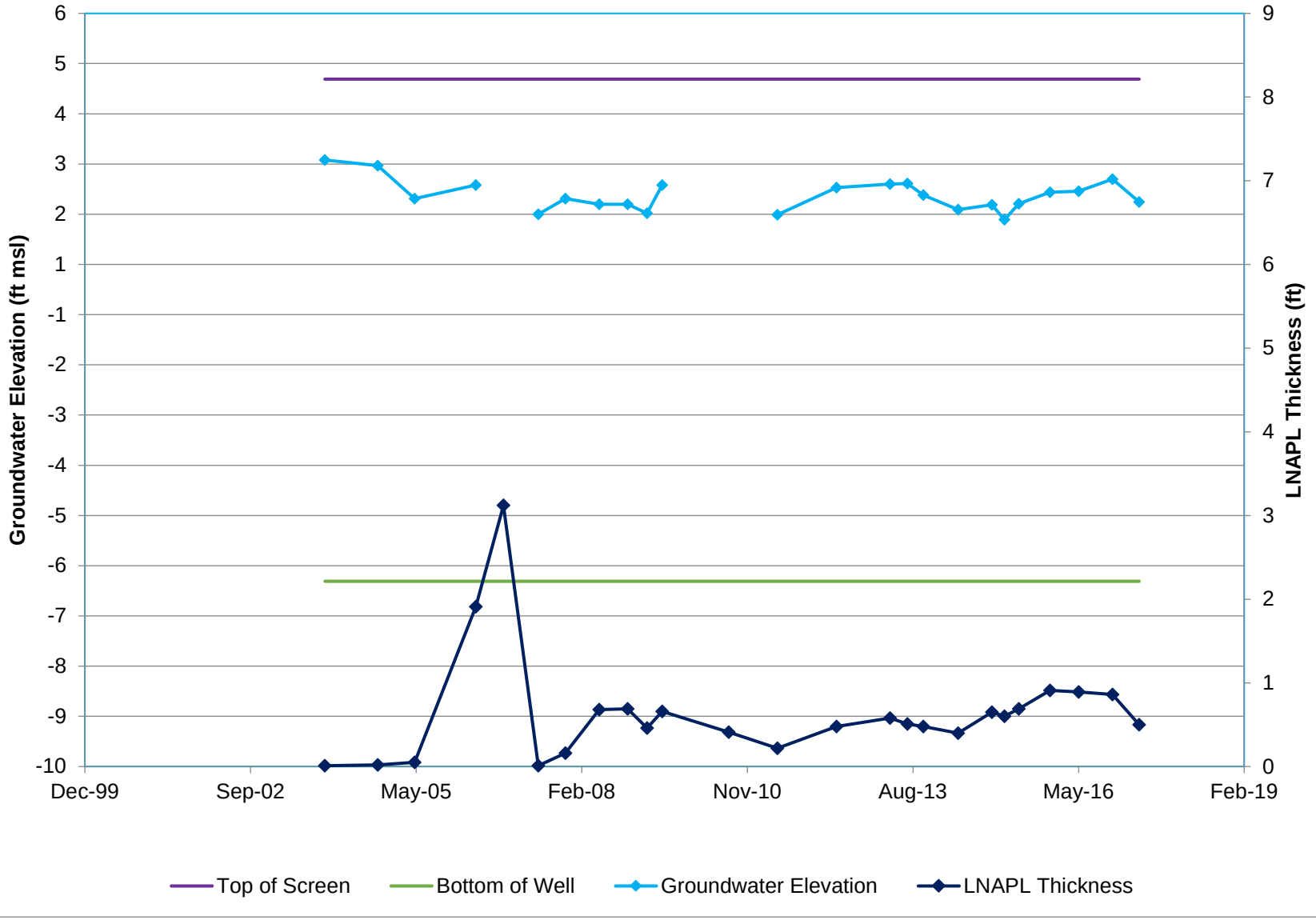
# B-147: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



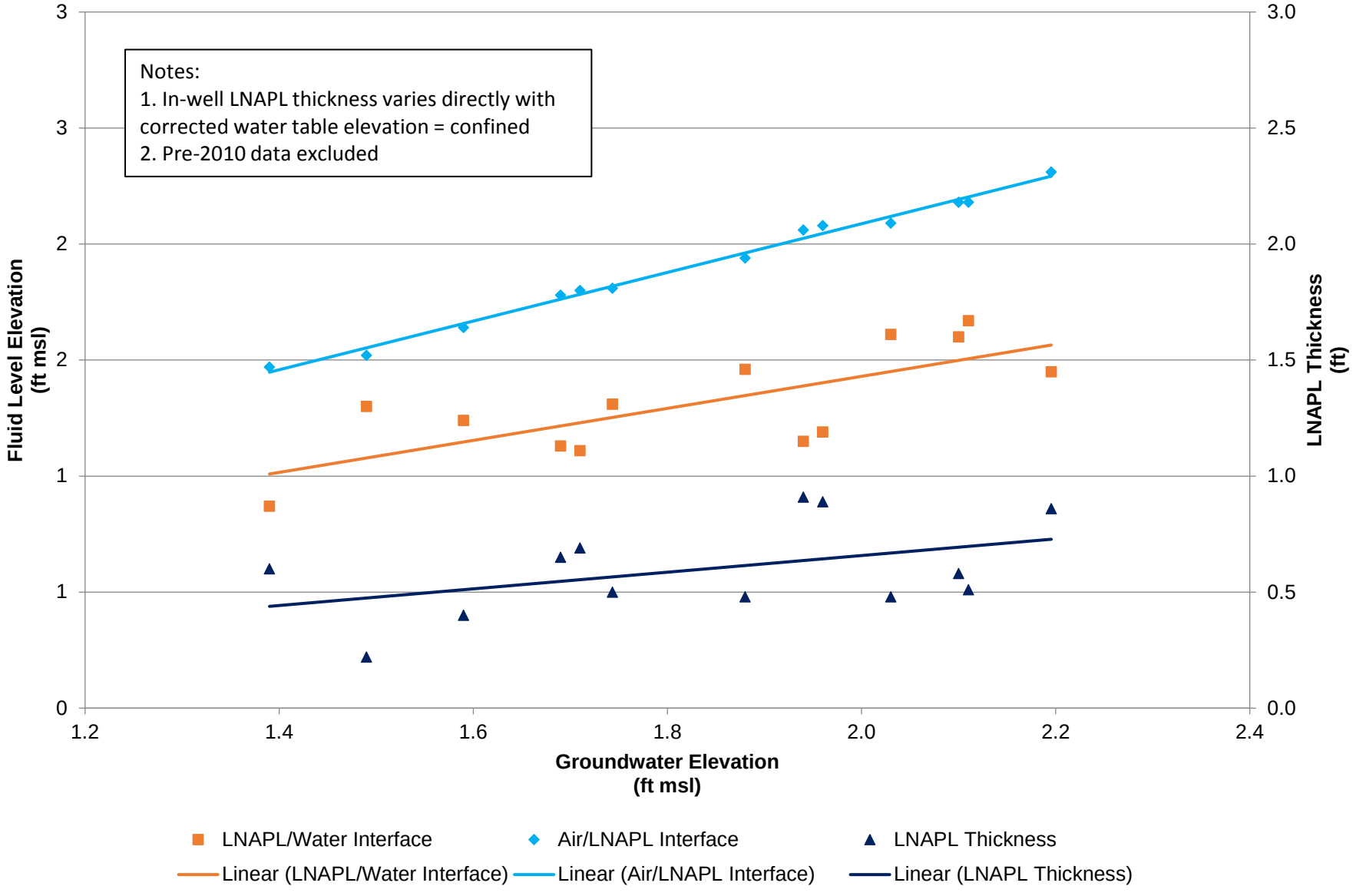
# B-147: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



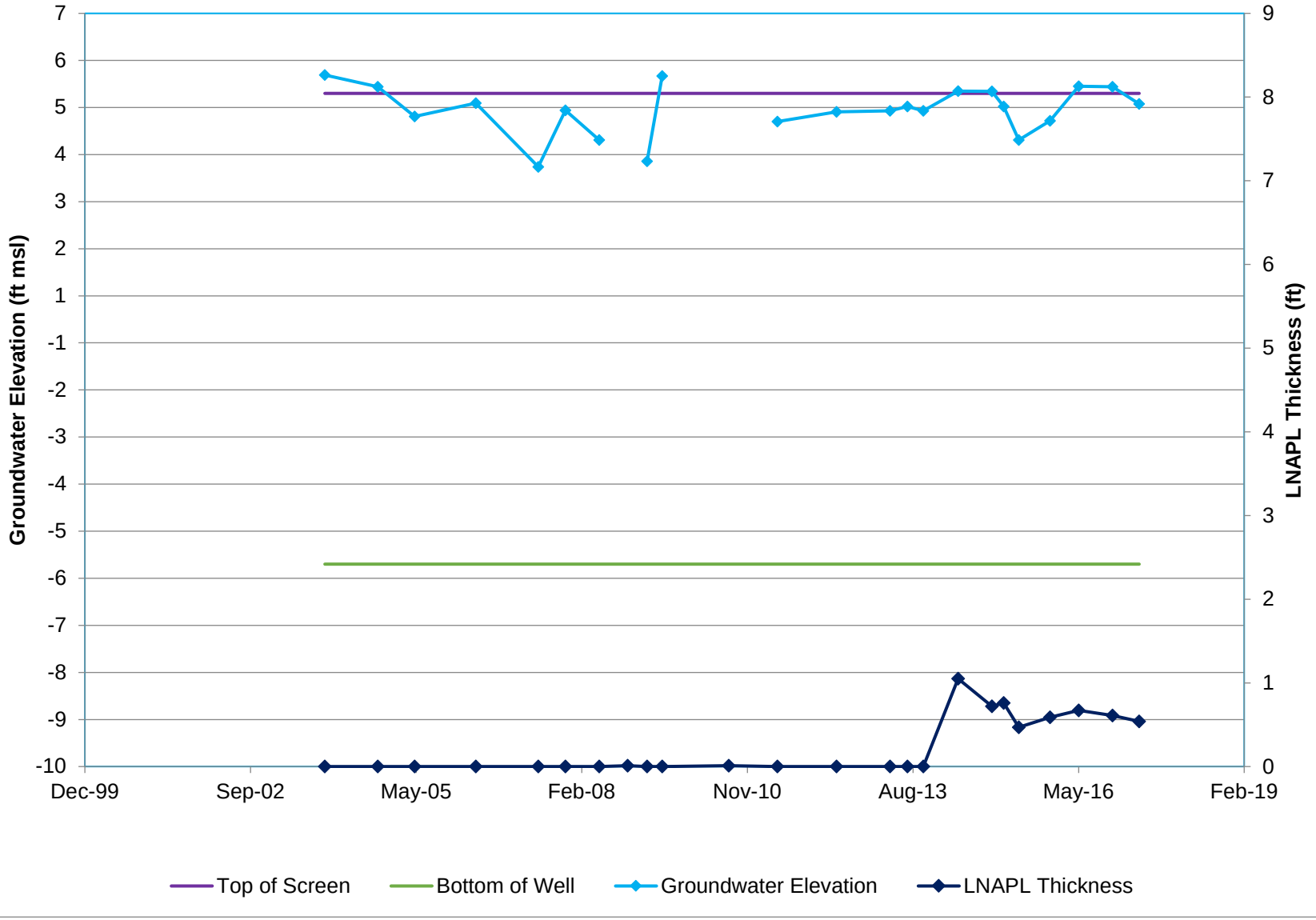
# B-148: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



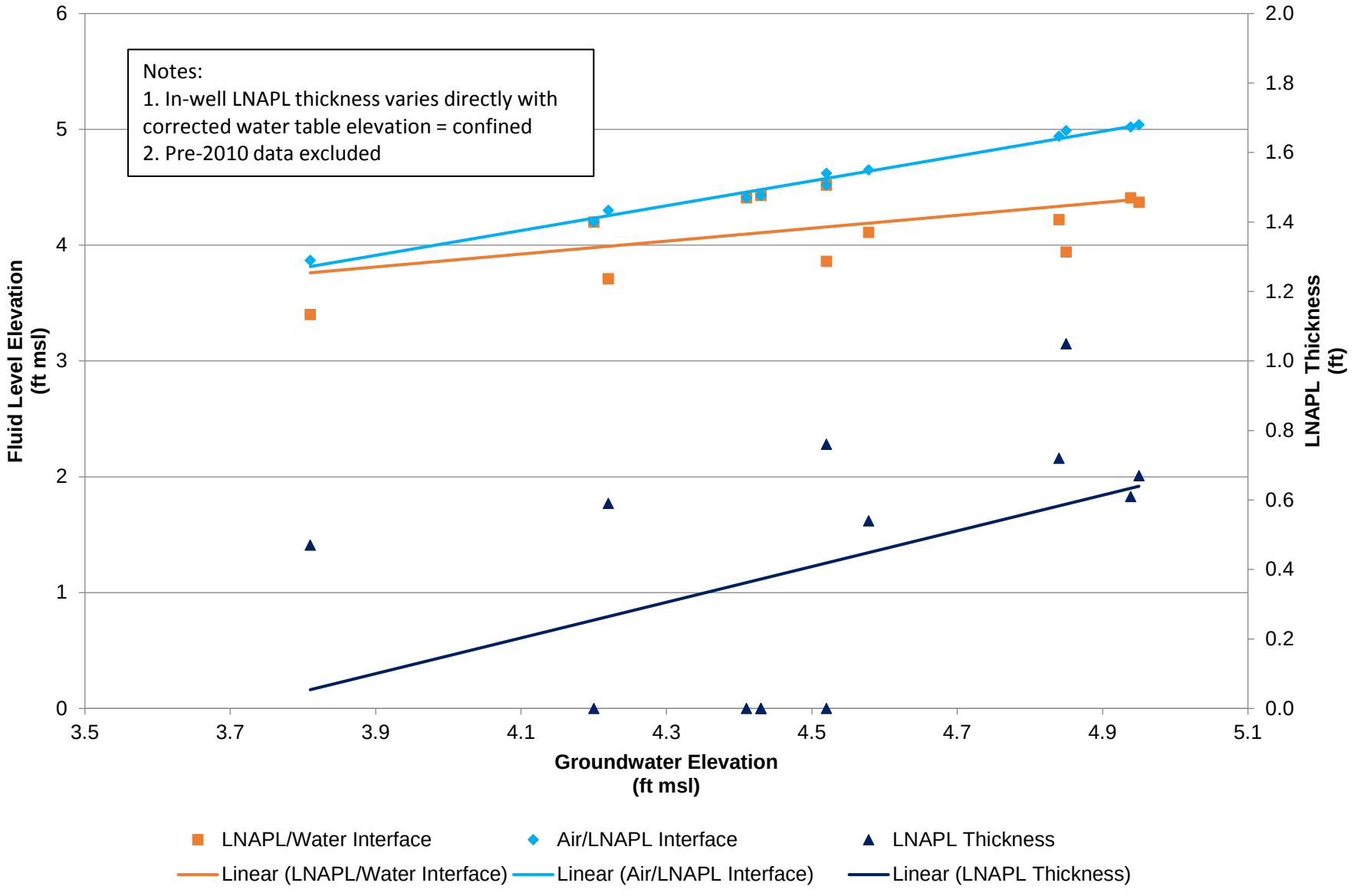
# B-148: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



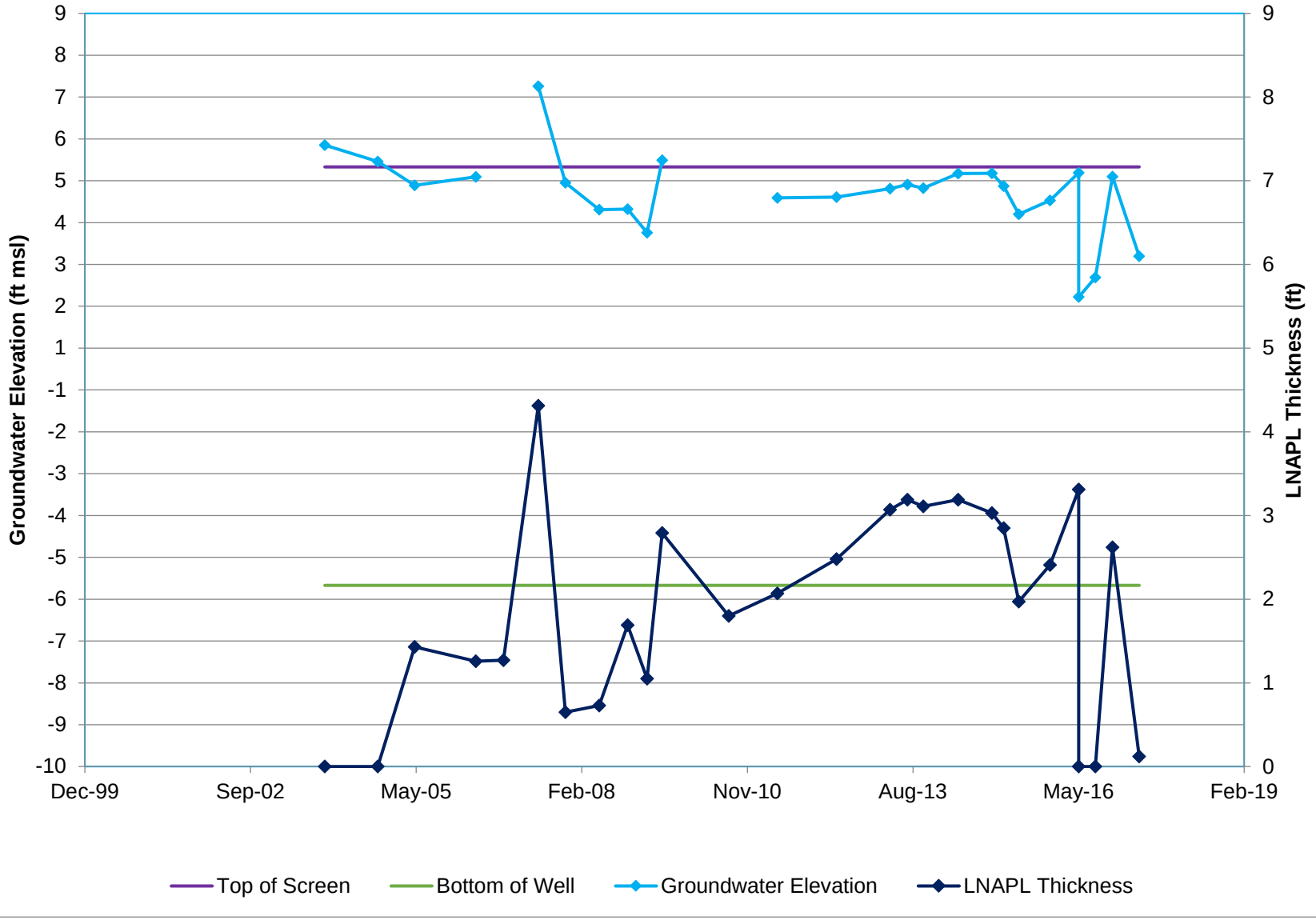
# B-149: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



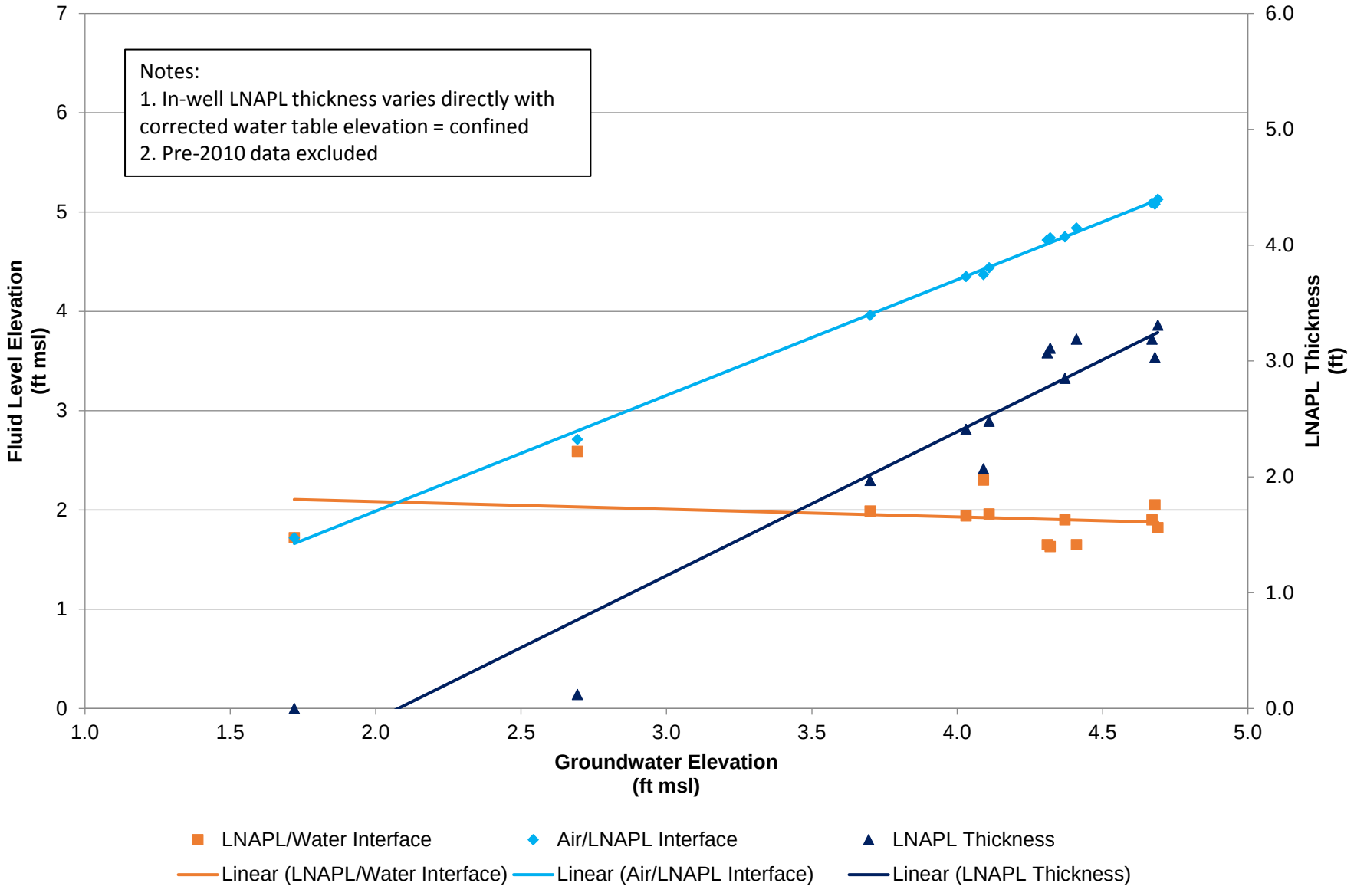
# B-149: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



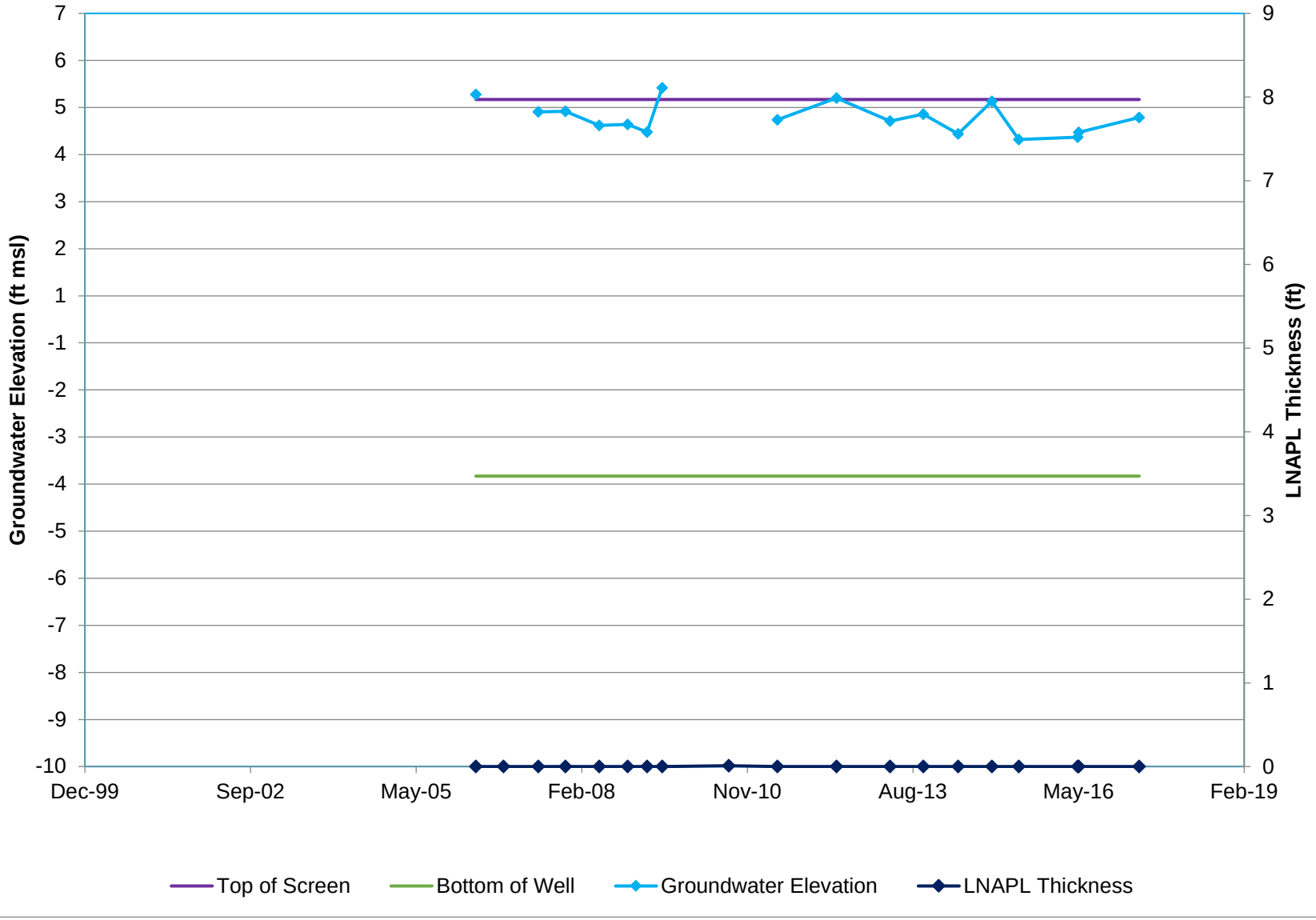
# B-150: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



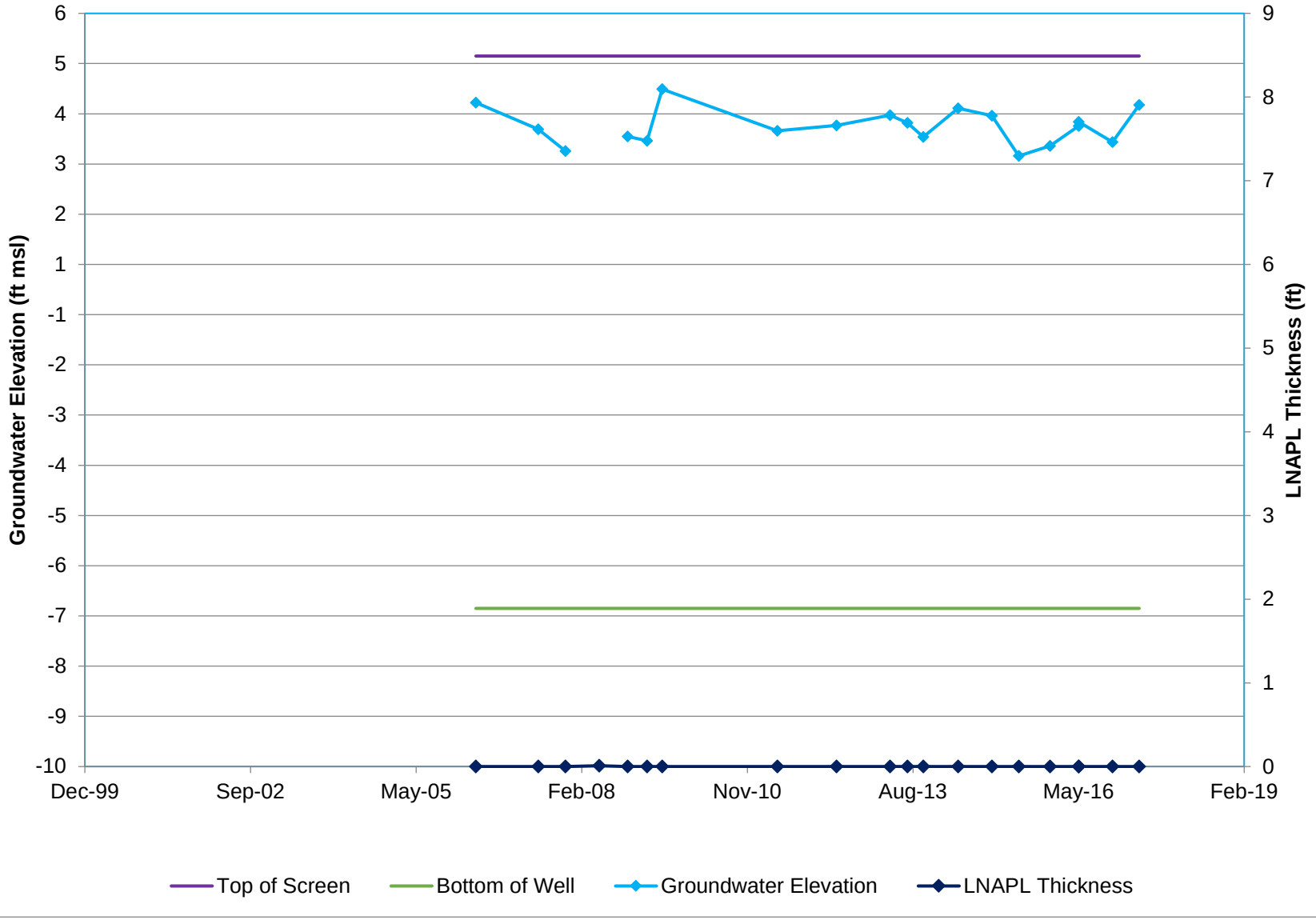
# B-150: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



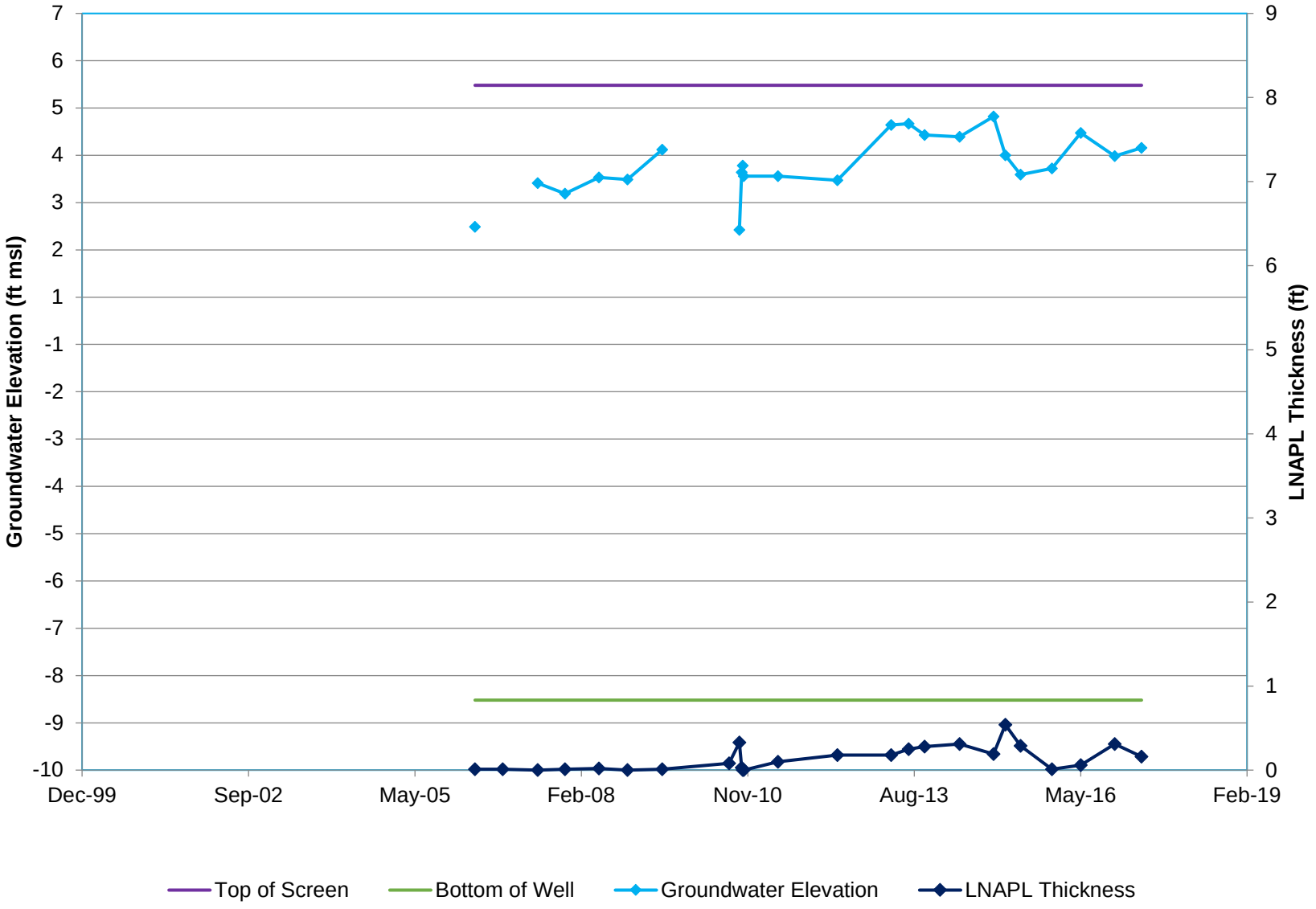
# B-153: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



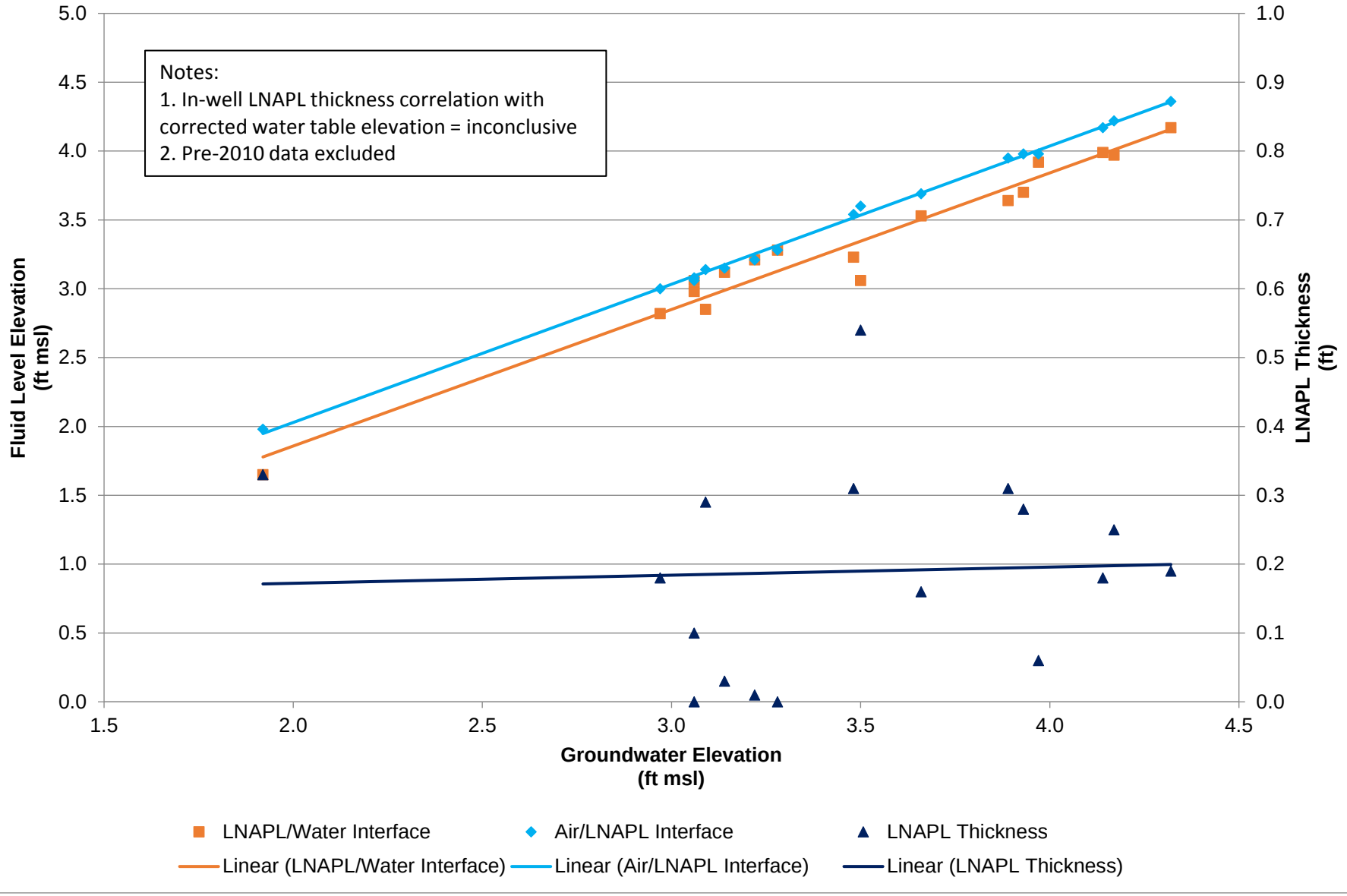
# B-156: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



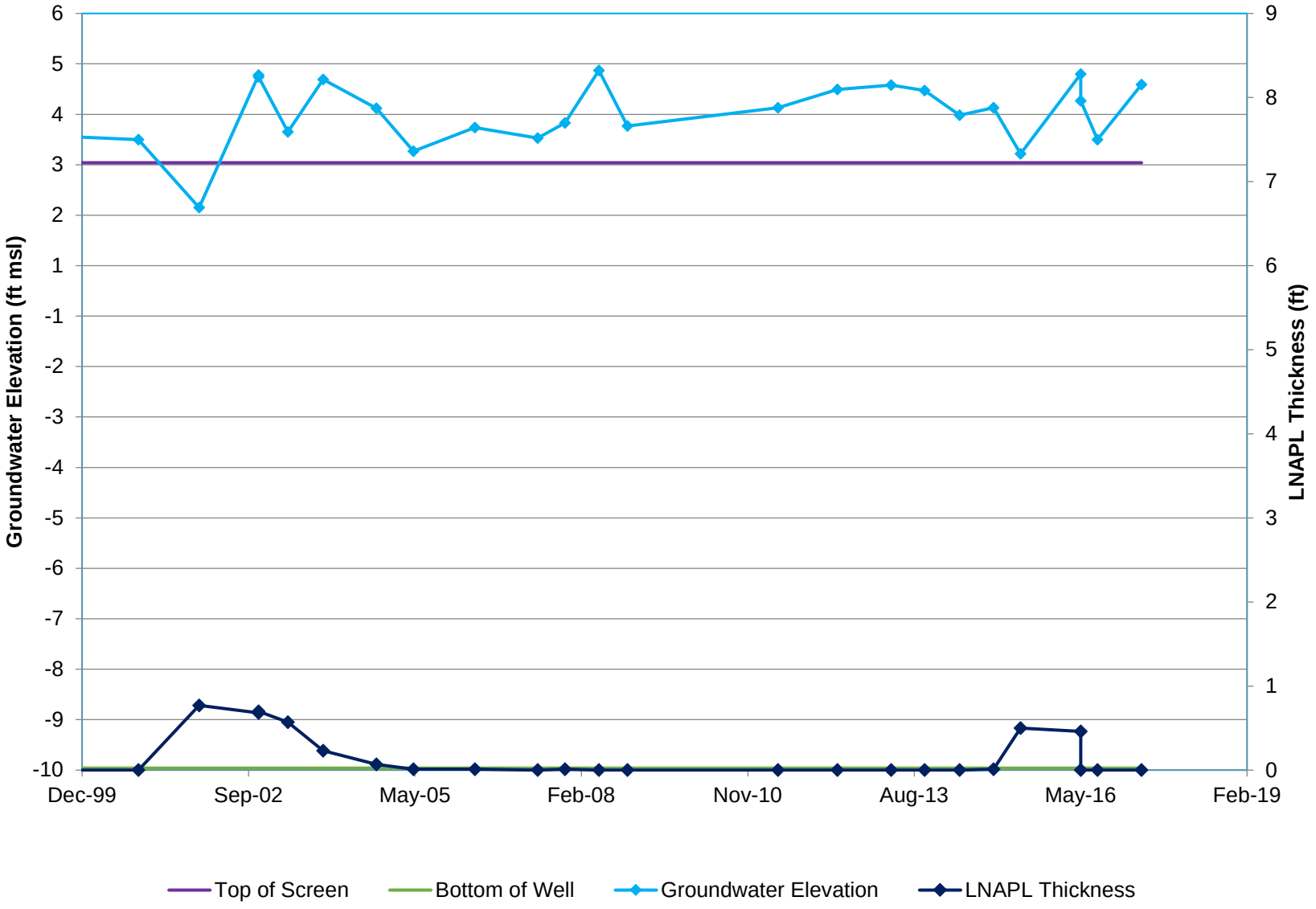
# B-161: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



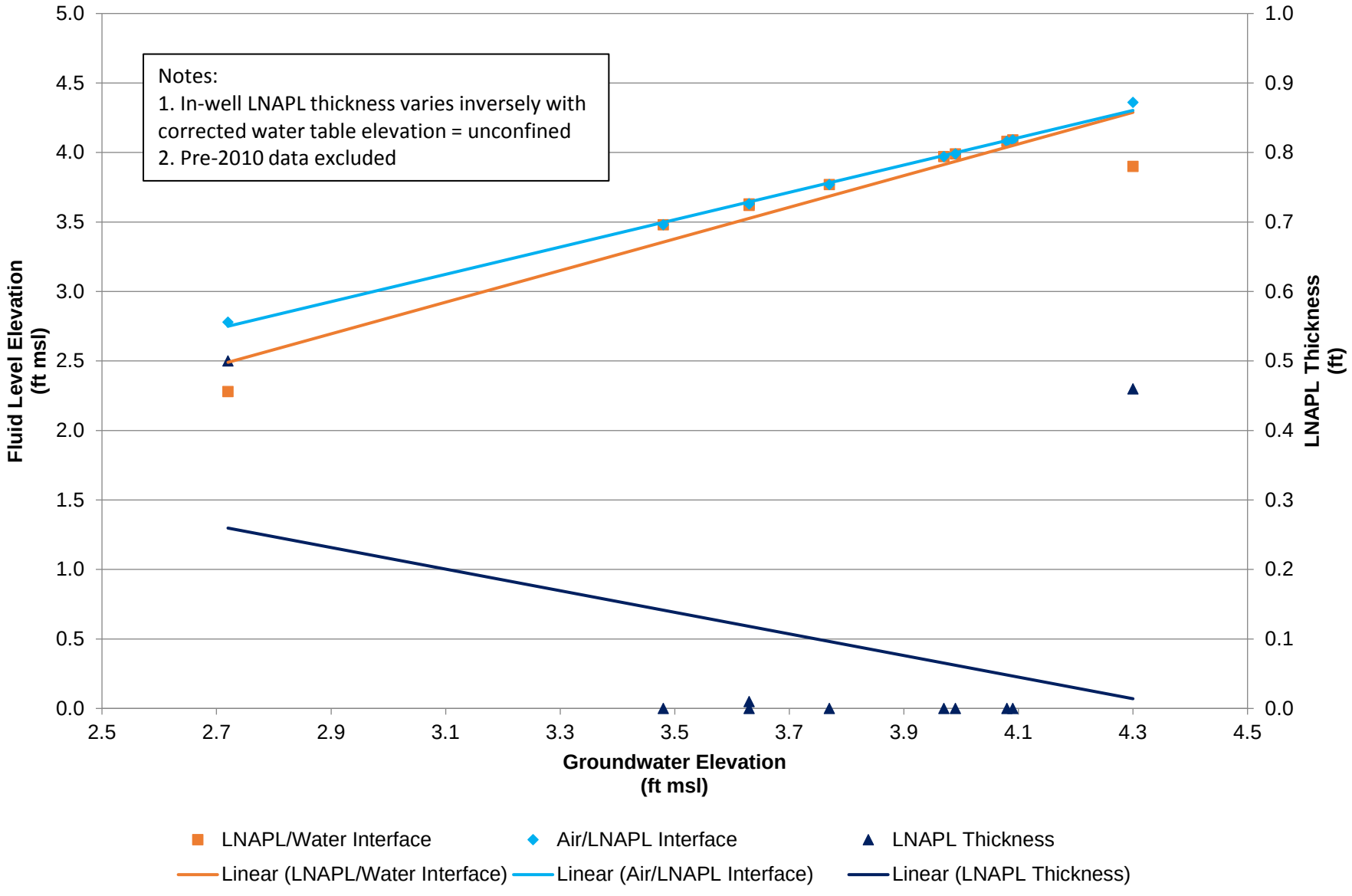
# B-161: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



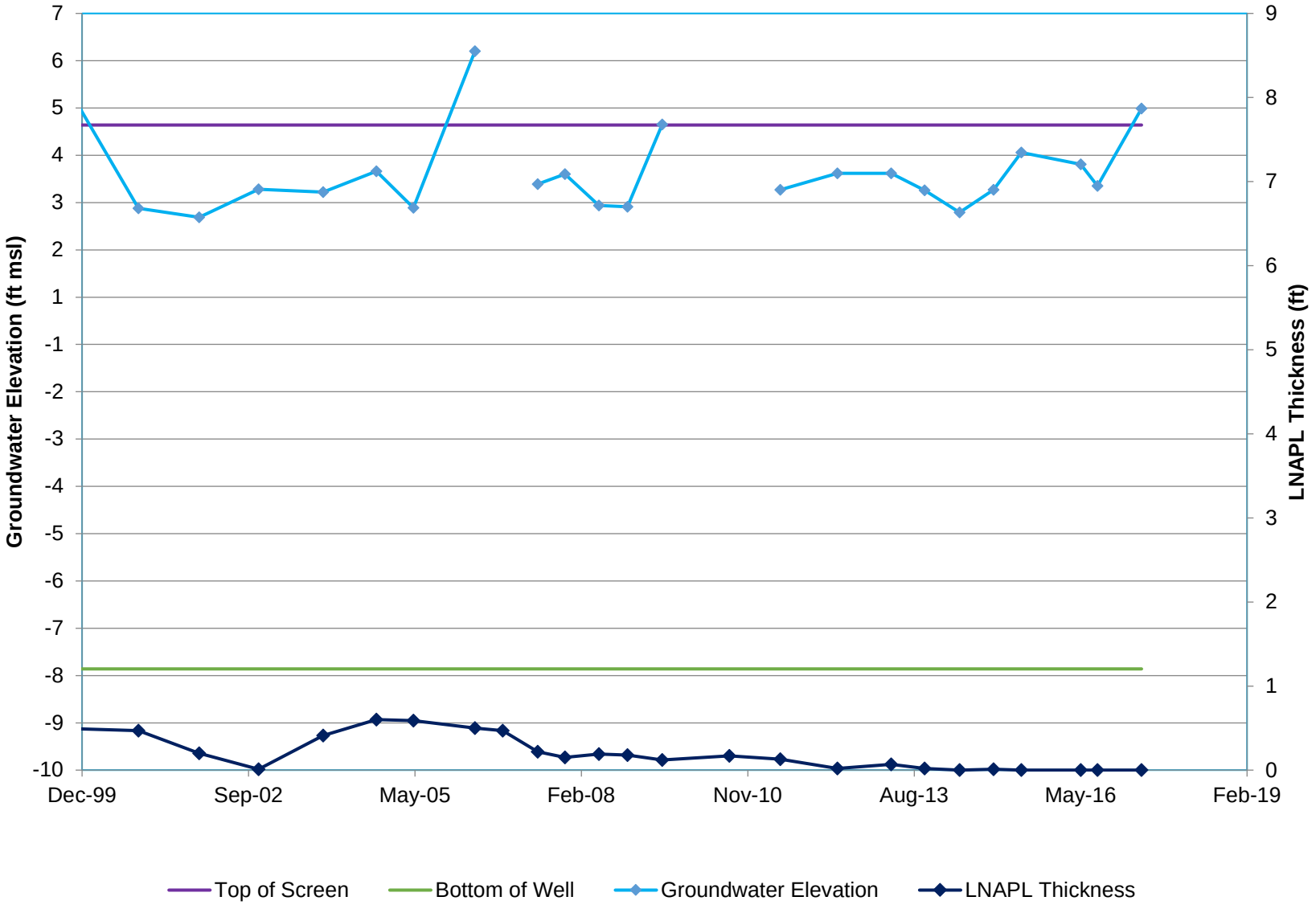
# B-39: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



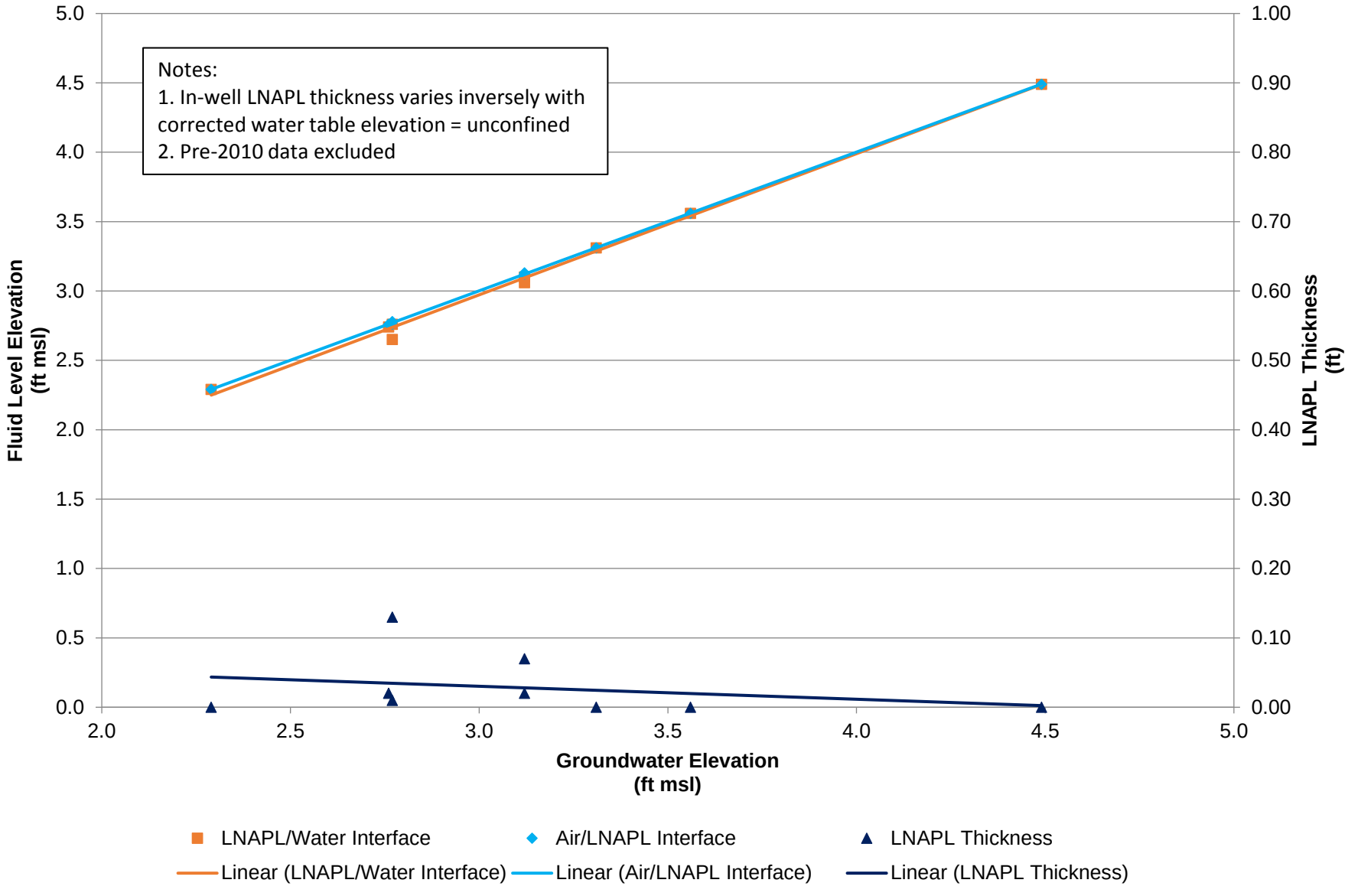
# B-39: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



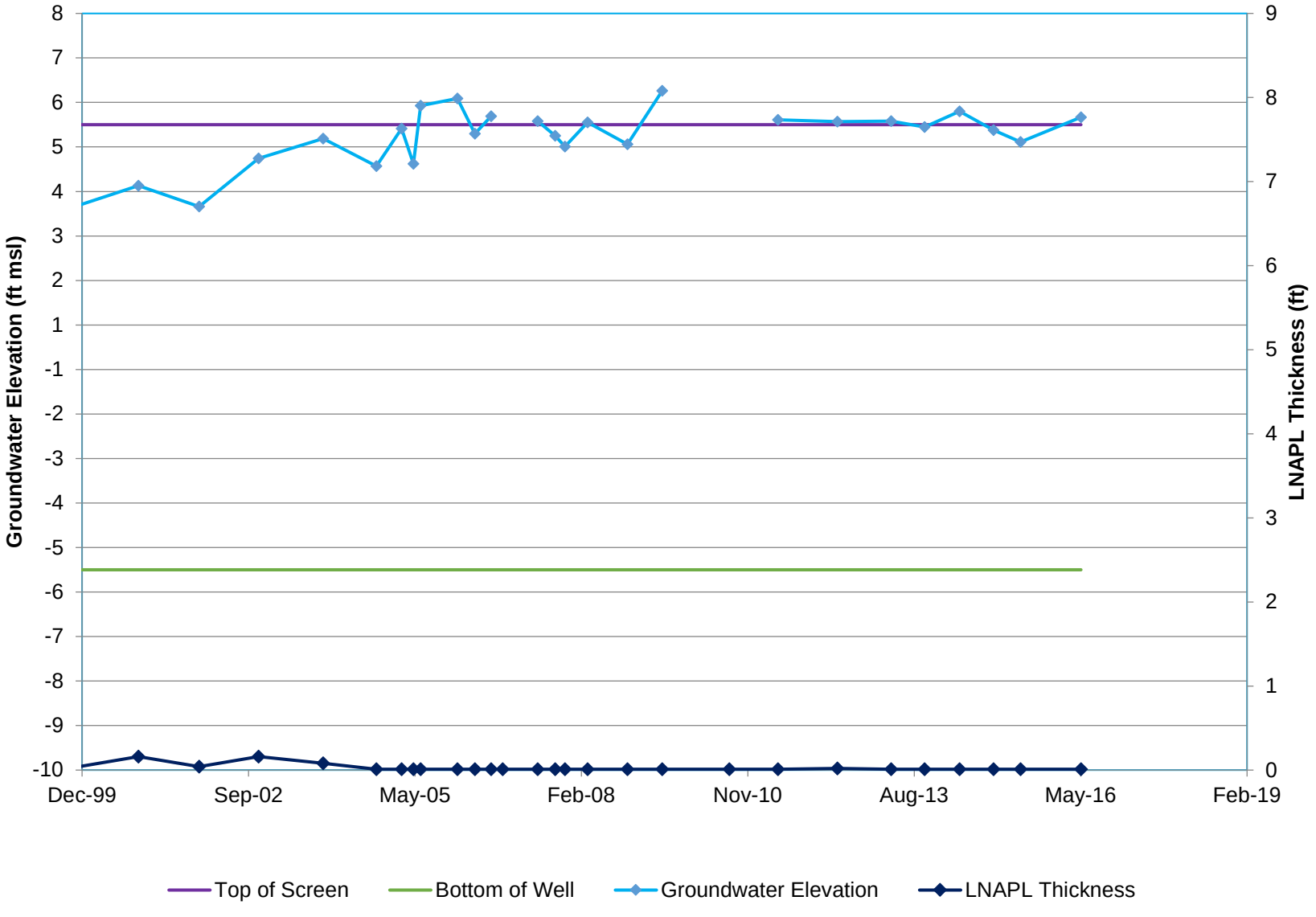
# B-43: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



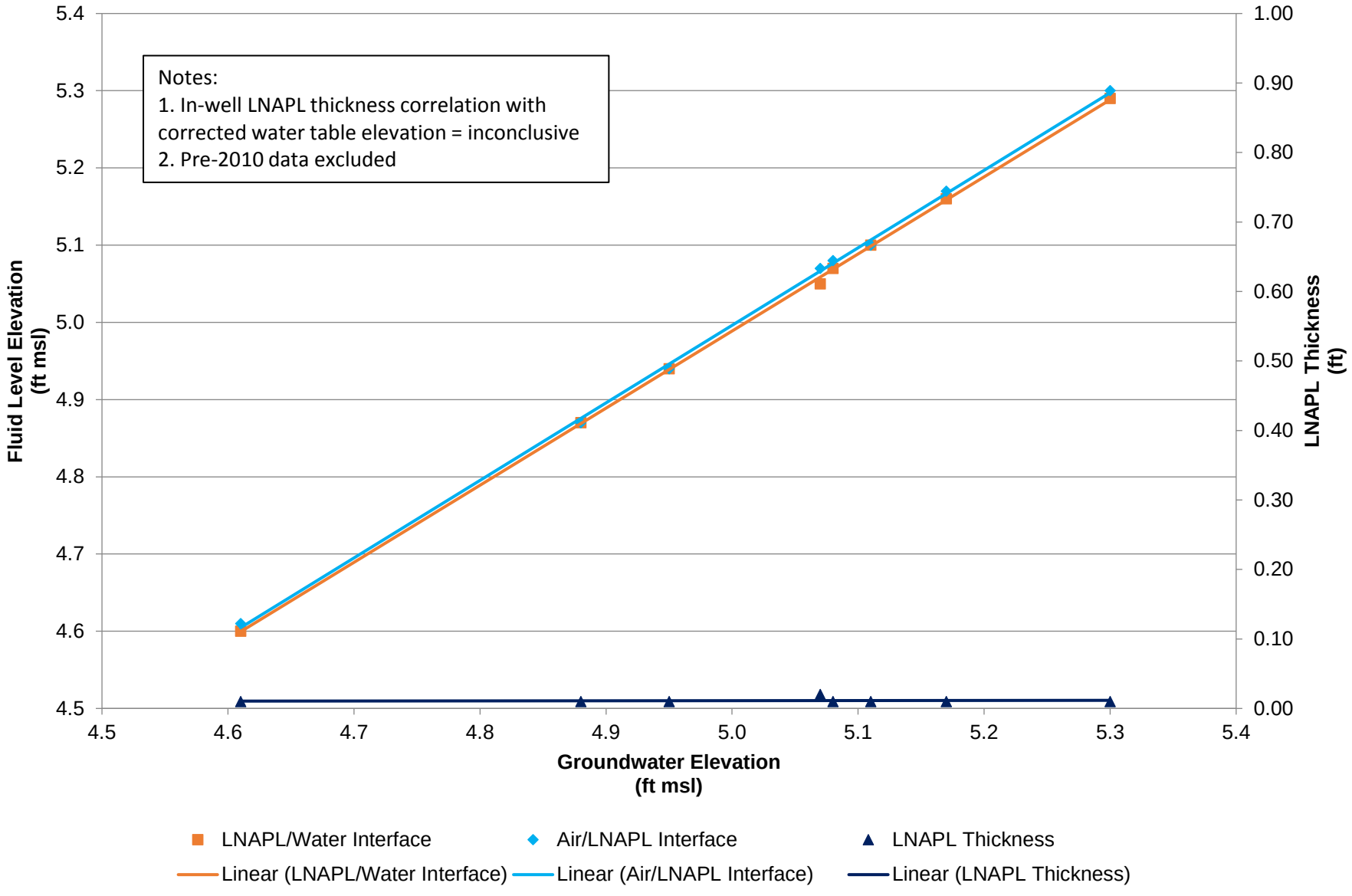
# B-43: Diagnostic Gauge Plot
# Philadelphia Refinery Operations

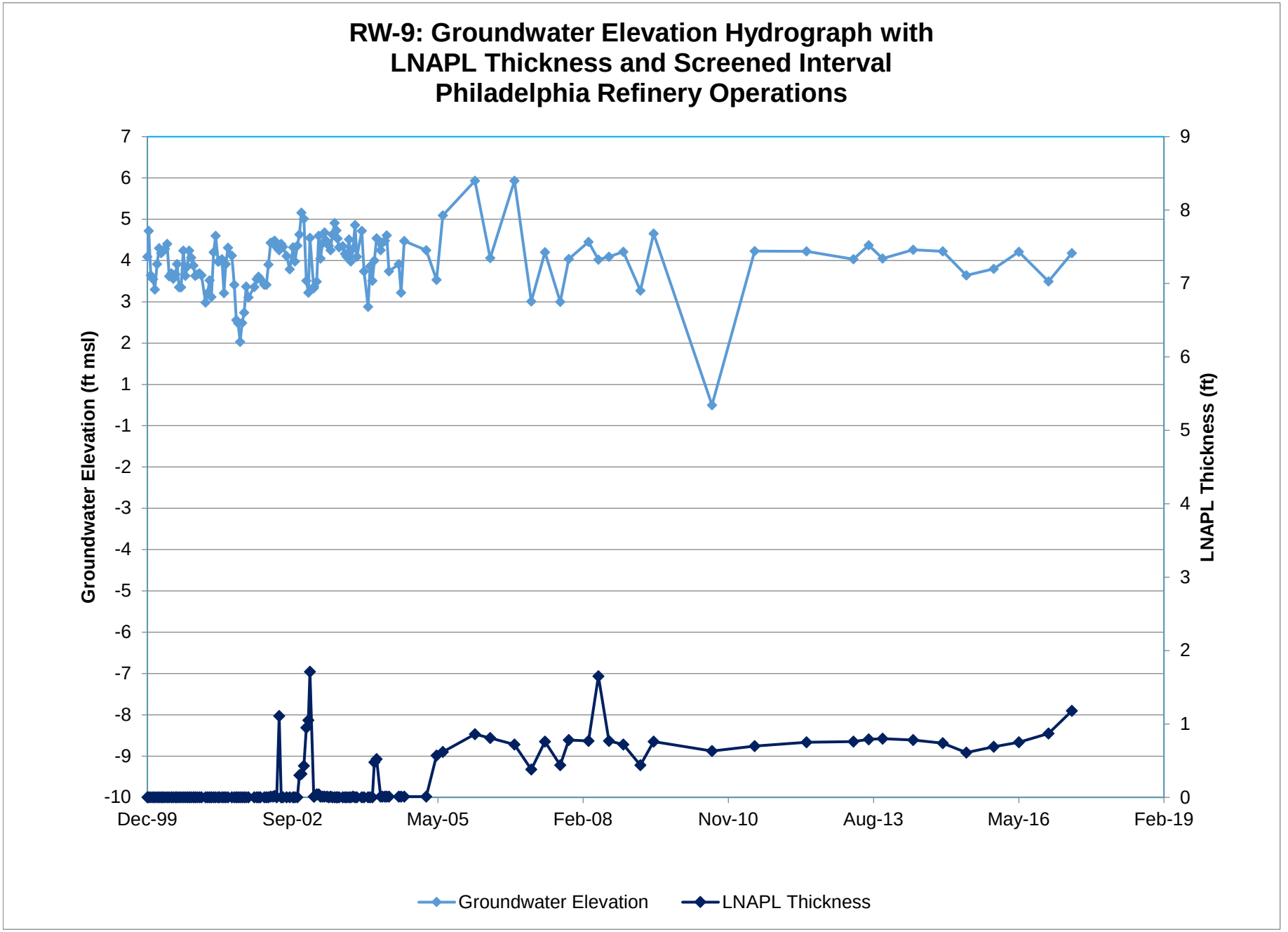


# B-47: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations

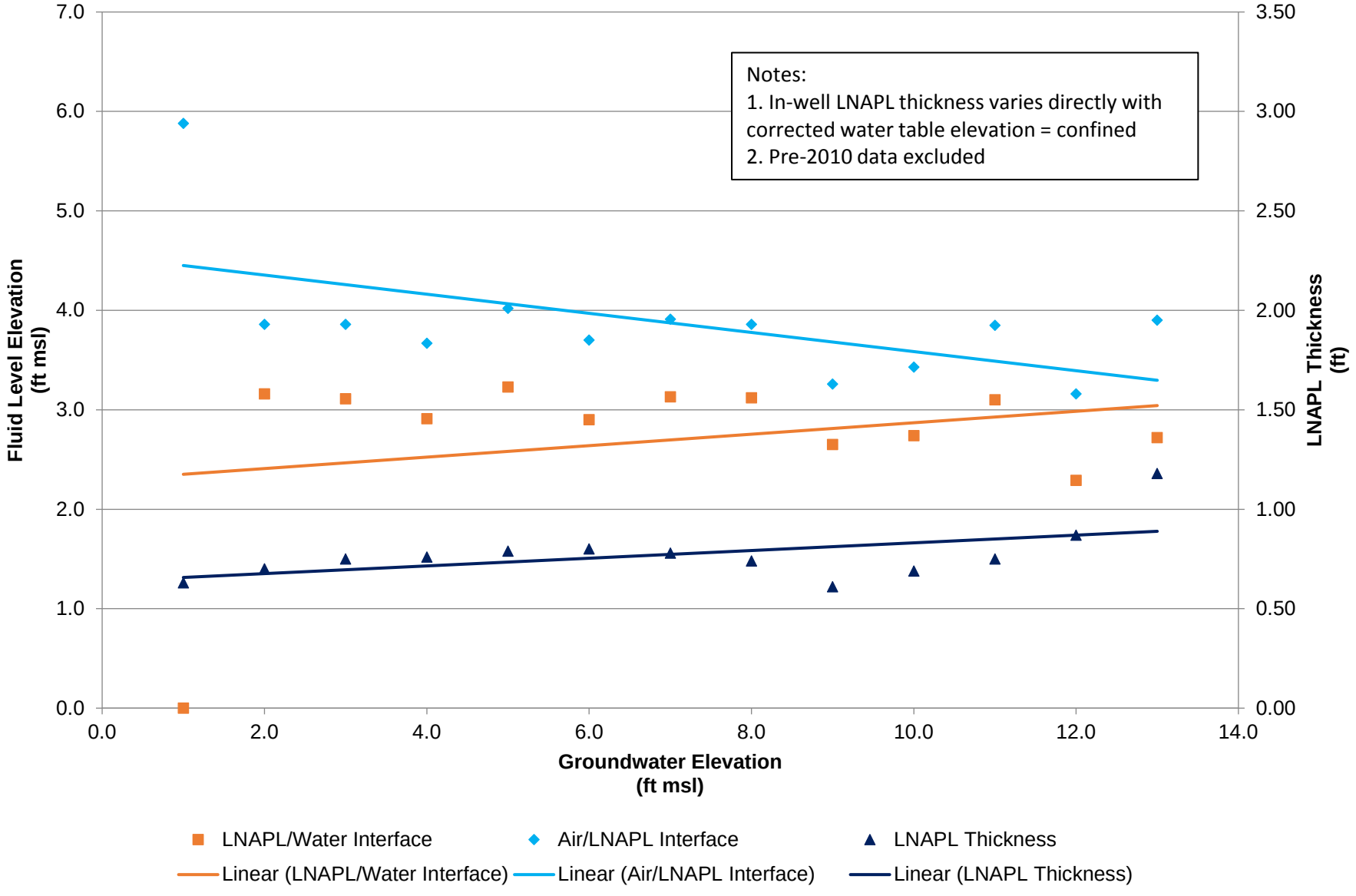


# B-47: Diagnostic Gauge Plot
# Philadelphia Refinery Operations

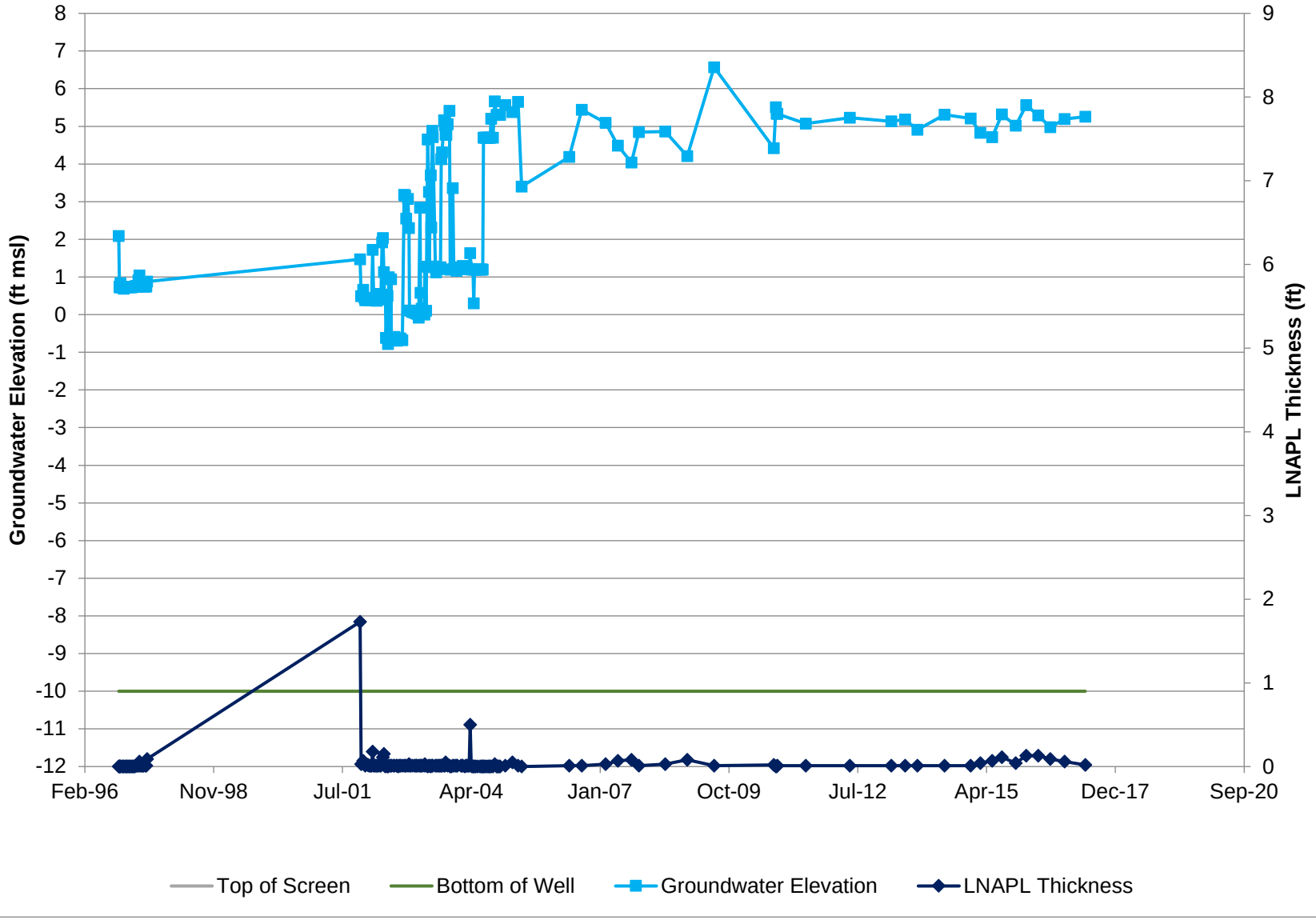



RW-9: Groundwater Elevation Hydrograph with
LNAPL Thickness and Screened Interval
Philadelphia Refinery Operations
Groundwater Elevation (ft msl)
LNAPL Thickness (ft)
7
6
5
4
3
2
1
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
9
8
7
6
5
4
3
2
1
0
Dec-99
Sep-02
May-05
Feb-08
Nov-10
Aug-13
May-16
Feb-19
Groundwater Elevation
LNAPL Thickness

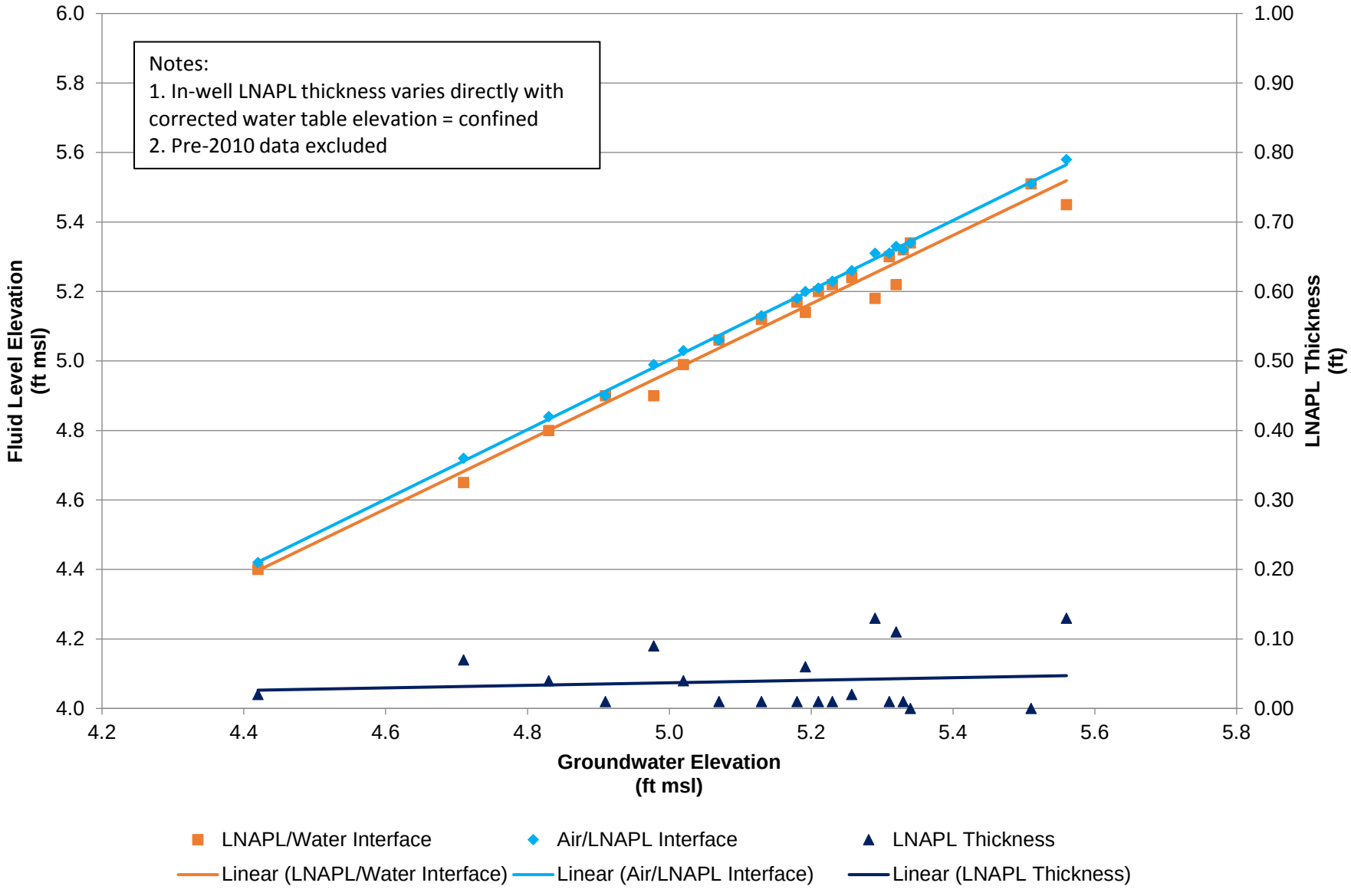
# RW-9: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



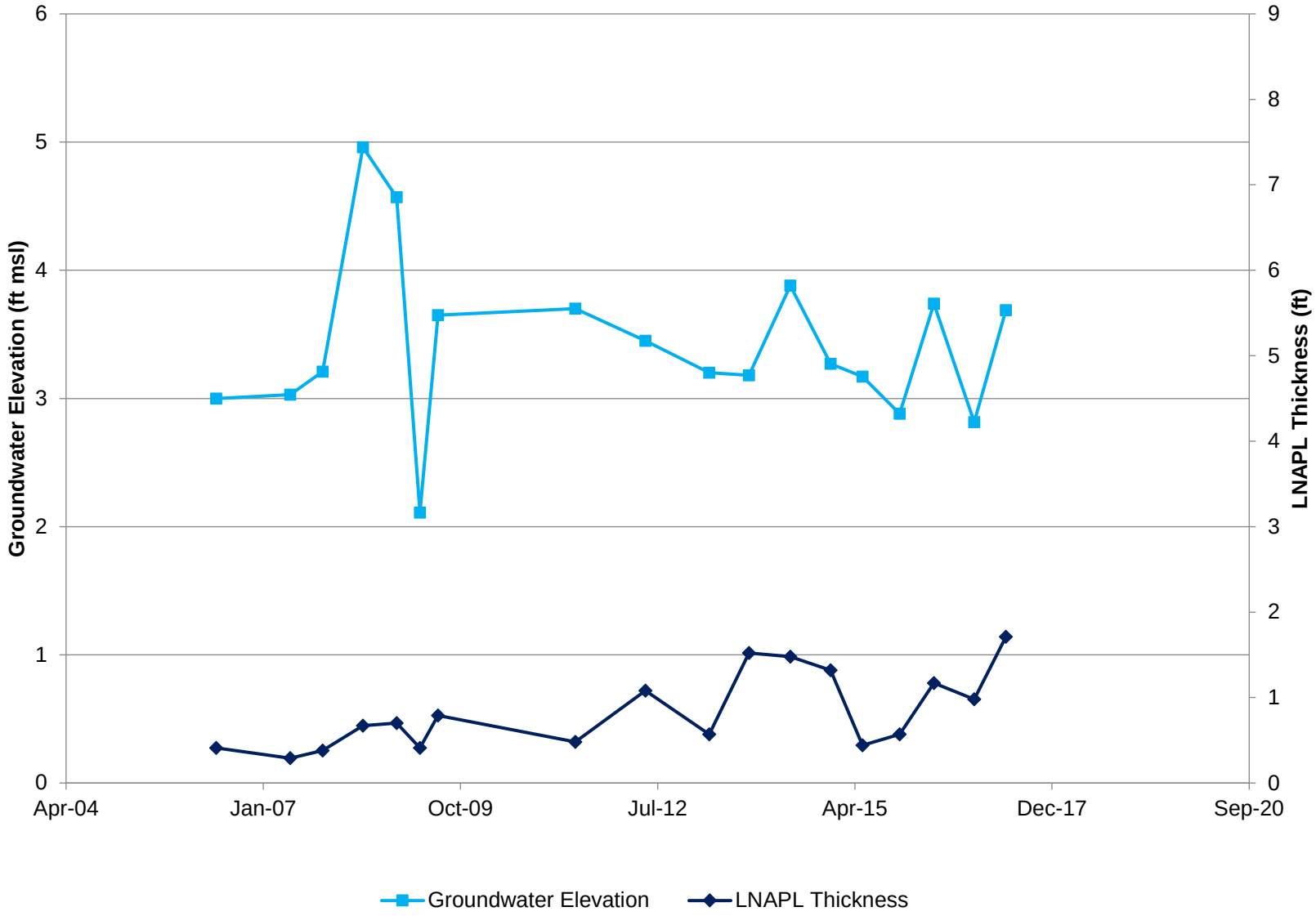
# SUMP-1: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



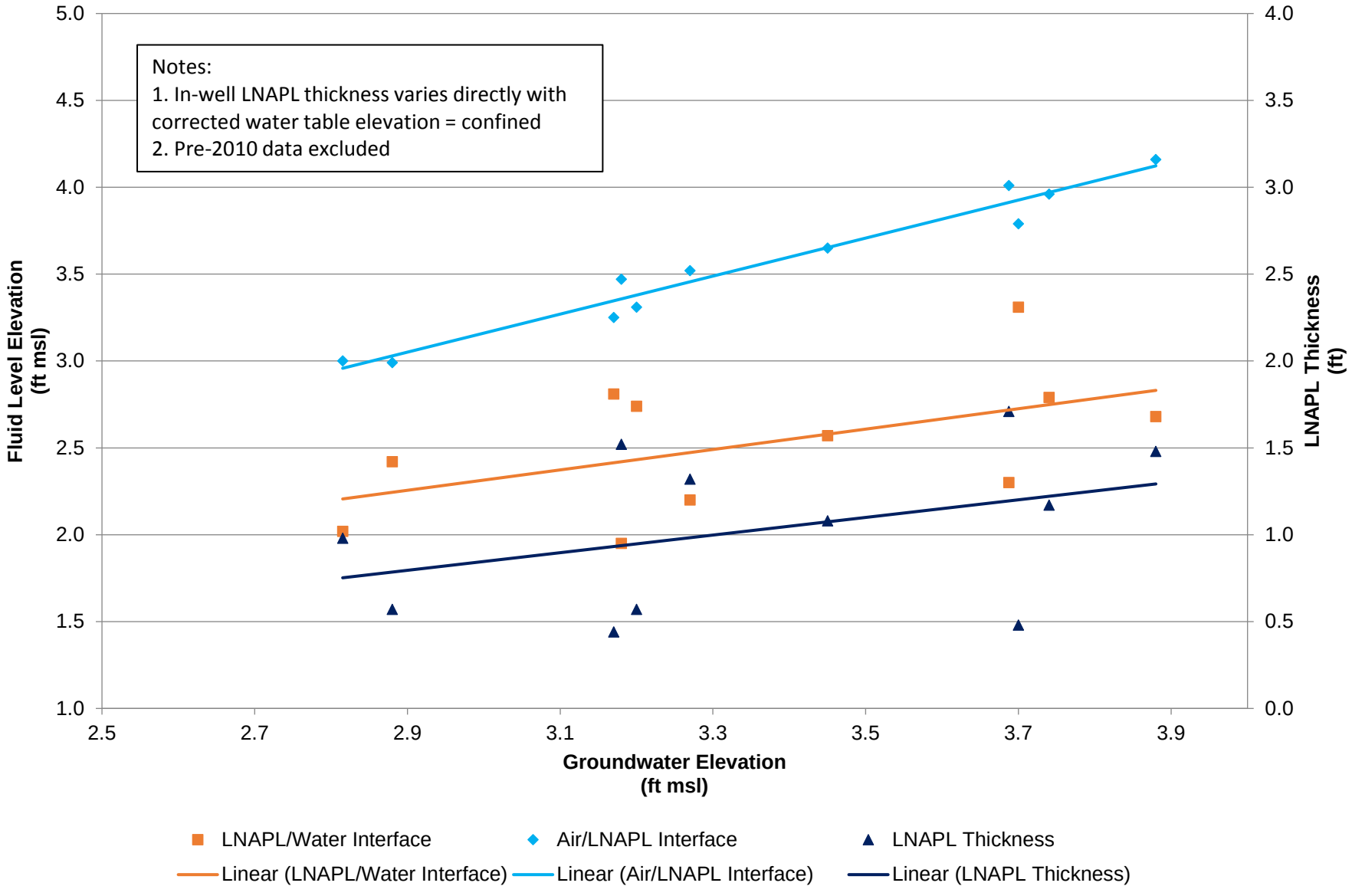
# Sump-1: Diagnostic Gauge Plot
# Philadelphia Refinery Operations

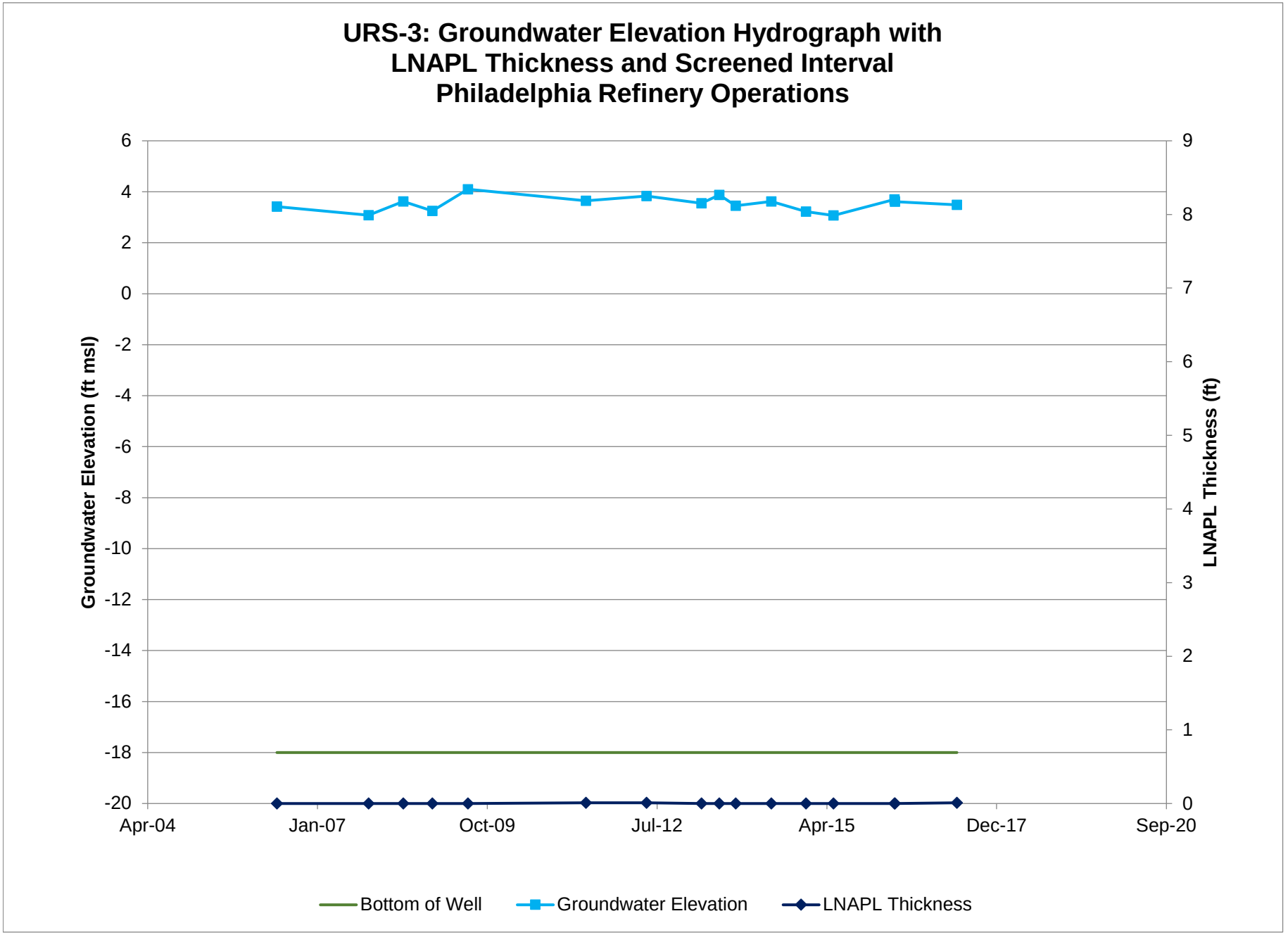


# U-3: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations

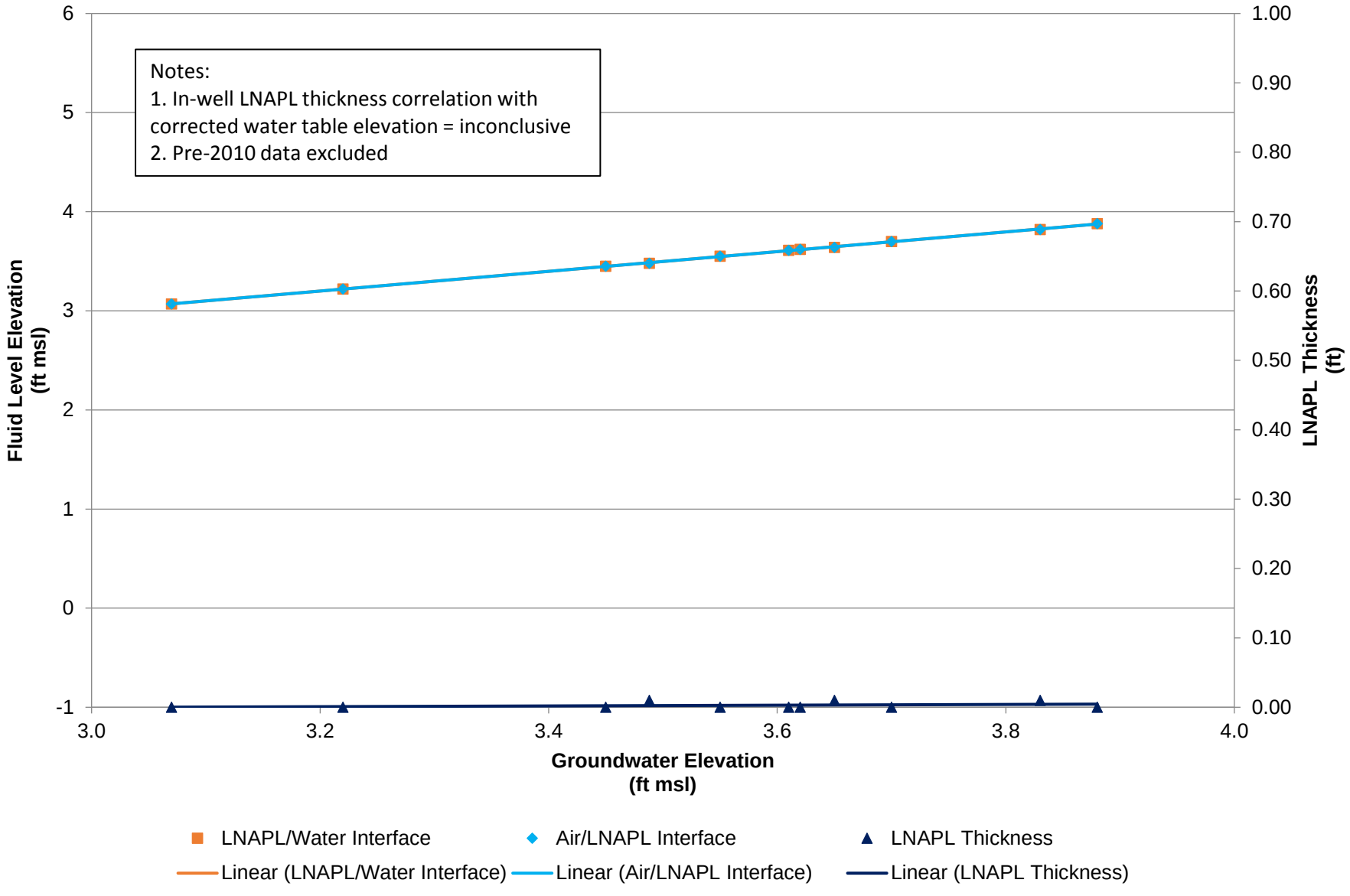


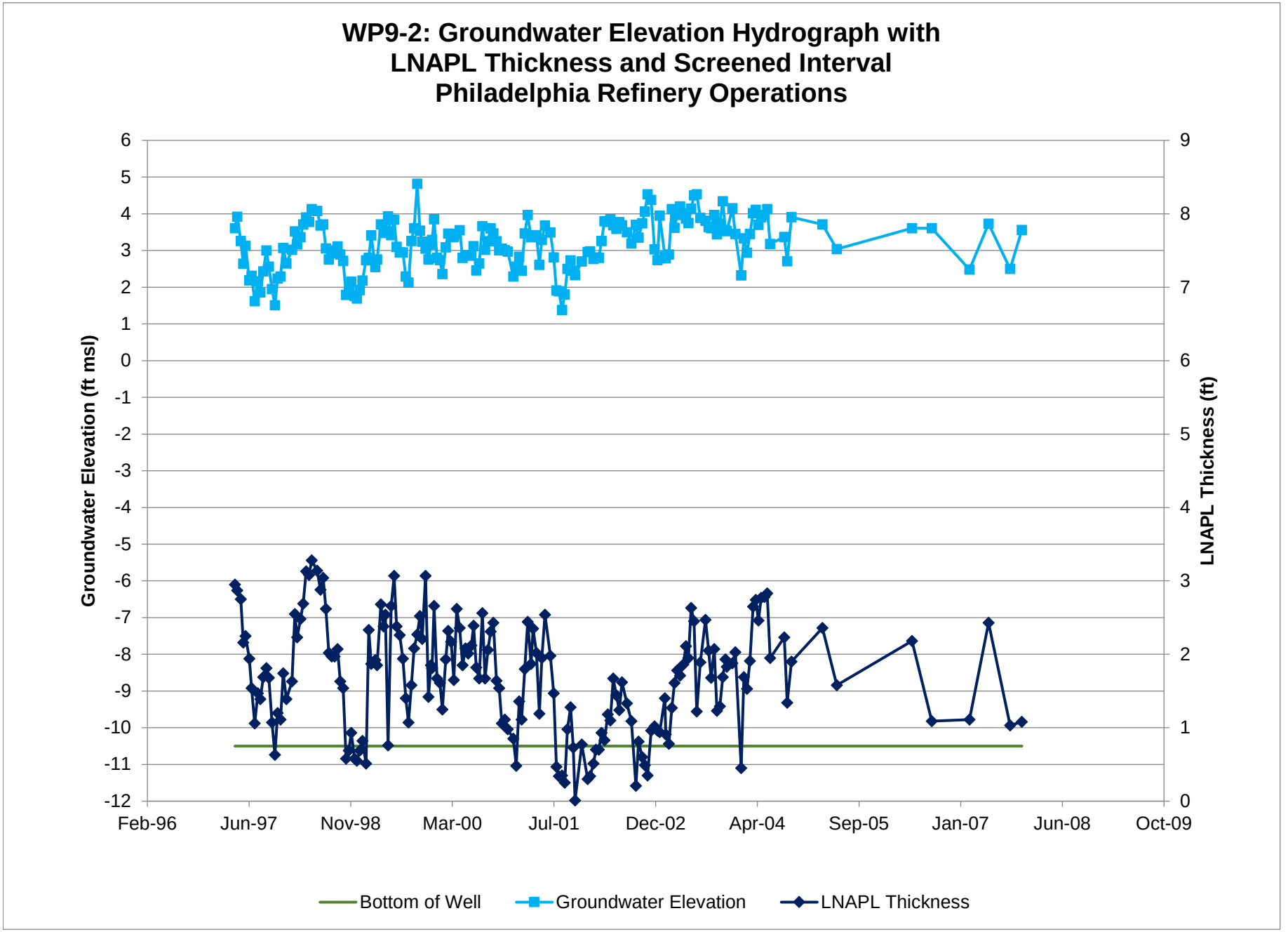
# U-3: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



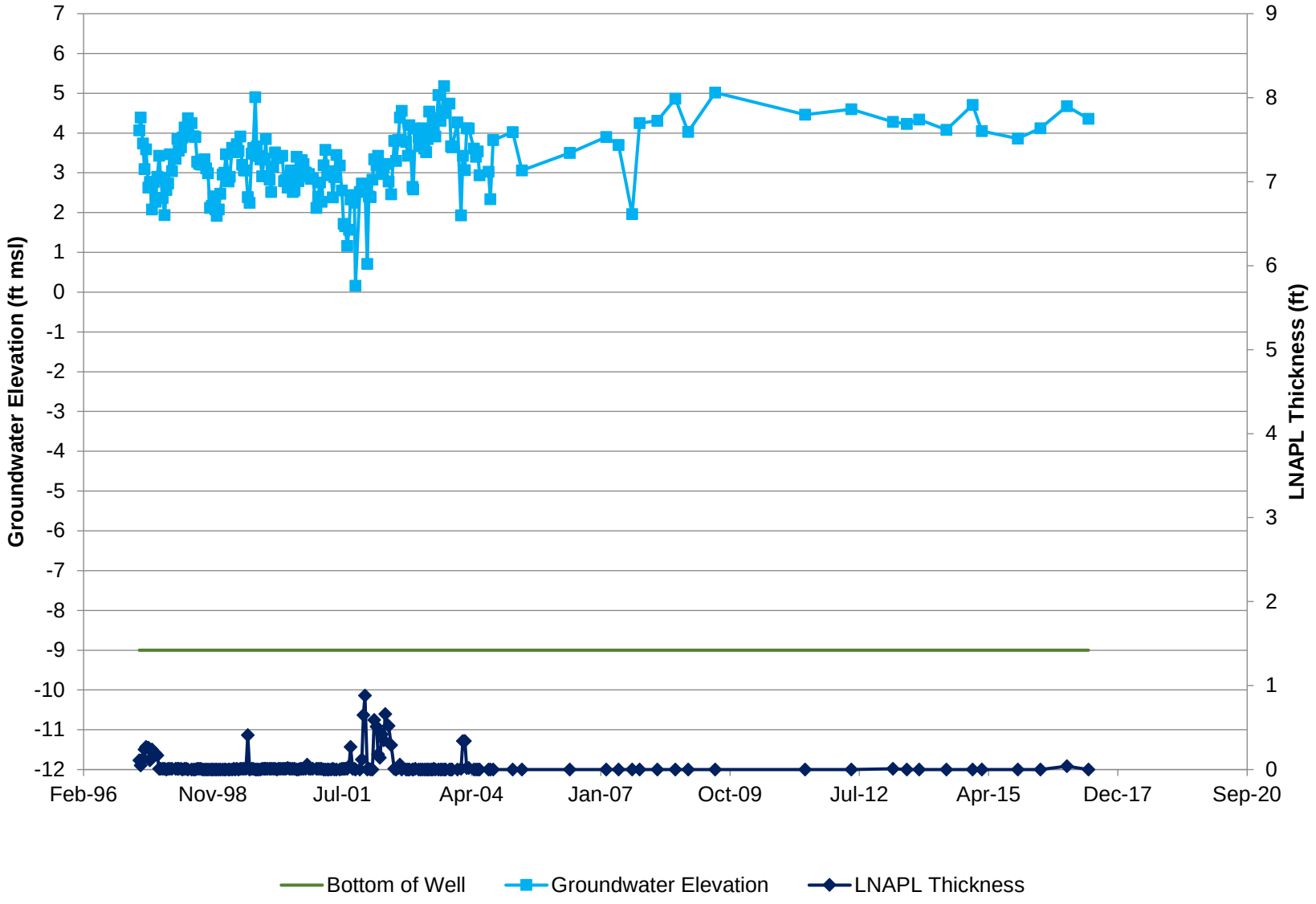

URS-3: Groundwater Elevation Hydrograph with
LNAPL Thickness and Screened Interval
Philadelphia Refinery Operations
Groundwater Elevation (ft msl)
LNAPL Thickness (ft)
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
9
8
7
6
5
4
3
2
1
0
Apr-04
Jan-07
Oct-09
Jul-12
Apr-15
Dec-17
Sep-20
Bottom of Well
Groundwater Elevation
LNAPL Thickness

# URS-3: Diagnostic Gauge Plot
# Philadelphia Refinery Operations

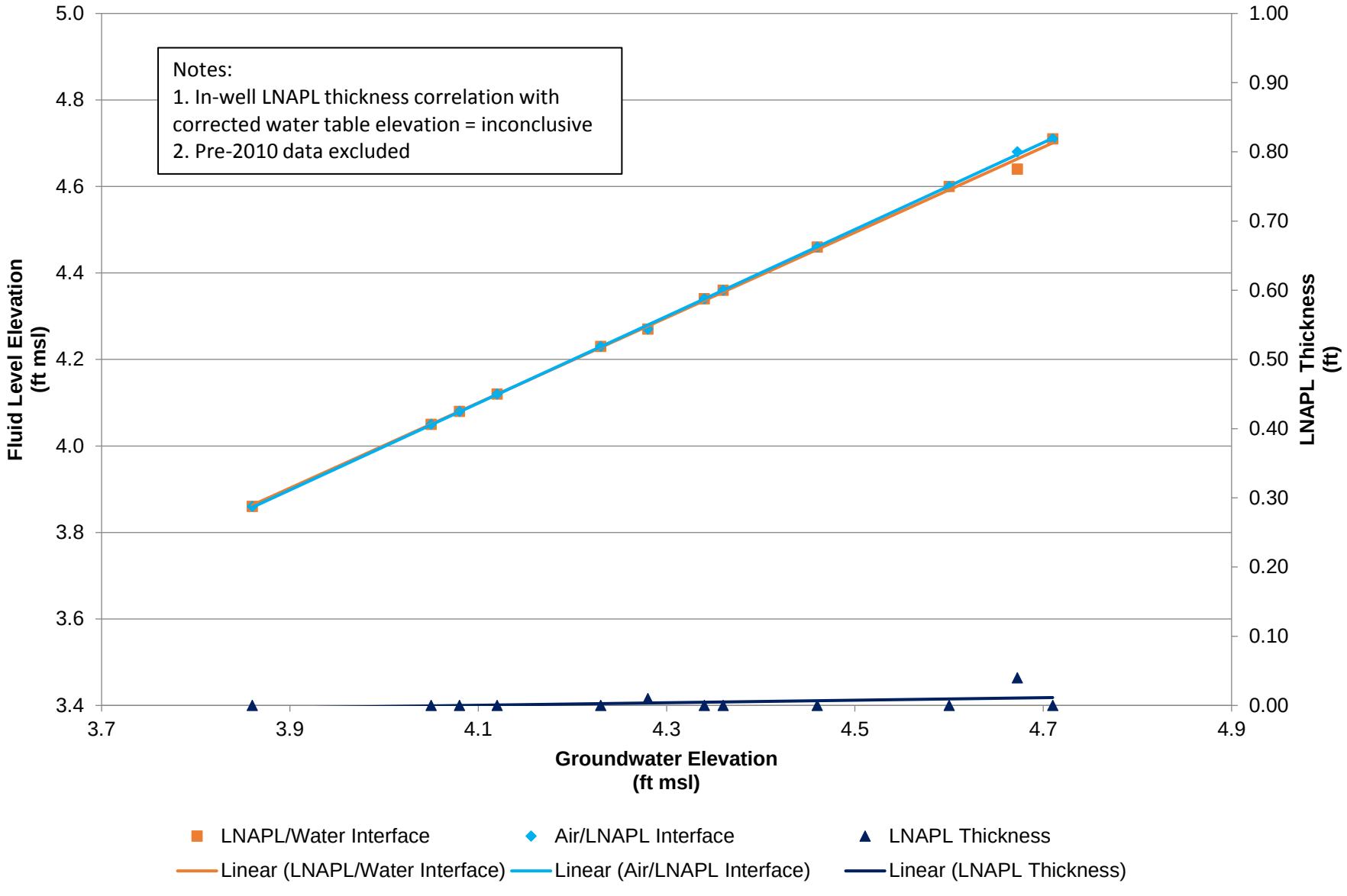


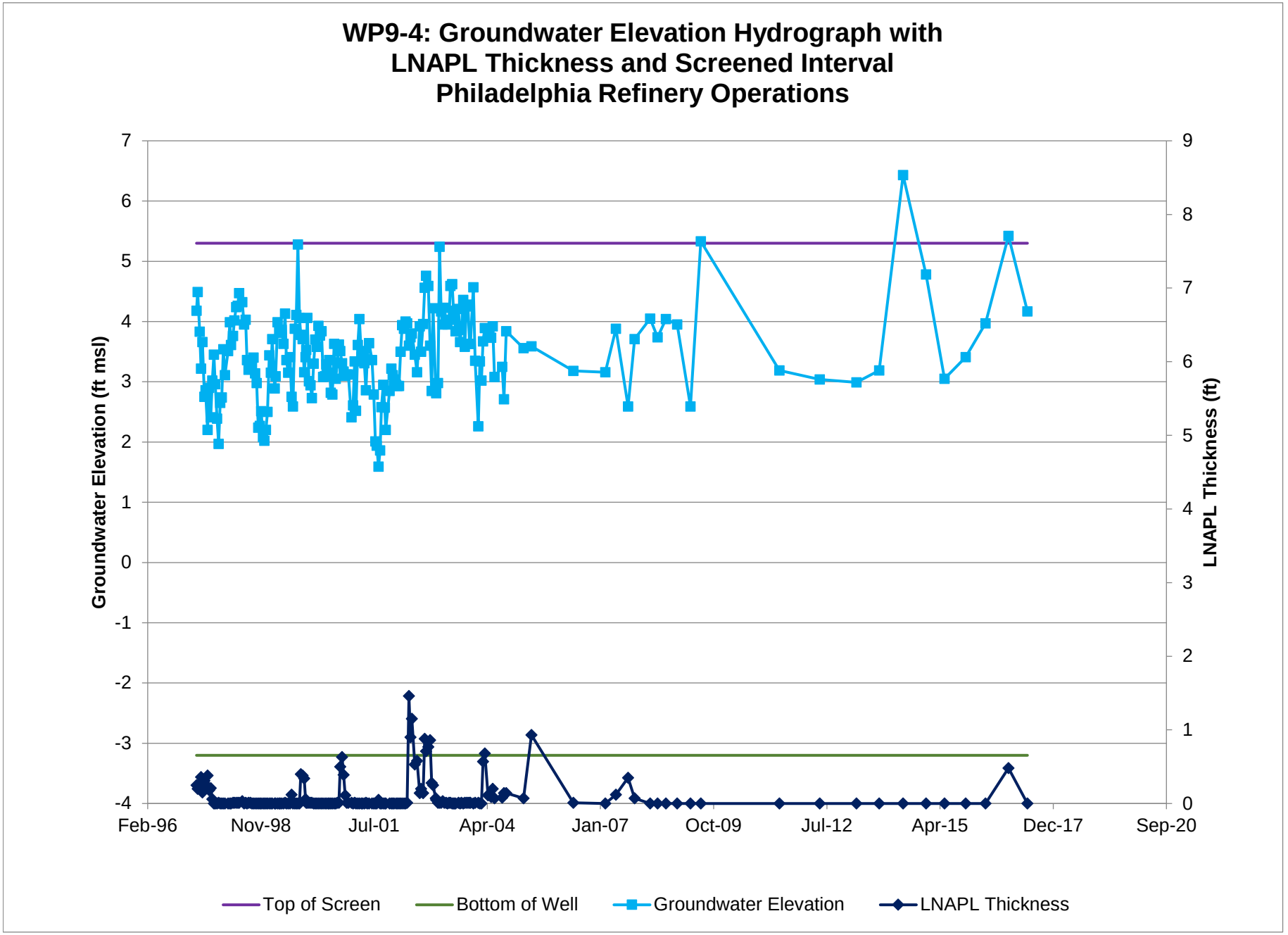

WP9-2: Groundwater Elevation Hydrograph with
LNAPL Thickness and Screened Interval
Philadelphia Refinery Operations
Groundwater Elevation (ft msl)
LNAPL Thickness (ft)
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
-11
-12
9
8
7
6
5
4
3
2
1
0
Feb-96
Jun-97
Nov-98
Mar-00
Jul-01
Dec-02
Apr-04
Sep-05
Jan-07
Jun-08
Oct-09
Bottom of Well
Groundwater Elevation
LNAPL Thickness

# WP9-3: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations

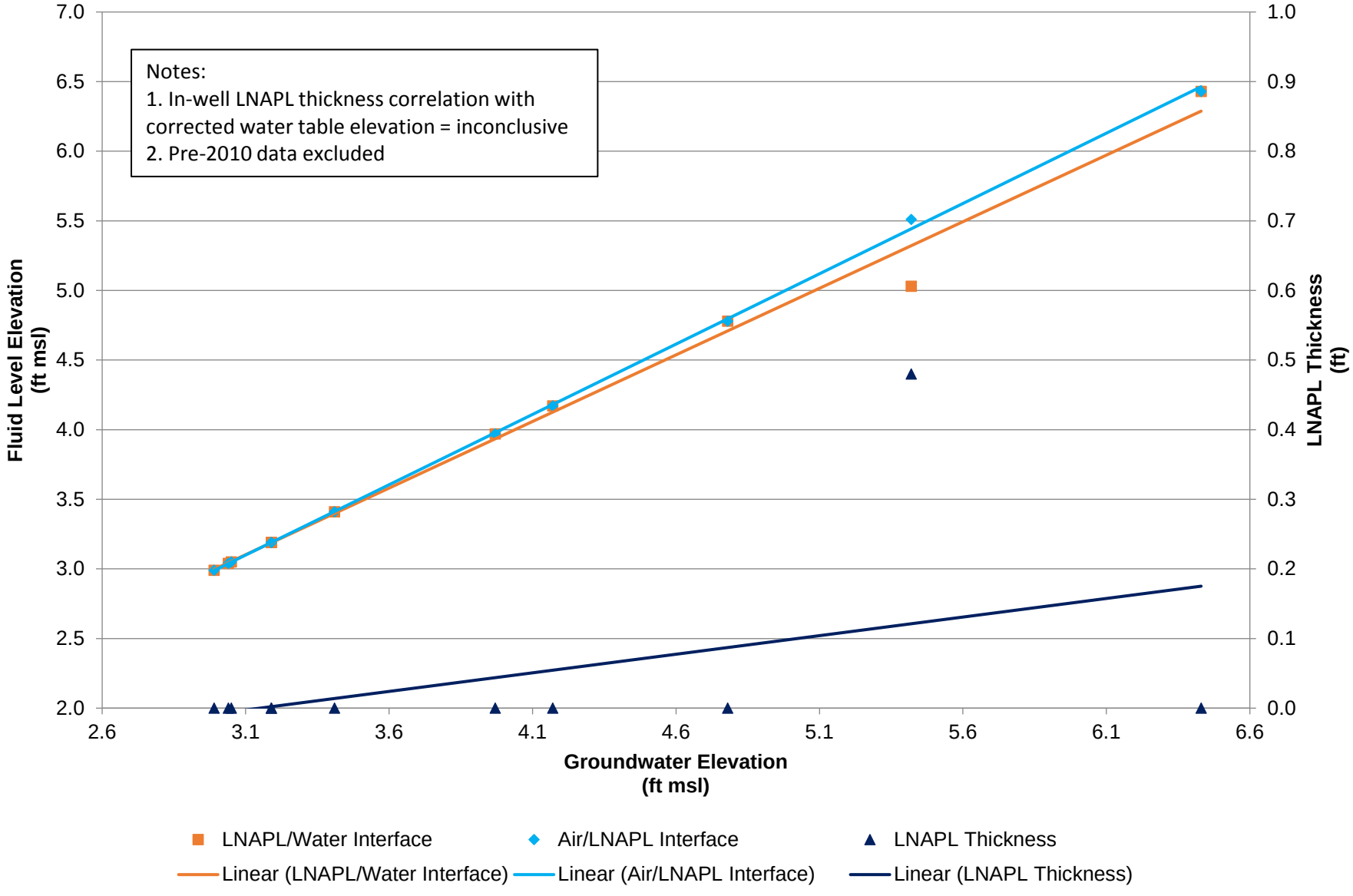


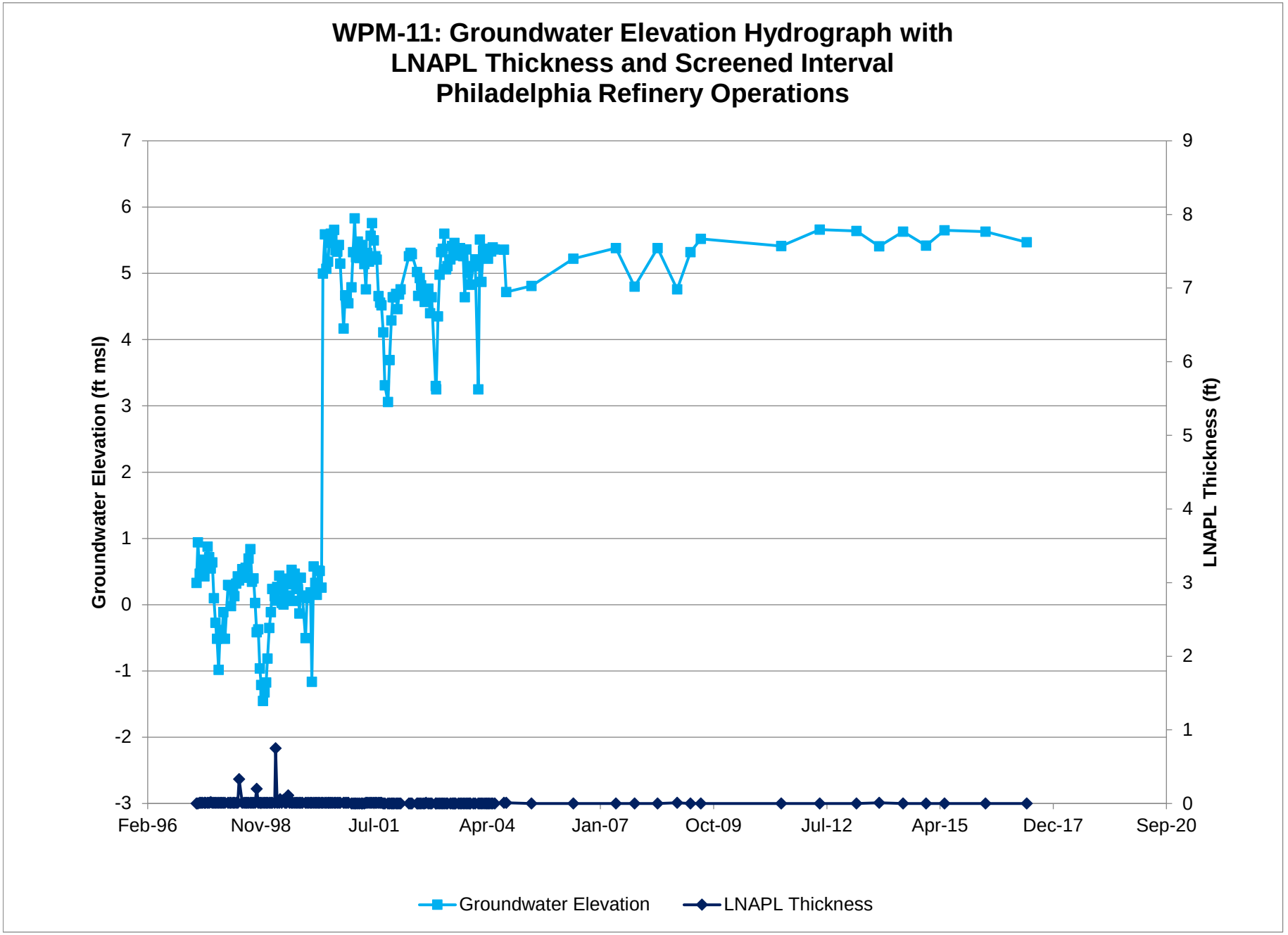
# WP9-3: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



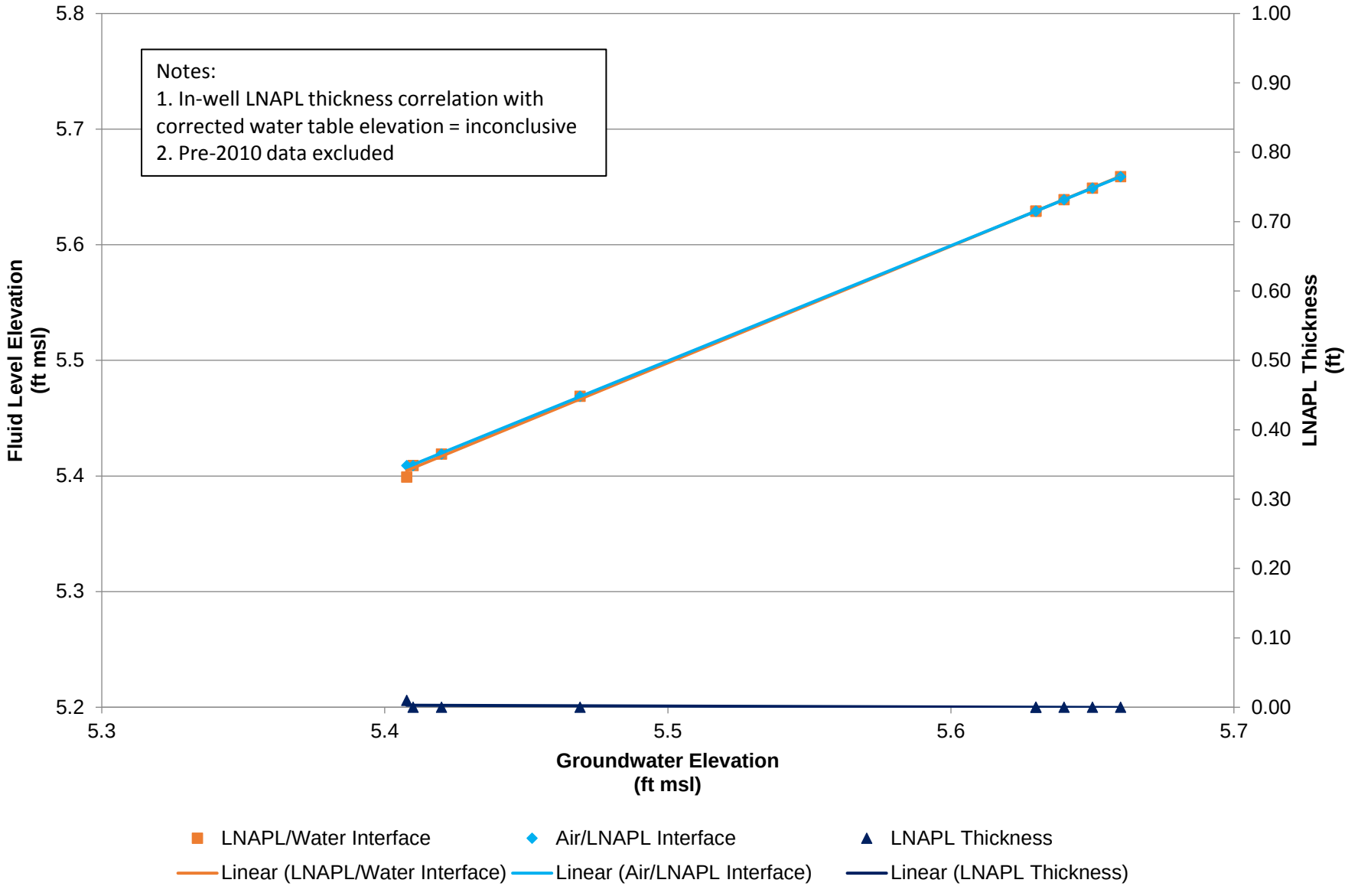

WP9-4: Groundwater Elevation Hydrograph with
LNAPL Thickness and Screened Interval
Philadelphia Refinery Operations
Groundwater Elevation (ft msl)
LNAPL Thickness (ft)
7
6
5
4
3
2
1
0
-1
-2
-3
-4
9
8
7
6
5
4
3
2
1
0
Feb-96
Nov-98
Jul-01
Apr-04
Jan-07
Oct-09
Jul-12
Apr-15
Dec-17
Sep-20
Top of Screen
Bottom of Well
Groundwater Elevation
LNAPL Thickness

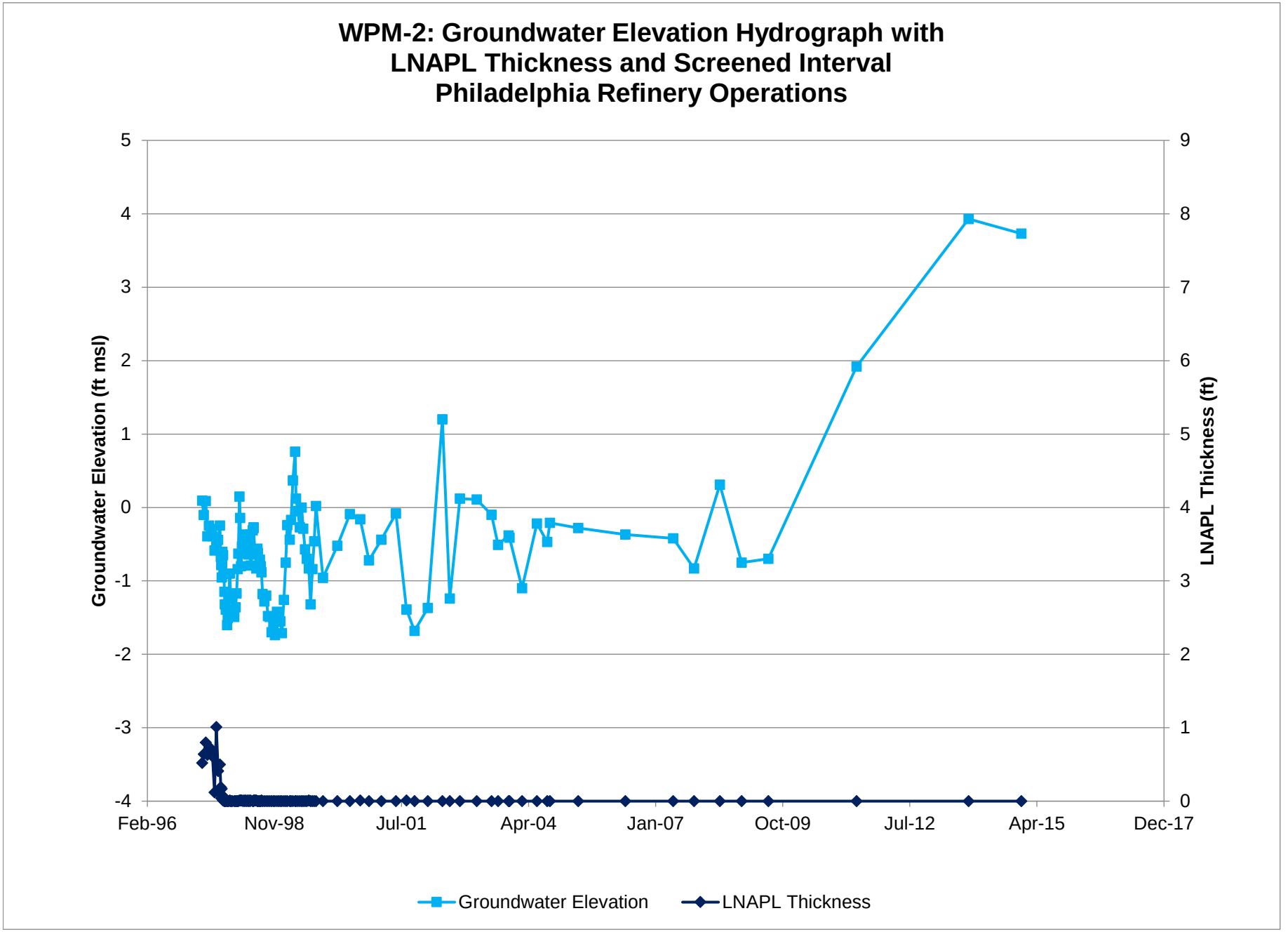
# WP9-4: Diagnostic Gauge Plot
# Philadelphia Refinery Operations

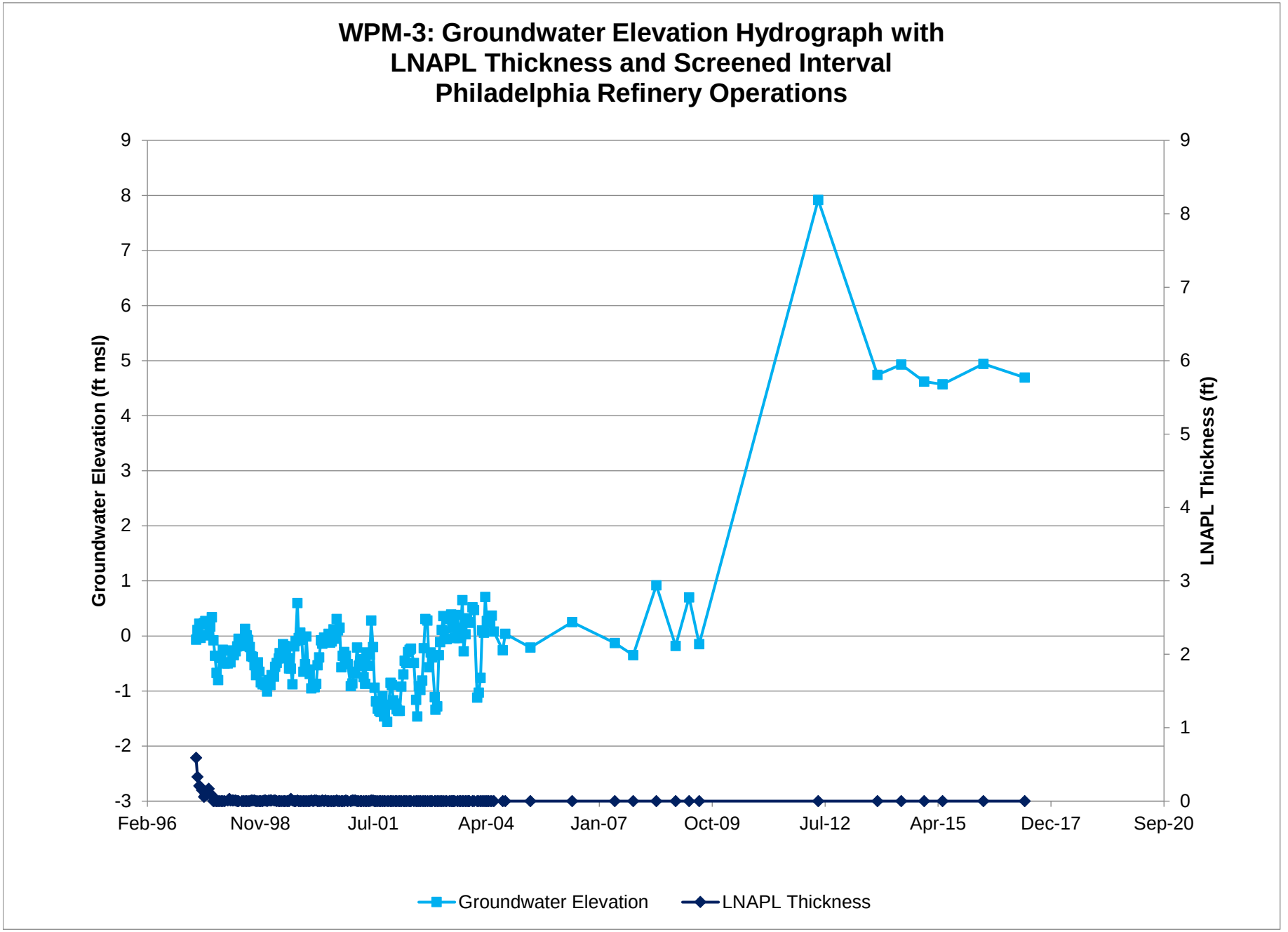


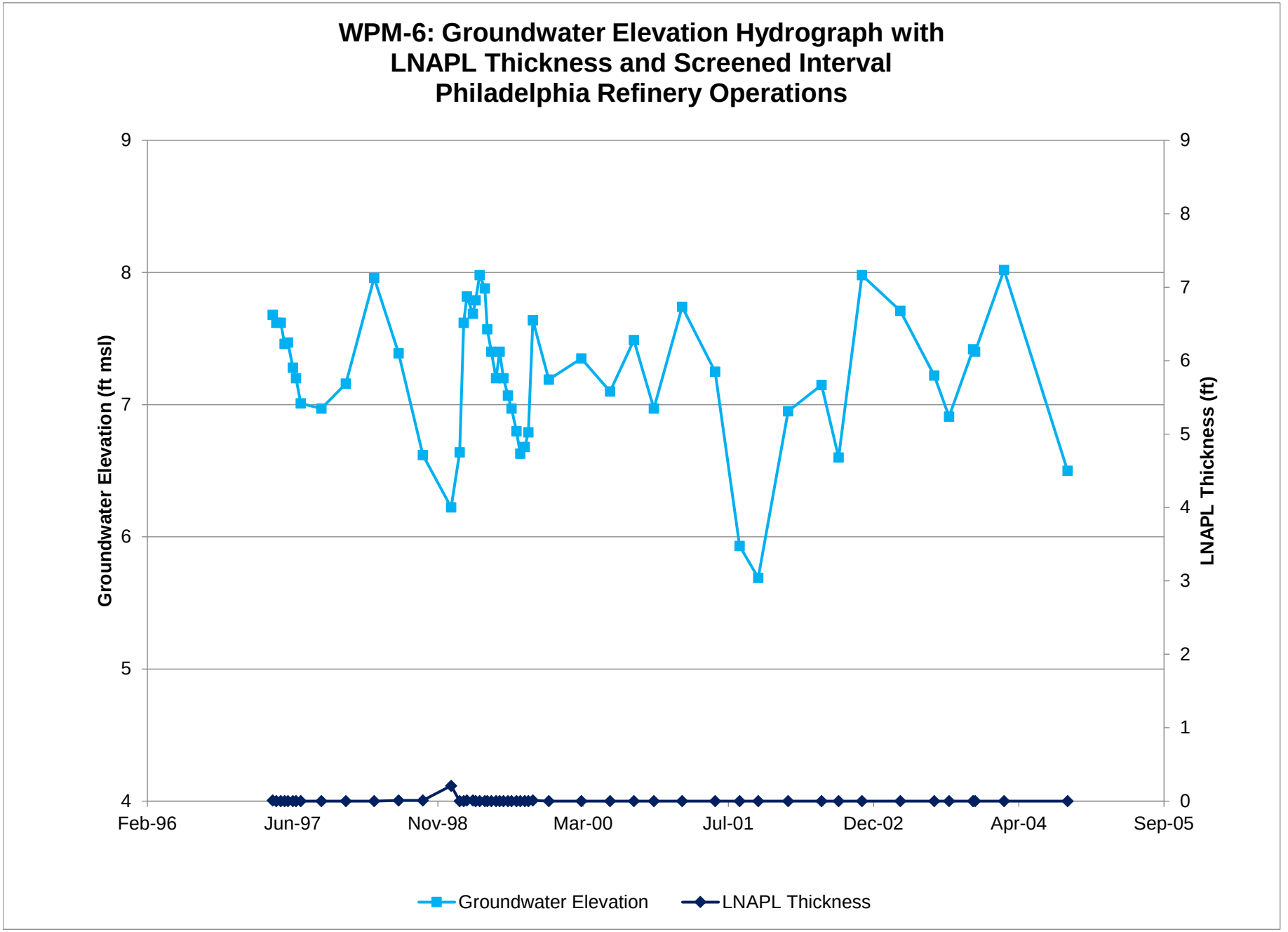

WPM-11: Groundwater Elevation Hydrograph with
LNAPL Thickness and Screened Interval
Philadelphia Refinery Operations
Groundwater Elevation (ft msl)
LNAPL Thickness (ft)
7
6
5
4
3
2
1
0
-1
-2
-3
9
8
7
6
5
4
3
2
1
0
Feb-96
Nov-98
Jul-01
Apr-04
Jan-07
Oct-09
Jul-12
Apr-15
Dec-17
Sep-20
Groundwater Elevation
LNAPL Thickness

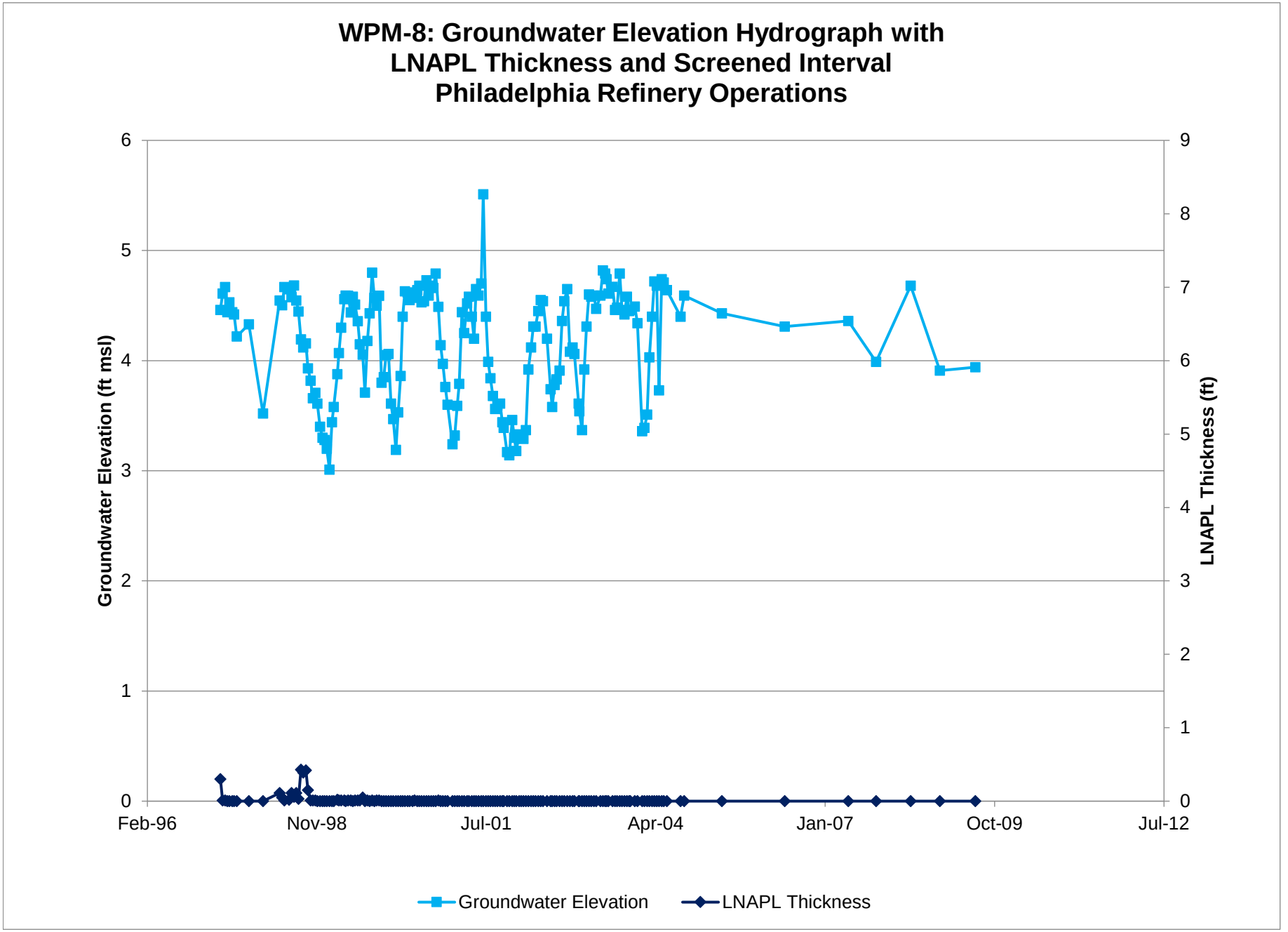
# WPM-11: Diagnostic Gauge Plot
# Philadelphia Refinery Operations



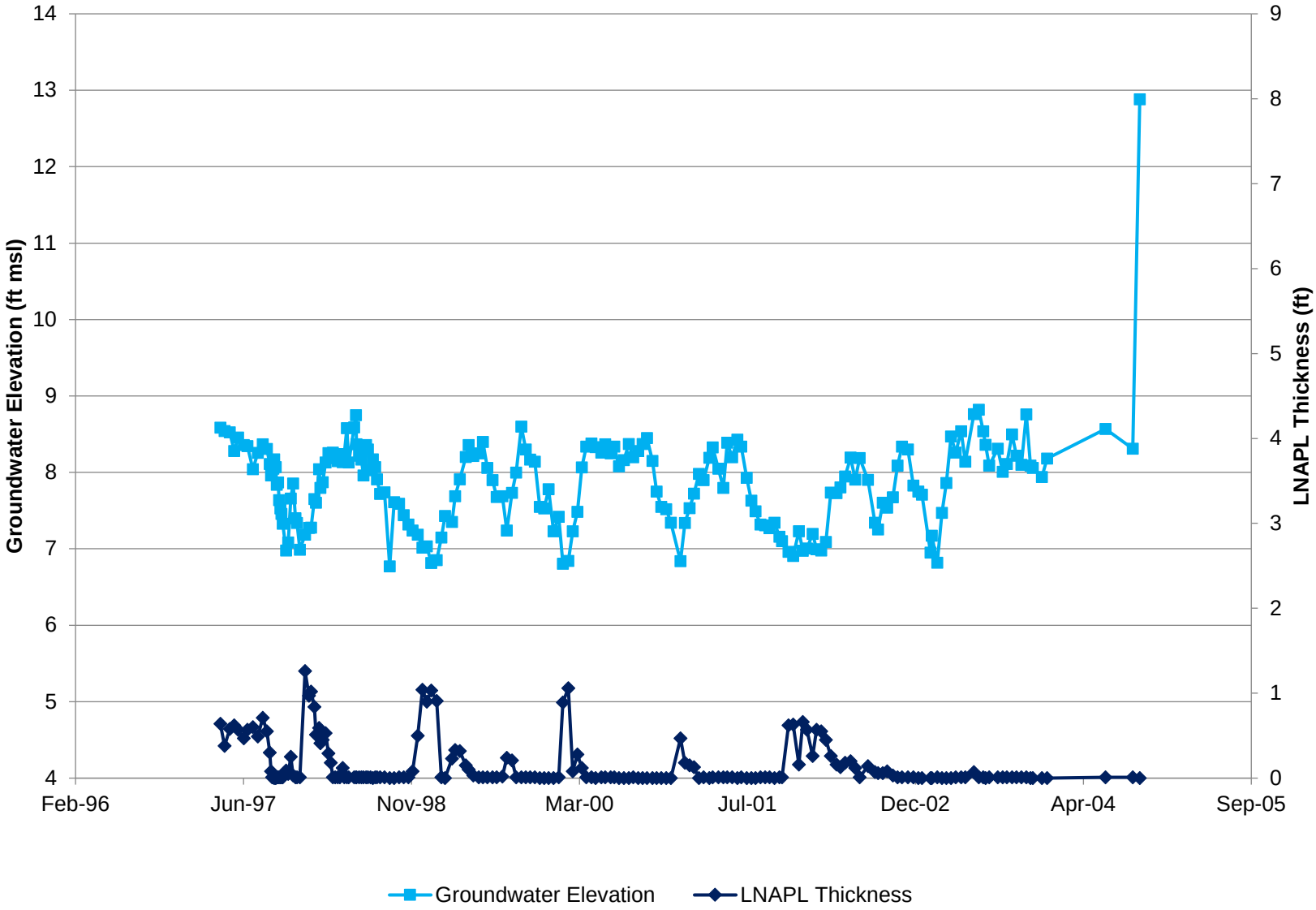

WPM-2: Groundwater Elevation Hydrograph with
LNAPL Thickness and Screened Interval
Philadelphia Refinery Operations
Groundwater Elevation (ft msl)
LNAPL Thickness (ft)
5
4
3
2
1
0
-1
-2
-3
-4
9
8
7
6
5
4
3
2
1
0
Feb-96
Nov-98
Jul-01
Apr-04
Jan-07
Oct-09
Jul-12
Apr-15
Dec-17
Groundwater Elevation
LNAPL Thickness


WPM-3: Groundwater Elevation Hydrograph with
LNAPL Thickness and Screened Interval
Philadelphia Refinery Operations
Groundwater Elevation (ft msl)
LNAPL Thickness (ft)
9
8
7
6
5
4
3
2
1
0
-1
-2
-3
Feb-96
Nov-98
Jul-01
Apr-04
Jan-07
Oct-09
Jul-12
Apr-15
Dec-17
Sep-20
Groundwater Elevation
LNAPL Thickness


WPM-6: Groundwater Elevation Hydrograph with
LNAPL Thickness and Screened Interval
Philadelphia Refinery Operations
Groundwater Elevation (ft msl)
LNAPL Thickness (ft)
9
8
7
6
5
4
3
2
1
0
Feb-96
Jun-97
Nov-98
Mar-00
Jul-01
Dec-02
Apr-04
Sep-05
Groundwater Elevation
LNAPL Thickness


WPM-8: Groundwater Elevation Hydrograph with
LNAPL Thickness and Screened Interval
Philadelphia Refinery Operations
Groundwater Elevation (ft msl)
LNAPL Thickness (ft)
6
5
4
3
2
1
0
9
8
7
6
5
4
3
2
1
0
Feb-96
Nov-98
Jul-01
Apr-04
Jan-07
Oct-09
Jul-12
Groundwater Elevation
LNAPL Thickness

# WPM-9: Groundwater Elevation Hydrograph with LNAPL Thickness and Screened Interval Philadelphia Refinery Operations



# Appendix F.2
# LNAPL Sample Data Packages

# CHAIN OF CUSTODY

| Client Information | | | Facility Information | |
|---|---|---|---|---|
| Name: Langan Engineering | | | Project Name: Sunoco - Philadelphia Refinery AOI-6 | |
| Address: 2700 Kelly Road Suite 200 | | | Location: Philadelphia Refinery | |
| City: Warrington | State: PA | Zip: 18976 | Project No. | |
| Send Report to: Jason Hanna | | | | |
| Phone #: (215) 491-6500 | | | FAX #: (215) 491-6501 | |

| Field ID / Point of Collection | Collection: Date | Collection: Time | Collection: Sampled By | Matrix | # of bottles | Preservation: HCL | NaOH | HNO3 | H2So4 | Na2S2O3 | None | Analytical Information: Fingerprint Analysis |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LNAPL - B150 - 041206 | 4/12/2006 | 1155 | MBS | | 1 | | | | | | x | X |
| LNAPL - B47 - 041206 | 4/12/2006 | 1220 | MBS | | 1 | | | | | | x | X |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
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| | | | | | | | | | | | | |

**Turnaround Information**

- [x] Standard — Approved By:
- [ ] 14 Days
- [ ] 7 Days
- [ ] Other

**Data Deliverable Information**

- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] State Forms

**Comments / Remarks**

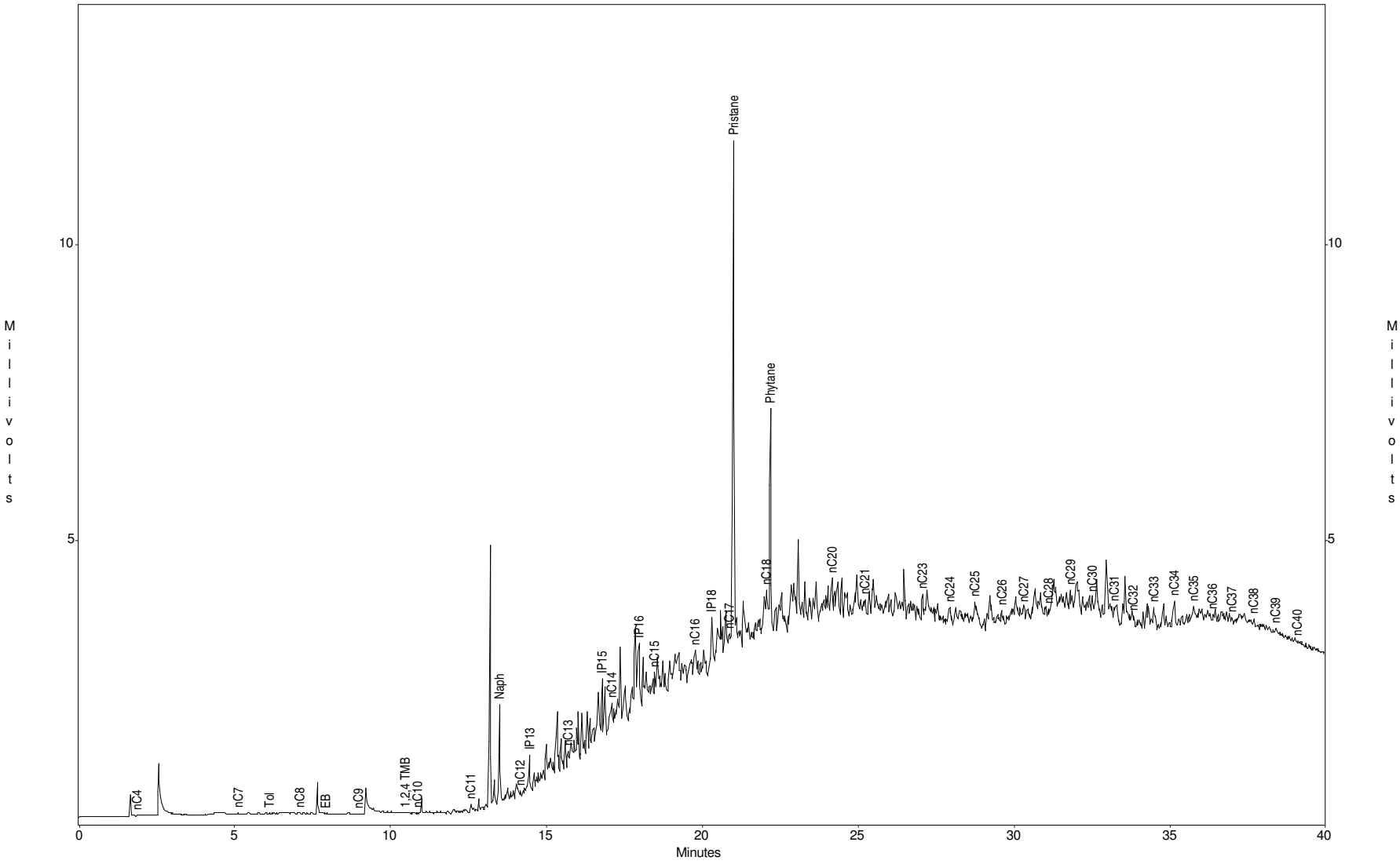
Sample Custody must be documented below each time samples change possesion, including courier delivery.

| Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|
| 1 M. Bled | 4/12/06 1015 | 1 FedEx Air Bill # 8546 0531 9284 | | 4-13-06/1030 | 2 |
| 3 | | 3 | 4 | | 4 |
| 5 | | 5 | Seal # | Preserve where applicable ☐ | On Ice ☐ Temperature |

# Torkelson Geochemistry, Inc.

Sunoco - Philadelphia Refinery AOI-6
Sample ID : B47 - 041206
Acquired : Apr 14, 2006 13:14:13

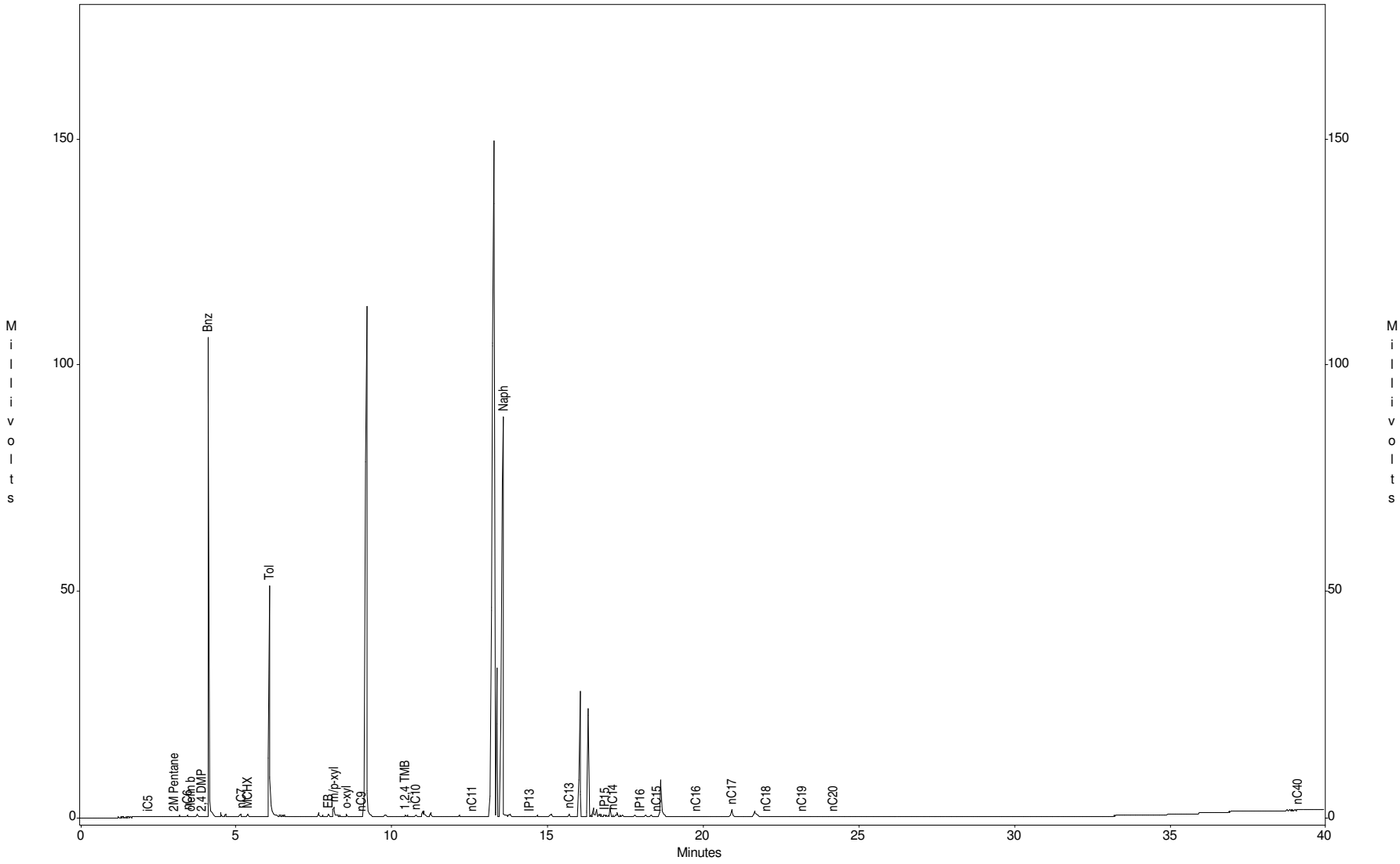
c:\ezchrom\chrom\06045\b47 -- Channel A



# Torkelson Geochemistry, Inc.

Sunoco - Philadelphia Refinery AOI-6
Sample ID : B150 - 041206
Acquired : Apr 14, 2006 12:23:26

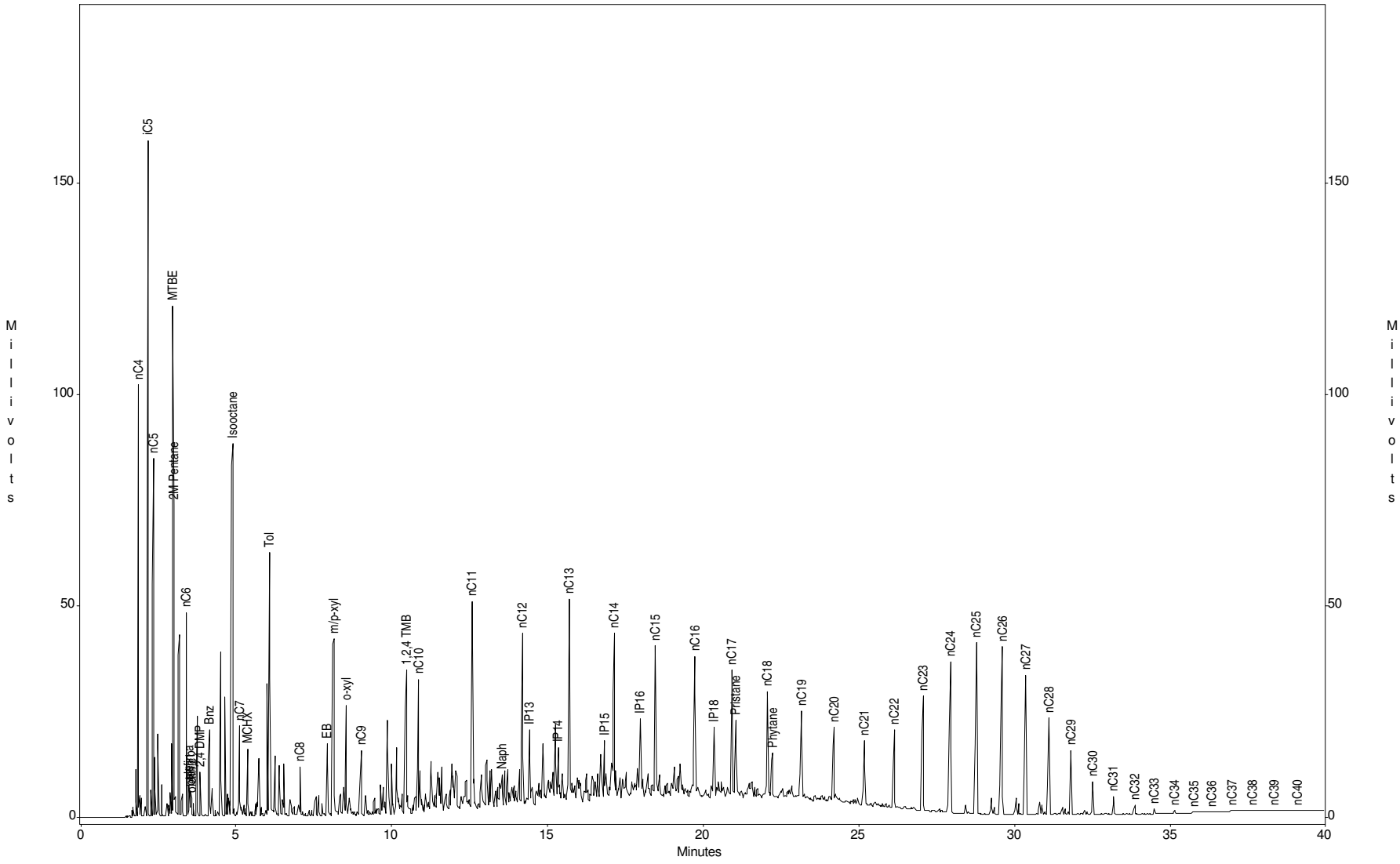
c:\ezchrom\chrom\06045\b150.2 -- Channel A



# Torkelson Geochemistry, Inc.

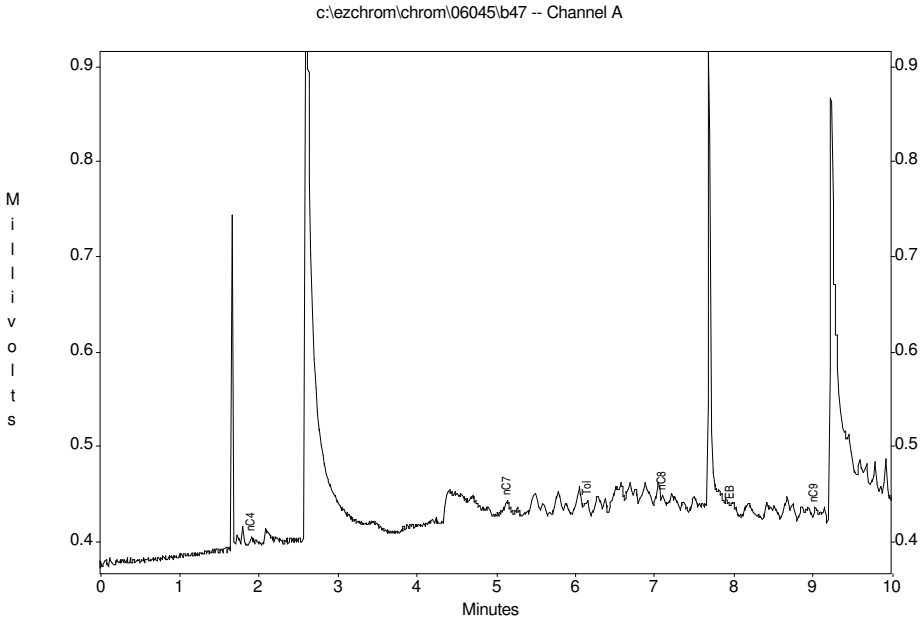
Sunoco - Philadelphia Refinery AOI-6
Sample ID : Gas/Dies/Wax std
Acquired : Apr 14, 2006 10:41:11

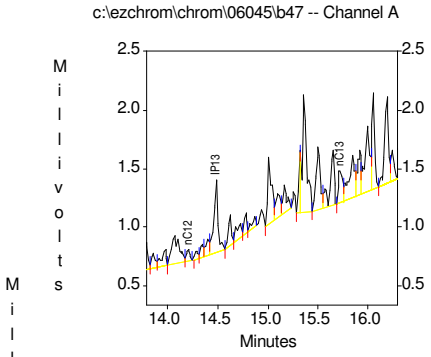
c:\ezchrom\chrom\06045\gadiwax2 -- Channel A

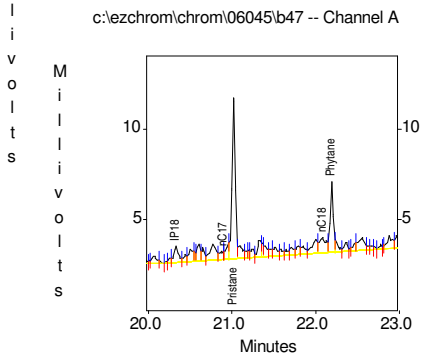


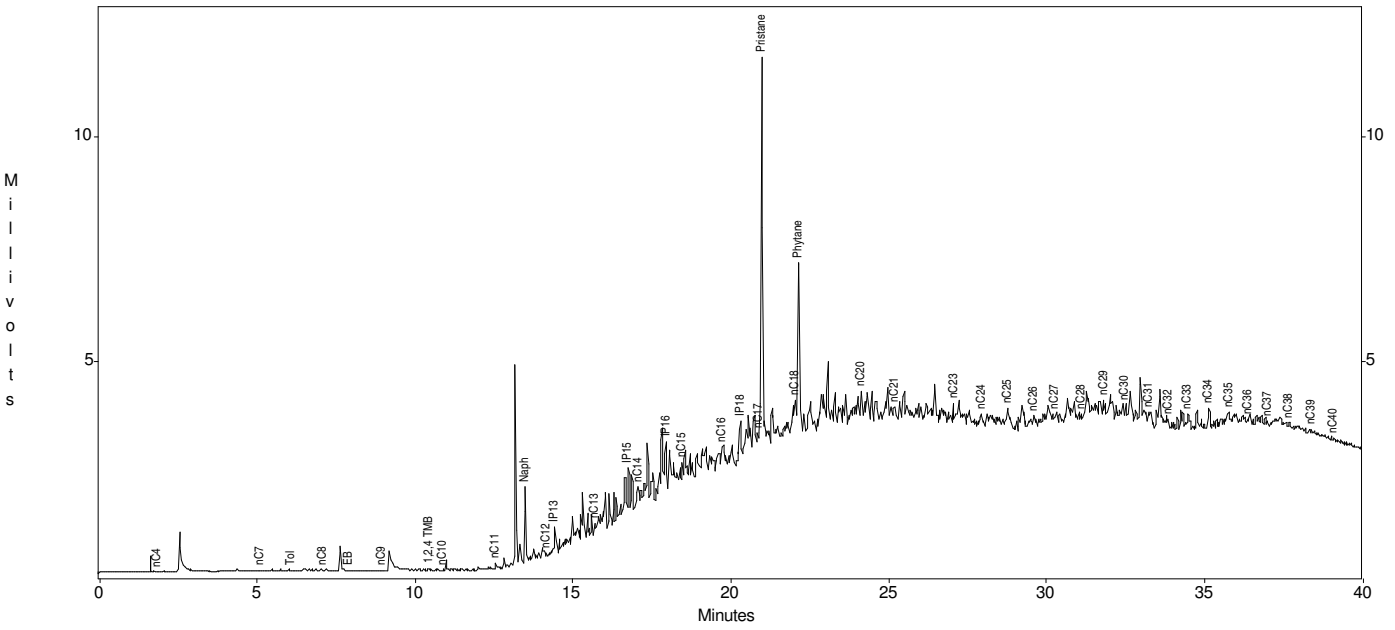
# Torkelson Geochemistry, Inc.

Sunoco - Philadelphia Refinery AOI-6
Sample ID : B47 - 041206
Acquired : Apr 14, 2006 13:14:13



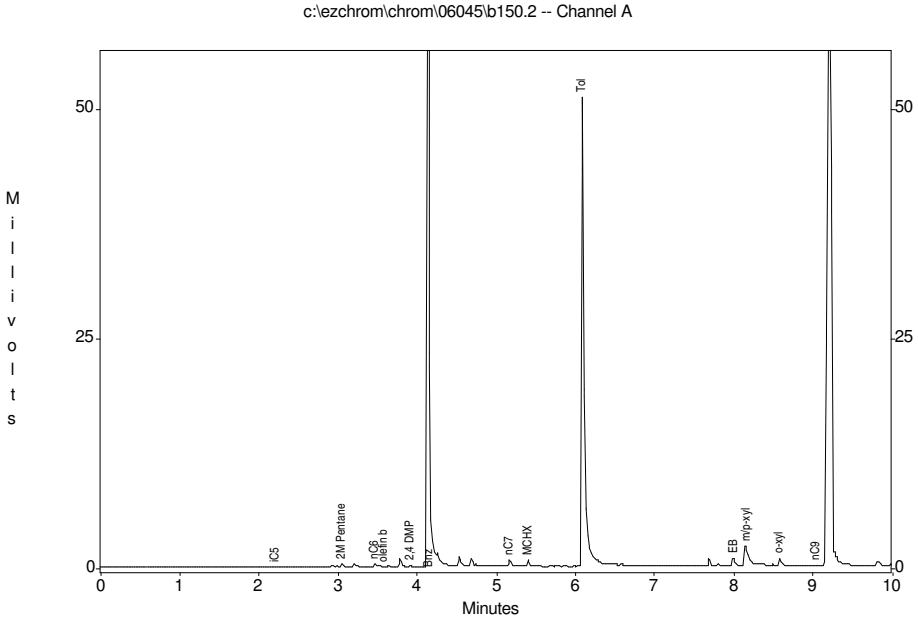

Channel A Results

| Peak | Area | Height |
|---|---|---|
| nC4 | 19 | 8 |
| iC5 | 0 | 0 |
| nC5 | 0 | 0 |
| MTBE | 0 | 0 |
| 2M Pentane | 0 | 0 |
| nC6 | 0 | 0 |
| olefin a | 0 | 0 |
| olefin b | 0 | 0 |
| olefin c | 0 | 0 |
| 2,4 DMP | 0 | 0 |
| Bnz | 0 | 0 |
| Isooctane | 0 | 0 |
| nC7 | 53 | 13 |
| MCHX | 0 | 0 |
| Tol | 56 | 17 |
| nC8 | 27 | 13 |
| EB | 51 | 12 |
| m/p-xyl | 0 | 0 |
| o-xyl | 0 | 0 |
| nC9 | 41 | 11 |
| 1,2,4 TMB | 177 | 29 |
| nC10 | 37 | 18 |
| nC11 | 325 | 129 |
| Naph | 3762 | 1682 |
| nC12 | 220 | 98 |
| IP13 | 1770 | 613 |
| IP14 | 0 | 0 |
| nC13 | 788 | 271 |
| IP15 | 2198 | 1080 |
| nC14 | 1564 | 551 |
| IP16 | 6303 | 1235 |
| nC15 | 1657 | 567 |
| nC16 | 229 | 151 |
| IP18 | 3679 | 940 |
| nC17 | 565 | 489 |
| Pristane | 22065 | 8778 |
| nC18 | 4773 | 888 |
| Phytane | 10286 | 3918 |
| nC19 | 0 | 0 |
| nC20 | 2913 | 712 |
| nC21 | 1271 | 303 |
| nC22 | 0 | 0 |
| nC23 | 1438 | 436 |
| nC24 | 1258 | 276 |
| nC25 | 3281 | 398 |
| nC26 | 715 | 225 |
| nC27 | 496 | 115 |
| nC28 | 180 | 104 |
| nC29 | 685 | 324 |
| nC30 | 686 | 237 |
| nC31 | 194 | 90 |
| nC32 | 286 | 109 |
| nC33 | 500 | 190 |
| nC34 | 577 | 224 |
| nC35 | 246 | 102 |
| nC36 | 73 | 79 |
| nC37 | 34 | 35 |
| nC38 | 248 | 89 |
| nC39 | 294 | 79 |
| nC40 | 81 | 53 |

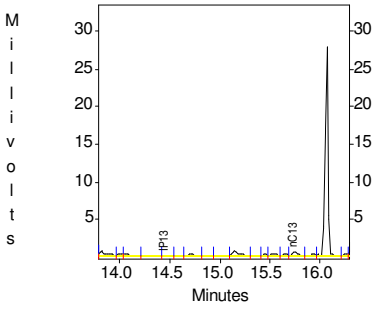
# Torkelson Geochemistry, Inc.

Sunoco - Philadelphia Refinery AOI-6
Sample ID : B150 - 041206
Acquired : Apr 14, 2006 12:23:26

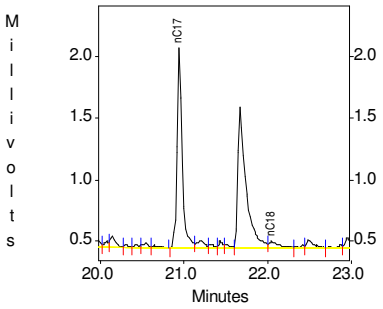
c:\ezchrom\chrom\06045\b150.2 -- Channel A



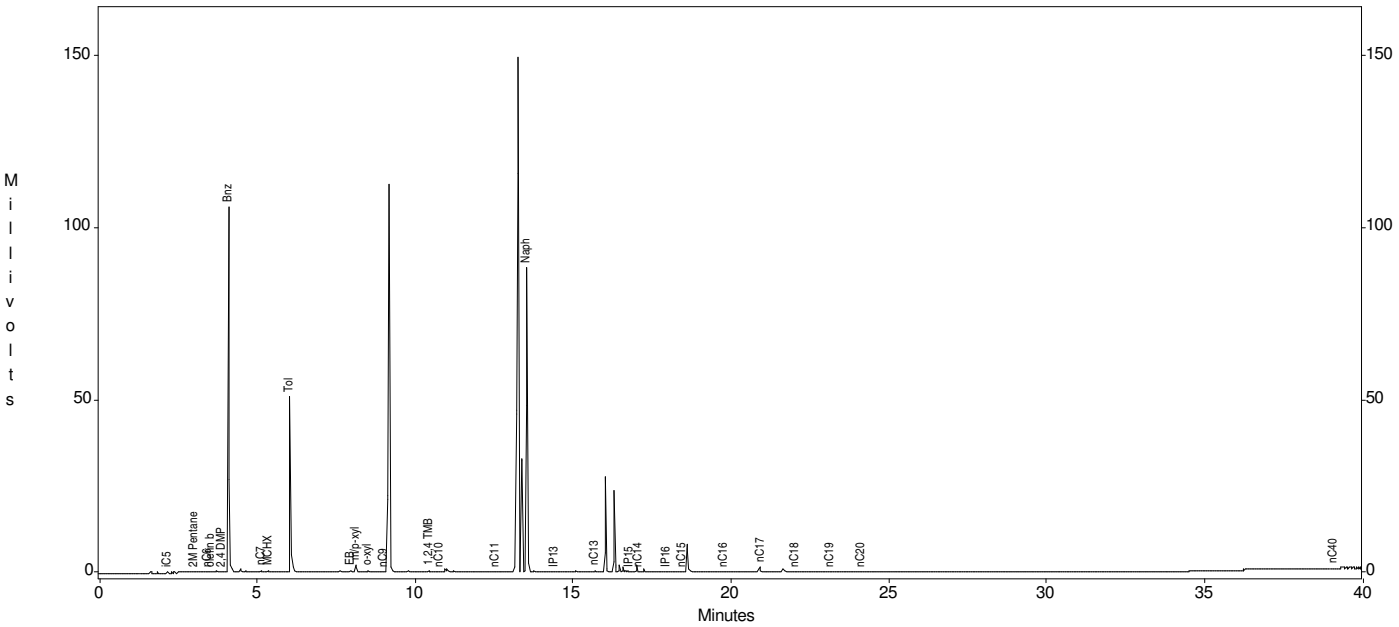

c:\ezchrom\chrom\06045\b150.2 -- Channel A




c:\ezchrom\chrom\06045\b150.2 -- Channel A




c:\ezchrom\chrom\06045\b150.2 -- Channel A



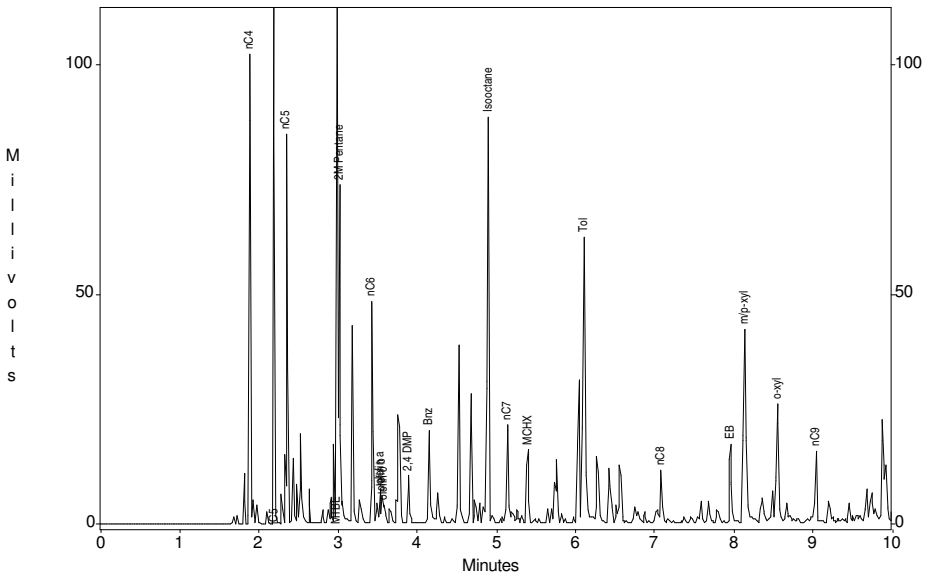

Channel A Results

| Peak | Area | Height |
|---|---|---|
| nC4 | 0 | 0 |
| iC5 | 20 | 16 |
| nC5 | 0 | 0 |
| MTBE | 0 | 0 |
| 2M Pentane | 563 | 283 |
| nC6 | 841 | 405 |
| olefin a | 0 | 0 |
| olefin b | 67 | 32 |
| olefin c | 0 | 0 |
| 2,4 DMP | 193 | 90 |
| Bnz | 160216 | 106124 |
| Isooctane | 0 | 0 |
| nC7 | 1845 | 642 |
| MCHX | 1281 | 623 |
| Tol | 103958 | 51163 |
| nC8 | 0 | 0 |
| EB | 2805 | 854 |
| m/p-xyl | 8518 | 2204 |
| o-xyl | 2346 | 857 |
| nC9 | 486 | 118 |
| 1,2,4 TMB | 1217 | 506 |
| nC10 | 1188 | 408 |
| nC11 | 445 | 141 |
| Naph | 187508 | 88406 |
| nC12 | 0 | 0 |
| IP13 | 341 | 94 |
| IP14 | 0 | 0 |
| nC13 | 1792 | 536 |
| IP15 | 1178 | 373 |
| nC14 | 350 | 161 |
| IP16 | 553 | 142 |
| nC15 | 213 | 67 |
| nC16 | 327 | 51 |
| IP18 | 0 | 0 |
| nC17 | 6838 | 1630 |
| Pristane | 0 | 0 |
| nC18 | 513 | 54 |
| Phytane | 0 | 0 |
| nC19 | 443 | 48 |
| nC20 | 133 | 18 |
| nC21 | 0 | 0 |
| nC22 | 0 | 0 |
| nC23 | 0 | 0 |
| nC24 | 0 | 0 |
| nC25 | 0 | 0 |
| nC26 | 0 | 0 |
| nC27 | 0 | 0 |
| nC28 | 0 | 0 |
| nC29 | 0 | 0 |
| nC30 | 0 | 0 |
| nC31 | 0 | 0 |
| nC32 | 0 | 0 |
| nC33 | 0 | 0 |
| nC34 | 0 | 0 |
| nC35 | 0 | 0 |
| nC36 | 0 | 0 |
| nC37 | 0 | 0 |
| nC38 | 0 | 0 |
| nC39 | 0 | 0 |
| nC40 | 61 | 11 |

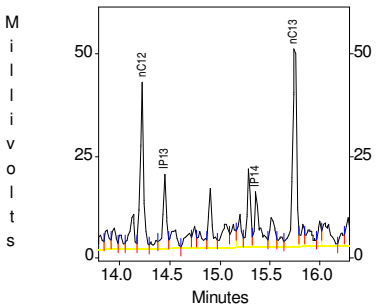
# Torkelson Geochemistry, Inc.

Sunoco - Philadelphia Refinery AOI-6
Sample ID : Gas/Dies/Wax std
Acquired : Apr 14, 2006 10:41:11

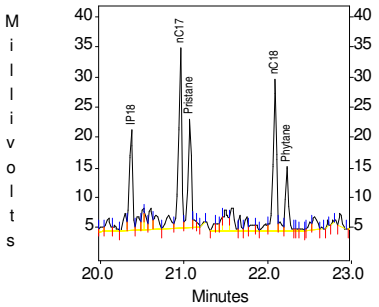
c:\ezchrom\chrom\06045\gadiwax2 -- Channel A



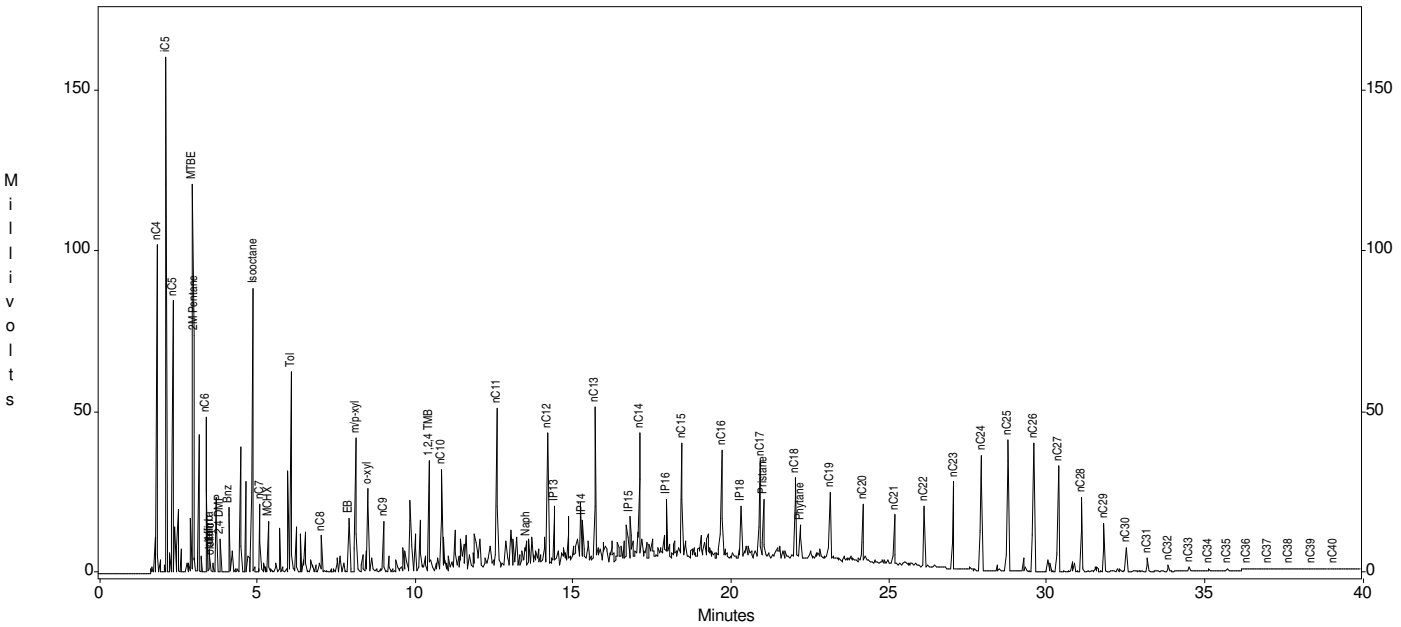

c:\ezchrom\chrom\06045\gadiwax2 -- Channel A




c:\ezchrom\chrom\06045\gadiwax2 -- Channel A




c:\ezchrom\chrom\06045\gadiwax2 -- Channel A




Channel A Results

| Peak | Area | Height |
|---|---|---|
| nC4 | 84561 | 102174 |
| iC5 | 136768 | 160088 |
| nC5 | 79261 | 84657 |
| MTBE | 121512 | 120527 |
| 2M Pentane | 80340 | 73282 |
| nC6 | 53020 | 48034 |
| olefin a | 8755 | 7205 |
| olefin b | 7290 | 5882 |
| olefin c | 6197 | 4074 |
| 2,4 DMP | 12258 | 10284 |
| Bnz | 33741 | 20370 |
| Isooctane | 146709 | 88291 |
| nC7 | 33787 | 21290 |
| MCHX | 22936 | 15953 |
| Tol | 124172 | 62308 |
| nC8 | 18010 | 11671 |
| EB | 32939 | 17060 |
| m/p-xyl | 107183 | 41949 |
| o-xyl | 46334 | 25977 |
| nC9 | 26180 | 15564 |
| 1,2,4 TMB | 70113 | 34041 |
| nC10 | 57774 | 31481 |
| nC11 | 117549 | 49268 |
| Naph | 19267 | 7884 |
| nC12 | 101487 | 41319 |
| IP13 | 42328 | 18252 |
| IP14 | 45498 | 13651 |
| nC13 | 131064 | 48784 |
| IP15 | 30259 | 14626 |
| nC14 | 107287 | 40013 |
| IP16 | 48255 | 19387 |
| nC15 | 98292 | 36550 |
| nC16 | 88751 | 33660 |
| IP18 | 39089 | 16488 |
| nC17 | 74901 | 29758 |
| Pristane | 44127 | 17721 |
| nC18 | 64118 | 24944 |
| Phytane | 26327 | 10441 |
| nC19 | 58683 | 20646 |
| nC20 | 41787 | 17745 |
| nC21 | 35376 | 15292 |
| nC22 | 44052 | 18715 |
| nC23 | 70927 | 27082 |
| nC24 | 109064 | 35720 |
| nC25 | 129316 | 40528 |
| nC26 | 133116 | 39579 |
| nC27 | 103011 | 33121 |
| nC28 | 66030 | 22904 |
| nC29 | 36616 | 15210 |
| nC30 | 17609 | 7535 |
| nC31 | 10246 | 4239 |
| nC32 | 4790 | 2112 |
| nC33 | 2587 | 1133 |
| nC34 | 1465 | 595 |
| nC35 | 843 | 324 |
| nC36 | 538 | 164 |
| nC37 | 358 | 86 |
| nC38 | 642 | 45 |
| nC39 | 353 | 33 |
| nC40 | 94 | 21 |

# CHAIN OF CUSTODY

| Client Information | | Facility Information | |
|---|---|---|---|
| Name: Langan Engineering | | Project Name: Sunoco - Philadelphia Refinery AOI-6 | |
| Address: 2700 Kelly Road Suite 200 | | Location: Philadelphia Refinery | |
| City: Warrington | State: PA | Zip: 18976 | Project No. |
| Send Report to: Jason Hanna | | | |
| Phone #: (215) 491-6500 | | FAX #: (215) 491-6501 | |

| Field ID / Point of Collection | Collection: Date | Collection: Time | Collection: Sampled By | Matrix | # of bottles | Preservation: HCL | NaOH | HNO3 | H2So4 | Na2S2O3 | None | Fingerprint Analysis | | | Analytical Information | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LNAPL - J Avenue | 6/9/2006 | 1210 | MBS | | 2 | | | | | | x | X | | | | | | | |

| Turnaround Information | | Data Deliverable Information | | Comments / Remarks |
|---|---|---|---|---|
| [X] Standard | Approved By: | [ ] NJ Reduced | [ ] Commercial "A" | |
| [ ] 14 Days | | [ ] NJ Full | [ ] Commercial "B" | |
| [ ] 7 Days | | [ ] FULL CLP | [ ] State Forms | |
| [ ] Other | | [ ] Disk Deliverable | | |
| | | [ ] Other (Specify) | | |

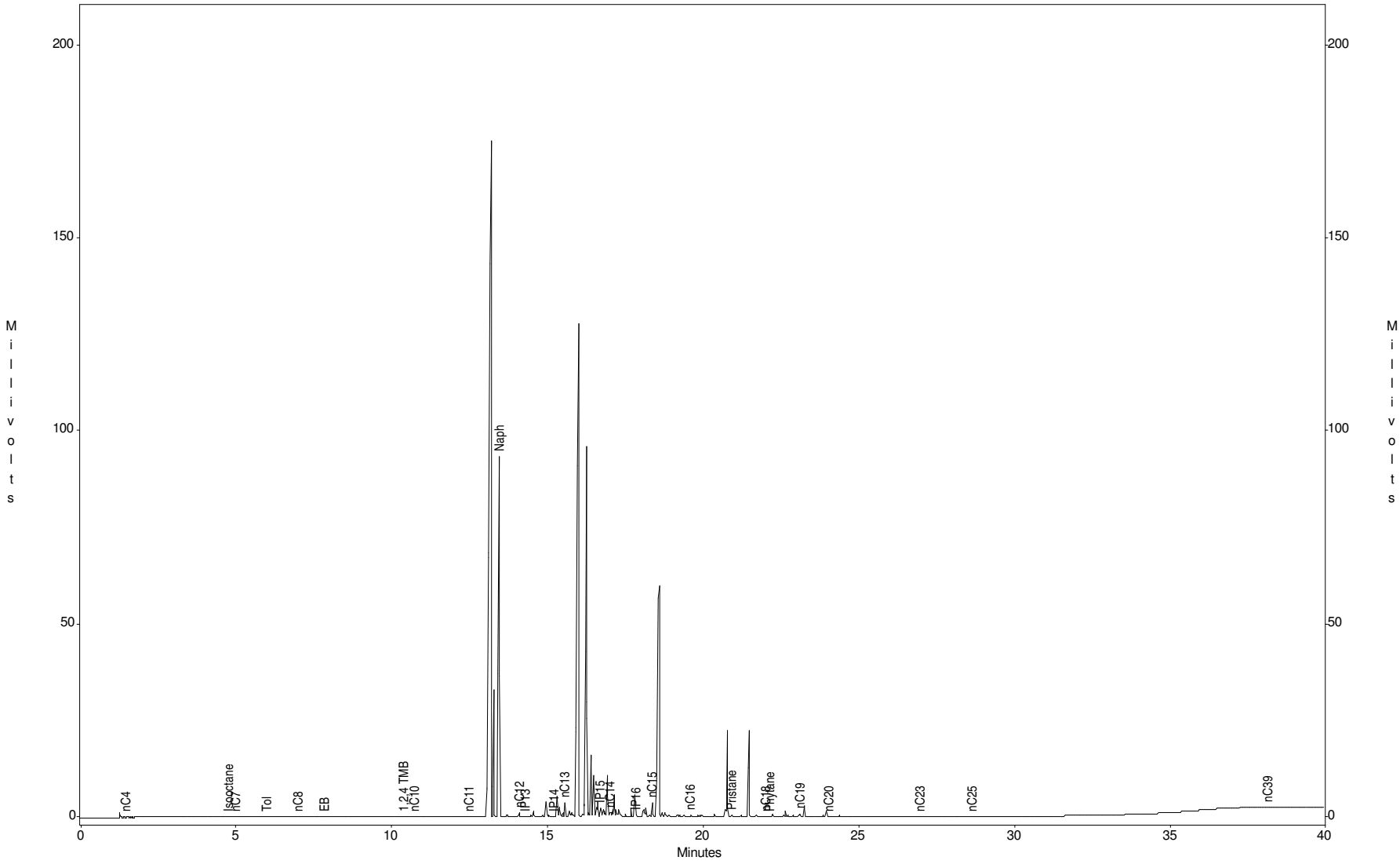
Sample Custody must be documented below each time samples change possesion, including courier delivery.

| Relinquished by Sampler: | Date Time: | Received By: | Relinquished By: | Date Time: | Received By: |
|---|---|---|---|---|---|
| 1 M. Brad [signature] | 6/14/06 | 1 FedEx Air Bill 8546 0511 9365 | 2 → | 6-15-06/1005 | 2 [signature] |
| 3 | | 3 | 4 | | 4 |
| 5 | | 5 | Seal # | Preserve where applicable ☐ | On Ice ☐ Temperature |

# Torkelson Geochemistry, Inc.

Sunoco - Philadelphi Refinery AOI-6
Sample ID : LNAPL-J Avenue
Acquired : Jun 16, 2006 16:24:59

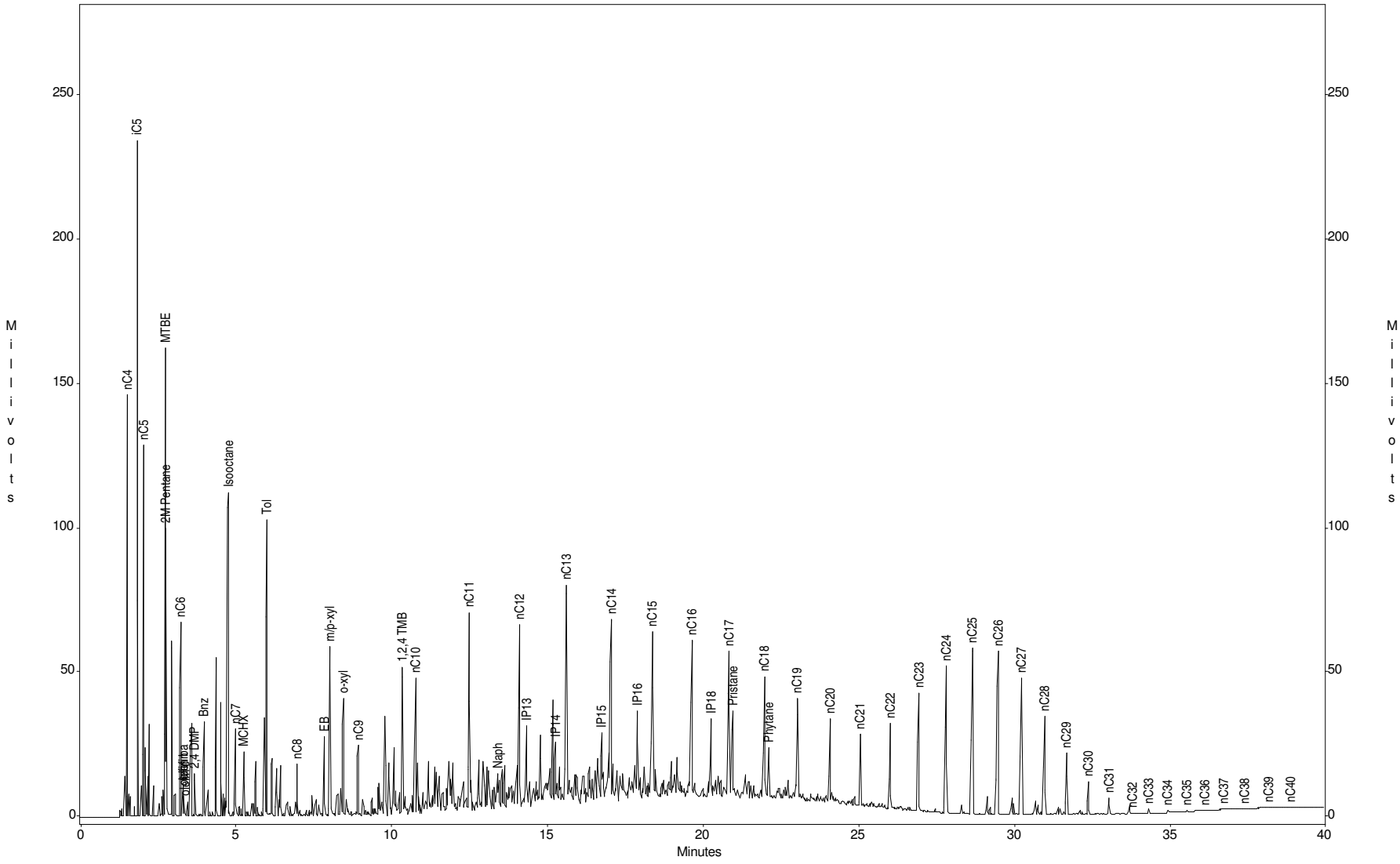
c:\ezchrom\chrom\06075\j-ave.2 -- Channel A



# Torkelson Geochemistry, Inc.

Sunoco - Philadelphi Refinery AOI-6
Sample ID : Gas/Dies/Wax std
Acquired : Jun 16, 2006 14:47:45

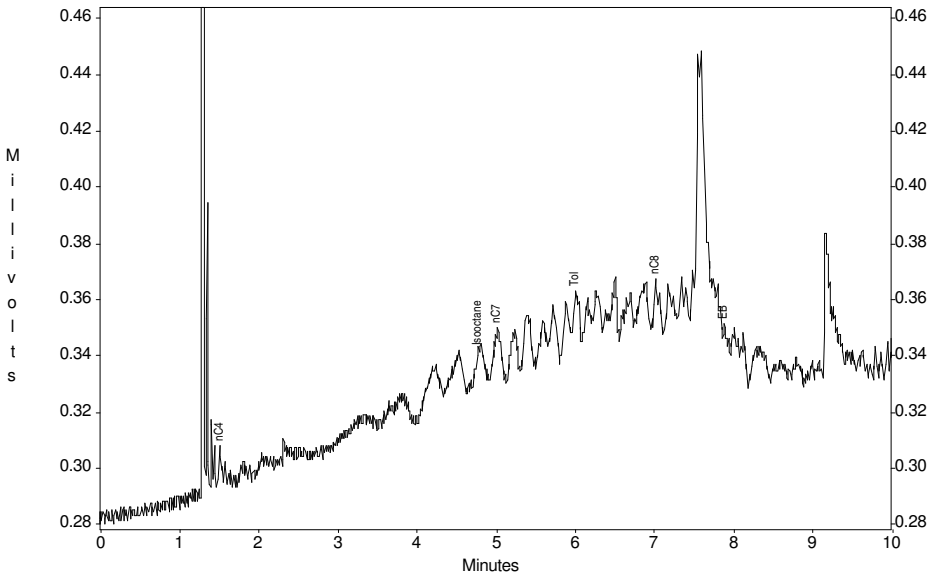
c:\ezchrom\chrom\06075\gadiwax2 -- Channel A



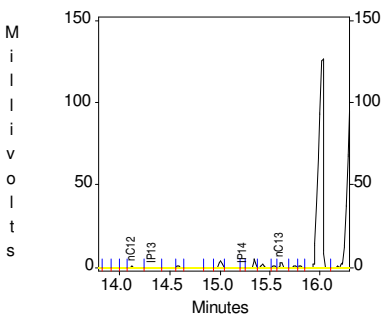
# Torkelson Geochemistry, Inc.

Sunoco - Philadelphi Refinery AOI-6
Sample ID : LNAPL-J Avenue
Acquired : Jun 16, 2006 16:24:59

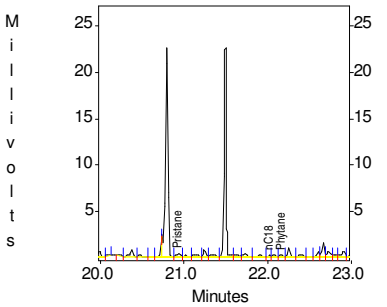
c:\ezchrom\chrom\06075\j-ave.2 -- Channel A



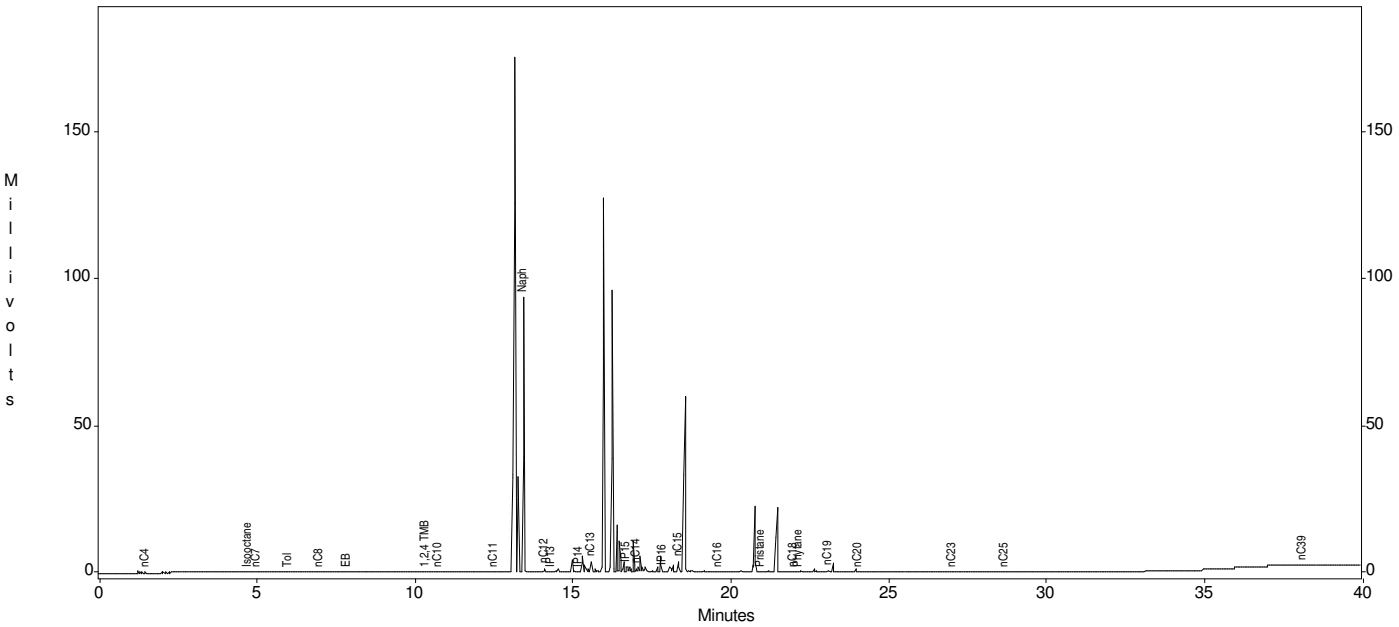

c:\ezchrom\chrom\06075\j-ave.2 -- Channel A




c:\ezchrom\chrom\06075\j-ave.2 -- Channel A




c:\ezchrom\chrom\06075\j-ave.2 -- Channel A



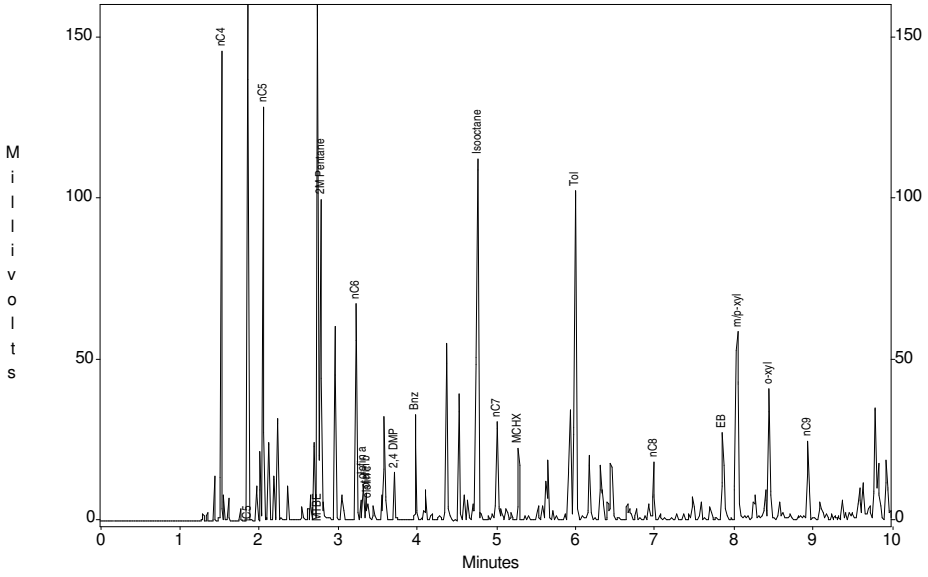

Channel A Results

| Peak | Area | Height |
|---|---|---|
| nC4 | 23 | 15 |
| iC5 | 0 | 0 |
| nC5 | 0 | 0 |
| MTBE | 0 | 0 |
| 2M Pentane | 0 | 0 |
| nC6 | 0 | 0 |
| olefin a | 0 | 0 |
| olefin b | 0 | 0 |
| olefin c | 0 | 0 |
| 2,4 DMP | 0 | 0 |
| Bnz | 0 | 0 |
| Isooctane | 46 | 8 |
| nC7 | 106 | 18 |
| MCHX | 0 | 0 |
| Tol | 110 | 22 |
| nC8 | 38 | 17 |
| EB | 18 | 8 |
| m/p-xyl | 0 | 0 |
| o-xyl | 0 | 0 |
| nC9 | 0 | 0 |
| 1,2,4 TMB | 119 | 24 |
| nC10 | 231 | 35 |
| nC11 | 394 | 126 |
| Naph | 221610 | 93625 |
| nC12 | 2639 | 1262 |
| IP13 | 367 | 110 |
| IP14 | 197 | 108 |
| nC13 | 6767 | 3770 |
| IP15 | 7066 | 2091 |
| nC14 | 2476 | 1308 |
| IP16 | 1479 | 576 |
| nC15 | 7156 | 3795 |
| nC16 | 755 | 310 |
| IP18 | 0 | 0 |
| nC17 | 0 | 0 |
| Pristane | 1207 | 420 |
| nC18 | 184 | 83 |
| Phytane | 394 | 180 |
| nC19 | 2182 | 694 |
| nC20 | 588 | 189 |
| nC21 | 0 | 0 |
| nC22 | 0 | 0 |
| nC23 | 109 | 56 |
| nC24 | 0 | 0 |
| nC25 | 28 | 12 |
| nC26 | 0 | 0 |
| nC27 | 0 | 0 |
| nC28 | 0 | 0 |
| nC29 | 0 | 0 |
| nC30 | 0 | 0 |
| nC31 | 0 | 0 |
| nC32 | 0 | 0 |
| nC33 | 0 | 0 |
| nC34 | 0 | 0 |
| nC35 | 0 | 0 |
| nC36 | 0 | 0 |
| nC37 | 0 | 0 |
| nC38 | 0 | 0 |
| nC39 | 27 | 15 |
| nC40 | 0 | 0 |

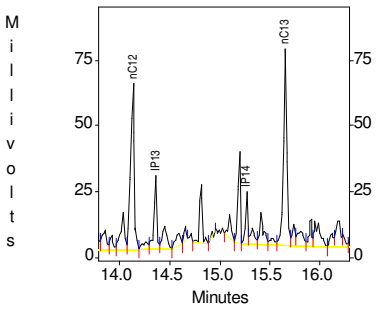
# Torkelson Geochemistry, Inc.

Sunoco - Philadelphi Refinery AOI-6
Sample ID : Gas/Dies/Wax std
Acquired : Jun 16, 2006 14:47:45

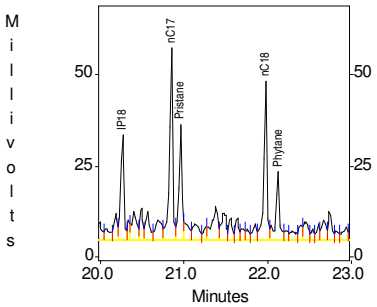
c:\ezchrom\chrom\06075\gadiwax2 -- Channel A



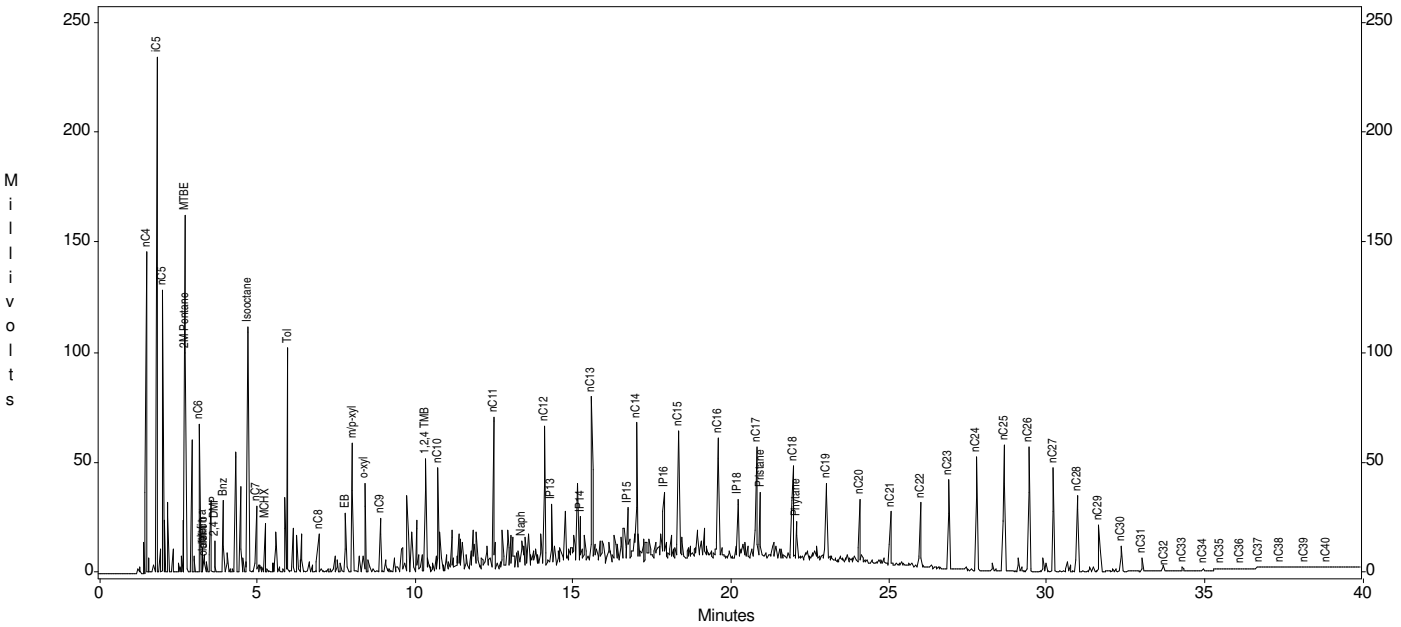

c:\ezchrom\chrom\06075\gadiwax2 -- Channel A




c:\ezchrom\chrom\06075\gadiwax2 -- Channel A




c:\ezchrom\chrom\06075\gadiwax2 -- Channel A




Channel A Results

| Peak | Area | Height |
|---|---|---|
| nC4 | 88371 | 146043 |
| iC5 | 159578 | 234318 |
| nC5 | 93148 | 128465 |
| MTBE | 153284 | 162193 |
| 2M Pentane | 94624 | 99586 |
| nC6 | 66260 | 67304 |
| olefin a | 11648 | 11187 |
| olefin b | 8877 | 8578 |
| olefin c | 6828 | 5396 |
| 2,4 DMP | 15414 | 14751 |
| Bnz | 43704 | 32699 |
| Isooctane | 179549 | 112012 |
| nC7 | 39087 | 30428 |
| MCHX | 29101 | 22333 |
| Tol | 166073 | 102624 |
| nC8 | 22955 | 17865 |
| EB | 41303 | 27476 |
| m/p-xyl | 146462 | 58414 |
| o-xyl | 63282 | 40612 |
| nC9 | 34862 | 24468 |
| 1,2,4 TMB | 97586 | 51102 |
| nC10 | 79438 | 46920 |
| nC11 | 161746 | 68707 |
| Naph | 26912 | 12104 |
| nC12 | 146073 | 63418 |
| IP13 | 60863 | 28341 |
| IP14 | 32472 | 19921 |
| nC13 | 180550 | 74970 |
| IP15 | 55203 | 24944 |
| nC14 | 159843 | 63744 |
| IP16 | 77389 | 31958 |
| nC15 | 175808 | 59637 |
| nC16 | 153384 | 56327 |
| IP18 | 70252 | 29094 |
| nC17 | 134745 | 52876 |
| Pristane | 83462 | 31628 |
| nC18 | 108123 | 43619 |
| Phytane | 58931 | 18823 |
| nC19 | 95532 | 35965 |
| nC20 | 53488 | 28061 |
| nC21 | 50062 | 24667 |
| nC22 | 62672 | 29794 |
| nC23 | 99772 | 40754 |
| nC24 | 150048 | 51091 |
| nC25 | 175732 | 57657 |
| nC26 | 177197 | 56544 |
| nC27 | 134915 | 47299 |
| nC28 | 85134 | 34271 |
| nC29 | 47484 | 21434 |
| nC30 | 22373 | 11409 |
| nC31 | 12659 | 5666 |
| nC32 | 185 | 109 |
| nC33 | 3064 | 1555 |
| nC34 | 1695 | 785 |
| nC35 | 940 | 440 |
| nC36 | 473 | 200 |
| nC37 | 469 | 104 |
| nC38 | 493 | 58 |
| nC39 | 46 | 24 |
| nC40 | 15 | 11 |

# Appendix F.3
# API LNAPL Distribution and Recovery Model Input Parameter Selection and Results

**LNAPL Distribution and Recovery Model (LDRM) Input Selection Summary**
**AOI 6, PES Facility, Philadelphia, Pennsylvania**

| LDRM Input Parameter | Selected Value(s) | Source | Rationale for Value Selection |
|---|---|---|---|
| In-well LNAPL thickness | 5.08 feet | 2017 well gauging data | Maximum in-well LNAPL thickness from available 2017 data (for B-129) |
| Ground surface elevation | 6.33 feet amsl | Site survey data | Value for B-129 |
| Groundwater table elevation | 2.19 feet amsl | 2017 well gauging data | Corresponds to location/event with maximum in-well thickness value (for B-129) |
| Water vertical gradient | 0 | Assumed | Assumed hydraulic conditions approximated vertical equilibrium during the respective well level monitoring events. |
| LNAPL density | 0.87 $g/cm^3$ | LNAPL/water physical property test results | |
| LNAPL viscosity | 5 cP | Literature value | Derived from API Interactive LNAPL Guide |
| Water surface tension | 65 dyne/cm | LDRM default value | |
| LNAPL surface tension | 25 dyne/cm | LDRM default value | |
| LNAPL/water interfacial tension | 25 dyne/cm | LDRM default value | |
| Soil porosity | 0.45 | Literature value | Average value from API database for ML soil type |
| van Genuchten N | 2.01 | Literature value | Average value from API database for ML soil type |
| van Genuchten α | 0.195 $ft^{-1}$ (3.6 $m^{-1}$) | Literature value | Average value from API database for ML soil type |
| Relative permeability model | 1 | | Selection indicates the Mualem relative permeability model will be used for the model calculations. The Mualem model is appropriate for fine-grained soils. |
| Water residual saturation ($S_{wr}$) | 0.43 | Literature value | Average value from API database for ML soil type |
| LNAPL residual saturation ($S_{nr}$) | 0.2 | Assumed based on previous experience and common literature values | |
| Hydraulic conductivity (K) | 0.7 ft/day | Literature value | Average value from API database for ML soil type |

**Table 2**

**LNAPL Distribution and Recovery Model (LDRM) Output Summary**
**AOI 6, PES Facility, Philadelphia, Pennsylvania**

| Modelled In-Well LNAPL Thickness (feet) | LNAPL Specific Volume ($ft^3$ LNAPL/$ft^2$ areal extent) | LNAPL Recoverable Volume ($ft^3$ LNAPL/$ft^2$ areal extent) | LNAPL Recoverable Volume (% of total volume) | LNAPL Transmissivity ($ft^2$/day) |
|---|---|---|---|---|
| 5.08 | 0.56 | 0.02 | 3.6 | 0.01 |

```
*****************************************************************************
 *
 * File Name  = C:\Users\mrousseau\Desktop\Philadelphia Refinery\ldrm001
 * Saved time =  14 : 57,   2017 .10 . 16
 *
*****************************************************************************

 1. OPTIONS.

 * Units              =   1              (1: English Units, 2: SI Units)

 * Soil Heterogeneity =   1              ( Number of Layers: 1, 2 or 3)

 * Elevation          =   1              (1: Elevation above datum, 2: depth BGS)

 * FPR System Used    =   0              (1: well,  2: trench,  0: Not used)

 * Smear Correction   =   0              (0: no adjustment, 1: smear correction)

 * LNAPL Residual     =   1              (1: const (user), 2: const (f), 3:
variable)


 2. INPUT PARAMETERS.

 2.1 BASIC INPUT PARAMETERS.
 Monitor. Well LNAPL thickness[ft]=          5.080
 Ground Surface Elevation [ft]    =          6.330
 Groundwater Table Elevation [ft] =          2.190
 Water Vertical Gradient(+up)     =          0.000
 LNAPL Density [g/cm3]            =          0.870
 LNAPL Viscosity [cp]             =          5.000
 Water Surface Tension [dyne/cm]  =         65.000
 LNAPL Surface Tension [dyne/cm]  =         25.000
 LNAPL/Water Interfacial Tension  =         25.000

 2.1.1 SOIL PROPERTIES OF LAYER 1
 Relative permeability model      =              1     (Mualem)
 Soil porosity                    =          0.450
 Hydraulic conductivity [ft/d]    =          0.700
 van Genuchten "N"                =          2.010
 van Genuchten "Alpha" [ft-1]     =          0.195
 Swr1                             =          0.430
 Snr1                             =          0.200
 LNAPL residual f-factor          =           None


 4. Calculated Parameters

-------------------------------------------------
 Air-LNAPL interface [ft]         =          2.850
 LNAPL-Water interface [ft]       =         -2.230
 Max. Free-Product elevation [ft] =          3.743
-------------------------------------------------

-------------------------------------------------
 Parameter                        :         Soil 1
-------------------------------------------------
 van Genuchten "M"                :          0.502
 Air/LNAPL "alpha"  [ft-1]        :          0.441
 LNAPL/water "alpha" [ft-1]       :          0.066
```

5. LNAPL and Water saturation data.

| Elevation [ft] | Sn | Snr | Sw | krn |
|---|---|---|---|---|
| 3.743 | 0.200 | 0.200 | 0.774 | 0.0000 |
| 3.698 | 0.202 | 0.200 | 0.775 | 0.0001 |
| 3.654 | 0.204 | 0.200 | 0.775 | 0.0003 |
| 3.609 | 0.206 | 0.200 | 0.775 | 0.0008 |
| 3.564 | 0.207 | 0.200 | 0.776 | 0.0014 |
| 3.520 | 0.209 | 0.200 | 0.776 | 0.0023 |
| 3.475 | 0.210 | 0.200 | 0.776 | 0.0034 |
| 3.430 | 0.212 | 0.200 | 0.777 | 0.0048 |
| 3.386 | 0.213 | 0.200 | 0.777 | 0.0063 |
| 3.341 | 0.214 | 0.200 | 0.777 | 0.0082 |
| 3.297 | 0.215 | 0.200 | 0.778 | 0.0103 |
| 3.252 | 0.216 | 0.200 | 0.778 | 0.0127 |
| 3.207 | 0.217 | 0.200 | 0.778 | 0.0153 |
| 3.163 | 0.218 | 0.200 | 0.779 | 0.0182 |
| 3.118 | 0.218 | 0.200 | 0.779 | 0.0215 |
| 3.074 | 0.219 | 0.200 | 0.779 | 0.0249 |
| 3.029 | 0.219 | 0.200 | 0.780 | 0.0287 |
| 2.984 | 0.219 | 0.200 | 0.780 | 0.0327 |
| 2.940 | 0.219 | 0.200 | 0.780 | 0.0370 |
| 2.895 | 0.219 | 0.200 | 0.781 | 0.0415 |
| 2.850 | 0.219 | 0.200 | 0.781 | 0.0462 |
| 2.596 | 0.217 | 0.200 | 0.783 | 0.0419 |
| 2.342 | 0.216 | 0.200 | 0.784 | 0.0378 |
| 2.088 | 0.214 | 0.200 | 0.786 | 0.0338 |
| 1.834 | 0.213 | 0.200 | 0.787 | 0.0301 |
| 1.580 | 0.211 | 0.200 | 0.789 | 0.0265 |
| 1.326 | 0.210 | 0.200 | 0.790 | 0.0232 |
| 1.072 | 0.208 | 0.200 | 0.792 | 0.0200 |
| 0.818 | 0.207 | 0.200 | 0.793 | 0.0171 |
| 0.564 | 0.206 | 0.200 | 0.794 | 0.0144 |
| 0.310 | 0.205 | 0.200 | 0.795 | 0.0119 |
| 0.056 | 0.204 | 0.200 | 0.796 | 0.0097 |
| -0.198 | 0.203 | 0.200 | 0.797 | 0.0076 |
| -0.452 | 0.202 | 0.200 | 0.798 | 0.0058 |
| -0.706 | 0.202 | 0.200 | 0.798 | 0.0043 |
| -0.960 | 0.201 | 0.200 | 0.799 | 0.0030 |
| -1.214 | 0.201 | 0.200 | 0.799 | 0.0019 |
| -1.468 | 0.200 | 0.200 | 0.800 | 0.0011 |
| -1.722 | 0.200 | 0.200 | 0.800 | 0.0005 |
| -1.976 | 0.200 | 0.200 | 0.800 | 0.0001 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |

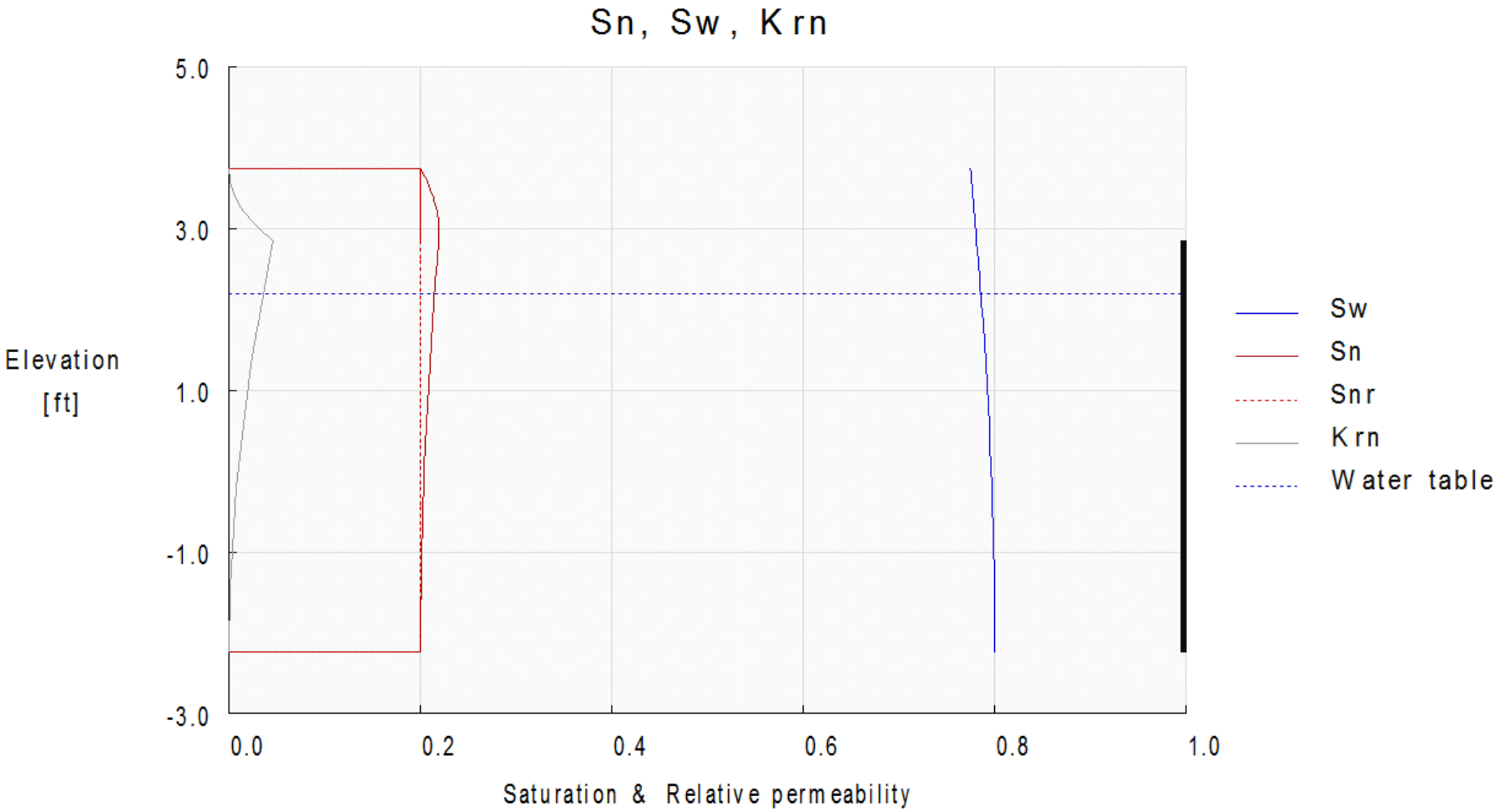
| | | | | |
|---|---|---|---|---|
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |
| -2.230 | 0.200 | 0.200 | 0.800 | 0.0000 |

6. LNAPL specific volume and hydraulic conductivity

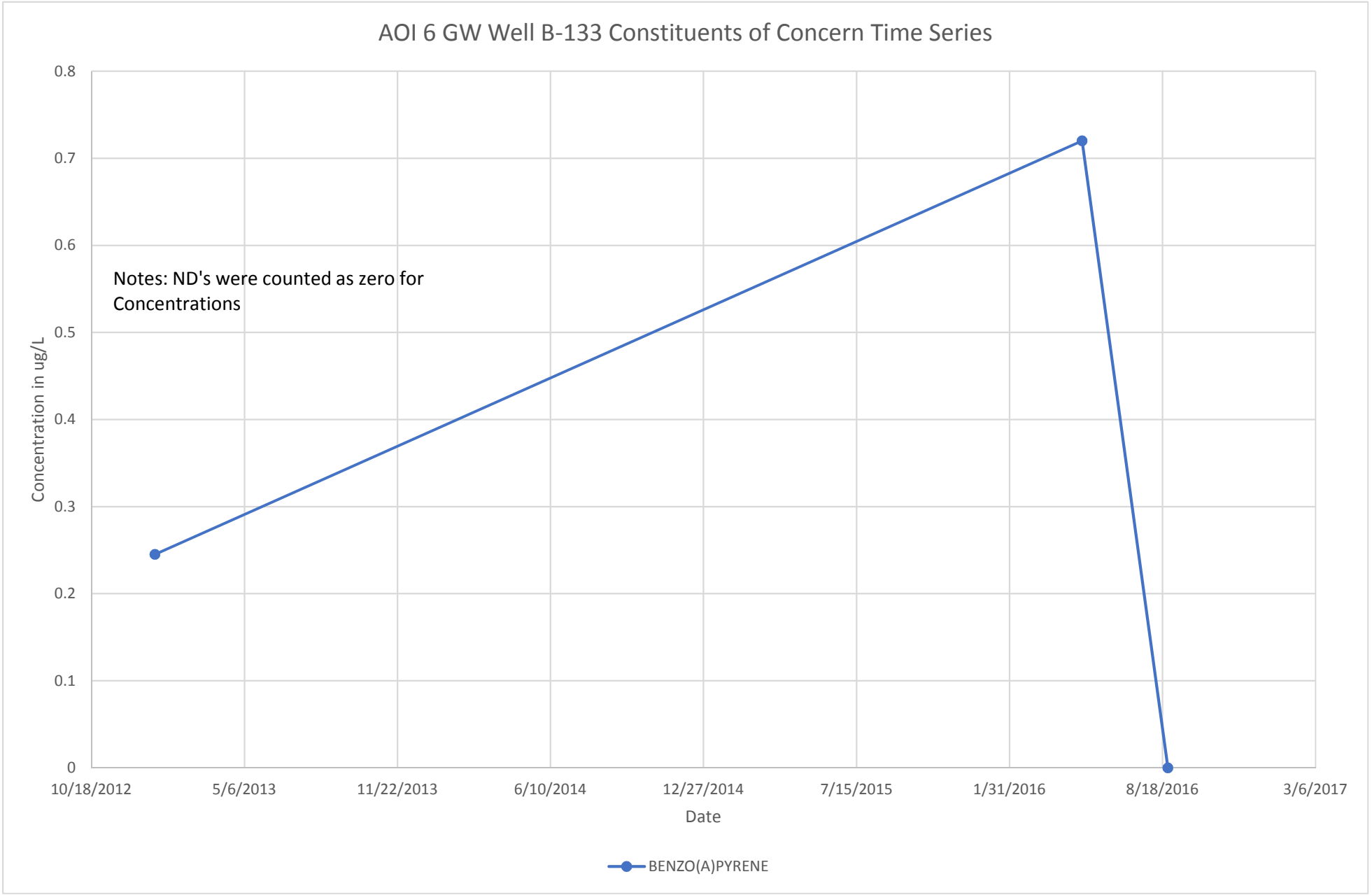
| bn [ft] | Dn [ft] | Rn [ft] | Tn [ft2/d] |
|---|---|---|---|
| 0.000 | 0.000 | 0.000 | 0.000 |
| 0.203 | 0.022 | 0.000 | 0.000 |
| 0.406 | 0.043 | 0.000 | 0.000 |
| 0.610 | 0.065 | 0.000 | 0.000 |
| 0.813 | 0.086 | 0.000 | 0.000 |
| 1.016 | 0.108 | 0.000 | 0.000 |
| 1.219 | 0.129 | 0.000 | 0.000 |
| 1.422 | 0.151 | 0.000 | 0.000 |
| 1.626 | 0.173 | 0.001 | 0.000 |
| 1.829 | 0.194 | 0.001 | 0.001 |
| 2.032 | 0.216 | 0.001 | 0.001 |
| 2.235 | 0.238 | 0.002 | 0.001 |
| 2.438 | 0.260 | 0.002 | 0.001 |
| 2.642 | 0.282 | 0.003 | 0.002 |
| 2.845 | 0.305 | 0.004 | 0.002 |
| 3.048 | 0.327 | 0.005 | 0.002 |
| 3.251 | 0.350 | 0.006 | 0.003 |
| 3.454 | 0.372 | 0.007 | 0.004 |
| 3.658 | 0.395 | 0.008 | 0.004 |
| 3.861 | 0.418 | 0.009 | 0.005 |
| 4.064 | 0.441 | 0.011 | 0.006 |
| 4.267 | 0.464 | 0.012 | 0.007 |
| 4.470 | 0.487 | 0.014 | 0.008 |
| 4.674 | 0.510 | 0.016 | 0.009 |
| 4.877 | 0.534 | 0.018 | 0.010 |
| 5.080 | 0.558 | 0.020 | 0.011 |

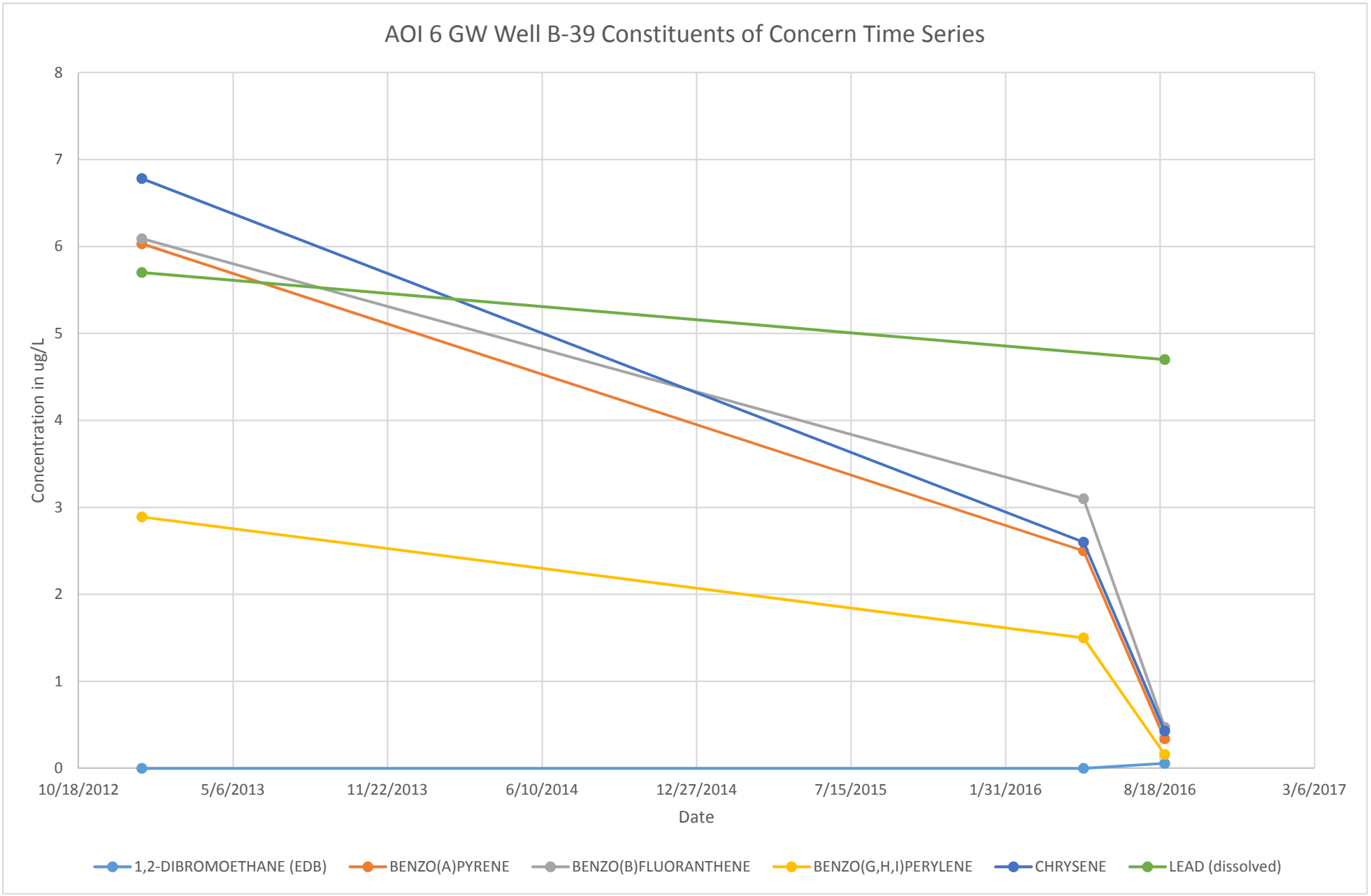
7. Data for curve-fitting segments

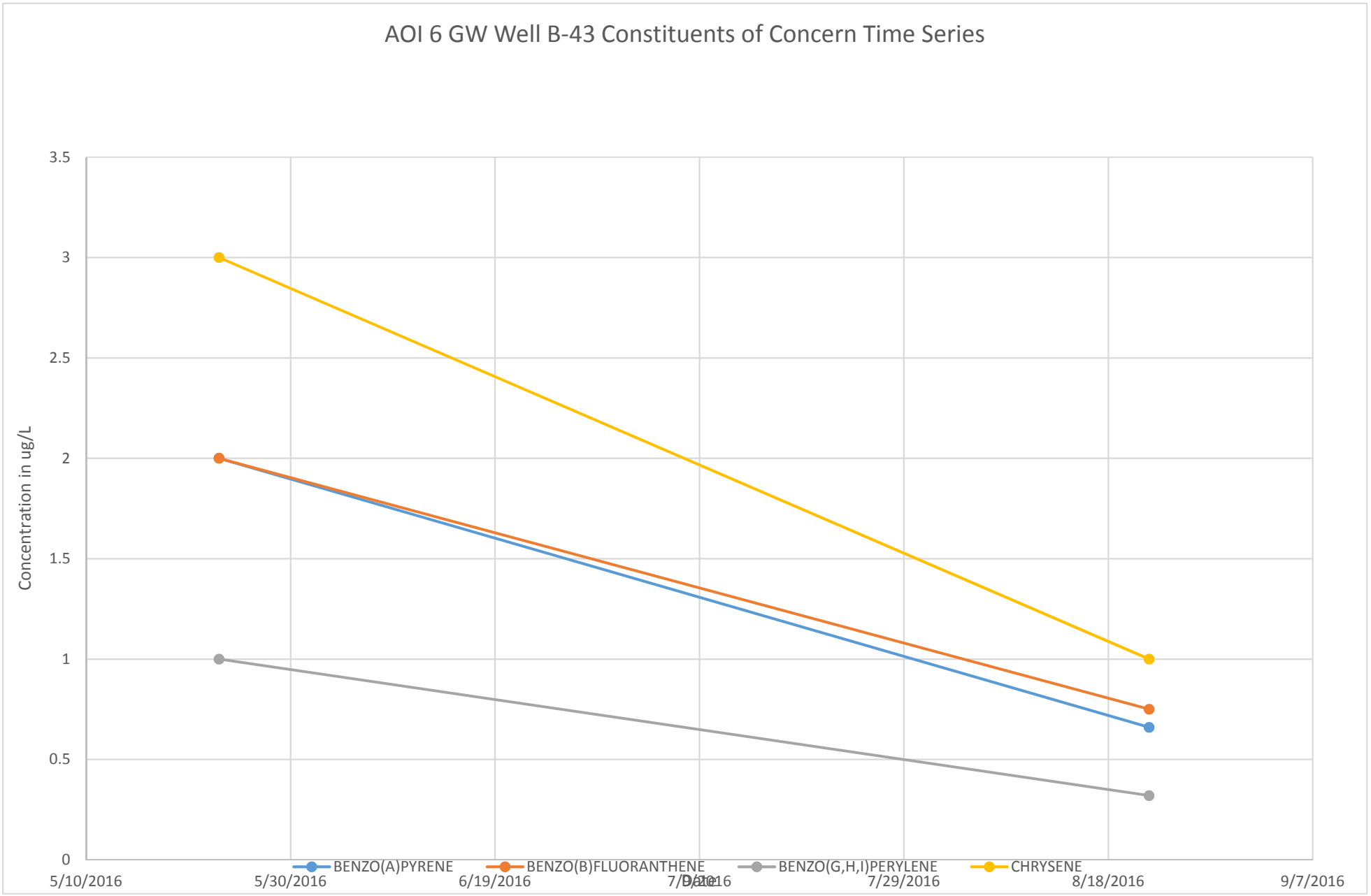
| bn[ft] | Rn[ft] | Tn[ft2/d] | chi[ft] | beta | xi[ft] | eta |
|---|---|---|---|---|---|---|
| 0.00000 | 0.00000 | 0.00000 | | | | |
| 3.45440 | 0.00659 | 0.00362 | 0.00000 | 0.00191 | 0.00000 | 0.00105 |
| 4.26720 | 0.01225 | 0.00677 | 2.50854 | 0.00696 | 2.52117 | 0.00388 |
| 5.08000 | 0.02031 | 0.01130 | 3.03356 | 0.00993 | 3.05314 | 0.00558 |

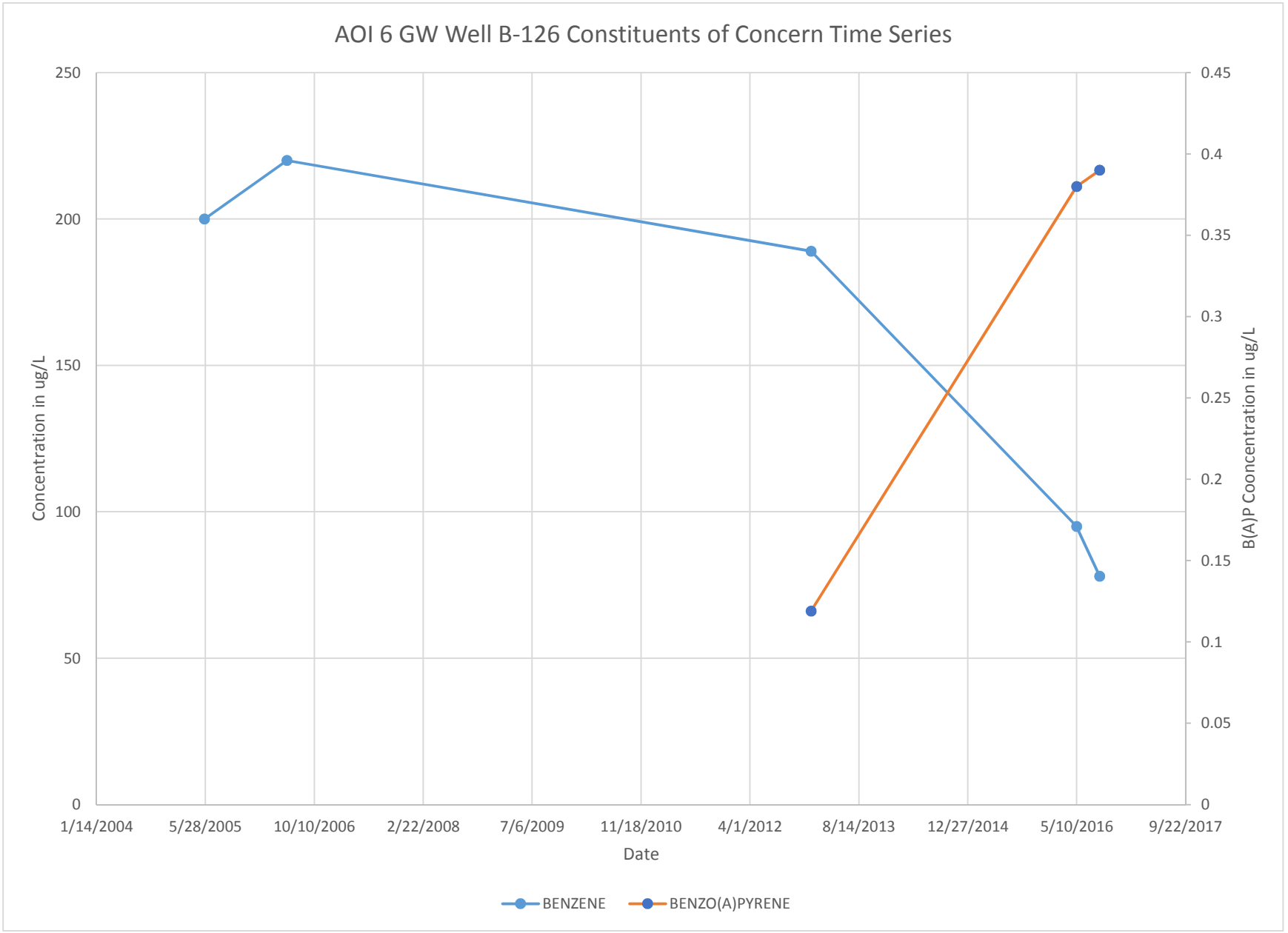

Sn, Sw, Krn
5.0
3.0
1.0
-1.0
-3.0
Elevation
[ft]
0.0
0.2
0.4
0.6
0.8
1.0
Saturation & Relative permeability
Sw
Sn
Snr
Krn
Water table

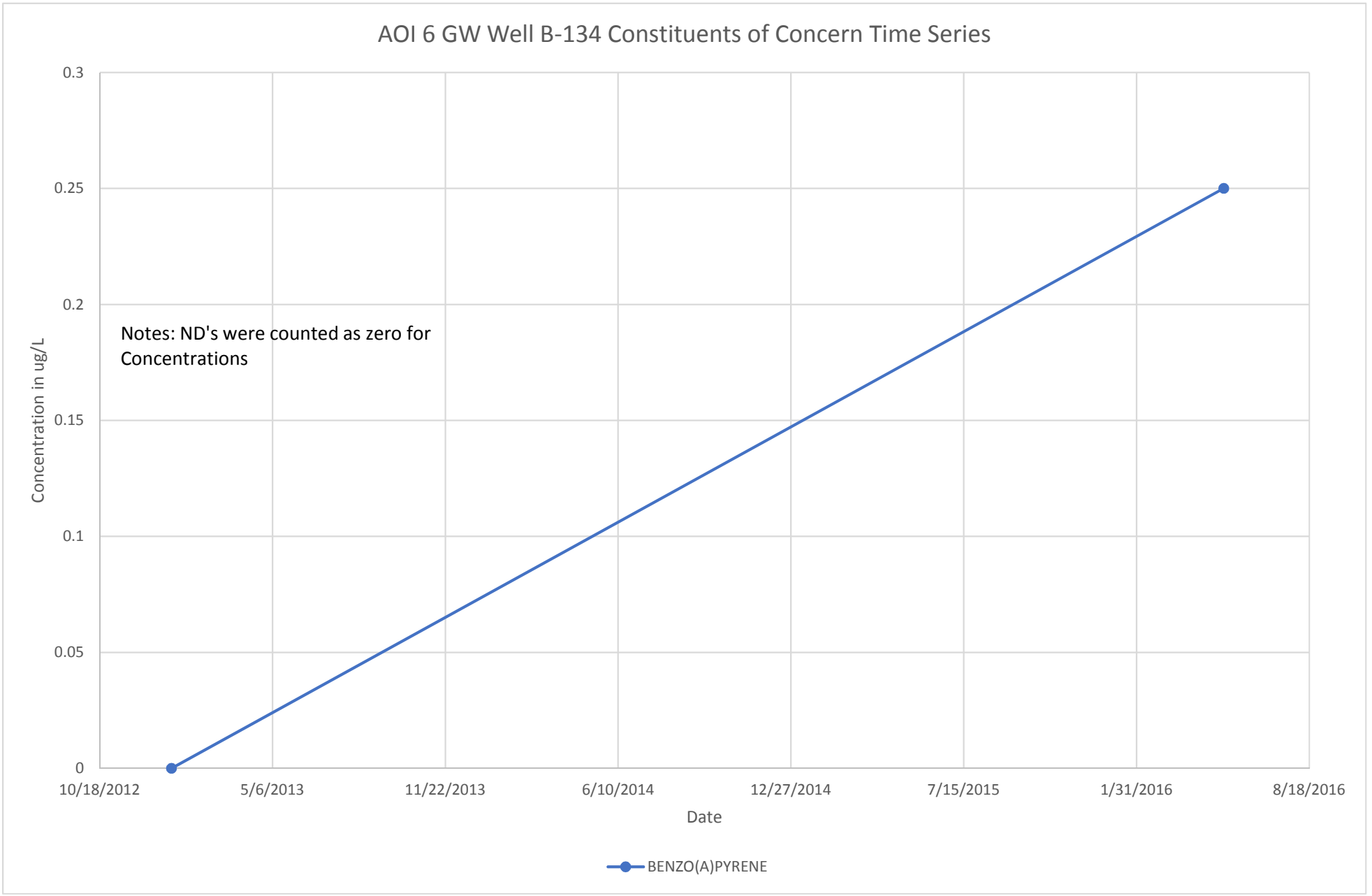
# Appendix F.4
# Concentration versus Time Graphs

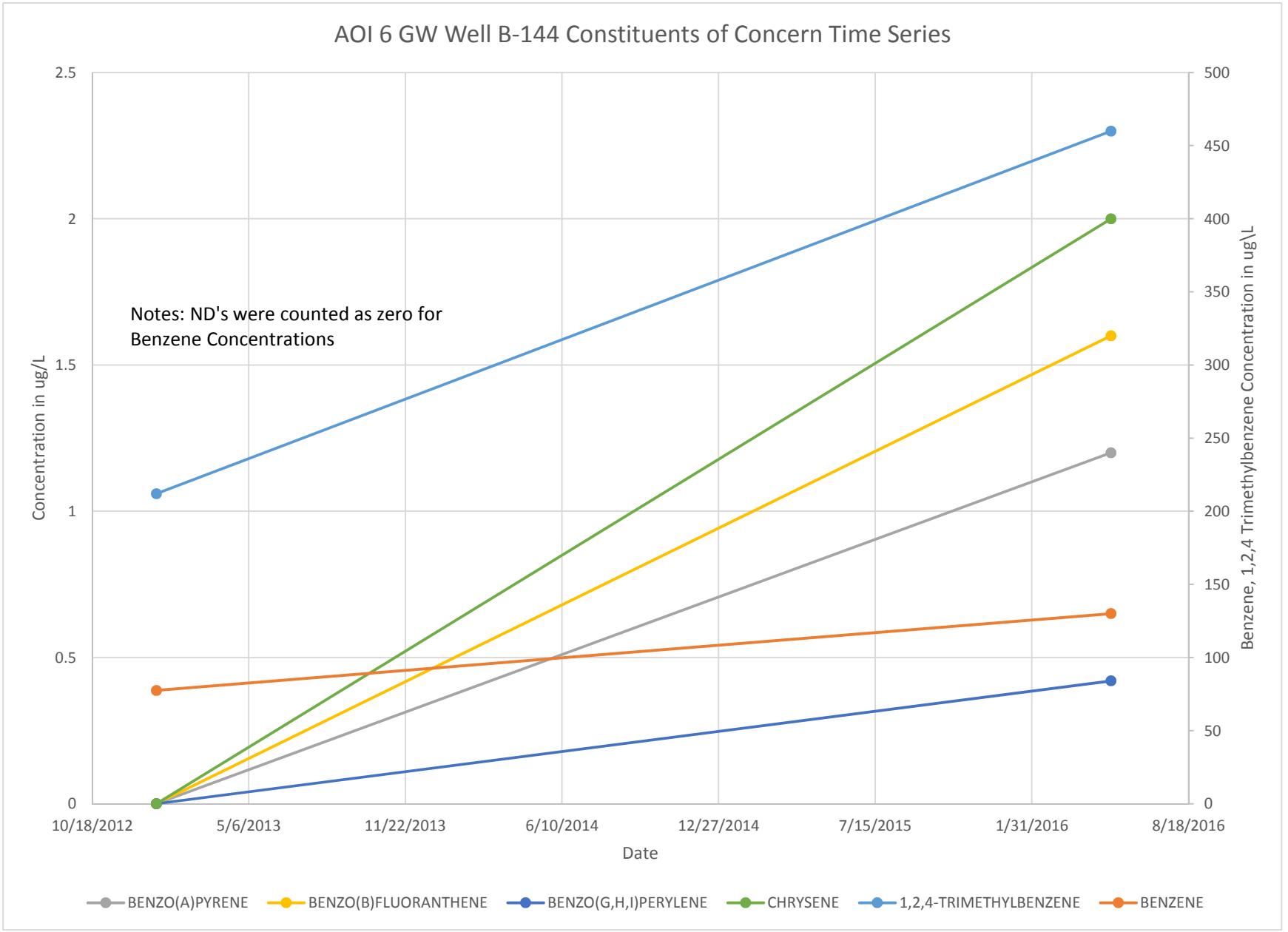

AOI 6 GW Well B-133 Constituents of Concern Time Series
Notes: ND's were counted as zero for Concentrations
Concentration in ug/L
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
7/15/2015
1/31/2016
8/18/2016
3/6/2017
Date
BENZO(A)PYRENE

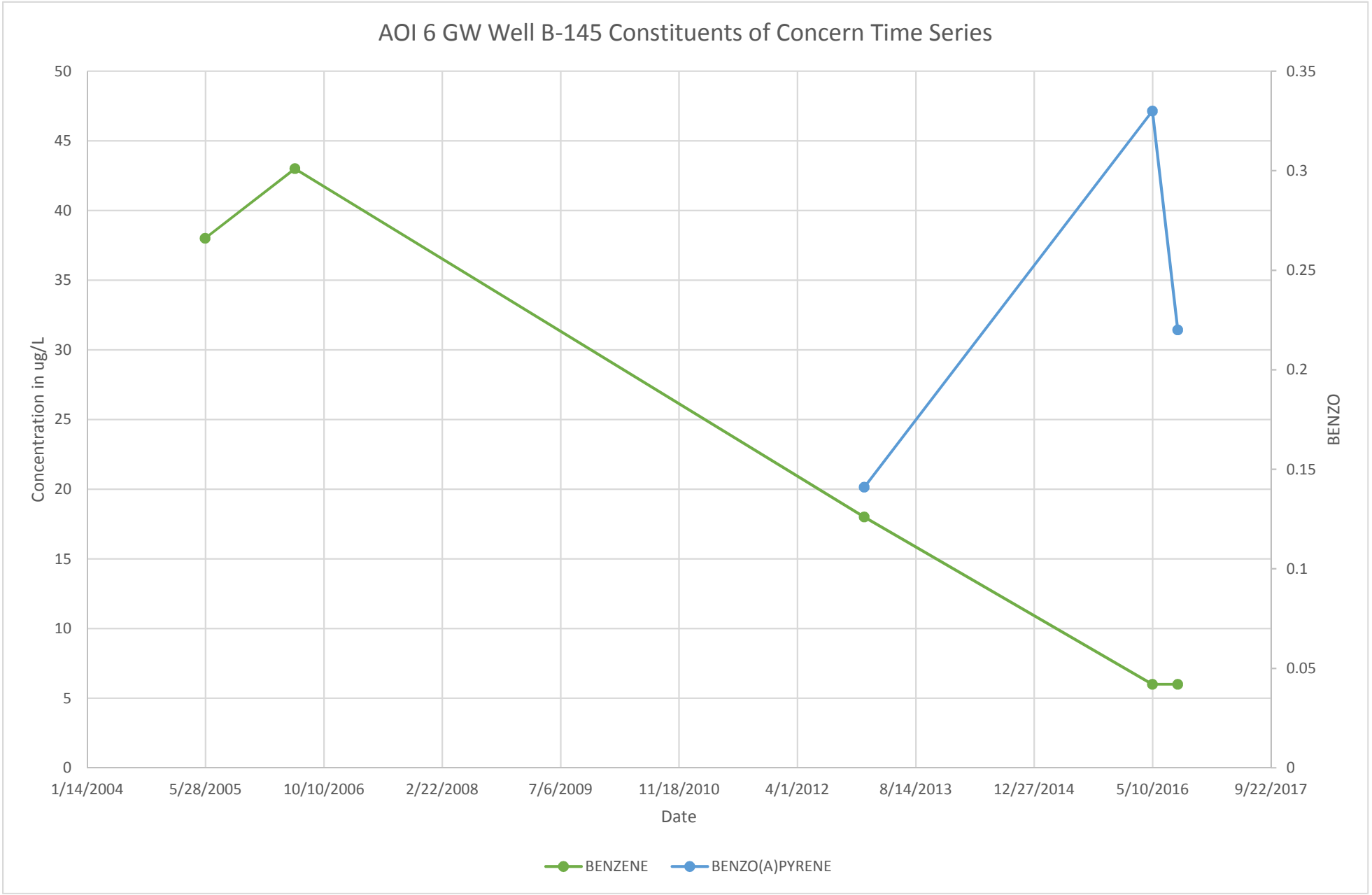

AOI 6 GW Well B-39 Constituents of Concern Time Series
Concentration in ug/L
0
1
2
3
4
5
6
7
8
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
7/15/2015
1/31/2016
8/18/2016
3/6/2017
Date
1,2-DIBROMOETHANE (EDB)
BENZO(A)PYRENE
BENZO(B)FLUORANTHENE
BENZO(G,H,I)PERYLENE
CHRYSENE
LEAD (dissolved)

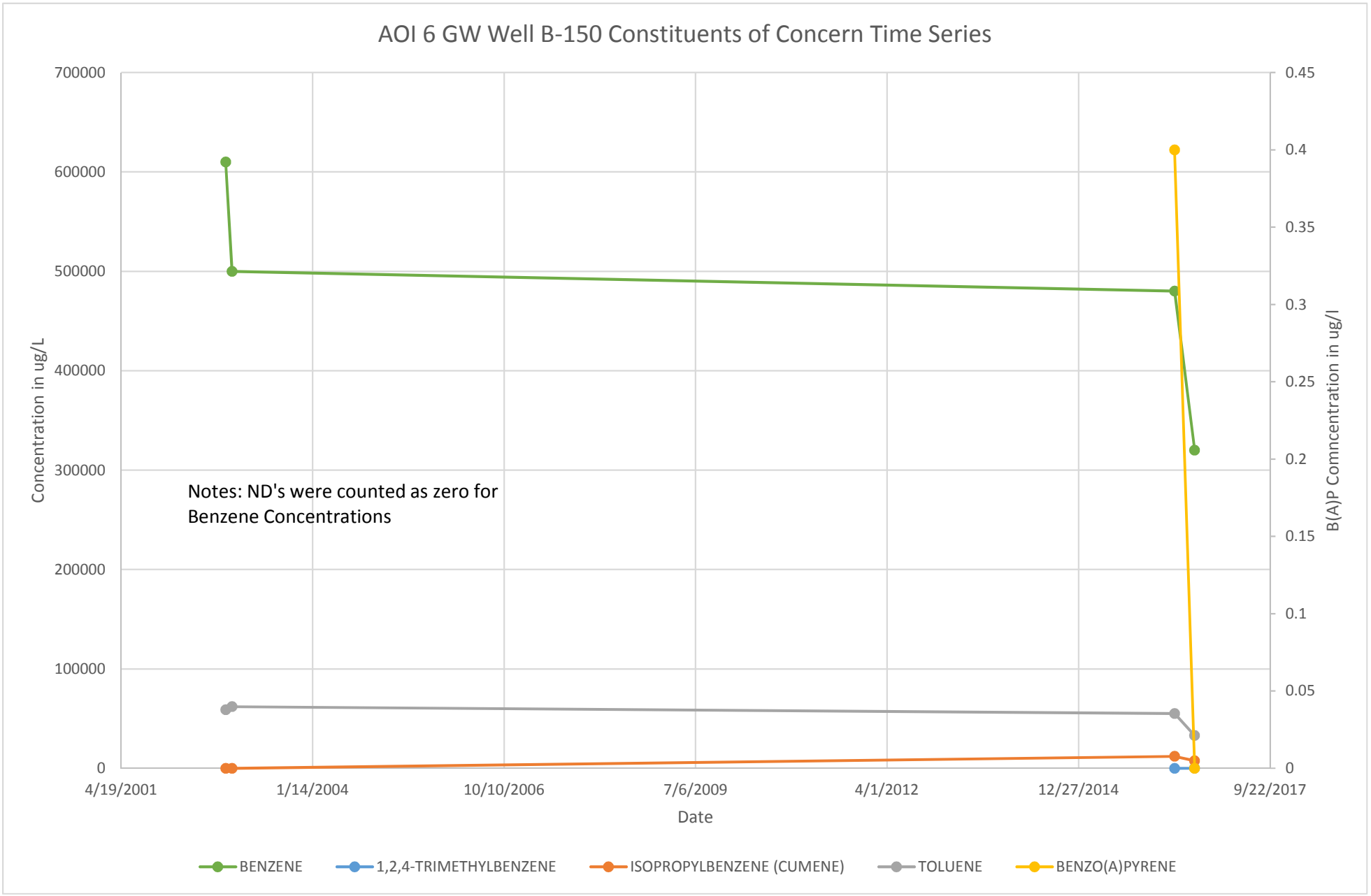

AOI 6 GW Well B-43 Constituents of Concern Time Series
Concentration in ug/L
3.5
3
2.5
2
1.5
1
0.5
0
5/10/2016
5/30/2016
6/19/2016
7/9/2016
7/29/2016
8/18/2016
9/7/2016
BENZO(A)PYRENE
BENZO(B)FLUORANTHENE
BENZO(G,H,I)PERYLENE
CHRYSENE

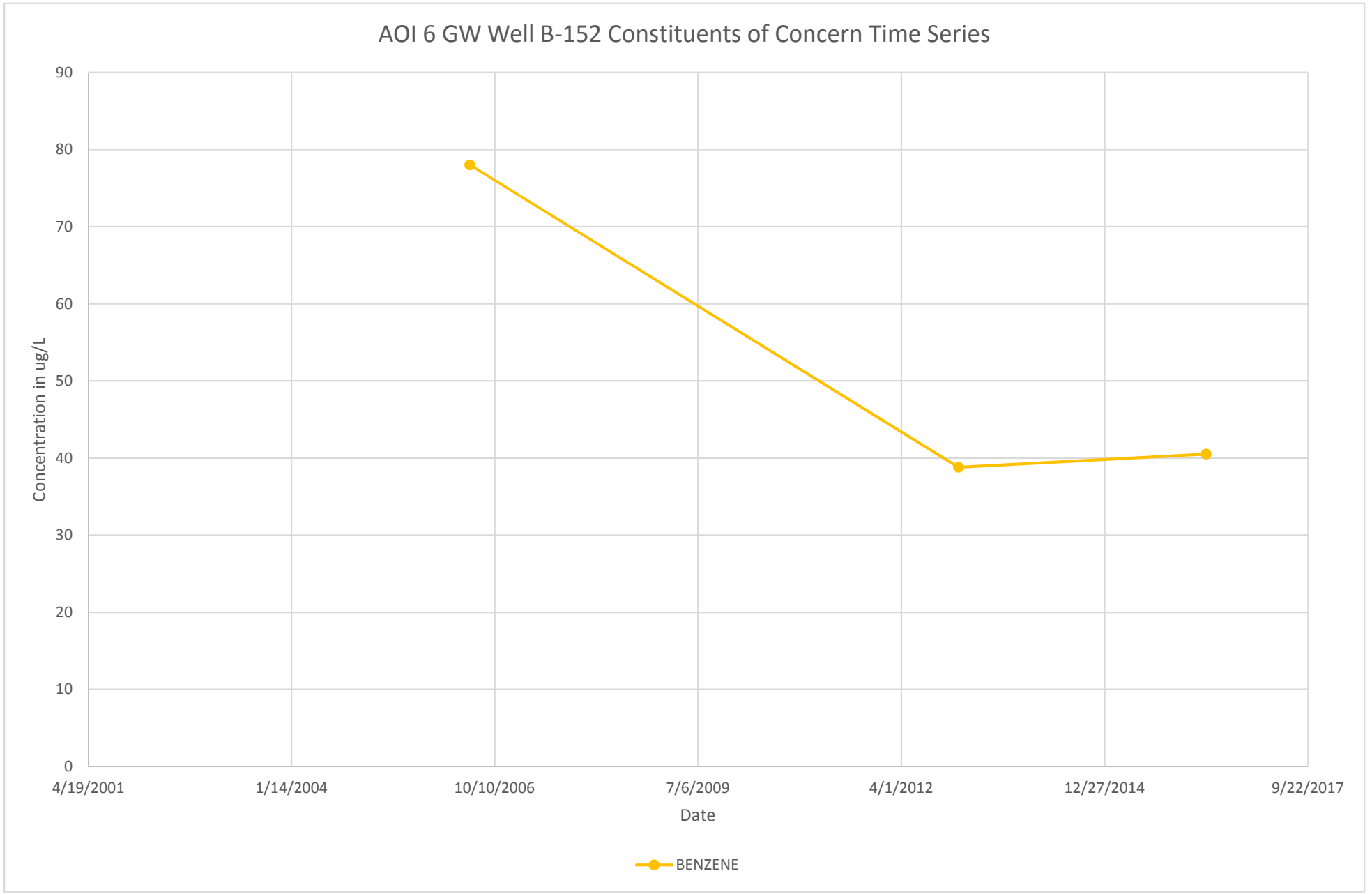

AOI 6 GW Well B-126 Constituents of Concern Time Series
250
200
150
100
50
0
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Concentration in ug/L
B(A)P Cooncentration in ug/L
1/14/2004
5/28/2005
10/10/2006
2/22/2008
7/6/2009
11/18/2010
4/1/2012
8/14/2013
12/27/2014
5/10/2016
9/22/2017
Date
BENZENE
BENZO(A)PYRENE

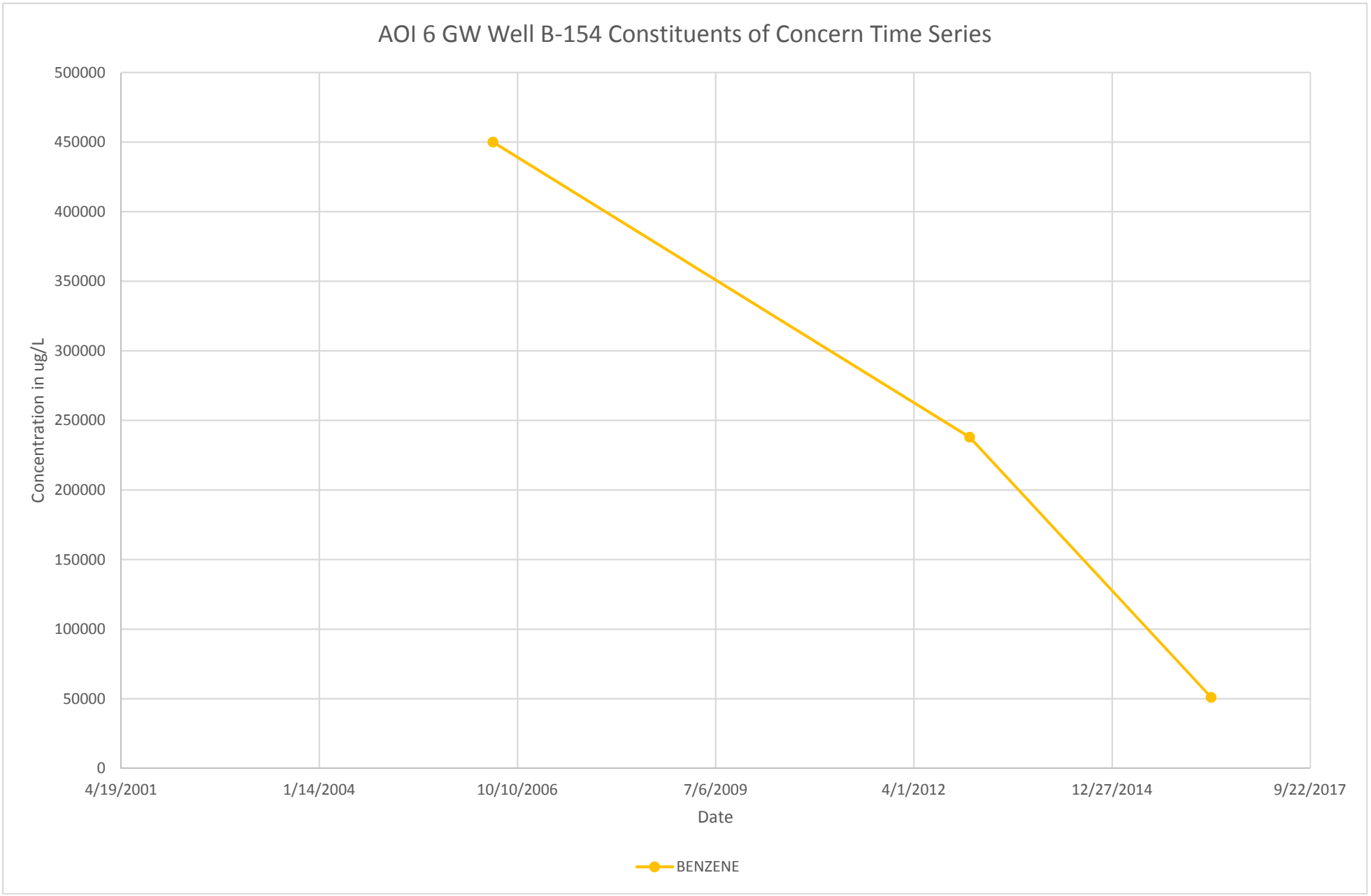

AOI 6 GW Well B-134 Constituents of Concern Time Series
0.3
0.25
0.2
0.15
0.1
0.05
0
Concentration in ug/L
Notes: ND's were counted as zero for Concentrations
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
7/15/2015
1/31/2016
8/18/2016
Date
BENZO(A)PYRENE

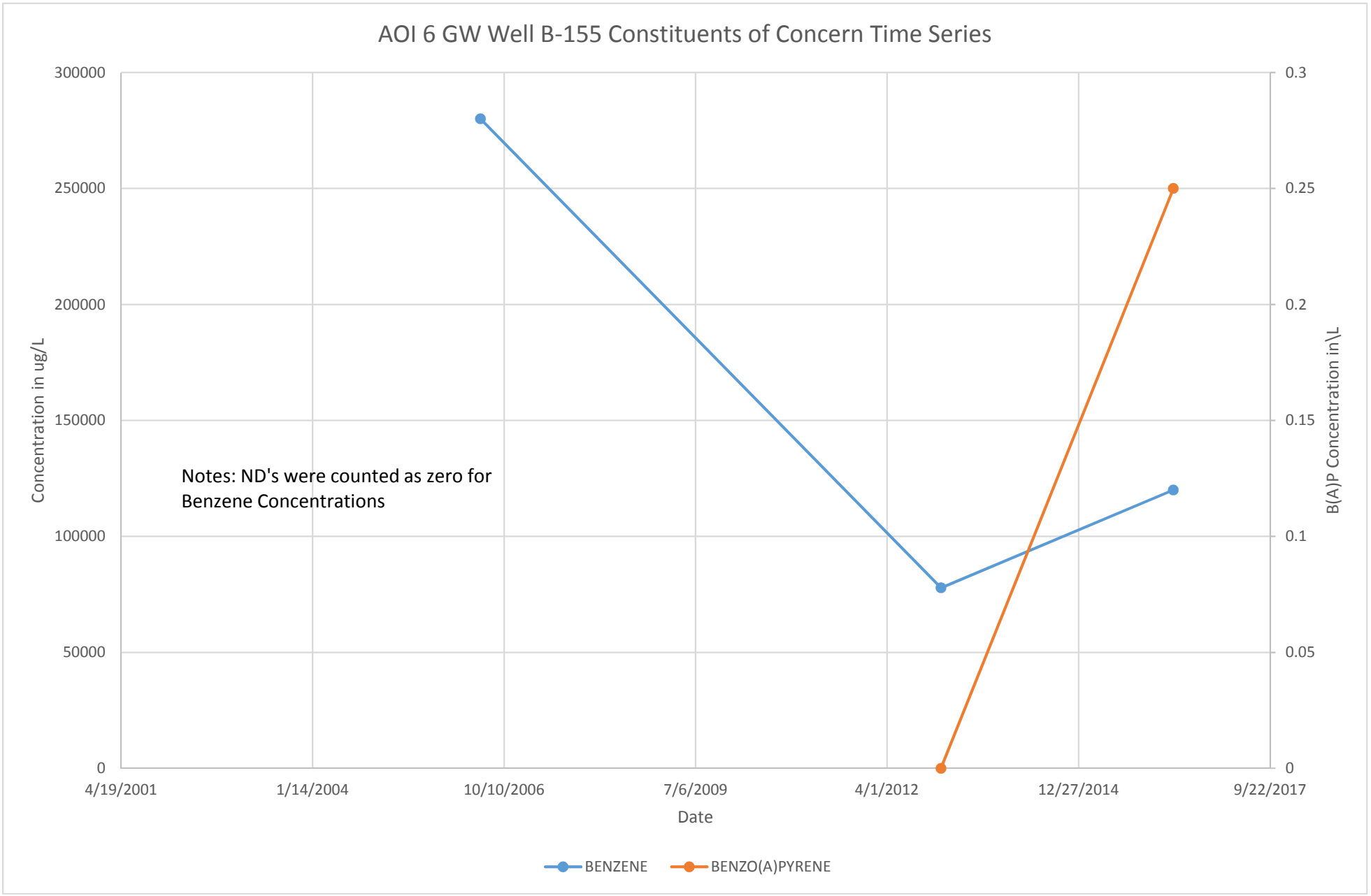

AOI 6 GW Well B-144 Constituents of Concern Time Series
Notes: ND's were counted as zero for Benzene Concentrations
Concentration in ug/L
Benzene, 1,2,4 Trimethylbenzene Concentration in ug\L
Date
2.5
2
1.5
1
0.5
0
500
450
400
350
300
250
200
150
100
50
0
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
7/15/2015
1/31/2016
8/18/2016
BENZO(A)PYRENE
BENZO(B)FLUORANTHENE
BENZO(G,H,I)PERYLENE
CHRYSENE
1,2,4-TRIMETHYLBENZENE
BENZENE

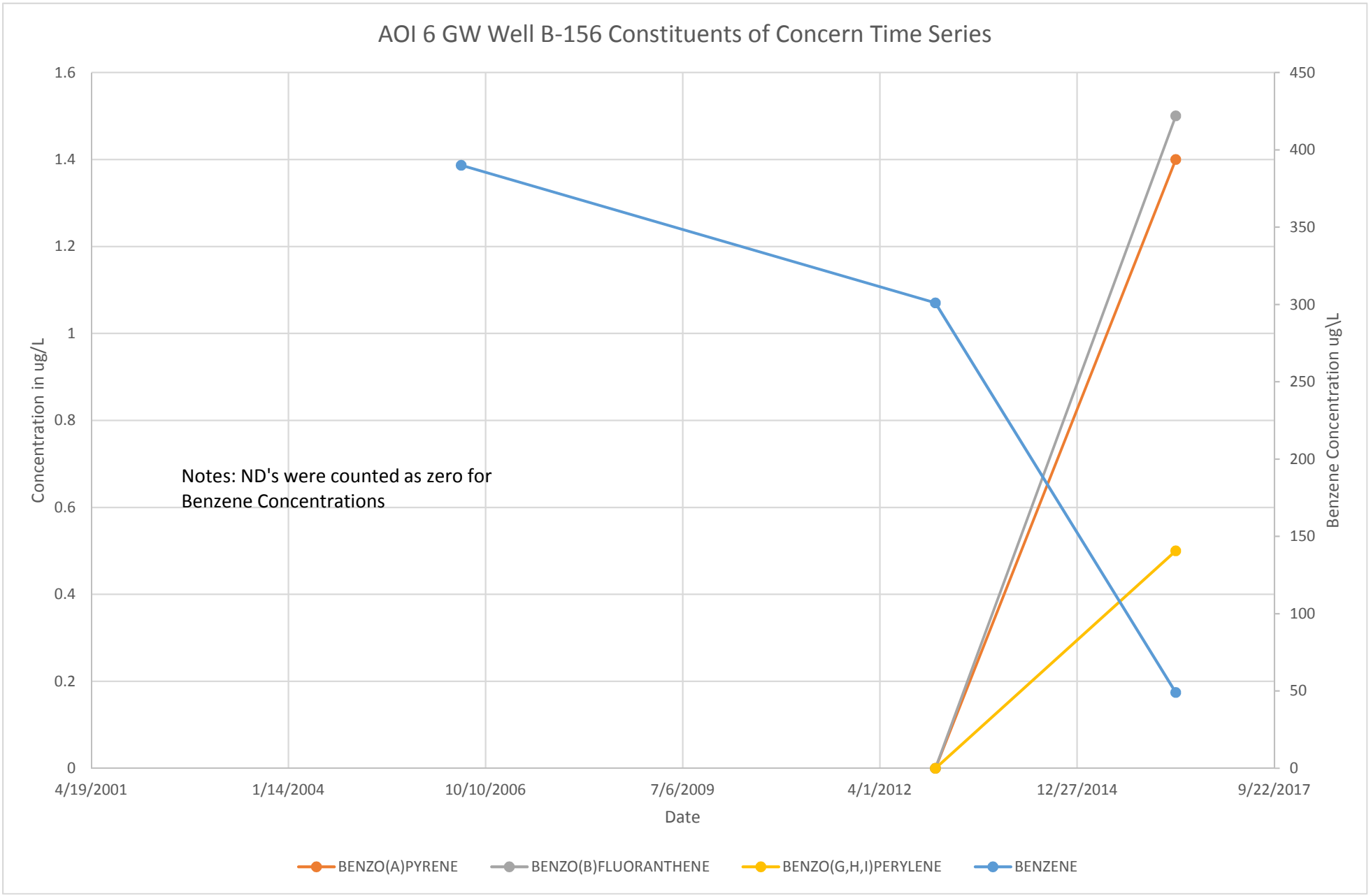

AOI 6 GW Well B-145 Constituents of Concern Time Series
Concentration in ug/L
BENZO
Date
50
45
40
35
30
25
20
15
10
5
0
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
1/14/2004
5/28/2005
10/10/2006
2/22/2008
7/6/2009
11/18/2010
4/1/2012
8/14/2013
12/27/2014
5/10/2016
9/22/2017
BENZENE
BENZO(A)PYRENE

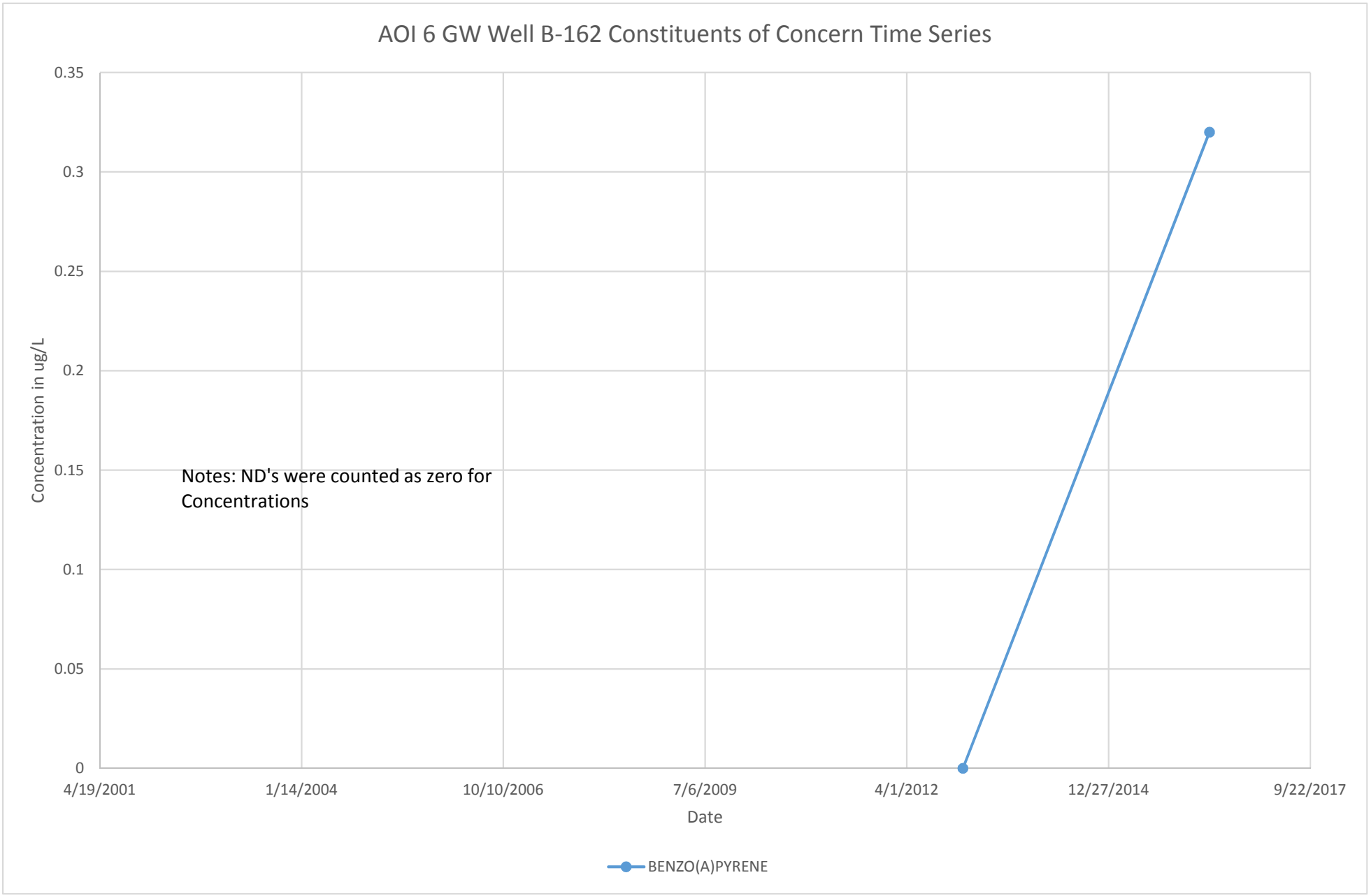

AOI 6 GW Well B-150 Constituents of Concern Time Series
700000
600000
500000
400000
300000
200000
100000
0
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Concentration in ug/L
B(A)P Comncentration in ug/l
Notes: ND's were counted as zero for Benzene Concentrations
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
9/22/2017
Date
BENZENE
1,2,4-TRIMETHYLBENZENE
ISOPROPYLBENZENE (CUMENE)
TOLUENE
BENZO(A)PYRENE

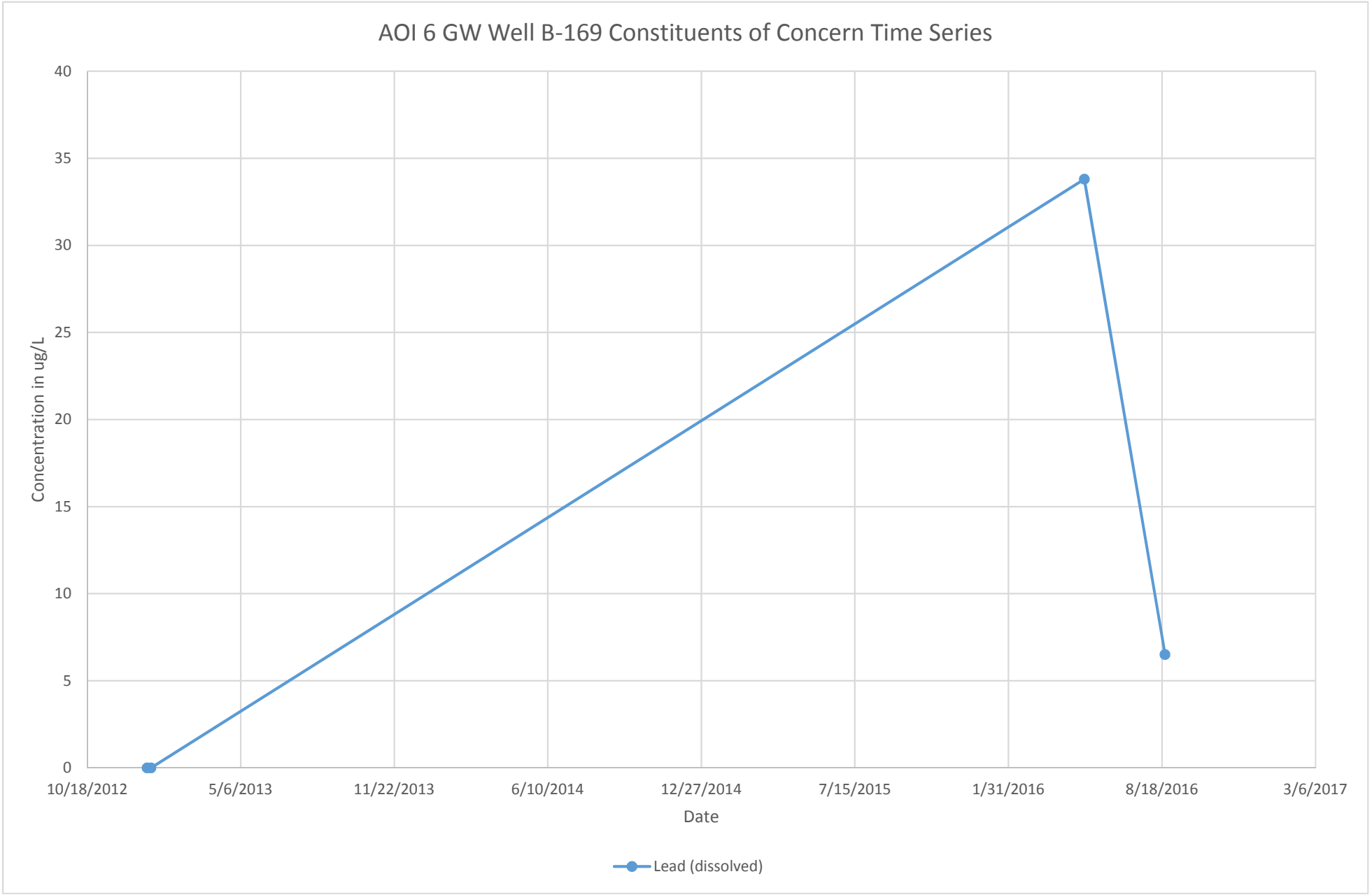

AOI 6 GW Well B-152 Constituents of Concern Time Series
90
80
70
60
50
40
30
20
10
0
Concentration in ug/L
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
9/22/2017
Date
BENZENE

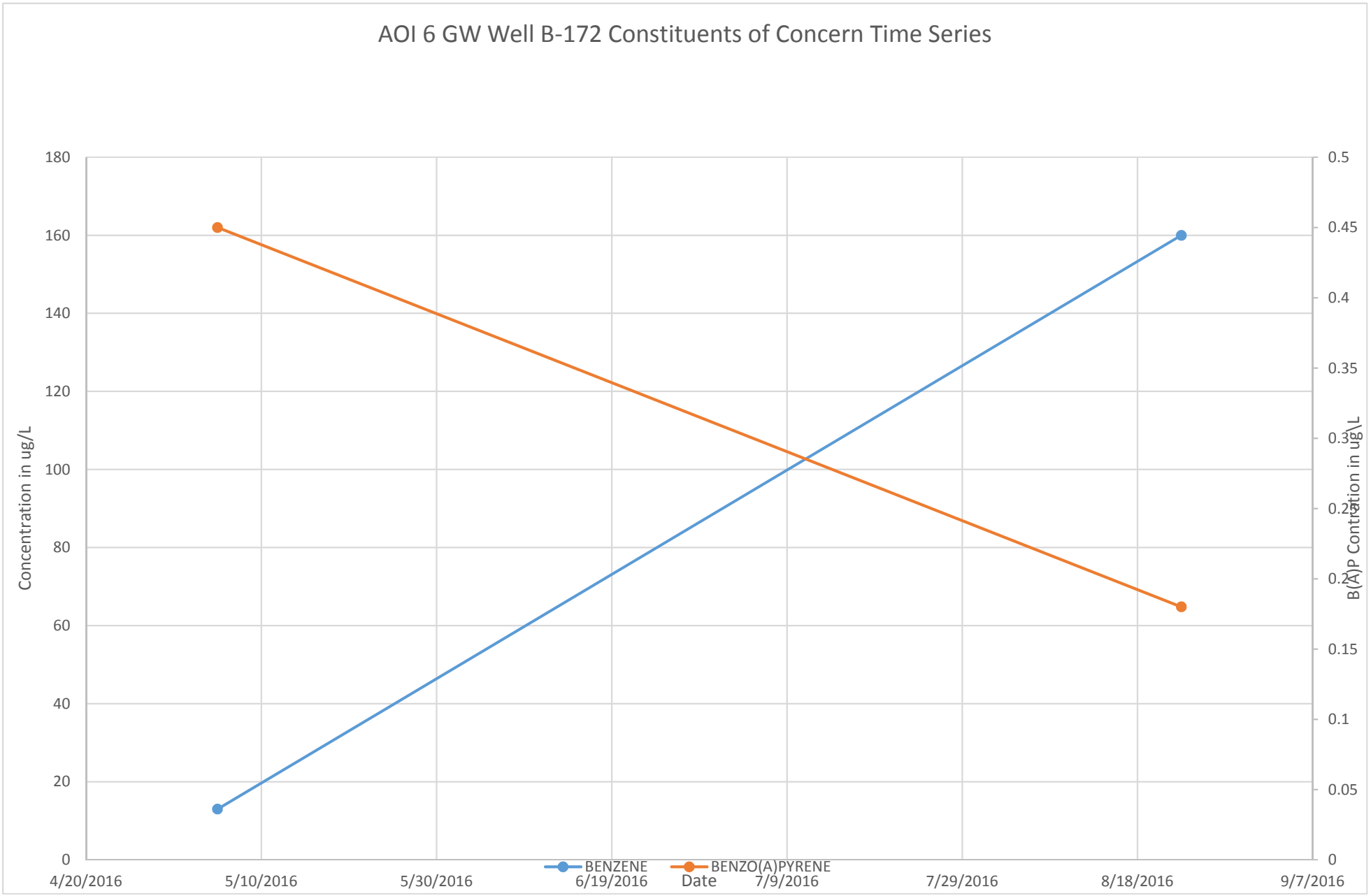

AOI 6 GW Well B-154 Constituents of Concern Time Series
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
Concentration in ug/L
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
9/22/2017
Date
BENZENE

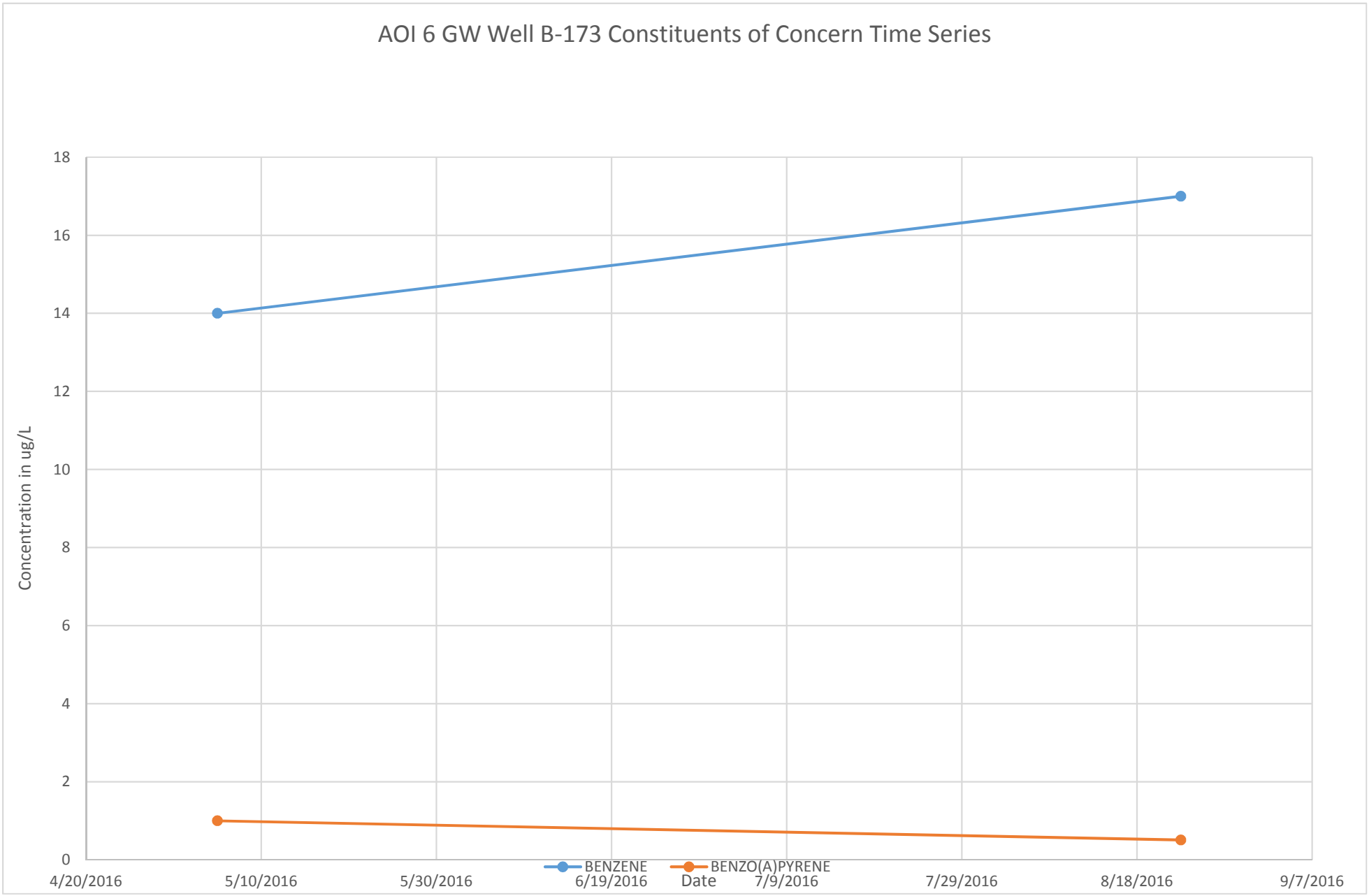

AOI 6 GW Well B-155 Constituents of Concern Time Series
300000
250000
200000
150000
100000
50000
0
0.3
0.25
0.2
0.15
0.1
0.05
0
Concentration in ug/L
B(A)P Concentration in\L
Notes: ND's were counted as zero for Benzene Concentrations
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
9/22/2017
Date
BENZENE
BENZO(A)PYRENE

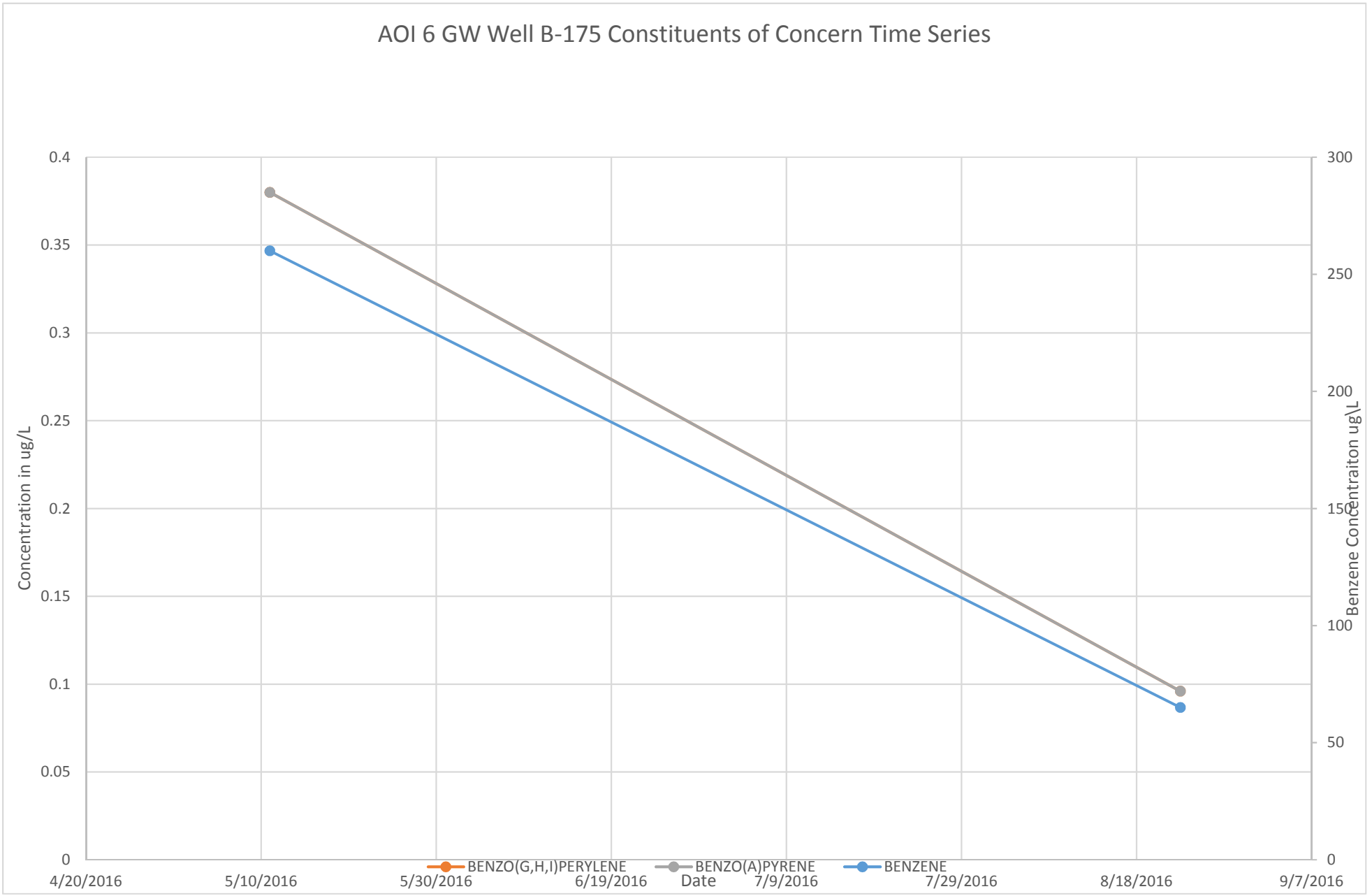

AOI 6 GW Well B-156 Constituents of Concern Time Series
Concentration in ug/L
Benzene Concentration ug\L
Notes: ND's were counted as zero for Benzene Concentrations
Date
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
9/22/2017
BENZO(A)PYRENE
BENZO(B)FLUORANTHENE
BENZO(G,H,I)PERYLENE
BENZENE

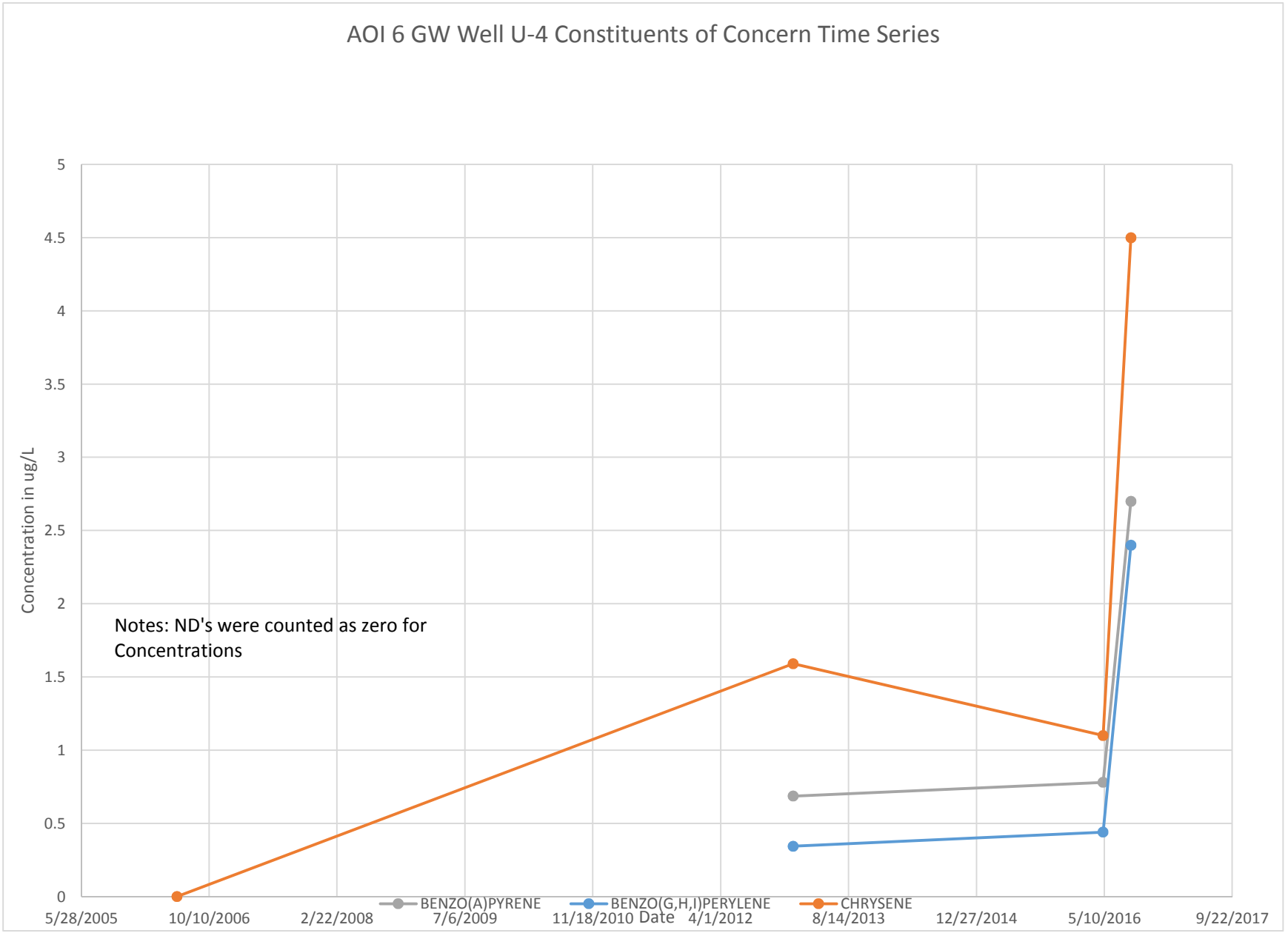

AOI 6 GW Well B-162 Constituents of Concern Time Series
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Concentration in ug/L
Notes: ND's were counted as zero for Concentrations
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
9/22/2017
Date
BENZO(A)PYRENE

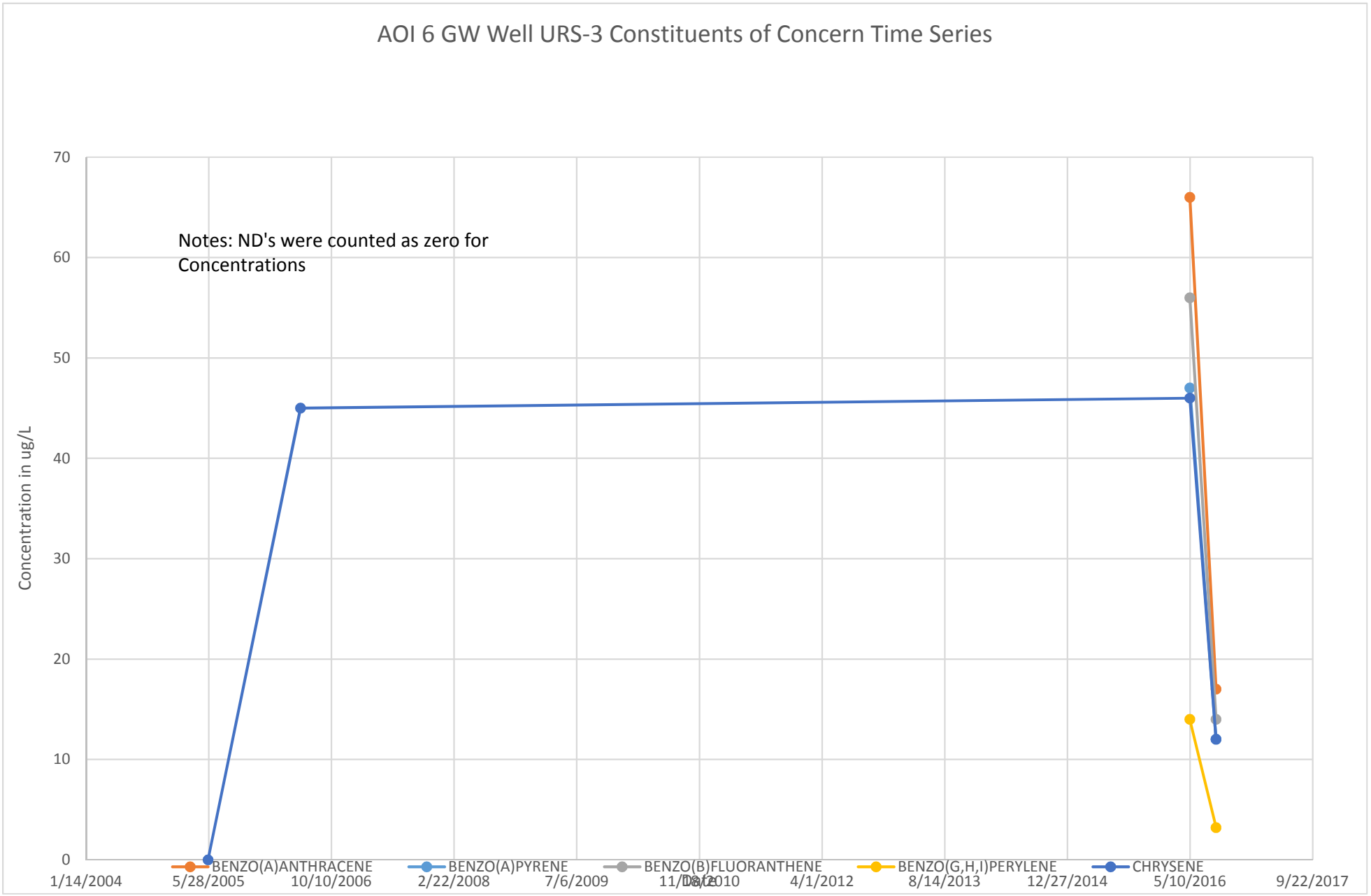

AOI 6 GW Well B-169 Constituents of Concern Time Series
Concentration in ug/L
40
35
30
25
20
15
10
5
0
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
7/15/2015
1/31/2016
8/18/2016
3/6/2017
Date
Lead (dissolved)

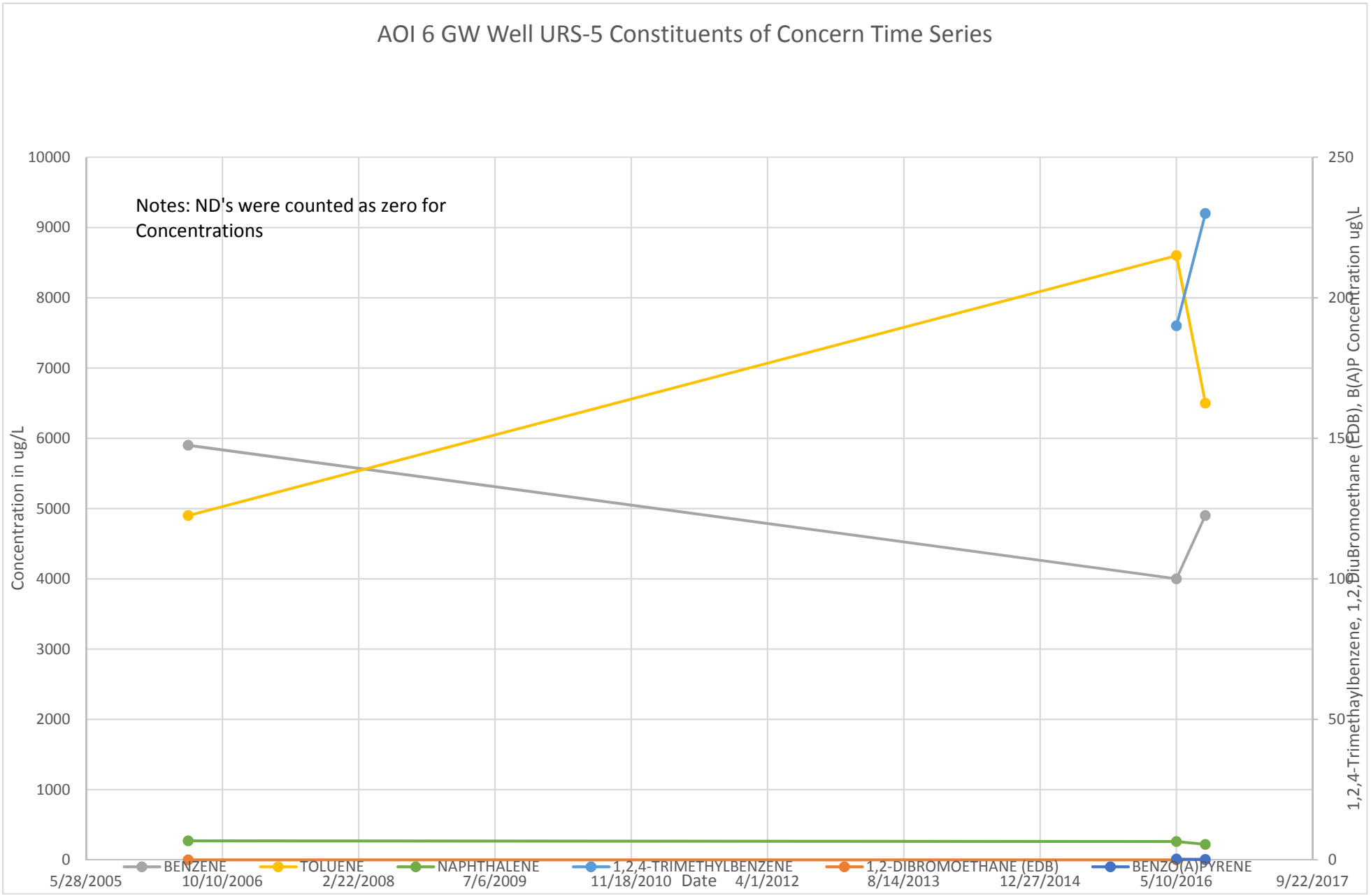

AOI 6 GW Well B-172 Constituents of Concern Time Series
Concentration in ug/L
B(A)P Contration in ug\L
180
160
140
120
100
80
60
40
20
0
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
4/20/2016
5/10/2016
5/30/2016
6/19/2016
7/9/2016
7/29/2016
8/18/2016
9/7/2016
Date
BENZENE
BENZO(A)PYRENE


AOI 6 GW Well B-173 Constituents of Concern Time Series
Concentration in ug/L
18
16
14
12
10
8
6
4
2
0
4/20/2016
5/10/2016
5/30/2016
6/19/2016
7/9/2016
7/29/2016
8/18/2016
9/7/2016
Date
BENZENE
BENZO(A)PYRENE


AOI 6 GW Well B-175 Constituents of Concern Time Series
Concentration in ug/L
Benzene Concentraiton ug\L
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
300
250
200
150
100
50
0
4/20/2016
5/10/2016
5/30/2016
6/19/2016
7/9/2016
7/29/2016
8/18/2016
9/7/2016
Date
BENZO(G,H,I)PERYLENE
BENZO(A)PYRENE
BENZENE


AOI 6 GW Well U-4 Constituents of Concern Time Series
Concentration in ug/L
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Notes: ND's were counted as zero for Concentrations
BENZO(A)PYRENE
BENZO(G,H,I)PERYLENE
CHRYSENE
5/28/2005
10/10/2006
2/22/2008
7/6/2009
11/18/2010
4/1/2012
8/14/2013
12/27/2014
5/10/2016
9/22/2017
Date


AOI 6 GW Well URS-3 Constituents of Concern Time Series
Notes: ND's were counted as zero for Concentrations
Concentration in ug/L
70
60
50
40
30
20
10
0
1/14/2004
5/28/2005
10/10/2006
2/22/2008
7/6/2009
11/18/2010
4/1/2012
8/14/2013
12/27/2014
5/10/2016
9/22/2017
BENZO(A)ANTHRACENE
BENZO(A)PYRENE
BENZO(B)FLUORANTHENE
BENZO(G,H,I)PERYLENE
CHRYSENE


AOI 6 GW Well URS-5 Constituents of Concern Time Series
Notes: ND's were counted as zero for Concentrations
Concentration in ug/L
1,2,4-Trimethaylbenzene, 1,2,DiuBromoethane (EDB), B(A)P Concentration ug\L
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
250
200
150
100
50
0
BENZENE
TOLUENE
NAPHTHALENE
1,2,4-TRIMETHYLBENZENE
1,2-DIBROMOETHANE (EDB)
BENZO(A)PYRENE
5/28/2005
10/10/2006
2/22/2008
7/6/2009
11/18/2010
Date
4/1/2012
8/14/2013
12/27/2014
5/10/2016
9/22/2017

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