2016 Second Semi-Annual Progress Report

Epic Savannah North Terminal
Savannah, Chatham County, Georgia
VRP #1440101197

Epic Midstream, LLC

GHD | 3075 Breckinridge Blvd., Suite 470 Duluth Georgia 30096
089400 | Report No 3 | November 30 2016

2016 2nd Semi-Annual Progress Report

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I certify that I am a qualified groundwater scientist who has received a baccalaureate or postgraduate degree in the natural sciences or engineering, and have sufficient training and experience in groundwater hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, that enable me to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that this report was prepared by me or by a subordinate working under my direction.

John A. DiZinno, PE

Printed Name (Professional Engineer)

11/30/2016

Signature (Professional Engineer)

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1. Introduction

On behalf of Epic Midstream, LLC (Epic), GHD has prepared this semiannual progress report pursuant to the approved Voluntary Remediation Program (VRP) application for the Epic Savannah North Terminal located at 7 Foundation Drive, Savannah, Georgia (Site). A vicinity map for the Site is included as Figure 1. An aerial photograph of the Site obtained in 2016 is included as Figure 2. A layout of the Site in its current configuration is shown on Figure 3.

1.1 Background

The Epic Savannah North Terminal has been utilized for petroleum refining and storage activities since the early 1900s. Mexican Petroleum first developed the property as a petroleum refinery in 1929. The property was later acquired by American Oil Company (and later Amoco), which continued petroleum operations. In 1993, the property was acquired by CITGO Asphalt Refining (CITGO) and began asphalt refining operations until acquisition by NuStar Asphalt Refining, LLC in 2008. Asphalt refining operations were halted in 2012. The property was acquired by Axeon Specialty Products (Axeon) in 2014, which utilized the Site for bulk storage and distribution of petroleum related products. The property was most recently obtained by Epic in December 2015 and is currently used as a bulk storage and distribution facility for petroleum products.

In 1989, light non-aqueous phase liquid (LNAPL) was discovered at the Site and a subsequent investigation by Amoco concluded that detected LNAPL was the result of the "gradual accumulation of residual oil over several decades." Subsurface investigations and LNAPL recovery operations have been conducted in various capacities since the discovery of the release. Through subsurface investigations, the LNAPL present at the Site has been determined to be petroleum hydrocarbon-based material.

In 1996, Horizontal Subsurface Systems, Inc. installed a 20-foot (ft) deep and approximately 1,500 ft long polyethylene (HDPE) poly wall at the Site along the Savannah River. The poly wall was positioned at the downgradient edge of the Site to prevent the migration of LNAPL to the Savannah River. Portions of the poly wall were excavated by Axeon in June and July of 2015. Upon inspection, the exposed sections of the poly wall did not show any signs of delamination, degradation, or deterioration. The installation of the poly wall has proved to be a success and an effective method of providing containment for the LNAPL plume.

On August 8, 2015, a VRP application and Voluntary Investigation and Remediation Plan (VIRP) was submitted by Axeon to the Georgia Environmental Protection Division (GAEPD) for the Site. Following submittal of the VIRP, Terracon, on behalf of Axeon, performed additional investigation at the Site and the results were summarized in a Site Investigation Summary Report (SISR) submitted to Georgia EPD on September 15, 2015. Additionally, Langan Engineering and Environmental Services (Langan) evaluated the LNAPL at the Site and identified LNAPL recovery approaches for implementation at the Site that were described in a Technical Memorandum to Axeon that was submitted to Georgia EPD on October 29, 2015. The SISR and Langan Technical Memorandum were submitted to supplement the August 2015 VIRP.

In correspondence dated November 24, 2015, the Georgia EPD stated that the Site had been approved for participation in the VRP with comments and was assigned VRP #1440101197.

Epic purchased the Site from Axeon on December 22, 2015 and on January 14, 2016 Epic submitted a revised VRP application and checklist to reflect the ownership change.

The existing monitoring well network at the Site as identified by GHD consists of 60 wells installed during previous environmental investigations that are shown on Figure 3. Historically, as many as 27 of these monitoring wells have contained LNAPL, with 23 wells currently containing measurable LNAPL during the reporting period.

1.2 Report Overview

This report summarizes the findings from the following activities that were performed at the Site during the reporting period of May 15 through November 15, 2016:

- Quarterly groundwater monitoring and LNAPL measuring performed in September and November 2016.
- Sampling of the groundwater from two recently re-installed monitoring wells, AW-62 and POD-1, in June 2016 for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and RCRA metals.
- Completion of a vapor intrusion screening level assessment for the Site, including the sampling of three wells (AW-27, AW-33, and AW-34) for benzene, toluene, ethylbenzene, xylenes, and naphthalene in October 2016.
- Completion of an LNAPL transmissivity evaluation for 17 wells containing in-well LNAPL thicknesses greater than 0.33 feet of LNAPL.
- Continuation and expansion of LNAPL recovery at the Site and further evaluation of long-term LNAPL transmissivity for select wells.

2. Activities Completed During Reporting Period

2.1 Quarterly LNAPL Monitoring

2.1.1 September 2016 Gauging Event

Depth to water measurements were obtained on September 22, 2016 for 60 existing on-Site monitoring wells that were located and accessible during the event. The measurements were obtained using a Solinst oil/water interface probe and are summarized in Table 1. Groundwater elevations were determined based on the depth to groundwater measurements and adjusted for the measured in-well LNAPL thickness, where required. A groundwater potentiometric elevation and contour map based on the September 22, 2016 groundwater elevation data is shown on Figure 4 and indicates that the groundwater flow direction is generally to the east towards the Savannah River and is consistent with historical observations.

LNAPL was measured in 23 of 60 gauged wells during the September 2016 event as summarized in Table 1 with observed thicknesses between a sheen and 10.73 feet. Figure 5 presents isopleths depicting the measured in-well LNAPL thicknesses for this event which are generally consistent with observations from recent events. A sheen of LNAPL was observed on the river side of the polywall, in AW-62; however, no LNAPL was measured in POD-1.

2.1.2 November 2016 Gauging Event

Depth to water measurements were obtained on November 15, 2016 for 61 existing on-Site monitoring wells that were located and accessible during the event. The measurements were obtained using a Solinst oil/water interface probe and are summarized in Table 1. Groundwater elevations were determined as described above (Section 2.2.1). A groundwater potentiometric elevation and contour map based on the November 15, 2016 groundwater elevation data is shown on Figure 6 and indicates that the groundwater flow direction is generally to the east towards the Savannah River and is consistent with historical observations.

LNAPL was measured in 22 of 61 gauged wells during the November 2016 event as summarized in Table 1 with observed thicknesses between a sheen and 10.76 feet. Figure 7 presents isopleths depicting the measured in-well LNAPL thicknesses for this event which are generally consistent with observations from recent events. A sheen of LNAPL was observed on the river side of the polywall, in AW-62; however, no LNAPL was measured in POD-1.

2.2 Groundwater Sampling

On June 10, 2016, GHD collected a groundwater sample from wells AW-62 and POD-1 that are located on the river-side of the polywall barrier system as shown on Figure 3. The groundwater purging and sampling activities were conducted in general accordance with current guidelines and methodologies as outlined in the U.S. Environmental Protection Agency (EPA) Region 4 Science and Ecosystem Support Division (SESD) Field Branches Quality System and Technical Procedures (FBQSTP). GHD personnel used clean disposable gloves during purging and sampling. Prior to sampling, each monitoring well was purged using low flow purging (LFP) methodologies using a peristaltic pump with new disposable polyethylene tubing dedicated to each well. Field parameters including pH, specific conductivity, turbidity, temperature, dissolved oxygen (DO), and oxidation-reduction potential (ORP) were measured during purging. Upon the stabilization of the field parameters, purging was discontinued and groundwater samples were collected. The field parameter measurements collected during purging and at the time of sampling are included on the LFP forms attached in Appendix A. Each sample was collected in pre-cleaned, laboratory-supplied containers that were labeled and stored on ice pending delivery to Analytical Environmental Services, Inc. (AES) in Atlanta, Georgia.

The samples were analyzed for VOCs, SVOCs, and total RCRA metals. The analytical laboratory report for the groundwater samples are included in Appendix B. No analytes were detected in either sample at concentrations above the laboratory reporting limit.

On October 28, 2016, GHD collected groundwater samples from AW-27, AW-33, and AW-34 to support the evaluation of the vapor intrusion exposure pathway. Each well was purged and sampled as described above with the exception that the samples were submitted for analysis of benzene, toluene, ethylbenzene, xylenes, and naphthalene. LFP forms for each well are included in Appendix A and the analytical laboratory report is included in Appendix B. No analytes were detected at concentrations above the laboratory reporting limit.

2.3 LNAPL Skimming and Transmissivity Evaluation

As described in the 2016 First Semi-Annual Progress Report, GHD and Epic proposed to obtain three LNAPL skimmer systems and install them in wells containing greater than 0.33 feet of LNAPL to continue LNAPL recovery and initiate an LNAPL transmissivity evaluation.

The Langan Technical Memorandum proposed the implementation of three LNAPL recovery approaches at the Site: skimming; mobile vacuum truck events; and installation of a fixed MPE system. It has been proposed that LNAPL transmissivity and the associated de minimis criteria of 0.1-0.8 ft^2/day proposed by the Interstate Technology Regulatory Council (ITRC) be used as the primary metric for LNAPL recovery at the Site. The ITRC de minimis LNAPL transmissivity range represents a magnitude of LNAPL recoverability at which the performance of LNAPL recovery is typically considered to be ineffective and unnecessary. In other words, continued LNAPL recovery is not deemed to be technically feasible at these levels since LNAPL mobility is considered to be negligible and therefore would not be expected to contribute to LNAPL migration. However, the Langan Technical Memorandum proposed LNAPL recovery be performed at numerous Site wells when only four wells appeared to have LNAPL transmissivities high enough that LNAPL recovery might be realistically expected to provide a benefit based on the estimates presented (i.e., most are already at or within the ITRC de minimis range). GHD proposed to implement a scope or work to provide the basis for a more accurate estimation of potential LNAPL recovery rates and LNAPL transmissivity, as well as a more technically appropriate application of the ITRC de minimis criteria.

GHD proposed to complete an LNAPL transmissivity evaluation by implementing LNAPL skimming only at all Site wells exhibiting in-well LNAPL thicknesses greater than 0.33 feet for periods of two to three weeks. This would represent an assumed limit for screening for the presence of potentially mobile/recoverable LNAPL in general and a practical limit for the evaluation of LNAPL transmissivity specifically as per ASTM E2856-13 Standard Guide for Estimation of LNAPL Transmissivity. The LNAPL transmissivity estimates would be developed pursuant to the methodology contained in ASTM E2856-13 for skimming. This would allow a much more accurate evaluation of LNAPL mobility/recoverability (while recovering LNAPL) upon which to base the subsequent LNAPL recovery/management strategy that may or may not include more aggressive techniques such as MPE. Wells exhibiting LNAPL transmissivity values (Tn) that suggest LNAPL is mobile and recoverable will then be evaluated to determine the most appropriate LNAPL recovery approach to be implemented over the long-term.

To complete the LNAPL transmissivity evaluation program, three LNAPL-only skimmer systems were purchased from QED Environmental. The typical installation for each skimmer system consisted of the use of a solar-powered controller, nitrogen cylinders to provide gas to operate the controller and skimmer pump, a 55-gallon drum equipped with a high-level shutoff to store recovered LNAPL, and the skimmer and pump assembly installed such that the LNAPL/groundwater interface was within the travel distance of the skimmer. Each skimmer was operated in attempt to maximize LNAPL recovery while continuously operating throughout the evaluation period. However, due to storage limitations on recovered LNAPL and nitrogen usage rates, the skimmers could not be operated at optimal rates for all of the wells evaluated.

2.3.1 Short-Duration LNAPL Skimming Studies

To complete the LNAPL transmissivity evaluation, GHD operated LNAPL skimmers in up to three wells at a time over a three and four-week duration. During operation, GHD monitored the recovery rate of LNAPL weekly to determine a daily recovery rate used to estimate a preliminary LNAPL Tn for each well.

GHD completed the installation of the LNAPL skimmer systems in the first set of wells on May 17, 2016 and the LNAPL skimming program was initiated. The LNAPL skimming was completed as follows:

- Group 1 (May 17 to June 8, 2016)
  - AW-65
  - AW-68
- Group 2 (June 8 to June 27, 2016)
  - AW-9
  - AW-49
- Group 3 (June 28 to July 27, 2016)
  - AW-10
  - AW-11
  - AW-82
- Group 4 (July 28 to August 25, 2016)
  - AW-6
  - AW-52
  - AW-57
- Group 5 (August 25 to September 21, 2016)
  - AW-18
  - AW-54
  - AW-56
- Group 6 (September 22 to October 5, 2016)
  - AW-5
  - AW-12
  - AW-22
- Group 7 (October 13 to 28, 2016)
  - AW-22
  - AW-51

Monitoring well AW-13 was not evaluated as planned as it contains LNAPL that is more viscous than the LNAPL observed in all other wells at the Site. Because of the LNAPL viscosity, the skimmer system could not be utilized effectively. Monitoring well AW-74 was not evaluated as planned because it is located within the driving route of trucks that make deliveries to the loading dock area. A skimmer system could not be easily installed that would not affect the operation of the loading dock.

A summary of the LNAPL skimming studies for each well is presented in Table 2. Observations from the studies are summarized as follows:

- Measured in-well thickness of the wells evaluated were between 1.60 feet and 10.73 feet
- Measured sustained LNAPL recovery rates up to 10 gallons per day (gpd) were observed with the greatest recovery rates observed in wells located near the north end of the Tank Farm.
- LNAPL recovery rates in the wells located nearest to the polywall barrier (i.e. AW-51, AW-65, AW-68) were typically lower than those observed near the truck loading rack and Tank Farm (i.e. AW-9, AW-10, AW-11, AW-22, AW-82).
- As is typically observed at LNAPL sites, the measured in-well thickness did not correlate with LNAPL recovery rates, i.e. wells with large in-well LNAPL thicknesses did not always yield high LNAPL recovery rates (e.g. AW-12, AW-52, and AW-57).
- The groundwater at the Site is tidally influenced to varying extents which can affect the recovery of LNAPL and the observed LNAPL recovery rates.
- Based on the studies completed as of October 30, 2016, of the 17 wells evaluated, it appears that four wells (AW-11, AW-22, AW-54, AW-56) exhibited LNAPL transmissivities greater than the ITRC de minimis criteria of 0.8 ft^2/day. The findings are discussed in further detail in Section 2.3.3.

2.3.2 Longer-Duration LNAPL Skimming Studies

Following the completion of the short-duration skimming evaluation on Group 2 (AW-9 and AW-49), GHD determined that the limited ability of the temporary LNAPL skimming setups to remove LNAPL at the maximum recovery rate possible from several wells would prevent an accurate assessment of the LNAPL transmissivity. Therefore, based on the results of the short-duration LNAPL skimming tests, several wells appeared to be candidates for focused, longer-duration evaluations. In an effort to begin the evaluation of these wells and to increase the recovery of LNAPL from the Site, GHD obtained and installed two additional LNAPL skimmer systems. The first two wells selected for a longer-duration skimming study were AW-9 and AW-49. These wells were selected for additional study based on the following:

- AW-9 demonstrated LNAPL recovery rates of 3 to 8 gpd during the short-duration study
- AW-49 demonstrated LNAPL recovery rates of 3 to 12 gpd during the short-duration study.
- Because of difficulties maintaining a decreased in-well LNAPL thickness during the short-duration studies, the LNAPL transmissivity values for AW-9 and AW-49 were believed to be under estimated; therefore, additional evaluation was required.
- AW-9 and AW-49 are located in close proximity to plant-supplied compressed air allowing for the application of shorter, more aggressive LNAPL refill and discharge rates on the skimmer systems that would increase the recovery rate and maintain a minimal in-well LNAPL thickness.
- AW-9 and AW-49 were relatively accessible for the installation of a small storage tank near each well that would allow for greater accumulation between startup/shutdown. These locations are also accessible by a tanker for the removal of accumulated LNAPL.

The additional skimmers were installed in AW-9 and AW-49 on September 14, 2016 and the longer-duration skimming studies were initiated. The skimmer refill/discharge rates were selected to maintain a minimal in-well LNAPL thickness in each well (Note that the skimmers are effective at

reducing in-well LNAPL thicknesses to approximately 0.2 feet). The volume of recovered LNAPL was monitored over a period of 3 weeks until the skimmers had to be shutdown on October 5, 2016 due to the impending arrival of Hurricane Matthew. At the time of shutdown, the sustained LNAPL recovery rates of AW-9 and AW-49 were approximately 2 to 3 gpd and 9 to 10 gpd, respectively. The total volume of recovered LNAPL from AW-9 and AW-49 during the initial 3 weeks of operation were 71 and 261 gallons, respectively.

Following the passage of Hurricane Matthew, the skimmer systems in AW-9 and AW-49 were restarted on October 13, 2016 and the longer-duration skimming studies were resumed. During the first week of operation following resumption of the study, AW-49 yielded over 267 gallons of LNAPL at an average recovery rate of over 38 gpd. AW-9 also yielded a higher LNAPL rate initially of 14 gpd. Recent observations suggest that the sustained LNAPL recovery rates have decreased to approximately those observed prior to Hurricane Matthew.

A summary of the observations for the longer-duration skimming studies is included in Table 2.

2.3.3 LNAPL Transmissivity Evaluation Findings

As described above, an LNAPL transmissivity evaluation was completed to provide a more reliable basis for selection of specific LNAPL recovery approaches. Previous transmissivity estimates were based on very short duration events. GHD calculated the LNAPL Tn for each well containing LNAPL greater than 0.33 feet in thickness using methodologies developed by ITRC for the evaluation of LNAPL mobility.

A summary of the transmissivity evaluation data is presented in Appendix C along with plots of the LNAPL Tn values for each tested well. Based on the results of the short-duration evaluations, four wells (AW-11, AW-22, AW-54, and AW-56) exhibited average LNAPL Tn values greater than the ITRC de minimis criteria of 0.8 ft^2/day. However, several of the calculated Tn values for other wells may underestimate actual conditions because of difficulties with maintaining a minimal in-well LNAPL thickness during the studies. Specifically, logistical issues prevented the maximum removal of LNAPL at wells AW-6, AW-9, AW-10, AW-18, AW-49, and AW-82.

As described in Section 2.3.2, AW-9 and AW-49 are currently being evaluated further through a focused, more aggressive LNAPL skimming program. During the short-duration evaluation, an estimated LNAPL Tn of 0.5 ft^2/day was calculated for AW-9. The estimated LNAPL Tn for AW-9 as determined through the long-duration evaluation thus far was calculated as 1.1 ft^2/day. This suggests that maintaining the drawdown of LNAPL within the well yields a LNAPL Tn that exceeds the ITRC de minimis criteria which will be confirmed through additional evaluation of LNAPL recovery from AW-9.

For AW-49, the long-duration study indicates a substantially higher LNAPL Tn than what was determined during the short-duration study. The short-duration study indicated an estimated LNAPL Tn of 0.3 ft^2/day whereas the long-duration study indicates an LNAPL Tn value of 25 ft^2/day for AW-49. The actual LNAPL Tn is likely somewhere between these two values and will be confirmed through additional evaluation of LNAPL recovery from AW-49.

Given the results of the evaluation, there does not appear to be a technical, science-based need for widespread LNAPL recovery at the Site. With the exception of AW-49, the LNAPL Tn values determined thus far do not significantly exceed the ITRC de minimis criteria. However, given the short-duration of the skimming tests and the logistical challenges experienced with maintaining

LNAPL drawdown and maximizing the LNAPL recovery rates while managing the usage of air for recovery and managing the storage of recovered LNAPL, several wells may have LNAPL Tn values greater than those reported thus far. Therefore, long-duration LNAPL skimming evaluations will continue at select wells that appear most likely to generate LNAPL at appreciable rates.

For the wells where the calculated LNAPL Tn value was within the range of the ITRC de minimis criteria of 0.1 – 0.8 ft^2/day and for which the in-well LNAPL thickness was adequately minimized during the short-duration evaluations, no further LNAPL recovery will be completed. The ITRC criteria is a commonly accepted, science-based endpoint for LNAPL recovery; therefore, upon reaching the criteria, LNAPL recovery will be suspended.

2.4 Vapor Intrusion Screening

During the reporting period, the vapor intrusion exposure pathway was evaluated. A preliminary screening was performed of available groundwater analytical data, the depth to groundwater, and the presence of LNAPL beneath or in the vicinity of occupied structures at the Site. There are several structures at the Site that are routinely occupied by Site personnel and include: administration building, laboratory, operations building, and the guard house/locker building. Currently, only the administration building, laboratory, and operations building are occupied by Site personnel on a routine basis.

As described in Section 2.2, groundwater samples were collected from wells AW-27, AW-33, and AW-34 in October 2016. These wells were sampled to evaluate the vapor intrusion exposure pathway for occupants of the administration building. There were no reported detections of benzene, toluene, ethylbenzene, xylenes, or naphthalene in the groundwater collected from these three wells indicating that there is not a complete vapor intrusion exposure pathway.

LNAPL has been intermittently detected in AW-38 which is located between the laboratory and operations buildings as shown on Figure 3. Because the depth to LNAPL is near 5 feet below the elevation of the building slabs, there is a potential vapor intrusion exposure pathway present for these structures that will be evaluated further during the next reporting period. Additional data collection consisting of sub-slab or deep soil gas sampling will be performed and the resulting data evaluated to determine if soil vapor presents a potential risk to occupants of these structures.

2.5 Conceptual Site Model

A preliminary CSM was submitted as part of the VIRP. The CSM will be updated as additional data are collected during the progress of activities implemented overtime. It is anticipated that the CSM will be updated following the completion of the LNAPL Transmissivity Evaluation.

3. Proposed Remediation Activities

Continued LNAPL Skimming and Refinement of LNAPL Transmissivity Evaluation

During the reporting period, GHD completed three to four-week duration LNAPL skimming events on 17 wells exhibiting in-well LNAPL thicknesses of greater than 0.33 feet. The observations and data generated were used to calculate LNAPL Tn values for each well that have been used to identify specific wells requiring further LNAPL recovery.

The LNAPL Tn evaluations suggested that only select wells exhibited LNAPL Tn values greater than the ITRC de minimis criteria. However, as described previously, several wells require additional longer-term evaluation to determine more accurate LNAPL Tn values through the maximization of LNAPL recovery rates. Wells AW-9 and AW-49 will continue to be evaluated to more accurately define the LNAPL Tn values for those wells and to gauge the decreasing LNAPL recovery rate and the effects on the transmissivity of the LNAPL.

GHD will utilize the three remaining LNAPL skimmer systems to perform longer-duration evaluations of AW-6, AW-10, AW-11, AW-18, AW-22, AW-54, AW-56, and AW-82. These wells either exhibited LNAPL Tn values greater than the ITRC de minimis criteria or the in-well LNAPL thickness could not be effectively reduced to allow an accurate LNAPL Tn estimation. The order of evaluation will be determined based on several Site-specific factors, namely proximity to plant-supplied air and the ability to stage and periodically empty an LNAPL storage tank near the well. The duration of the evaluation for each well will be determined based on field observations of the LNAPL recovery rate, reductions in the measured in-well LNAPL thickness, and estimates of the LNAPL Tn. If a well is determined to exhibit an LNAPL Tn of less than the de minimis criteria, then skimming will be halted as general industry guidance suggests that LNAPL with a Tn value less than 0.8 ft^2/day is not mobile and/or recoverable.

Based on the LNAPL Tn values calculated thus far, a focused LNAPL skimming approach appears to be an appropriate remedial approach for implementation at the Site. Epic will continue to implement LNAPL skimming at the Site in select wells with a calculated LNAPL Tn value that exceeds the generally accepted, science-based endpoint of 0.8 ft^2/day.

Quarterly LNAPL Gauging

GHD will continue to visit the Site on a quarterly basis to complete measurements of groundwater elevations and in-well LNAPL thickness. The measured LNAPL thicknesses will be reviewed and any wells requiring addition to or removal from the LNAPL skimming and transmissivity program will be identified.

AW-62 and POD-1 LNAPL Gauging

GHD will continue to monitor AW-62 and POD-1 which are on the river-side of the poly wall for the presence of LNAPL. In September 2016, a sheen of LNAPL was observed in AW-62; however, no LNAPL has been observed in POD-1 since its installation in 2015. If LNAPL continues to be observed at low thickness, GHD will install an absorbent sock in AW-62 and monitor the accumulation of LNAPL over the next reporting period.

On-Site Horizontal/Vertical Delineation

Epic and GHD will continue to evaluate the need for additional soil and/or groundwater sampling in the interior of the Site. Any sampling performed will be restricted to ensuring there is no on-going source of LNAPL contamination at the Site. The results of the continued LNAPL skimming will also be evaluated continuously to determine if additional LNAPL recovery wells are warranted at the Site.

Refinement of Vapor Intrusion Pathway Evaluation

Epic will complete additional activities required to evaluate the potential for vapor intrusion at the Site. Sub-slab and/or deep soil gas samples will be completed from the vicinity of AW-38, the

operations building, and the laboratory. Data will be imported into the USEPA Vapor Intrusion Screening Level calculator or into other screening tools to evaluate potential risk and based on initial results, the data may be evaluated further using commonly accepted tools, if warranted. The vapor intrusion evaluation will be completed during the next reporting period and the results will be included in the next progress report due on June 1, 2017.

4. Commitment to Future Requirements

Epic affirms its commitment to the following future requirements:

- Progress Reports – June 1st and December 1st through 2020
- September 1, 2017 – demonstrate complete horizontal and vertical delineation of off-Site properties
- March 2, 2018 – update the CSM and prepare final remediation plan
- March 31, 2021 – submit CSR upon completion of remedial activities proposed herein

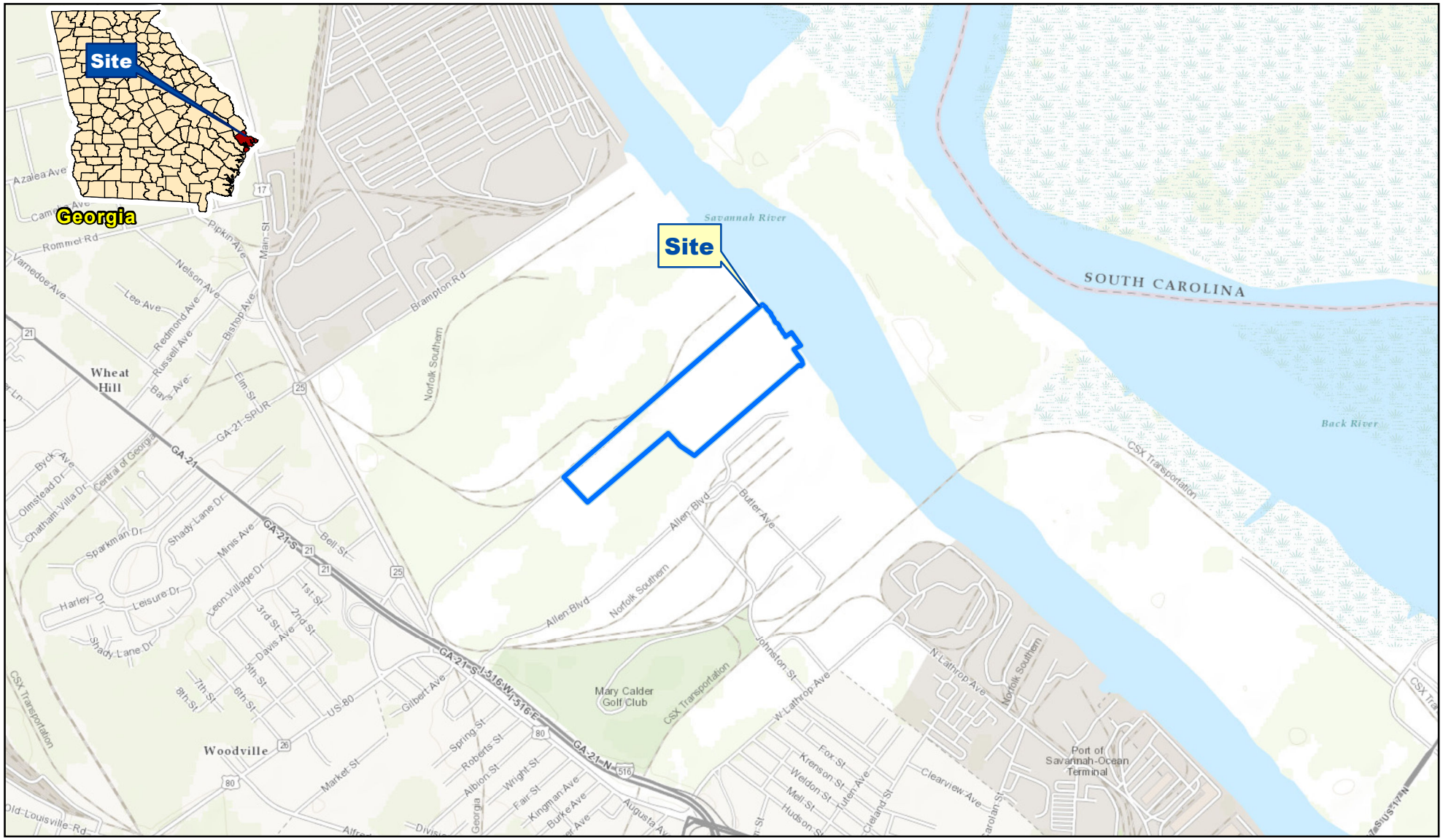
5. Project Schedule

The anticipated milestone schedule for the November 15, 2016 to May 15, 2017 reporting period is provided in Table 4.

6. Engineering Fees

Appendix D includes the summary of engineering fees incurred by this project from May 23 through November 13, 2016.

Figures



Source: 2013 National Agriculture Imagery Program (NAIP), provided by ESRI.

0 1,000 2,000
Feet

Coordinate System:
NAD 1983 UTM Zone 17N

N

GHD

EPIC MIDSTREAM, LLC
EPIC SAVANNAH NORTH TERMINAL, 7 FOUNDATION DRIVE, SAVANNAH, GEORGIA

May 25, 2016

VICINITY MAP

FIGURE 1

GIS File: J:\GIS\Client Project Data Library\Epic Midstream, LLC\Savannah North Terminal, Georgia\Vicinity Map\Epic Savannah North Terminal - Vicinity Map.mxd

Source: Aerial Photograph provided by Epic Midstream, LLC on March 17, 2016.

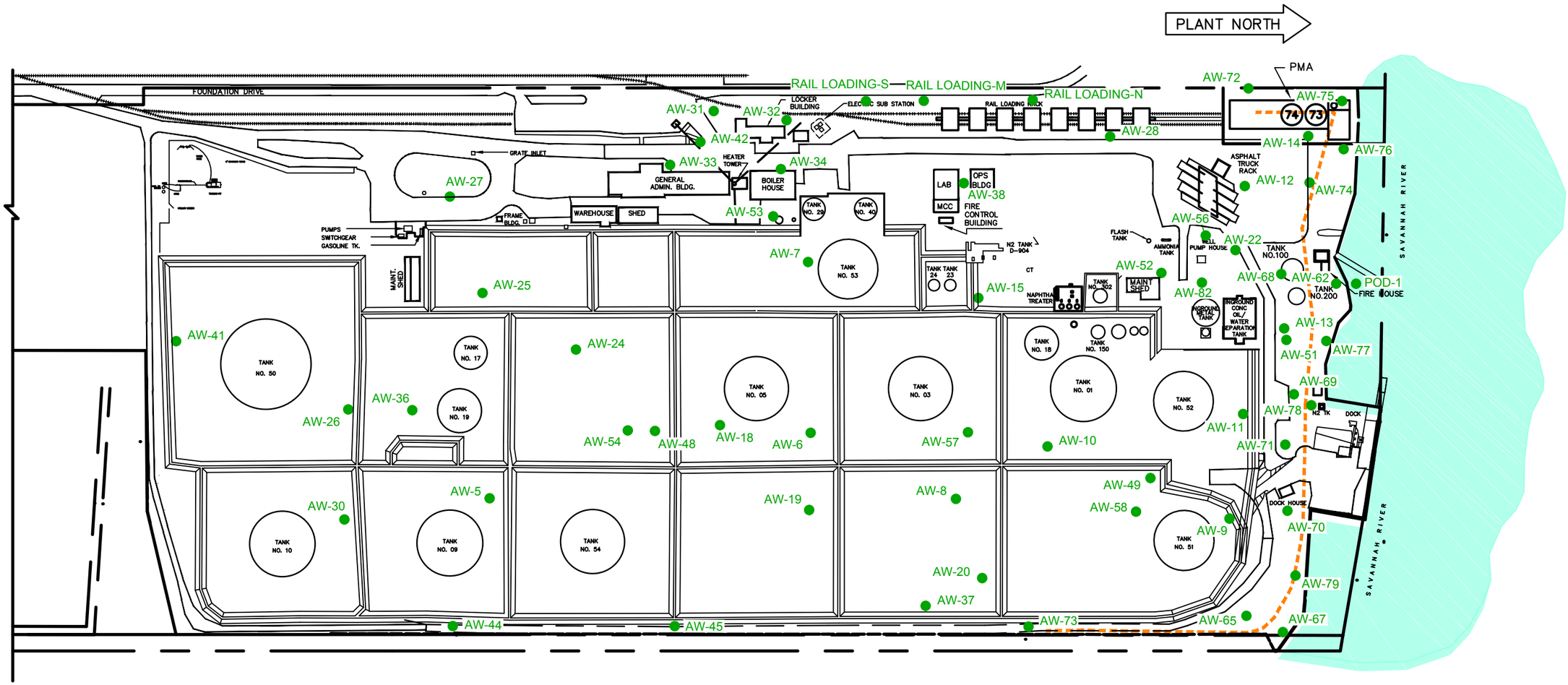
EPIC MIDSTREAM, LLC
EPIC SAVANNAH NORTH TERMINAL, 7 FOUNDATION DRIVE, SAVANNAH, GEORGIA

089400-00
May 9, 2016

2016 AERIAL PHOTOGRAPH

FIGURE 2

GIS File: J:\GIS\Projects\89000s\89400\89400-00(001)PR\89400-00(001)PR-BR001 2016 Aerial Photograph.mxd



0 100 200ft

LEGEND

POLYWALL BARRIER

AW-52 WELL LOCATION

GHD

EPIC MIDSTREAM, LLC
EPIC SAVANNAH NORTH TERMINAL, 7 FOUNDATION DRIVE, SAVANNAH, GEORGIA

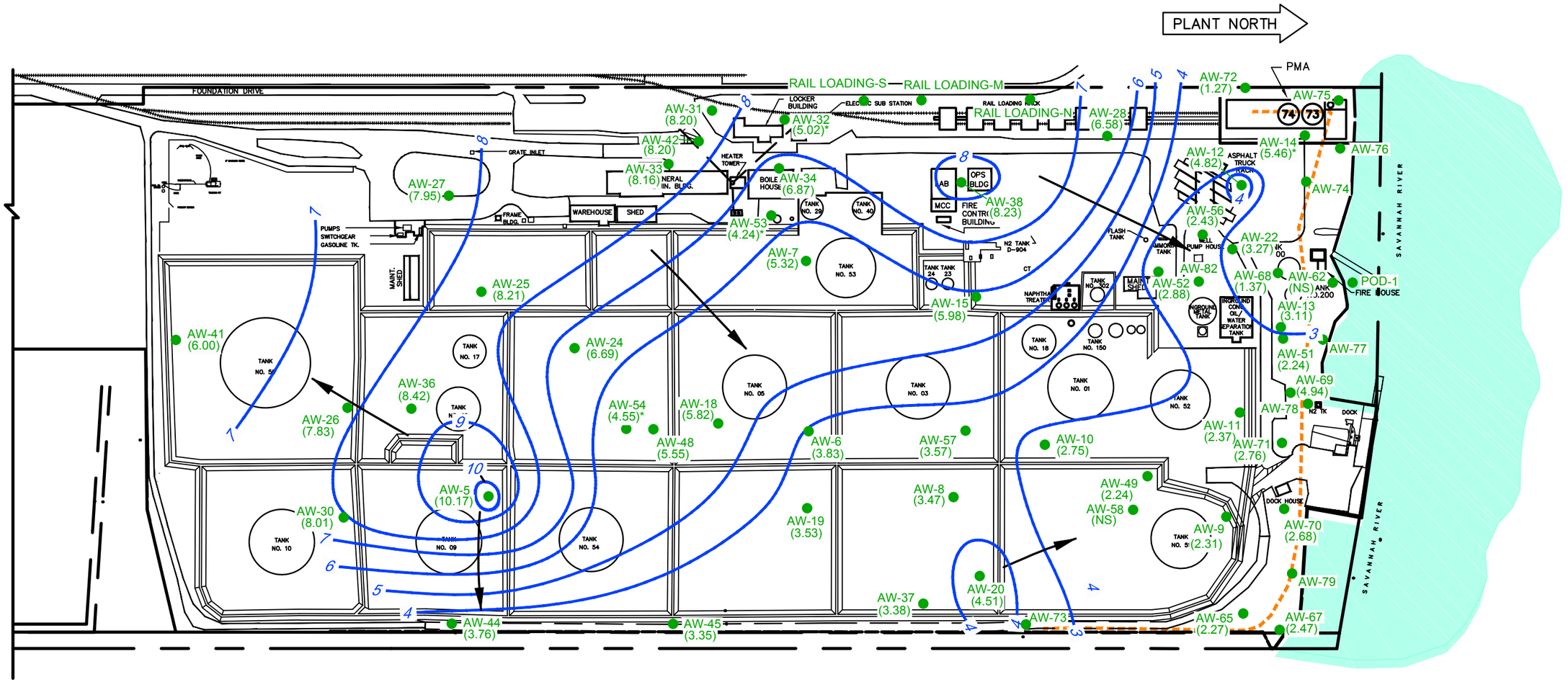
089400-00

Jul 15, 2016

SITE PLAN

FIGURE 3

CAD File: P:\6-chars\08----\089400\089400-Reports\089400-00(003)\089400-00(003)GN\089400-00(003)GN-BR001.dwg



LEGEND

- POLYWALL BARRIER
- AW-52 ● WELL LOCATION
- (8.01) GROUNDWATER ELEVATION (FT AMSL)
- 8 GROUNDWATER ELEVATION CONTOUR (FT AMSL)
- GROUNDWATER FLOW DIRECTION
- NS NOT SAMPLED
- * MEASURED ELEVATION NOT USED TO DEVELOP CONTOURS

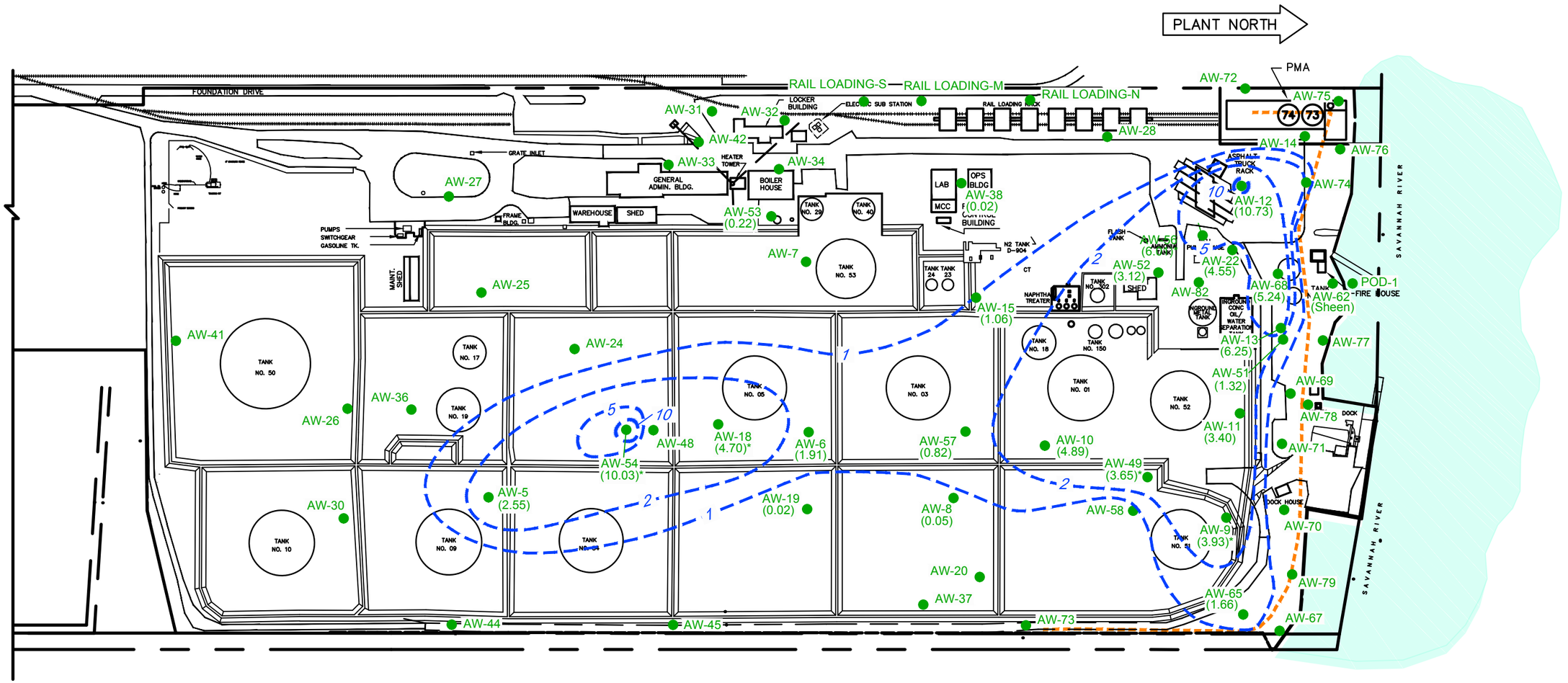
0 100 200ft

EPIC MIDSTREAM, LLC
EPIC SAVANNAH NORTH TERMINAL, 7 FOUNDATION DRIVE, SAVANNAH, GEORGIA

089400-00
Nov 21, 2016

SEPTEMBER 2016 GROUNDWATER ELEVATION CONTOUR MAP FIGURE 4

CAD File: I:\CAD\DRAWINGS\6-chars\08----\089400\089400-Reports\089400-00(003)\089400-00(003)GN\089400-00(003)GN-BR002.dwg



LEGEND

- POLYWALL BARRIER
- AW-52 ● WELL LOCATION
- (2.55) LNAPL THICKNESS (FEET)
- 2 LNAPL THICKNESS ISOPLETH (FEET)
- * LNAPL THICKNESS PRIOR TO SKIMMING

0 100 200ft

GHD

EPIC MIDSTREAM, LLC
EPIC SAVANNAH NORTH TERMINAL, 7 FOUNDATION DRIVE, SAVANNAH, GEORGIA

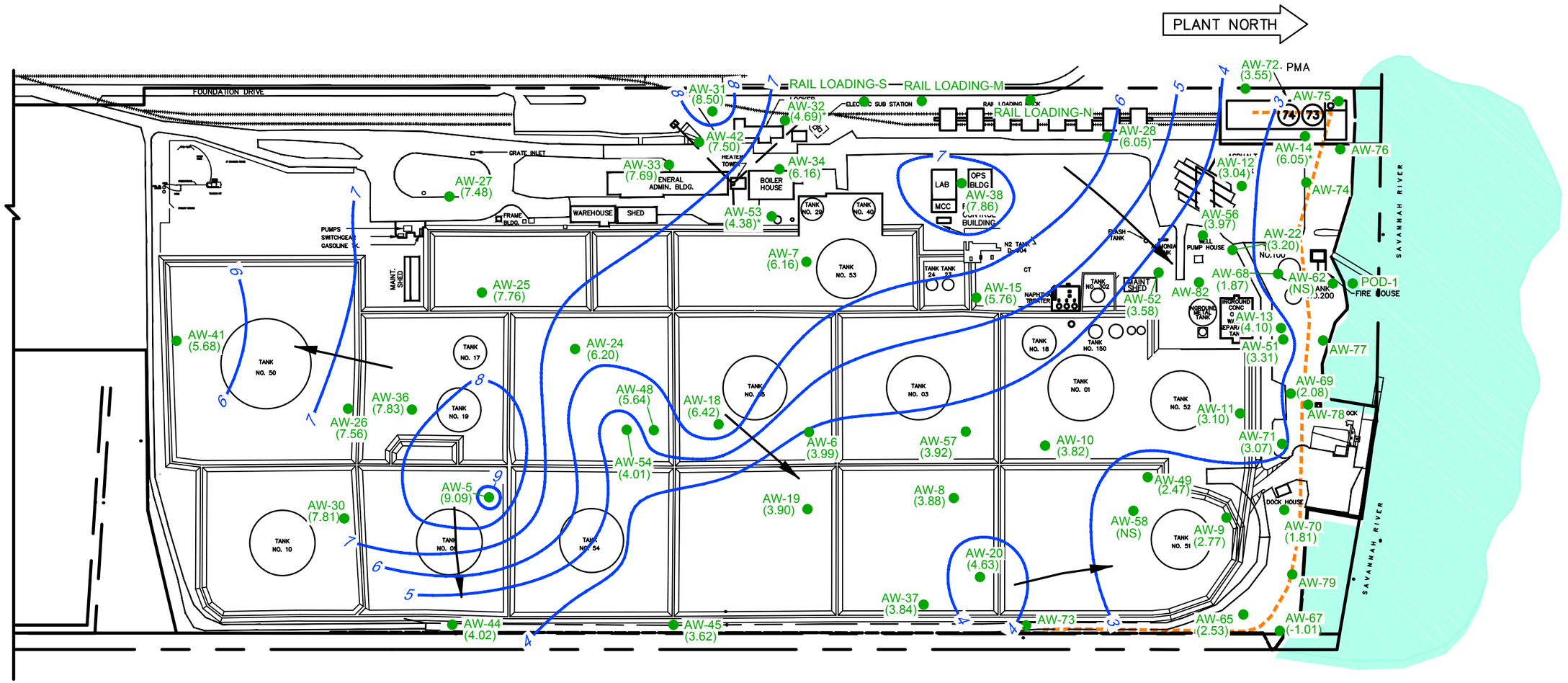
089400-00

Nov 18, 2016

SEPTEMBER 2016 LNAPL ISOCONTOUR MAP

FIGURE 5

CAD File: I:\CAD\DRAWINGS\6-chars\08----\089400\089400-Reports\089400-00(003)\089400-00(003)GN\089400-00(003)GN-BR003.dwg



LEGEND

- POLYWALL BARRIER
- AW-52 ● WELL LOCATION
- (7.81) GROUNDWATER ELEVATION (FT AMSL)
- 8 GROUNDWATER ELEVATION CONTOUR (FT AMSL)
- GROUNDWATER FLOW DIRECTION
- NS NOT SAMPLED
- * MEASURED ELEVATION NOT USED TO DEVELOP CONTOURS

0 100 200ft

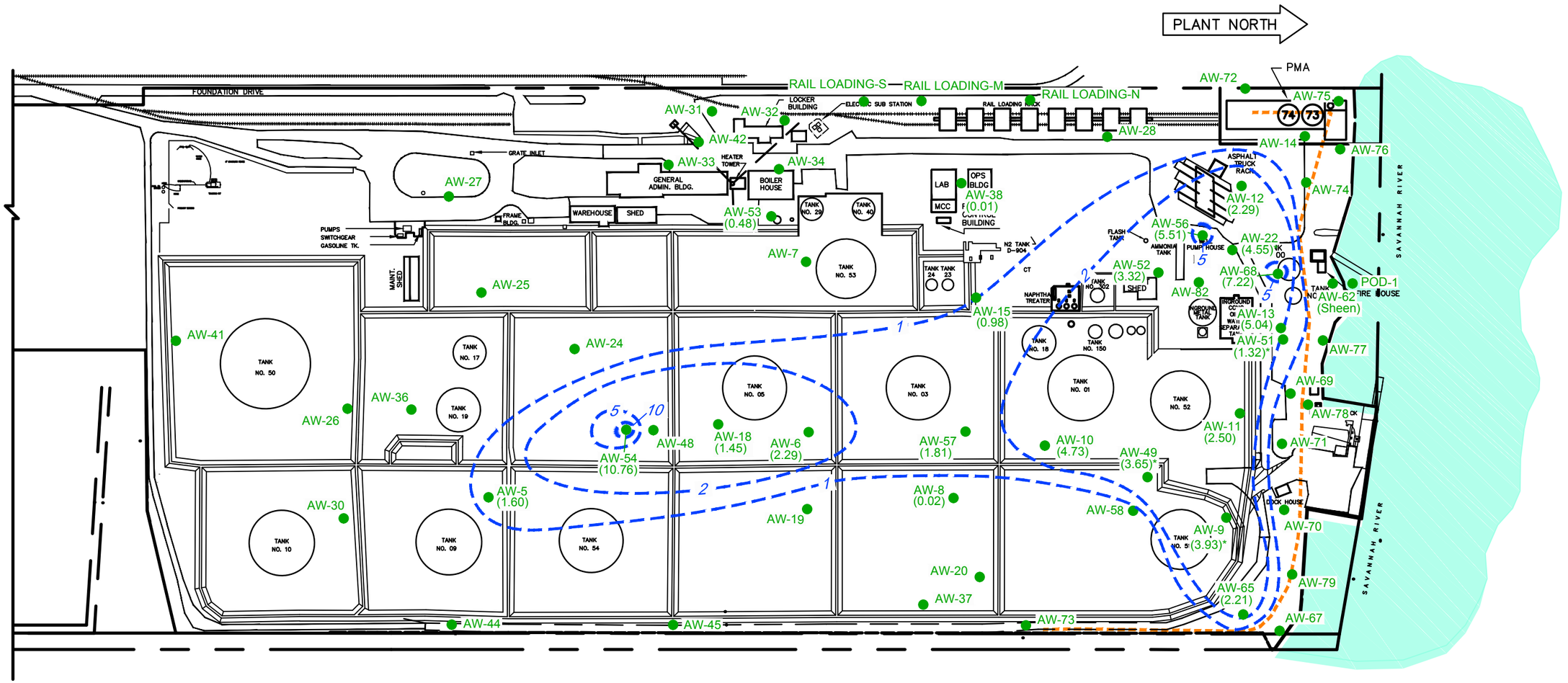
EPIC MIDSTREAM, LLC
EPIC SAVANNAH NORTH TERMINAL, 7 FOUNDATION DRIVE, SAVANNAH, GEORGIA

089400-00
Nov 21, 2016

NOVEMBER 2016 GROUNDWATER ELEVATION CONTOUR MAP

FIGURE 6

CAD File: I:\CAD\DRAWINGS\6-chars\08----\089400\089400-Reports\089400-00(003)\089400-00(003)GN\089400-00(003)GN-BR004.dwg



LEGEND

- POLYWALL BARRIER
- AW-52 ● WELL LOCATION
- (2.29) LNAPL THICKNESS (FEET)
- 2 LNAPL THICKNESS ISOPLETH (FEET)
- * LNAPL THICKNESS PRIOR TO SKIMMING

0 100 200ft

GHD

EPIC MIDSTREAM, LLC
EPIC SAVANNAH NORTH TERMINAL, 7 FOUNDATION DRIVE, SAVANNAH, GEORGIA

089400-00

Nov 18, 2016

NOVEMBER 2016 LNAPL ISOCONTOUR MAP

FIGURE 7

CAD File: I:\CAD\DRAWINGS\6-chars\08----\089400\089400-Reports\089400-00(003)\089400-00(003)GN\089400-00(003)GN-BR005.dwg

Tables

Table 1

Groundwater Elevation and LNAPL Thickness Data - March 2016 to Current
Epic Midstream, LLC
Savannah, Georgia
VRP #1440101197

Location ID	*Measurement Date*	*Depth to LNAPL (ft btoc)*	*Depth to Water (ft btoc)*	*Groundwater Elevation (ft AMSL)*	*LNAPL Thickness (ft)*
AW-5	3/1/2016	6.56	7.75	9.31	1.19
	5/1/2016	6.42	7.61	9.45	1.19
	9/21/2016	5.50	8.05	10.17	2.55
	11/15/2016	6.72	8.32	9.09	1.60
AW-6	3/1/2016	8.20	9.43	3.19	1.23
	5/1/2016	8.06	9.58	3.29	1.52
	9/22/2016	7.46	9.37	3.83	1.91
	11/15/2016	7.25	9.54	3.99	2.29
AW-7	3/1/2016	--	7.93	4.61	--
	5/1/2016	--	7.78	4.76	--
	9/22/2016	--	7.22	5.32	--
	11/15/2016	--	6.38	6.16	--
AW-8	3/1/2016	--	12.70	2.98	--
	5/1/2016	12.54	12.70	3.12	0.16
	9/22/2016	12.20	12.25	3.47	0.05
	11/15/2016	11.80	11.82	3.88	0.02
AW-9	3/1/2016	10.89	14.82	2.04	3.93
	5/1/2016	10.77	14.62	2.17	3.85
	9/22/2016	11.15	11.40	2.31	0.25
	11/15/2016	10.31	13.20	2.77	2.89
AW-10	3/1/2016	11.10	14.72	2.27	3.62
	5/1/2016	10.73	14.82	2.57	4.09
	9/22/2016	10.44	15.33	2.75	4.89
	11/15/2016	9.40	14.12	3.82	4.73
AW-11	3/1/2016	11.20	14.79	1.92	3.59
	5/1/2016	10.86	14.92	2.19	4.06
	9/22/2016	10.77	14.17	2.37	3.40
	11/15/2016	10.18	12.68	3.10	2.50
AW-12	3/1/2016	9.25	12.65	2.30	3.40
	5/1/2016	8.96	15.77	2.01	6.81
	9/21/2016	5.47	16.20	4.82	10.73
	11/15/2016	8.70	10.99	3.04	2.29
AW-13	3/1/2016	10.40	17.70	2.99	7.30
	5/1/2016	9.95	18.64	3.56	8.69
	9/22/2016	10.20	16.45	3.11	6.25
	11/15/2016	9.11	14.15	4.10	5.04
AW-14	3/1/2016	--	8.52	4.99	--
	5/1/2016	Not Measured			
	9/22/2016	--	8.05	5.46	--
	11/15/2016	--	7.46	6.05	--
AW-15	3/1/2016	10.65	10.75	4.72	0.10
	5/1/2016	9.40	9.66	5.94	0.26
	9/22/2016	9.25	10.31	5.98	1.06
	11/15/2016	9.48	10.46	5.76	0.98
AW-18	3/1/2016	7.06	8.60	5.64	1.54
	5/1/2016	7.00	8.75	5.66	1.75
	9/22/2016	6.70	9.45	5.82	2.75
	11/15/2016	6.29	7.74	6.42	1.45

Table 1

Groundwater Elevation and LNAPL Thickness Data - March 2016 to Current
Epic Midstream, LLC
Savannah, Georgia
VRP #1440101197

Location ID	*Measurement Date*	*Depth to LNAPL (ft btoc)*	*Depth to Water (ft btoc)*	*Groundwater Elevation (ft AMSL)*	*LNAPL Thickness (ft)*
AW-19	3/1/2016	12.40	12.45	3.09	0.05
	5/1/2016	--	12.26	3.24	--
	9/22/2016	11.97	11.99	3.53	0.02
	11/15/2016	--	11.60	3.90	--
AW-20	3/1/2016	--	12.20	3.47	--
	5/1/2016	--	12.06	3.61	--
	9/22/2016	--	11.16	4.51	--
	11/15/2016	--	11.04	4.63	--
AW-22	3/1/2016	12.65	17.72	1.74	5.07
	5/1/2016	12.75	16.42	1.84	3.67
	9/21/2016	11.20	15.75	3.27	4.55
	11/15/2016	11.93	11.95	3.20	0.02
AW-24	3/1/2016	--	5.10	6.26	--
	5/1/2016	--	5.04	6.32	--
	9/22/2016	--	4.67	6.69	--
	11/15/2016	--	5.16	6.20	--
AW-25	3/1/2016	--	5.92	7.58	--
	5/1/2016	--	5.78	7.72	--
	9/22/2016	--	5.29	8.21	--
	11/15/2016	--	5.74	7.76	--
AW-26	3/1/2016	--	4.52	7.95	--
	5/1/2016	--	4.54	7.93	--
	9/22/2016	--	4.64	7.83	--
	11/15/2016	--	4.91	7.56	--
AW-27	3/1/2016	--	6.28	7.24	--
	5/1/2016	--	6.13	7.39	--
	9/22/2016	--	5.57	7.95	--
	11/15/2016	--	6.04	7.48	--
AW-28	3/1/2016	--	5.15	6.03	--
	5/1/2016	--	5.19	5.99	--
	9/22/2016	--	4.60	6.58	--
	11/15/2016	--	5.13	6.05	--
AW-30	3/1/2016	--	5.35	8.05	--
	5/1/2016	--	5.31	8.09	--
	9/22/2016	--	5.39	8.01	--
	11/15/2016	--	5.59	7.81	--
AW-31	3/1/2016	--	2.72	7.58	--
	5/1/2016	--	2.60	7.70	--
	9/22/2016	--	2.10	8.20	--
	11/15/2016	--	1.80	8.50	--
AW-32	3/1/2016	--	10.40	3.99	--
	5/1/2016	--	9.60	4.79	--
	9/22/2016	--	9.37	5.02	--
	11/15/2016	--	9.70	4.69	--
AW-33	3/1/2016	--	5.43	7.65	--
	5/1/2016	--	5.35	7.73	--
	9/22/2016	--	4.92	8.16	--
	11/15/2016	--	5.39	7.69	--
AW-34	3/1/2016	--	7.57	5.70	--
	5/1/2016	--	7.36	5.91	--
	9/22/2016	--	6.40	6.87	--
	11/15/2016	--	7.11	6.16	--

Table 1

Groundwater Elevation and LNAPL Thickness Data - March 2016 to Current
Epic Midstream, LLC
Savannah, Georgia
VRP #1440101197

Location ID	*Measurement Date*	*Depth to LNAPL (ft btoc)*	*Depth to Water (ft btoc)*	*Groundwater Elevation (ft AMSL)*	*LNAPL Thickness (ft)*
AW-36	3/1/2016	--	5.47	8.18	--
	5/1/2016	--	5.42	8.23	--
	9/22/2016	--	5.23	8.42	--
	11/15/2016	--	5.82	7.83	--
AW-37	3/1/2016	--	11.37	2.96	--
	5/1/2016	--	11.24	3.09	--
	9/22/2016	--	10.95	3.38	--
	11/15/2016	--	10.49	3.84	--
AW-38	3/1/2016	--	4.45	7.58	--
	5/1/2016	Not Measured			
	9/22/2016	3.80	3.82	8.23	0.02
	11/15/2016	4.17	4.18	7.86	0.01
AW-41	3/1/2016	--	9.15	6.00	--
	5/1/2016	--	9.71	5.44	--
	9/22/2016	--	9.15	6.00	--
	11/15/2016	--	9.47	5.68	--
AW-42	3/1/2016	Not Measured			
	5/1/2016	1.69	1.70	7.74	0.01
	9/22/2016	--	1.23	8.20	--
	11/15/2016	--	1.93	7.50	--
AW-44	3/1/2016	--	10.03	3.38	--
	5/1/2016	--	10.00	3.41	--
	9/22/2016	--	9.65	3.76	--
	11/15/2016	--	9.39	4.02	--
AW-45	3/1/2016	--	12.14	2.99	--
	5/1/2016	--	12.12	3.01	--
	9/22/2016	--	11.78	3.35	--
	11/15/2016	--	11.51	3.62	--
AW-48	3/1/2016	--	6.82	4.31	--
	5/1/2016	--	6.10	5.03	--
	9/22/2016	--	5.58	5.55	--
	11/15/2016	--	5.49	5.64	--
AW-49	3/1/2016	13.10	15.94	1.99	2.84
	5/1/2016	12.73	16.76	2.18	4.03
	9/22/2016	13.22	13.47	2.24	0.25
	11/15/2016	13.00	13.19	2.47	0.19
AW-51	3/1/2016	10.48	11.41	2.16	0.93
	5/1/2016	9.90	10.62	2.76	0.72
	9/22/2016	10.35	11.67	2.24	1.32
	11/15/2016	9.41	9.62	3.31	0.21
AW-52	3/1/2016	12.80	15.69	2.52	2.89
	5/1/2016	12.47	15.56	2.82	3.09
	9/22/2016	12.40	15.52	2.88	3.12
	11/15/2016	11.68	15.00	3.58	3.32
AW-53	3/1/2016	6.62	6.92	3.67	0.30
	5/1/2016	6.51	6.76	3.78	0.25
	9/22/2016	6.06	6.28	4.24	0.22
	11/15/2016	5.88	6.36	4.38	0.48
AW-54	3/1/2016	5.95	14.88	3.41	8.93
	5/1/2016	5.83	15.81	3.37	9.98
	9/22/2016	5.51	9.60	4.55	4.09
	11/15/2016	5.08	15.84	4.01	10.76

Table 1

Groundwater Elevation and LNAPL Thickness Data - March 2016 to Current
Epic Midstream, LLC
Savannah, Georgia
VRP #1440101197

Location ID	*Measurement Date*	*Depth to LNAPL (ft btoc)*	*Depth to Water (ft btoc)*	*Groundwater Elevation (ft AMSL)*	*LNAPL Thickness (ft)*
AW-56	3/1/2016	9.32	14.05	2.64	4.73
	5/1/2016	8.48	14.55	3.28	6.07
	9/22/2016	9.39	15.09	2.43	5.70
	11/15/2016	7.88	13.39	3.97	5.51
AW-57	3/1/2016	Not Measured			
	5/1/2016	8.64	10.23	3.27	1.59
	9/22/2016	8.45	9.27	3.57	0.82
	11/15/2016	7.96	9.77	3.92	1.81
AW-58	3/1/2016	--	8.61	NS	--
	5/1/2016	--	8.51	NS	--
	9/22/2016	--	8.15	NS	--
	11/15/2016	--	7.44	NS	--
AW-62	3/1/2016	--	9.24	NS	--
	5/1/2016	--	10.60	NS	--
	9/22/2016	9.60	9.60	NS	Sheen
	11/15/2016	9.42	9.42	NS	Sheen
AW-65	3/1/2016	11.45	13.20	1.56	1.75
	5/1/2016	11.53	13.51	1.45	1.98
	9/22/2016	10.75	12.41	2.27	1.66
	11/15/2016	10.41	12.62	2.53	2.21
AW-67	3/1/2016	--	12.33	-1.01	--
	5/1/2016	--	13.37	-2.05	--
	9/22/2016	--	8.85	2.47	--
	11/15/2016	--	12.33	-1.01	--
AW-68	3/1/2016	11.75	15.11	1.56	3.36
	5/1/2016	10.48	13.90	2.82	3.42
	9/22/2016	11.66	16.90	1.37	5.24
	11/15/2016	10.88	18.10	1.87	7.22
AW-69	3/1/2016	Not Measured			
	5/1/2016	--	6.90	2.54	--
	9/22/2016	--	4.50	4.94	--
	11/15/2016	--	7.36	2.08	--
AW-70	3/1/2016	--	11.18	1.07	--
	5/1/2016	--	11.11	1.14	--
	9/22/2016	--	9.57	2.68	--
	11/15/2016	--	10.44	1.81	--
AW-71	3/1/2016	--	11.05	2.24	--
	5/1/2016	--	10.79	2.50	--
	9/22/2016	--	10.53	2.76	--
	11/15/2016	--	10.22	3.07	--
AW-72	3/1/2016	--	8.78	1.34	--
	5/1/2016	--	7.25	2.87	--
	9/22/2016	--	8.85	1.27	--
	11/15/2016	--	6.57	3.55	--
AW-73	3/1/2016	Not Measured			
	5/1/2016	Not Measured			
	9/22/2016	Not Measured			
	11/15/2016	--	8.67	3.37	--
AW-74	3/1/2016	9.27	10.99	0.44	1.72
	5/1/2016	6.78	7.96	3.01	1.18
	9/22/2016	9.53	13.71	-0.18	4.18
	11/15/2016	6.46	7.05	3.41	0.59

Table 1

Groundwater Elevation and LNAPL Thickness Data - March 2016 to Current
Epic Midstream, LLC
Savannah, Georgia
VRP #1440101197

Location ID	*Measurement Date*	*Depth to LNAPL (ft btoc)*	*Depth to Water (ft btoc)*	*Groundwater Elevation (ft AMSL)*	*LNAPL Thickness (ft)*
AW-75	3/1/2016	--	11.04	NS	--
	5/1/2016	--	6.57	NS	--
	9/22/2016	--	11.74	NS	--
	11/15/2016	--	6.40	NS	--
AW-76	3/1/2016	--	13.61	NS	--
	5/1/2016	--	14.07	NS	--
	9/22/2016	--	12.41	NS	--
	11/15/2016	--	13.86	NS	--
AW-77	3/1/2016	--	7.91	NS	--
	5/1/2016	--	9.59	NS	--
	9/22/2016	--	9.59	NS	--
	11/15/2016	--	9.18	NS	--
AW-78	3/1/2016	--	6.91	NS	--
	5/1/2016	--	6.77	NS	--
	9/22/2016	--	6.36	NS	--
	11/15/2016	--	6.42	NS	--
AW-79	3/1/2016	--	10.95	NS	--
	5/1/2016	--	11.03	NS	--
	9/22/2016	--	5.07	NS	--
	11/15/2016	--	10.73	NS	--
AW-82	3/1/2016	9.95	12.84	NS	2.89
	5/1/2016	9.65	12.63	NS	2.98
	9/22/2016	9.54	12.62	NS	3.08
	11/15/2016	8.97	11.84	NS	2.87
RAIL LOADING - N	3/1/2016	--	7.31	5.30	--
	5/1/2016	--	7.25	5.36	--
	9/22/2016	--	6.42	6.19	--
	11/15/2016	--	7.29	5.32	--
RAIL LOADING - S	3/1/2016	--	6.22	6.08	--
	5/1/2016	--	6.10	6.20	--
	9/22/2016	--	5.28	7.02	--
	11/15/2016	--	6.10	6.20	--
RAIL LOADING - M	3/1/2016	Damaged Casing			
	5/1/2016	Damaged Casing			
	9/22/2016	Damaged Casing			
	11/15/2016	Damaged Casing			
POD - 1	3/1/2016	--	11.60	NS	--
	5/1/2016	--	12.04	NS	--
	9/22/2016	--	10.35	NS	--
	11/15/2016	--	11.43	NS	--

Notes:
Dash (--) indicates not applicable
NS = Not Surveyed
ft btoc = feet below top of casing
ft AMSL = feet above mean sea level

Table 2

LNAPL Removal Summary - Short-Duration Skimming
Epic Midstream, LLC
Savannah, Georgia
VRP #1440101197

Group	*Well ID*	*Measurement Date*	*Measured In-Well LNAPL Thickness (feet)*	*LNAPL Removed Between Measurements (gallons)*	*Cumulative Total LNAPL Removal (gallons)*	*Comments*
Skimming Group #1	**AW-65**	5/17/2016	1.80	--	--	Installed LNAPL Skimmer
		5/20/2016	0.03	2.15	2.2	
		5/25/2016	0.05	5.65	7.8	
		6/1/2016	0.01	9.85	17.7	
		6/8/2016	0.08	9.02	**26.7**	LNAPL skimmer removed for relocation
	AW-68	5/17/2016	3.71	--	--	Installed LNAPL Skimmer
		5/20/2016	0.17	5.16	5.2	
		5/25/2016	0.23	1.44	6.6	
		6/1/2016	0.38	0.30	6.9	
		6/8/2016	1.05	6.30	**13.2**	LNAPL skimmer removed for relocation
Skimming Group #2	**AW-9**	6/8/2016	3.87	--	--	Installed LNAPL Skimmer
		6/9/2016	2.90	8.55	8.6	
		6/10/2016	2.90	1.05	9.6	
		6/13/2016	2.33	11.74	21.3	
		6/22/2016	1.80	27.91	49.3	Recovery halted due to full drum
		6/27/2016	4.45	--	**49.3**	LNAPL skimmer removed for relocation
	AW-49	6/8/2016	5.05	--	--	Installed LNAPL Skimmer
		6/9/2016	4.88	7.80	7.8	
		6/10/2016	4.54	0.80	8.6	
		6/13/2016	5.39	11.51	20.1	
		6/22/2016	5.19	25.20	45.3	Recovery halted due to full drum
		6/27/2016	5.32	--	**45.3**	LNAPL skimmer removed for relocation

Table 2

LNAPL Removal Summary - Short-Duration Skimming
Epic Midstream, LLC
Savannah, Georgia
VRP #1440101197

Group	*Well ID*	*Measurement Date*	*Measured In-Well LNAPL Thickness (feet)*	*LNAPL Removed Between Measurements (gallons)*	*Cumulative Total LNAPL Removal (gallons)*	*Comments*
Skimming Group #3	**AW-10**	6/28/2016	5.08	--	--	Installed LNAPL Skimmer
		7/1/2006	0.77	16.83	16.8	
		7/7/2016	0.20	23.39	40.2	
		7/11/2016	1.43	10.26	50.5	Recovery halted due to full drum; system restarted
		7/12/2016	1.66	4.76	55.2	
		7/19/2016	3.64	13.96	69.2	
		7/21/2016	3.85	6.73	75.9	Recovery halted due to full drum; system restarted
		7/27/2016	3.41	25.45	**101.4**	LNAPL skimmer removed for relocation
	AW-11	6/28/2016	3.11	--	--	Installed LNAPL Skimmer
		7/1/2006	1.98	18.06	18.1	
		7/7/2016	2.36	23.80	41.9	
		7/11/2016	1.84	10.26	52.1	Recovery halted due to full drum; system restarted
		7/12/2016	1.31	7.39	59.5	
		7/19/2016	0.79	32.01	91.5	
		7/21/2016	1.81	0.00	91.5	Recovery halted due to full drum; system restarted
		7/27/2016	0.20	27.91	**119.4**	LNAPL skimmer removed for relocation
	AW-82	6/28/2016	3.51	--	--	Installed LNAPL Skimmer
		7/1/2006	3.44	6.00	6.0	
		7/7/2016	3.15	6.28	12.3	
		7/11/2016	3.70	10.39	22.7	Recovery halted due to full drum; system restarted
		7/12/2016	2.92	3.69	26.4	
		7/19/2016	2.87	23.30	49.7	
		7/21/2016	3.32	8.08	57.7	Recovery halted due to full drum; system restarted
		7/27/2016	3.00	21.34	**79.1**	LNAPL skimmer removed for relocation

Table 2

LNAPL Removal Summary - Short-Duration Skimming
Epic Midstream, LLC
Savannah, Georgia
VRP #1440101197

Group	*Well ID*	*Measurement Date*	*Measured In-Well LNAPL Thickness (feet)*	*LNAPL Removed Between Measurements (gallons)*	*Cumulative Total LNAPL Removal (gallons)*	*Comments*
Skimming Group #4	**AW-6**	7/28/2016	5.08	--	--	Installed LNAPL Skimmer
		8/2/2016	1.60	0.75	0.8	
		8/11/2016	1.15	2.05	2.8	
		8/17/2016	1.26	0.71	3.5	
		8/25/2016	1.62	0.52	**4.0**	LNAPL skimmer removed for relocation
	AW-52	7/28/2016	3.30	--	--	Installed LNAPL Skimmer
		8/2/2016	0.46	5.75	5.8	
		8/11/2016	0.25	2.46	8.2	
		8/17/2016	0.25	0.66	8.9	
		8/25/2016	0.51	2.21	**11.1**	LNAPL skimmer removed for relocation
	AW-57	7/28/2016	3.51	--	--	Installed LNAPL Skimmer
		8/2/2016	0.26	6.57	6.6	
		8/10/2016	0.34	0.03	6.6	
		8/11/2016	0.12	0.00	6.6	
		8/17/2016	0.12	0.49	7.1	
		8/25/2016	0.11	0.30	**7.4**	LNAPL skimmer removed for relocation

Table 2

LNAPL Removal Summary - Short-Duration Skimming
Epic Midstream, LLC
Savannah, Georgia
VRP #1440101197

Group	*Well ID*	*Measurement Date*	*Measured In-Well LNAPL Thickness (feet)*	*LNAPL Removed Between Measurements (gallons)*	*Cumulative Total LNAPL Removal (gallons)*	*Comments*
Skimming Group #5	**AW-18**	8/25/2016	4.70	--	--	Installed LNAPL Skimmer
		8/31/2016	4.00	2.87	2.87	
		9/7/2016	3.90	0.83	3.7	
		9/15/2016	4.04	3.70	**7.4**	LNAPL skimmer removed for relocation
	AW-54	8/25/2016	10.03	--	--	Installed LNAPL Skimmer
		8/31/2016	4.40	50.00	50.0	
		9/7/2016	--	50.00	100.0	
		9/14/2016	2.76	50.00	150.0	
		9/21/2016	1.50	50.00	**200.0**	LNAPL skimmer removed for relocation
	AW-56	8/25/2016	6.01	--	--	Installed LNAPL Skimmer
		8/31/2016	3.01	36.12	36.1	
		9/7/2016	2.50	31.20	67.3	
		9/14/2016	3.56	50.00	117.3	
		9/15/2016	0.12	9.50	126.8	
		9/21/2016	--	4.50	**131.3**	LNAPL skimmer removed for relocation

Table 2

LNAPL Removal Summary - Short-Duration Skimming
Epic Midstream, LLC
Savannah, Georgia
VRP #1440101197

Group	*Well ID*	*Measurement Date*	*Measured In-Well LNAPL Thickness (feet)*	*LNAPL Removed Between Measurements (gallons)*	*Cumulative Total LNAPL Removal (gallons)*	*Comments*
Skimming Group #6	**AW-5**	9/22/2016	2.55	--	--	Installed LNAPL Skimmer
		9/28/2016	1.94	29.00	**29.0**	
		10/5/2016	--	--	--	LNAPL skimmer shutdown due to Hurricane Matthew
		10/13/2016	--	--	--	Skimmer remains down due to elevated water
		10/20/2016	--	--	--	Skimmer remains down due to elevated water
		10/28/2016	--	--	--	Skimmer remains down due to elevated water
		LNAPL Skimming Will Resume in Future				
	AW-12	9/22/2016	10.73	--	--	Installed LNAPL Skimmer
		9/28/2016	0.10	24.63	24.6	
		10/5/2016	0.18	5.91	**30.5**	LNAPL skimmer removed for relocation
	AW-22	9/22/2016	4.55	--	--	Installed LNAPL Skimmer
		9/28/2016	1.63	51.00	51.0	
		10/5/2016	1.59	52.53	103.5	LNAPL skimmer shutdown due to Hurricane Matthew
		10/13/2016	3.70	0.00	103.5	LNAPL skimmer restarted
		10/20/2016	2.40	51.00	154.5	
		10/28/2016	2.39	0.00	**154.5**	LNAPL skimmer malfunctioned
		LNAPL Skimming Underway				
	AW-51 (2nd Test)	10/13/2016	0.92	--	--	Installed LNAPL Skimmer
		10/20/2016	0.20	9.85	9.9	
		10/28/2016	0.03	0.00	**9.9**	
		LNAPL Skimming Underway				

Note: Includes activities through October 28, 2016.

Table 3

LNAPL Removal Summary - Long-Duration Skimming
Epic Midstream, LLC
Savannah, Georgia
VRP #1440101197

Well ID	*Measurement Date*	*Measured In-Well LNAPL Thickness (feet)*	*LNAPL Removed Between Measurements (gallons)*	*Cumulative Total LNAPL Removal (gallons)*	*Comments*
AW-9	9/14/2016	3.93	--	--	Installed LNAPL Skimmer
	9/21/2016	0.35	31.70	31.7	
	9/28/2016	0.26	20.30	52.0	
	10/5/2016	0.23	19.00	71.0	LNAPL skimmer shutdown due to Hurricane Matthew
	10/13/2016	4.06	0.00	71.0	LNAPL skimmer restarted
	10/20/2016	0.11	97.00	168.0	LNAPL skimmer shutdown due to nearly full tank
	10/28/2016	3.40	0.00	**168.0**	LNAPL skimmer restarted
	LNAPL Skimming Underway				
AW-49	9/14/2016	3.65	--	--	Installed LNAPL Skimmer
	9/21/2016	0.29	134.40	134.4	
	9/28/2016	0.23	70.80	205.2	
	10/5/2016	0.13	55.50	260.7	LNAPL skimmer shutdown due to Hurricane Matthew
	10/13/2016	4.73	0.00	260.7	LNAPL skimmer restarted
	10/20/2016	3.16	267.00	527.7	LNAPL skimmer shutdown due to full tank
	10/28/2016	3.25	0.00	**527.7**	LNAPL skimmer restarted
	LNAPL Skimming Underway				

Notes: 1. Long-term skimming was initiated in AW-9 and AW-49 on September 14, 2016.
2. Includes observations throughOctober 28, 2016.

Table 4

Milestone Schedule
June 1, 2016 to December 1, 2016
Epic Midstream LLC
Savannah, Georgia
VRP #1440101197

Milestone	***Timeline***
Submittal of Semi-Annual Progress Report	December 1, 2016
Continued Longer-Duration LNAPL Skimming Program	December 1, 2016 through Date To Be Determined
Refine LNAPL Transmissivity Evaluation	Ongoing
Determine Additional LNAPL Delineation Needs	June 1, 2017
Refine Vapor Intrusion Pathway Evaluation	April 30, 2017
Submittal of Semi-Annual Progress Report	June 1, 2017

Appendices

Appendix A
Low Flow Purging Forms

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Epic - Savannah
Ref. No.: 89400
Date: 6/10/2016
Personnel: Zach Al-Marhoun

Monitoring Well Data:

Well No.: AW-62
Measurement Point: TOC
Constructed Well Depth (ft): 20
Measured Well Depth (ft): 19.6
Depth of Sediment (ft): --
Screen Length (ft): 15
Depth to Pump Intake (ft)[1]: 15
Well Diameter, D (in): 4
Initial Depth to Water (ft): 8.97

Time	*Pumping Rate (mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level[3] (ft)*	*pH*	*Temperature ^{o}C*	*Conductivity (S/cm)*	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Volume Purged, V_p (mL)*
8:15	80	9.01	0.04	5.81	26.55	0.377	-1	0.26	3.87	400
8:20	80	9.05	0.08	6.05	26.03	0.341	-27	0.00	5.26	800
8:25	80	9.05	0.08	6.05	25.84	0.340	-28	0.00	7.74	1200
8:30	80	9.06	0.09	6.06	25.29	0.340	-39	0.00	10.60	1600
8:35	80	9.07	0.10	6.11	25.11	0.341	-43	0.00	9.97	2000
8:40	80	9.07	0.10	6.13	25.00	0.343	-49	0.00	8.16	2400
8:45	80	9.08	0.11	6.14	25.05	0.343	-50	0.00	7.19	2800
	Sample Time	8:50								
	Sample ID	AW-62-089400-061016-ZJA-001								
			Containers and Preservatives			Analysis				
			1 L Amber			SVOCs				
			40 mL VOA (HCl)			VOCs				
			250 mL Plastic (HNO3)			Metals				

Notes:

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Epic - Savannah
Ref. No.: 89400
Date: 6/10/2016
Personnel: Zach Al-Marhoun

Monitoring Well Data:

Well No.: POD-1
Measurement Point: TOC
Constructed Well Depth (ft): 20
Measured Well Depth (ft): 19.35
Depth of Sediment (ft): --
Screen Length (ft): 15
Depth to Pump Intake (ft)[1]: 15
Well Diameter, D (in): 2
Initial Depth to Water (ft): 9.65

Time	*Pumping Rate (mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level[3] (ft)*	*pH*	*Temperature ^{o}C*	*Conductivity (S/cm)*	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Volume Purged, V_p (mL)*
9:10	100	9.65	0.00	6.27	26.76	0.560	-64	0.31	98.8	500
9:15	100	9.65	0.00	6.26	26.63	0.560	-65	0.26	94.8	1000
9:20	100	9.66	0.01	6.19	26.01	0.568	-69	0.13	85.6	1500
9:25	100	9.65	0.00	6.18	25.99	0.567	-69	0.14	78.4	2000
9:30	100	9.65	0.00	6.08	25.76	0.566	-65	0.17	74.5	2500
9:35	100	9.65	0.00	5.98	25.70	0.568	-60	0.20	72.0	3000
9:40	100	9.65	0.00	5.99	25.73	0.569	-62	0.21	69.0	3500
9:45	100	9.65	0.00	6.00	25.73	0.570	-63	0.22	67.9	4000
	Sample Time	9:45								
	Sample ID	POD-1-089400-061016-ZJA-002								
			Containers and Preservatives			Analysis				
			1 L Amber			SVOCs				
			40 mL VOA (HCl)			VOCs				
			250 mL Plastic (HNO3)			Metals				

Notes:

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Epic - Savannah
Ref. No.: 89400
Date: 10/28/2016
Personnel: Steven Grace

Monitoring Well Data:

Well No.: AW-27
Measurement Point: TOC
Constructed Well Depth (ft): 15.26
Measured Well Depth (ft): 15.2
Depth of Sediment (ft): --
Screen Length (ft): 10
Depth to Pump Intake (ft)[1]: 9.5
Well Diameter, D (in): 2
Initial Depth to Water (ft): 4.79

Time	*Pumping Rate (mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level (ft)* [3]	*pH*	*Temperature °C*	*Conductivity (S/cm)*	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Volume Purged, V_p (mL)*
8:00	70	4.81	0.02	4.08	20.49	0.059	341	3.51	36.8	350
8:05	70	4.81	0.02	4.16	20.52	0.077	341	2.67	28.9	700
8:10	70	4.81	0.02	4.71	20.85	0.063	344	2.43	24.7	1050
8:15	70	4.81	0.02	5.81	23.13	0.112	261	2.49	26.8	1400
8:20	70	4.81	0.02	6.02	23.70	0.097	258	1.65	21.0	1750
8:25	70	4.81	0.02	6.03	23.75	0.094	258	1.49	19.6	2100
8:30	70	4.81	0.02	6.05	23.82	0.093	259	1.47	16.3	2450
8:35	70	4.81	0.02	6.06	23.88	0.092	259	1.44	16.2	2800
	Sample Time	8:40								
	Sample ID	GW-089400-102816-SAG-001								
			Containers and Preservatives			Analysis				
			40 mL VOA (HCl)			VOCs				

Notes:

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Epic - Savannah
Ref. No.: 89400
Date: 10/28/2016
Personnel: Steven Grace

Monitoring Well Data:

Well No.: AW-33
Measurement Point: TOC
Constructed Well Depth (ft): 13
Measured Well Depth (ft): 13
Depth of Sediment (ft): --
Screen Length (ft): 10
Depth to Pump Intake (ft)[1]: 9
Well Diameter, D (in): 2
Initial Depth to Water (ft): 5.23

Time	*Pumping Rate (mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level (ft)[3]*	*pH*	*Temperature °C*	*Conductivity (S/cm)*	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Volume Purged, V_p (mL)*
8:50	70	5.23	0.00	6.53	24.61	0.195	244	2.5	16.9	350
8:55	70	5.23	0.00	6.72	26	0.217	232	1.95	16.6	700
9:00	70	5.23	0.00	6.75	26.17	0.218	229	1.96	14.4	1050
9:05	70	5.23	0.00	6.73	26.22	0.219	229	1.68	15.7	1400
9:10	70	5.23	0.00	6.76	26.67	0.219	220	1.75	7.9	1750
9:15	70	5.23	0.00	6.77	26.73	0.219	219	1.65	8.4	2100
9:20	70	5.23	0.00	6.76	26.8	0.219	217	1.69	7.5	2450
9:25	70	5.23	0.00	6.77	26.83	0.219	215	1.72	7.1	2800
	Sample Time	9:30								
	Sample ID	GW-089400-102816-SAG-002								
			Containers and Preservatives			Analysis				
			40 mL VOA (HCl)			VOCs				

Notes:

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: Epic - Savannah
Ref. No.: 89400
Date: 10/28/2016
Personnel: Steven Grace

Monitoring Well Data:

Well No.: AW-34
Measurement Point: TOC
Constructed Well Depth (ft): 13.94
Measured Well Depth (ft): 13.8
Depth of Sediment (ft): --
Screen Length (ft): 10
Depth to Pump Intake (ft)[1]: 10
Well Diameter, D (in): 2
Initial Depth to Water (ft): 6.12

Time	*Pumping Rate (mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level (ft)* [3]	*pH*	*Temperature °C*	*Conductivity (S/cm)*	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Volume Purged, V_p (mL)*
9:40	70	6.15	0.03	6.27	26.78	1.01	-11		96.2	350
9:45	70	6.15	0.03	6.33	26.32	1.79	-52	0.71	41.1	700
9:50	70	6.15	0.03	6.33	26.39	1.79	-54	0.88	38.4	1050
9:55	70	6.15	0.03	6.33	26.34	1.78	-55	0.41	38.6	1400
10:00	70	6.15	0.03	6.34	26.35	1.76	-59	0.37	33.5	1750
10:05	70	6.15	0.03	6.34	26.39	1.73	-62	0.34	28.5	2100
10:10	70	6.15	0.03	6.36	26.44	1.69	-65	0.32	21.9	2450
10:15	70	6.15	0.03	6.35	26.56	1.68	-67	0.31	25.4	2800
	Sample Time	10:20								
	Sample ID	GW-089400-102816-SAG-003								
			Containers and Preservatives			Analysis				
			40 mL VOA (HCl)			VOCs				

Notes:

Appendix B
Field Sample Key and Analytical Laboratory Reports

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

AES

June 21, 2016

John Dizinno
GHD Services, Inc.
9033 Meridian Way
West Chester OH 45069

TEL: (513) 942-4750
FAX:

RE: Epic - Savannah North Terminal

Dear John Dizinno: Order No: 1606B75

Analytical Environmental Services, Inc. received 3 samples on 6/10/2016 6:38:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES's accreditations are as follows:
-NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/15-06/30/16.
-NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/15-06/30/16.
-NELAC/Texas Certificate No. T104704509-16-6 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 03/01/16-02/28/17.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.

CKKanhai

Chantelle Kanhai
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3080 Presidential Drive, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1606B75

Date: _____ Page 1 of 1

COMPANY: GHD SERVICES INC

ADDRESS: 3075 BRECKINRIDGE BLVD. SUITE 470, DULUTH, GA 30096

PHONE: 678-280-2150

FAX:

SAMPLED BY: ZACHARY AL-MARHOUN

SIGNATURE:

ANALYSIS REQUESTED

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	SVOC	VOC	RCRA METALS	PRESERVATION (See codes) NA	H+I	N	REMARKS	No # of Containers
1	089400-06106-ZJA-001	6/10/16	0850	X						2	2	1	*SEE	5
2	089400-06106-ZJA-002	6/10/16	0945	X						2	2	1	SSOW	5
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	6/10/16	1:	6/10/16 6:38
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / /
IN / /
CLIENT FedEx UPS MAIL COURIER
GREYHOUND OTHER_____

PROJECT INFORMATION
PROJECT NAME: EPIC MIDSTREAM SAVANNAH
PROJECT #: 089400
SITE ADDRESS: 7 FOUNDATION DRIVE, SAVANNAH, GA
SEND REPORT TO: JOHN.DEZINNO@GHD.COM
INVOICE TO: (IF DIFFERENT FROM ABOVE)
QUOTE #: PO#:

RECEIPT
Total # of Containers: 10

Turnaround Time Request
- (X) Standard 5 Business Days
- ( ) 2 Business Day Rush
- ( ) Next Business Day Rush
- ( ) Same Day Rush (auth req.)
- ( ) Other _____

STATE PROGRAM (if any): _____
E-mail? Y / N; Fax? Y / N
DATA PACKAGE: I II III IV

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Client: GHD Services, Inc.
Project: Epic - Savannah North Terminal
Lab ID: 1606B75

Case Narrative

Sample Receiving Nonconformance:

A Trip Blank was provided but was not listed on the Chain of Custody. The Trip Blank was analyzed at no cost to the client.

Analytical Environmental Services, Inc **Date:** 21-Jun-16

Client:	GHD Services, Inc.	**Client Sample ID:**	089400-061016-ZJA-001
Project Name:	Epic - Savannah North Terminal	**Collection Date:**	6/10/2016 8:50:00 AM
Lab ID:	1606B75-001	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
1,1-Dichloroethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
1,1-Dichloroethene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
1,2-Dibromoethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
1,2-Dichloroethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
1,2-Dichloropropane	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
2-Butanone	BRL	50		ug/L	225398	1	06/14/2016 08:20	NP
2-Hexanone	BRL	10		ug/L	225398	1	06/14/2016 08:20	NP
4-Methyl-2-pentanone	BRL	10		ug/L	225398	1	06/14/2016 08:20	NP
Acetone	BRL	50		ug/L	225398	1	06/14/2016 08:20	NP
Benzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Bromodichloromethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Bromoform	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Bromomethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Carbon disulfide	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Carbon tetrachloride	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Chlorobenzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Chloroethane	BRL	10		ug/L	225398	1	06/14/2016 08:20	NP
Chloroform	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Chloromethane	BRL	10		ug/L	225398	1	06/14/2016 08:20	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Cyclohexane	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Dibromochloromethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Dichlorodifluoromethane	BRL	10		ug/L	225398	1	06/14/2016 08:20	NP
Ethylbenzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Freon-113	BRL	10		ug/L	225398	1	06/14/2016 08:20	NP
Isopropylbenzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Methyl acetate	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Methylcyclohexane	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Methylene chloride	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Styrene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Tetrachloroethene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
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- > Greater than Result value
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- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 21-Jun-16

Client:	GHD Services, Inc.	**Client Sample ID:**	089400-061016-ZJA-001
Project Name:	Epic - Savannah North Terminal	**Collection Date:**	6/10/2016 8:50:00 AM
Lab ID:	1606B75-001	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Toluene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Trichloroethene	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Trichlorofluoromethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Vinyl chloride	BRL	2.0		ug/L	225398	1	06/14/2016 08:20	NP
Xylenes, Total	BRL	5.0		ug/L	225398	1	06/14/2016 08:20	NP
Surr: 4-Bromofluorobenzene	97.6	70.7-125		%REC	225398	1	06/14/2016 08:20	NP
Surr: Dibromofluoromethane	118	82.2-120		%REC	225398	1	06/14/2016 08:20	NP
Surr: Toluene-d8	109	81.8-120		%REC	225398	1	06/14/2016 08:20	NP
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3510C)**				
1,1´-Biphenyl	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
2,4,5-Trichlorophenol	BRL	25		ug/L	225288	1	06/14/2016 18:42	YH
2,4,6-Trichlorophenol	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
2,4-Dichlorophenol	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
2,4-Dimethylphenol	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
2,4-Dinitrophenol	BRL	25		ug/L	225288	1	06/14/2016 18:42	YH
2,4-Dinitrotoluene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
2,6-Dinitrotoluene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
2-Chloronaphthalene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
2-Chlorophenol	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
2-Methylnaphthalene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
2-Methylphenol	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
2-Nitroaniline	BRL	25		ug/L	225288	1	06/14/2016 18:42	YH
2-Nitrophenol	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
3,3´-Dichlorobenzidine	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
3-Nitroaniline	BRL	25		ug/L	225288	1	06/14/2016 18:42	YH
4,6-Dinitro-2-methylphenol	BRL	25		ug/L	225288	1	06/14/2016 18:42	YH
4-Bromophenyl phenyl ether	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
4-Chloro-3-methylphenol	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
4-Chloroaniline	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
4-Chlorophenyl phenyl ether	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
4-Methylphenol	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
4-Nitroaniline	BRL	25		ug/L	225288	1	06/14/2016 18:42	YH
4-Nitrophenol	BRL	25		ug/L	225288	1	06/14/2016 18:42	YH
Acenaphthene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Acenaphthylene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Acetophenone	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Anthracene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Atrazine	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH

Qualifiers:

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- BRL Below reporting limit
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- N Analyte not NELAC certified
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- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
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Analytical Environmental Services, Inc **Date:** 21-Jun-16

Client:	GHD Services, Inc.	**Client Sample ID:**	089400-061016-ZJA-001
Project Name:	Epic - Savannah North Terminal	**Collection Date:**	6/10/2016 8:50:00 AM
Lab ID:	1606B75-001	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Benzaldehyde	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Benzo(a)pyrene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Benzo(b)fluoranthene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Benzo(k)fluoranthene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Bis(2-chloroethoxy)methane	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Bis(2-chloroethyl)ether	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Bis(2-chloroisopropyl)ether	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Bis(2-ethylhexyl)phthalate	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Butyl benzyl phthalate	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Caprolactam	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Carbazole	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Chrysene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Di-n-butyl phthalate	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Di-n-octyl phthalate	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Dibenz(a,h)anthracene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Dibenzofuran	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Diethyl phthalate	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Dimethyl phthalate	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Fluoranthene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Fluorene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Hexachlorobenzene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Hexachlorobutadiene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Hexachlorocyclopentadiene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Hexachloroethane	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Indeno(1,2,3-cd)pyrene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Isophorone	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
N-Nitrosodi-n-propylamine	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
N-Nitrosodiphenylamine	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Naphthalene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Nitrobenzene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Pentachlorophenol	BRL	25		ug/L	225288	1	06/14/2016 18:42	YH
Phenanthrene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Phenol	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Pyrene	BRL	10		ug/L	225288	1	06/14/2016 18:42	YH
Surr: 2,4,6-Tribromophenol	143	51.5-141	S	%REC	225288	1	06/14/2016 18:42	YH
Surr: 2-Fluorobiphenyl	96.4	50.8-122		%REC	225288	1	06/14/2016 18:42	YH
Surr: 2-Fluorophenol	7.69	28.1-120	S	%REC	225288	1	06/14/2016 18:42	YH
Surr: 4-Terphenyl-d14	87.4	47.2-131		%REC	225288	1	06/14/2016 18:42	YH
Surr: Nitrobenzene-d5	86.6	42.1-124		%REC	225288	1	06/14/2016 18:42	YH

Qualifiers:

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- Narr See case narrative
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Analytical Environmental Services, Inc **Date:** 21-Jun-16

Client:	GHD Services, Inc.	**Client Sample ID:**	089400-061016-ZJA-001
Project Name:	Epic - Savannah North Terminal	**Collection Date:**	6/10/2016 8:50:00 AM
Lab ID:	1606B75-001	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3510C)**				
Surr: Phenol-d5	35.1	16-120		%REC	225288	1	06/14/2016 18:42	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	225457	1	06/15/2016 17:17	JR
METALS, TOTAL SW6010D				**(SW3010A)**				
Arsenic	BRL	0.0500		mg/L	225321	1	06/16/2016 03:29	IO
Barium	BRL	0.0200		mg/L	225321	1	06/16/2016 03:29	IO
Cadmium	BRL	0.0050		mg/L	225321	1	06/16/2016 03:29	IO
Chromium	BRL	0.0100		mg/L	225321	1	06/16/2016 03:29	IO
Lead	BRL	0.0100		mg/L	225321	1	06/16/2016 03:29	IO
Selenium	BRL	0.0200		mg/L	225321	1	06/16/2016 03:29	IO
Silver	BRL	0.0100		mg/L	225321	1	06/16/2016 03:29	IO

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- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 21-Jun-16

Client:	GHD Services, Inc.	**Client Sample ID:**	089400-061016-ZJA-002
Project Name:	Epic - Savannah North Terminal	**Collection Date:**	6/10/2016 9:45:00 AM
Lab ID:	1606B75-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
1,1-Dichloroethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
1,1-Dichloroethene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
1,2-Dibromoethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
1,2-Dichloroethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
1,2-Dichloropropane	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
2-Butanone	BRL	50		ug/L	225398	1	06/14/2016 08:47	NP
2-Hexanone	BRL	10		ug/L	225398	1	06/14/2016 08:47	NP
4-Methyl-2-pentanone	BRL	10		ug/L	225398	1	06/14/2016 08:47	NP
Acetone	BRL	50		ug/L	225398	1	06/14/2016 08:47	NP
Benzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Bromodichloromethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Bromoform	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Bromomethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Carbon disulfide	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Carbon tetrachloride	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Chlorobenzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Chloroethane	BRL	10		ug/L	225398	1	06/14/2016 08:47	NP
Chloroform	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Chloromethane	BRL	10		ug/L	225398	1	06/14/2016 08:47	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Cyclohexane	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Dibromochloromethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Dichlorodifluoromethane	BRL	10		ug/L	225398	1	06/14/2016 08:47	NP
Ethylbenzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Freon-113	BRL	10		ug/L	225398	1	06/14/2016 08:47	NP
Isopropylbenzene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Methyl acetate	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Methylcyclohexane	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Methylene chloride	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Styrene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Tetrachloroethene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP

Qualifiers:

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Analytical Environmental Services, Inc **Date:** 21-Jun-16

Client:	GHD Services, Inc.	**Client Sample ID:**	089400-061016-ZJA-002
Project Name:	Epic - Savannah North Terminal	**Collection Date:**	6/10/2016 9:45:00 AM
Lab ID:	1606B75-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
Toluene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Trichloroethene	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Trichlorofluoromethane	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Vinyl chloride	BRL	2.0		ug/L	225398	1	06/14/2016 08:47	NP
Xylenes, Total	BRL	5.0		ug/L	225398	1	06/14/2016 08:47	NP
Surr: 4-Bromofluorobenzene	96.4	70.7-125		%REC	225398	1	06/14/2016 08:47	NP
Surr: Dibromofluoromethane	116	82.2-120		%REC	225398	1	06/14/2016 08:47	NP
Surr: Toluene-d8	107	81.8-120		%REC	225398	1	06/14/2016 08:47	NP
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3510C)**				
1,1´-Biphenyl	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
2,4,5-Trichlorophenol	BRL	25		ug/L	225288	1	06/14/2016 19:09	YH
2,4,6-Trichlorophenol	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
2,4-Dichlorophenol	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
2,4-Dimethylphenol	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
2,4-Dinitrophenol	BRL	25		ug/L	225288	1	06/14/2016 19:09	YH
2,4-Dinitrotoluene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
2,6-Dinitrotoluene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
2-Chloronaphthalene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
2-Chlorophenol	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
2-Methylnaphthalene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
2-Methylphenol	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
2-Nitroaniline	BRL	25		ug/L	225288	1	06/14/2016 19:09	YH
2-Nitrophenol	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
3,3´-Dichlorobenzidine	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
3-Nitroaniline	BRL	25		ug/L	225288	1	06/14/2016 19:09	YH
4,6-Dinitro-2-methylphenol	BRL	25		ug/L	225288	1	06/14/2016 19:09	YH
4-Bromophenyl phenyl ether	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
4-Chloro-3-methylphenol	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
4-Chloroaniline	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
4-Chlorophenyl phenyl ether	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
4-Methylphenol	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
4-Nitroaniline	BRL	25		ug/L	225288	1	06/14/2016 19:09	YH
4-Nitrophenol	BRL	25		ug/L	225288	1	06/14/2016 19:09	YH
Acenaphthene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Acenaphthylene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Acetophenone	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Anthracene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Atrazine	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 21-Jun-16

Client:	GHD Services, Inc.	**Client Sample ID:**	089400-061016-ZJA-002
Project Name:	Epic - Savannah North Terminal	**Collection Date:**	6/10/2016 9:45:00 AM
Lab ID:	1606B75-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3510C)**				
Benz(a)anthracene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Benzaldehyde	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Benzo(a)pyrene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Benzo(b)fluoranthene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Benzo(k)fluoranthene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Bis(2-chloroethoxy)methane	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Bis(2-chloroethyl)ether	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Bis(2-chloroisopropyl)ether	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Bis(2-ethylhexyl)phthalate	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Butyl benzyl phthalate	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Caprolactam	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Carbazole	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Chrysene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Di-n-butyl phthalate	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Di-n-octyl phthalate	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Dibenz(a,h)anthracene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Dibenzofuran	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Diethyl phthalate	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Dimethyl phthalate	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Fluoranthene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Fluorene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Hexachlorobenzene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Hexachlorobutadiene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Hexachlorocyclopentadiene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Hexachloroethane	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Indeno(1,2,3-cd)pyrene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Isophorone	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
N-Nitrosodi-n-propylamine	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
N-Nitrosodiphenylamine	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Naphthalene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Nitrobenzene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Pentachlorophenol	BRL	25		ug/L	225288	1	06/14/2016 19:09	YH
Phenanthrene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Phenol	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Pyrene	BRL	10		ug/L	225288	1	06/14/2016 19:09	YH
Surr: 2,4,6-Tribromophenol	134	51.5-141		%REC	225288	1	06/14/2016 19:09	YH
Surr: 2-Fluorobiphenyl	94.9	50.8-122		%REC	225288	1	06/14/2016 19:09	YH
Surr: 2-Fluorophenol	44.8	28.1-120		%REC	225288	1	06/14/2016 19:09	YH
Surr: 4-Terphenyl-d14	79.8	47.2-131		%REC	225288	1	06/14/2016 19:09	YH
Surr: Nitrobenzene-d5	83.9	42.1-124		%REC	225288	1	06/14/2016 19:09	YH

Qualifiers:

- * Value exceeds maximum contaminant level
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- N Analyte not NELAC certified
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- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 21-Jun-16

Client:	GHD Services, Inc.	**Client Sample ID:**	089400-061016-ZJA-002
Project Name:	Epic - Savannah North Terminal	**Collection Date:**	6/10/2016 9:45:00 AM
Lab ID:	1606B75-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
TCL-SEMIVOLATILE ORGANICS SW8270D				**(SW3510C)**				
Surr: Phenol-d5	29.4	16-120		%REC	225288	1	06/14/2016 19:09	YH
Mercury, Total SW7470A				**(SW7470A)**				
Mercury	BRL	0.00020		mg/L	225457	1	06/15/2016 17:19	JR
METALS, TOTAL SW6010D				**(SW3010A)**				
Arsenic	BRL	0.0500		mg/L	225321	1	06/16/2016 03:33	IO
Barium	BRL	0.0200		mg/L	225321	1	06/16/2016 03:33	IO
Cadmium	BRL	0.0050		mg/L	225321	1	06/16/2016 03:33	IO
Chromium	BRL	0.0100		mg/L	225321	1	06/16/2016 03:33	IO
Lead	BRL	0.0100		mg/L	225321	1	06/16/2016 03:33	IO
Selenium	BRL	0.0200		mg/L	225321	1	06/16/2016 03:33	IO
Silver	BRL	0.0100		mg/L	225321	1	06/16/2016 03:33	IO

Qualifiers:

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- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 21-Jun-16

Client:	GHD Services, Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Epic - Savannah North Terminal	**Collection Date:**	6/10/2016
Lab ID:	1606B75-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
1,1,2-Trichloroethane	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
1,1-Dichloroethane	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
1,1-Dichloroethene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
1,2,4-Trichlorobenzene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
1,2-Dibromo-3-chloropropane	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
1,2-Dibromoethane	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
1,2-Dichlorobenzene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
1,2-Dichloroethane	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
1,2-Dichloropropane	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
1,3-Dichlorobenzene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
1,4-Dichlorobenzene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
2-Butanone	BRL	50		ug/L	225398	1	06/14/2016 01:09	NP
2-Hexanone	BRL	10		ug/L	225398	1	06/14/2016 01:09	NP
4-Methyl-2-pentanone	BRL	10		ug/L	225398	1	06/14/2016 01:09	NP
Acetone	BRL	50		ug/L	225398	1	06/14/2016 01:09	NP
Benzene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Bromodichloromethane	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Bromoform	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Bromomethane	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Carbon disulfide	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Carbon tetrachloride	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Chlorobenzene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Chloroethane	BRL	10		ug/L	225398	1	06/14/2016 01:09	NP
Chloroform	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Chloromethane	BRL	10		ug/L	225398	1	06/14/2016 01:09	NP
cis-1,2-Dichloroethene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
cis-1,3-Dichloropropene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Cyclohexane	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Dibromochloromethane	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Dichlorodifluoromethane	BRL	10		ug/L	225398	1	06/14/2016 01:09	NP
Ethylbenzene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Freon-113	BRL	10		ug/L	225398	1	06/14/2016 01:09	NP
Isopropylbenzene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Methyl acetate	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Methyl tert-butyl ether	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Methylcyclohexane	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Methylene chloride	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Styrene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Tetrachloroethene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP

Qualifiers:

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Analytical Environmental Services, Inc **Date:** 21-Jun-16

Client:	GHD Services, Inc.	**Client Sample ID:**	TRIP BLANK
Project Name:	Epic - Savannah North Terminal	**Collection Date:**	6/10/2016
Lab ID:	1606B75-003	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Toluene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
trans-1,2-Dichloroethene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
trans-1,3-Dichloropropene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Trichloroethene	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Trichlorofluoromethane	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Vinyl chloride	BRL	2.0		ug/L	225398	1	06/14/2016 01:09	NP
Xylenes, Total	BRL	5.0		ug/L	225398	1	06/14/2016 01:09	NP
Surr: 4-Bromofluorobenzene	77.7	70.7-125		%REC	225398	1	06/14/2016 01:09	NP
Surr: Dibromofluoromethane	110	82.2-120		%REC	225398	1	06/14/2016 01:09	NP
Surr: Toluene-d8	101	81.8-120		%REC	225398	1	06/14/2016 01:09	NP

Qualifiers:

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Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client GHD Work Order Number 1606B75

Checklist completed by Paris Masoudi 6/10/16
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition?	Yes ✓	No __	Not Present __
Custody seals intact on shipping container/cooler?	Yes __	No __	Not Present ✓
Custody seals intact on sample bottles?	Yes __	No __	Not Present ✓
Container/Temp Blank temperature in compliance? (0°≤6°C)*	Yes ✓	No __	

Cooler #1 0.4° Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present?	Yes ✓	No __
Chain of custody signed when relinquished and received?	Yes ✓	No __
Chain of custody agrees with sample labels?	Yes __	No ✓
Samples in proper container/bottle?	Yes ✓	No __
Sample containers intact?	Yes ✓	No __
Sufficient sample volume for indicated test?	Yes ✓	No __
All samples received within holding time?	Yes ✓	No __
Was TAT marked on the COC?	Yes ✓	No __
Proceed with Standard TAT as per project history?	Yes __	No __ Not Applicable ✓
Water - VOA vials have zero headspace?	No VOA vials submitted __	Yes ✓ No __
Water - pH acceptable upon receipt?	Yes ✓	No __ Not Applicable __

Adjusted? _____ Checked by PM

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: GHD Services, Inc.
Project Name: Epic - Savannah North Terminal
Workorder: 1606B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 225288

Sample ID: **MB-225288** Client ID: Units: **ug/L** Prep Date: **06/13/2016** Run No: **318809**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **225288** Analysis Date: **06/14/2016** Seq No: **6876368**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1´-Biphenyl	BRL	10									
2,4,5-Trichlorophenol	BRL	25									
2,4,6-Trichlorophenol	BRL	10									
2,4-Dichlorophenol	BRL	10									
2,4-Dimethylphenol	BRL	10									
2,4-Dinitrophenol	BRL	25									
2,4-Dinitrotoluene	BRL	10									
2,6-Dinitrotoluene	BRL	10									
2-Chloronaphthalene	BRL	10									
2-Chlorophenol	BRL	10									
2-Methylnaphthalene	BRL	10									
2-Methylphenol	BRL	10									
2-Nitroaniline	BRL	25									
2-Nitrophenol	BRL	10									
3,3´-Dichlorobenzidine	BRL	10									
3-Nitroaniline	BRL	25									
4,6-Dinitro-2-methylphenol	BRL	25									
4-Bromophenyl phenyl ether	BRL	10									
4-Chloro-3-methylphenol	BRL	10									
4-Chloroaniline	BRL	10									
4-Chlorophenyl phenyl ether	BRL	10									
4-Methylphenol	BRL	10									
4-Nitroaniline	BRL	25									
4-Nitrophenol	BRL	25									
Acenaphthene	BRL	10									
Acenaphthylene	BRL	10									
Acetophenone	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: GHD Services, Inc.
Project Name: Epic - Savannah North Terminal
Workorder: 1606B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 225288

Sample ID: **MB-225288** Client ID: Units: **ug/L** Prep Date: **06/13/2016** Run No: **318809**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **225288** Analysis Date: **06/14/2016** Seq No: **6876368**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Anthracene	BRL	10									
Atrazine	BRL	10									
Benz(a)anthracene	BRL	10									
Benzaldehyde	BRL	10									
Benzo(a)pyrene	BRL	10									
Benzo(b)fluoranthene	BRL	10									
Benzo(g,h,i)perylene	BRL	10									
Benzo(k)fluoranthene	BRL	10									
Bis(2-chloroethoxy)methane	BRL	10									
Bis(2-chloroethyl)ether	BRL	10									
Bis(2-chloroisopropyl)ether	BRL	10									
Bis(2-ethylhexyl)phthalate	BRL	10									
Butyl benzyl phthalate	BRL	10									
Caprolactam	BRL	10									
Carbazole	BRL	10									
Chrysene	BRL	10									
Di-n-butyl phthalate	BRL	10									
Di-n-octyl phthalate	BRL	10									
Dibenz(a,h)anthracene	BRL	10									
Dibenzofuran	BRL	10									
Diethyl phthalate	BRL	10									
Dimethyl phthalate	BRL	10									
Fluoranthene	BRL	10									
Fluorene	BRL	10									
Hexachlorobenzene	BRL	10									
Hexachlorobutadiene	BRL	10									
Hexachlorocyclopentadiene	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: GHD Services, Inc.
Project Name: Epic - Savannah North Terminal
Workorder: 1606B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 225288

Sample ID: **MB-225288** Client ID: Units: **ug/L** Prep Date: **06/13/2016** Run No: **318809**
SampleType: **MBLK** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **225288** Analysis Date: **06/14/2016** Seq No: **6876368**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Hexachloroethane	BRL	10									
Indeno(1,2,3-cd)pyrene	BRL	10									
Isophorone	BRL	10									
N-Nitrosodi-n-propylamine	BRL	10									
N-Nitrosodiphenylamine	BRL	10									
Naphthalene	BRL	10									
Nitrobenzene	BRL	10									
Pentachlorophenol	BRL	25									
Phenanthrene	BRL	10									
Phenol	BRL	10									
Pyrene	BRL	10									
Surr: 2,4,6-Tribromophenol	123.3	0	100.0		123	51.5	141				
Surr: 2-Fluorobiphenyl	40.54	0	50.00		81.1	50.8	122				
Surr: 2-Fluorophenol	38.69	0	100.0		38.7	28.1	120				
Surr: 4-Terphenyl-d14	44.30	0	50.00		88.6	47.2	131				
Surr: Nitrobenzene-d5	35.50	0	50.00		71.0	42.1	124				
Surr: Phenol-d5	23.69	0	100.0		23.7	16	120				

Sample ID: **1606B99-006CMS** Client ID: Units: **ug/L** Prep Date: **06/13/2016** Run No: **318920**
SampleType: **MS** TestCode: **TCL-SEMIVOLATILE ORGANICS SW8270D** BatchID: **225288** Analysis Date: **06/15/2016** Seq No: **6879596**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Pyrene	111.7	50	100.0		112	50.5	130				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: GHD Services, Inc.
Project Name: Epic - Savannah North Terminal
Workorder: 1606B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 225321

Sample ID: **MB-225321** Client ID: Units: **mg/L** Prep Date: **06/14/2016** Run No: **319000**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010D** BatchID: **225321** Analysis Date: **06/16/2016** Seq No: **6881170**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Barium	BRL	0.0200									
Cadmium	BRL	0.0050									
Chromium	BRL	0.0100									
Lead	BRL	0.0100									
Selenium	BRL	0.0200									
Silver	BRL	0.0100									

Sample ID: **MB-225321** Client ID: Units: **mg/L** Prep Date: **06/14/2016** Run No: **319000**
SampleType: **MBLK** TestCode: **METALS, TOTAL SW6010D** BatchID: **225321** Analysis Date: **06/16/2016** Seq No: **6882874**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	BRL	0.0100									

Sample ID: **LCS-225321** Client ID: Units: **mg/L** Prep Date: **06/14/2016** Run No: **319000**
SampleType: **LCS** TestCode: **METALS, TOTAL SW6010D** BatchID: **225321** Analysis Date: **06/16/2016** Seq No: **6881171**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.051	0.0500	1.000		105	80	120				
Barium	1.068	0.0200	1.000		107	80	120				
Cadmium	1.045	0.0050	1.000		104	80	120				
Chromium	1.050	0.0100	1.000		105	80	120				
Lead	1.050	0.0100	1.000		105	80	120				
Selenium	1.030	0.0200	1.000		103	80	120				
Silver	0.1041	0.0100	0.1000		104	80	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: GHD Services, Inc.
Project Name: Epic - Savannah North Terminal
Workorder: 1606B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 225321

Sample ID: **1606A39-001BMS** Client ID: Units: **mg/L** Prep Date: **06/14/2016** Run No: **319000**
SampleType: **MS** TestCode: **METALS, TOTAL SW6010D** BatchID: **225321** Analysis Date: **06/16/2016** Seq No: **6881173**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.040	0.0500	1.000		104	75	125				
Barium	1.022	0.0200	1.000	0.006023	102	75	125				
Cadmium	1.017	0.0050	1.000		102	75	125				
Chromium	1.010	0.0100	1.000		101	75	125				
Lead	0.9981	0.0100	1.000		99.8	75	125				
Selenium	1.024	0.0200	1.000	0.006859	102	75	125				
Silver	0.1004	0.0100	0.1000		100	75	125				

Sample ID: **1606A39-001BMSD** Client ID: Units: **mg/L** Prep Date: **06/14/2016** Run No: **319000**
SampleType: **MSD** TestCode: **METALS, TOTAL SW6010D** BatchID: **225321** Analysis Date: **06/16/2016** Seq No: **6881174**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Arsenic	1.033	0.0500	1.000		103	75	125	1.040	0.673	20	
Barium	1.014	0.0200	1.000	0.006023	101	75	125	1.022	0.831	20	
Cadmium	1.009	0.0050	1.000		101	75	125	1.017	0.741	20	
Chromium	1.004	0.0100	1.000		100	75	125	1.010	0.600	20	
Lead	0.9883	0.0100	1.000		98.8	75	125	0.9981	0.995	20	
Selenium	1.029	0.0200	1.000	0.006859	102	75	125	1.024	0.494	20	
Silver	0.09972	0.0100	0.1000		99.7	75	125	0.1004	0.665	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: GHD Services, Inc.
Project Name: Epic - Savannah North Terminal
Workorder: 1606B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 225398

Sample ID: **MB-225398** Client ID: Units: **ug/L** Prep Date: **06/13/2016** Run No: **318761**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **225398** Analysis Date: **06/13/2016** Seq No: **6874908**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	BRL	5.0									
1,1,2,2-Tetrachloroethane	BRL	5.0									
1,1,2-Trichloroethane	BRL	5.0									
1,1-Dichloroethane	BRL	5.0									
1,1-Dichloroethene	BRL	5.0									
1,2,4-Trichlorobenzene	BRL	5.0									
1,2-Dibromo-3-chloropropane	BRL	5.0									
1,2-Dibromoethane	BRL	5.0									
1,2-Dichlorobenzene	BRL	5.0									
1,2-Dichloroethane	BRL	5.0									
1,2-Dichloropropane	BRL	5.0									
1,3-Dichlorobenzene	BRL	5.0									
1,4-Dichlorobenzene	BRL	5.0									
2-Butanone	BRL	50									
2-Hexanone	BRL	10									
4-Methyl-2-pentanone	BRL	10									
Acetone	BRL	50									
Benzene	BRL	5.0									
Bromodichloromethane	BRL	5.0									
Bromoform	BRL	5.0									
Bromomethane	BRL	5.0									
Carbon disulfide	BRL	5.0									
Carbon tetrachloride	BRL	5.0									
Chlorobenzene	BRL	5.0									
Chloroethane	BRL	10									
Chloroform	BRL	5.0									
Chloromethane	BRL	10									

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: GHD Services, Inc.
Project Name: Epic - Savannah North Terminal
Workorder: 1606B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 225398

Sample ID: **MB-225398** Client ID: Units: **ug/L** Prep Date: **06/13/2016** Run No: **318761**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **225398** Analysis Date: **06/13/2016** Seq No: **6874908**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	BRL	5.0									
cis-1,3-Dichloropropene	BRL	5.0									
Cyclohexane	BRL	5.0									
Dibromochloromethane	BRL	5.0									
Dichlorodifluoromethane	BRL	10									
Ethylbenzene	BRL	5.0									
Freon-113	BRL	10									
Isopropylbenzene	BRL	5.0									
Methyl acetate	BRL	5.0									
Methyl tert-butyl ether	BRL	5.0									
Methylcyclohexane	BRL	5.0									
Methylene chloride	BRL	5.0									
Styrene	BRL	5.0									
Tetrachloroethene	BRL	5.0									
Toluene	BRL	5.0									
trans-1,2-Dichloroethene	BRL	5.0									
trans-1,3-Dichloropropene	BRL	5.0									
Trichloroethene	BRL	5.0									
Trichlorofluoromethane	BRL	5.0									
Vinyl chloride	BRL	2.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	41.44	0	50.00		82.9	70.7	125				
Surr: Dibromofluoromethane	52.38	0	50.00		105	82.2	120				
Surr: Toluene-d8	49.26	0	50.00		98.5	81.8	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: GHD Services, Inc.
Project Name: Epic - Savannah North Terminal
Workorder: 1606B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 225398

Sample ID: **LCS-225398** Client ID: Units: **ug/L** Prep Date: **06/13/2016** Run No: **318761**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **225398** Analysis Date: **06/13/2016** Seq No: **6874909**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	61.42	5.0	50.00		123	65.3	137				
Benzene	44.75	5.0	50.00		89.5	74.9	123				
Chlorobenzene	42.84	5.0	50.00		85.7	73.9	124				
Toluene	43.66	5.0	50.00		87.3	75	124				
Trichloroethene	44.20	5.0	50.00		88.4	73.1	128				
Surr: 4-Bromofluorobenzene	41.68	0	50.00		83.4	70.7	125				
Surr: Dibromofluoromethane	53.78	0	50.00		108	82.2	120				
Surr: Toluene-d8	48.46	0	50.00		96.9	81.8	120				

Sample ID: **1606B75-002AMS** Client ID: **089400-061016-ZJA-002** Units: **ug/L** Prep Date: **06/13/2016** Run No: **318761**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **225398** Analysis Date: **06/14/2016** Seq No: **6875475**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	549.4	50	500.0		110	60	150				
Benzene	394.4	50	500.0		78.9	70.1	132				
Chlorobenzene	393.5	50	500.0		78.7	70.9	131				
Toluene	398.9	50	500.0		79.8	70.1	133				
Trichloroethene	375.3	50	500.0		75.1	70	136				
Surr: 4-Bromofluorobenzene	426.5	0	500.0		85.3	70.7	125				
Surr: Dibromofluoromethane	549.8	0	500.0		110	82.2	120				
Surr: Toluene-d8	519.9	0	500.0		104	81.8	120				

Sample ID: **1606B75-002AMSD** Client ID: **089400-061016-ZJA-002** Units: **ug/L** Prep Date: **06/13/2016** Run No: **318761**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **225398** Analysis Date: **06/14/2016** Seq No: **6875476**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
1,1-Dichloroethene	558.1	50	500.0		112	60	150	549.4	1.57	17.7	
Benzene	392.5	50	500.0		78.5	70.1	132	394.4	0.483	20	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: GHD Services, Inc.
Project Name: Epic - Savannah North Terminal
Workorder: 1606B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 225398

Sample ID: **1606B75-002AMSD** Client ID: **089400-061016-ZJA-002** Units: **ug/L** Prep Date: **06/13/2016** Run No: **318761**
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **225398** Analysis Date: **06/14/2016** Seq No: **6875476**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Chlorobenzene	390.3	50	500.0		78.1	70.9	131	393.5	0.817	20	
Toluene	395.6	50	500.0		79.1	70.1	133	398.9	0.831	20	
Trichloroethene	368.1	50	500.0		73.6	70	136	375.3	1.94	20	
Surr: 4-Bromofluorobenzene	423.1	0	500.0		84.6	70.7	125	426.5	0	0	
Surr: Dibromofluoromethane	546.7	0	500.0		109	82.2	120	549.8	0	0	
Surr: Toluene-d8	501.3	0	500.0		100	81.8	120	519.9	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: GHD Services, Inc.
Project Name: Epic - Savannah North Terminal
Workorder: 1606B75

ANALYTICAL QC SUMMARY REPORT

BatchID: 225457

Sample ID: **MB-225457**	Client ID:					Units: **mg/L**		Prep Date: **06/15/2016**		Run No: **318907**
SampleType: **MBLK**	TestCode: **Mercury, Total SW7470A**					BatchID: **225457**		Analysis Date: **06/15/2016**		Seq No: **6880768**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Mercury	BRL	0.00020								

Sample ID: **LCS-225457**	Client ID:					Units: **mg/L**		Prep Date: **06/15/2016**		Run No: **318907**
SampleType: **LCS**	TestCode: **Mercury, Total SW7470A**					BatchID: **225457**		Analysis Date: **06/15/2016**		Seq No: **6880769**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Mercury	0.005158	0.00020	0.0050		103	80	120			

Sample ID: **1606899-001CMS**	Client ID:					Units: **mg/L**		Prep Date: **06/15/2016**		Run No: **318907**
SampleType: **MS**	TestCode: **Mercury, Total SW7470A**					BatchID: **225457**		Analysis Date: **06/15/2016**		Seq No: **6880771**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Mercury	0.005259	0.00020	0.0050		105	70	130			

Sample ID: **1606899-001CMSD**	Client ID:					Units: **mg/L**		Prep Date: **06/15/2016**		Run No: **318907**
SampleType: **MSD**	TestCode: **Mercury, Total SW7470A**					BatchID: **225457**		Analysis Date: **06/15/2016**		Seq No: **6880772**
Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit Qual
Mercury	0.005257	0.00020	0.0050		105	70	130	0.005259	0.035	20

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

AES

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

November 02, 2016

Debbie Brennan
GHD Services, Inc.
9033 Meridian Way
West Chester OH 45069

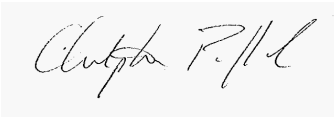
TEL: (513) 942-4750
FAX:

RE: Epic

Dear Debbie Brennan: Order No: 1610O84

Analytical Environmental Services, Inc. received 3 samples on 10/28/2016 4:46:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.
AES's accreditations are as follows:
-NELAC/Florida State Laboratory ID E87582 for analysis of Non-Potable Water, Solid & Chemical Materials, and Drinking Water Microbiology, effective 07/01/16-06/30/17.
-NELAC/Louisiana Agency Interest No. 100818 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 07/01/16-06/30/17.
-NELAC/Texas Certificate No. T104704509-16-6 for or analysis of Non-Potable Water and Solid & Chemical Materials, effective 03/01/16-02/28/17.
-AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Metals, PCM Asbestos, Gravimetric), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/17.



Chris Pafford
Project Manager

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3080 Presidential Drive, Atlanta GA 30340-3704
TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 1610084

Date: _____ Page _____ of _____

COMPANY: GHD

ADDRESS: 3075 Breckinridge Blvd. Ste 470 Duluth, GA 30096

PHONE: 770-441-0027

FAX: 770-441-2050

SAMPLED BY: Steven Grace

SIGNATURE:

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME	Grab	Composite	Matrix (See codes)	ANALYSIS REQUESTED: BTEX + Naph.	PRESERVATION (See codes)	REMARKS	No # of Containers
1	GW-089400-102816-SAG-001	10/28/16	840	X		GW	X			2
2	" " " " -002	↓	930	X		↓	X			2
3	" " " " -003	↓	1020	X		↓	X			2
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1:	10/28/16 1646	1:	10/28/16 1646
2:		2:	
3:		3:	

PROJECT INFORMATION

PROJECT NAME: Epic

PROJECT #: 089400

SITE ADDRESS: Foundation Dr. Savannah, GA

SEND REPORT TO: See SSOW

INVOICE TO: (IF DIFFERENT FROM ABOVE) See SSOW

QUOTE #: _____ PO#: _____

RECEIPT

Total # of Containers: 6

Turnaround Time Request

- ⊗ Standard 5 Business Days
- ○ 2 Business Day Rush
- ○ Next Business Day Rush
- ○ Same Day Rush (auth req.)
- ○ Other _____

STATE PROGRAM (if any): _____

E-mail? Y / N; Fax? Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS: SSOW # 89400-2016-003

SHIPMENT METHOD

OUT / / VIA:

IN / / VIA:

CLIENT FedEx UPS MAIL COURIER

GREYHOUND OTHER _____

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.
SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Analytical Environmental Services, Inc **Date:** 2-Nov-16

Client:	GHD Services, Inc.	**Client Sample ID:**	GW-089400-102816-SAG-001
Project Name:	Epic	**Collection Date:**	10/28/2016 8:40:00 AM
Lab ID:	1610O84-001	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	232123	1	11/01/2016 18:00	NP
Ethylbenzene	BRL	5.0		ug/L	232123	1	11/01/2016 18:00	NP
Naphthalene	BRL	5.0		ug/L	232123	1	11/01/2016 18:00	NP
Toluene	BRL	5.0		ug/L	232123	1	11/01/2016 18:00	NP
Xylenes, Total	BRL	5.0		ug/L	232123	1	11/01/2016 18:00	NP
Surr: 4-Bromofluorobenzene	96.9	70.7-125		%REC	232123	1	11/01/2016 18:00	NP
Surr: Dibromofluoromethane	109	82.2-120		%REC	232123	1	11/01/2016 18:00	NP
Surr: Toluene-d8	102	81.8-120		%REC	232123	1	11/01/2016 18:00	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Nov-16

Client:	GHD Services, Inc.	**Client Sample ID:**	GW-089400-102816-SAG-002
Project Name:	Epic	**Collection Date:**	10/28/2016 9:30:00 AM
Lab ID:	1610O84-002	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	232123	1	11/01/2016 18:23	NP
Ethylbenzene	BRL	5.0		ug/L	232123	1	11/01/2016 18:23	NP
Naphthalene	BRL	5.0		ug/L	232123	1	11/01/2016 18:23	NP
Toluene	BRL	5.0		ug/L	232123	1	11/01/2016 18:23	NP
Xylenes, Total	BRL	5.0		ug/L	232123	1	11/01/2016 18:23	NP
Surr: 4-Bromofluorobenzene	96.2	70.7-125		%REC	232123	1	11/01/2016 18:23	NP
Surr: Dibromofluoromethane	107	82.2-120		%REC	232123	1	11/01/2016 18:23	NP
Surr: Toluene-d8	103	81.8-120		%REC	232123	1	11/01/2016 18:23	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc **Date:** 2-Nov-16

Client:	GHD Services, Inc.	**Client Sample ID:**	GW-089400-102816-SAG-003
Project Name:	Epic	**Collection Date:**	10/28/2016 10:20:00 AM
Lab ID:	1610O84-003	**Matrix:**	Groundwater

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Volatile Organic Compounds by GC/MS SW8260B (SW5030B)								
Benzene	BRL	5.0		ug/L	232123	1	11/01/2016 18:47	NP
Ethylbenzene	BRL	5.0		ug/L	232123	1	11/01/2016 18:47	NP
Naphthalene	BRL	5.0		ug/L	232123	1	11/01/2016 18:47	NP
Toluene	BRL	5.0		ug/L	232123	1	11/01/2016 18:47	NP
Xylenes, Total	BRL	5.0		ug/L	232123	1	11/01/2016 18:47	NP
Surr: 4-Bromofluorobenzene	95.7	70.7-125		%REC	232123	1	11/01/2016 18:47	NP
Surr: Dibromofluoromethane	105	82.2-120		%REC	232123	1	11/01/2016 18:47	NP
Surr: Toluene-d8	102	81.8-120		%REC	232123	1	11/01/2016 18:47	NP

Qualifiers:

*	Value exceeds maximum contaminant level	E	Estimated (value above quantitation range)
BRL	Below reporting limit	S	Spike Recovery outside limits due to matrix
H	Holding times for preparation or analysis exceeded	Narr	See case narrative
N	Analyte not NELAC certified	NC	Not confirmed
B	Analyte detected in the associated method blank	<	Less than Result value
>	Greater than Result value	J	Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client GHD Work Order Number 1010084

Checklist completed by [signature] 10/28/16
Signature Date

Carrier name: FedEx __ UPS __ Courier __ Client ✓ US Mail __ Other _____

Shipping container/cooler in good condition? Yes ✓ No __ Not Present __

Custody seals intact on shipping container/cooler? Yes __ No __ Not Present ✓

Custody seals intact on sample bottles? Yes __ No __ Not Present ✓

Container/Temp Blank temperature in compliance? (0°≤6°C)* Yes ✓ No __

Cooler #1 1.3° Cooler #2 _____ Cooler #3 _____ Cooler #4 _____ Cooler#5 _____ Cooler #6 _____

Chain of custody present? Yes ✓ No __

Chain of custody signed when relinquished and received? Yes ✓ No __

Chain of custody agrees with sample labels? Yes ✓ No __

Samples in proper container/bottle? Yes ✓ No __

Sample containers intact? Yes ✓ No __

Sufficient sample volume for indicated test? Yes ✓ No __

All samples received within holding time? Yes ✓ No __

Was TAT marked on the COC? Yes ✓ No __

Proceed with Standard TAT as per project history? Yes __ No __ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted __ Yes ✓ No __

Water - pH acceptable upon receipt? Yes ✓ No __ Not Applicable __

Adjusted? _____ Checked by _____

Sample Condition: Good ✓ Other(Explain) _____

(For diffusive samples or AIHA lead) Is a known blank included? Yes __ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\Aes_server\I\Sample Receipt\My Documents\COCs and pH Adjustment Sheet\Sample_Cooler_Recipt_Checklist_Rev1.rtf

Client: GHD Services, Inc.
Project Name: Epic
Workorder: 1610O84

ANALYTICAL QC SUMMARY REPORT

BatchID: 232123

Sample ID: **MB-232123** Client ID: Units: **ug/L** Prep Date: **11/01/2016** Run No: **328735**
SampleType: **MBLK** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **232123** Analysis Date: **11/01/2016** Seq No: **7135466**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	BRL	5.0									
Ethylbenzene	BRL	5.0									
Naphthalene	BRL	5.0									
Toluene	BRL	5.0									
Xylenes, Total	BRL	5.0									
Surr: 4-Bromofluorobenzene	49.27	0	50.00		98.5	70.7	125				
Surr: Dibromofluoromethane	54.00	0	50.00		108	82.2	120				
Surr: Toluene-d8	51.32	0	50.00		103	81.8	120				

Sample ID: **LCS-232123** Client ID: Units: **ug/L** Prep Date: **11/01/2016** Run No: **328735**
SampleType: **LCS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **232123** Analysis Date: **11/01/2016** Seq No: **7135465**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	57.67	5.0	50.00		115	74.9	123				
Toluene	58.67	5.0	50.00		117	75	124				
Surr: 4-Bromofluorobenzene	48.77	0	50.00		97.5	70.7	125				
Surr: Dibromofluoromethane	50.60	0	50.00		101	82.2	120				
Surr: Toluene-d8	50.25	0	50.00		100	81.8	120				

Sample ID: **1610N53-016AMS** Client ID: Units: **ug/L** Prep Date: **11/01/2016** Run No: **328735**
SampleType: **MS** TestCode: **Volatile Organic Compounds by GC/MS SW8260B** BatchID: **232123** Analysis Date: **11/01/2016** Seq No: **7135468**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	61.61	5.0	50.00		123	70.1	132				
Toluene	65.31	5.0	50.00		131	70.1	133				
Surr: 4-Bromofluorobenzene	48.06	0	50.00		96.1	70.7	125				
Surr: Dibromofluoromethane	52.66	0	50.00		105	82.2	120				
Surr: Toluene-d8	49.97	0	50.00		99.9	81.8	120				

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Client: GHD Services, Inc.
Project Name: Epic
Workorder: 1610O84

ANALYTICAL QC SUMMARY REPORT

BatchID: 232123

Sample ID: **1610N53-016AMSD** Client ID:
SampleType: **MSD** TestCode: **Volatile Organic Compounds by GC/MS SW8260B**
Units: **ug/L** Prep Date: **11/01/2016** Run No: **328735**
BatchID: **232123** Analysis Date: **11/01/2016** Seq No: **7135469**

Analyte	Result	RPT Limit	SPK value	SPK Ref Val	%REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual
Benzene	52.62	5.0	50.00		105	70.1	132	61.61	15.7	20	
Toluene	55.39	5.0	50.00		111	70.1	133	65.31	16.4	20	
Surr: 4-Bromofluorobenzene	49.10	0	50.00		98.2	70.7	125	48.06	0	0	
Surr: Dibromofluoromethane	52.00	0	50.00		104	82.2	120	52.66	0	0	
Surr: Toluene-d8	50.33	0	50.00		101	81.8	120	49.97	0	0	

Qualifiers:

>	Greater than Result value	<	Less than Result value	B	Analyte detected in the associated method blank
BRL	Below reporting limit	E	Estimated (value above quantitation range)	H	Holding times for preparation or analysis exceeded
J	Estimated value detected below Reporting Limit	N	Analyte not NELAC certified	R	RPD outside limits due to matrix
Rpt Lim	Reporting Limit	S	Spike Recovery outside limits due to matrix		

Appendix C
LNAPL Transmissivity Evaluation Supporting Information

Appendix C

LNAPL Skimming Test Results - Short-Duration Skimming
Epic Midstream Savannah North Terminal
Savannah, Georgia

Well ID	Measurement Date & Time	Time Between Measurement Events (days)	Actual Skimmer Run-Time Between Measurement Events (days)	Cumulative Skimmer Run-Time (days)	Total Volume of LNAPL Recovered (gallons)	Volume of LNAPL Recovered During Measurement Interval (gallons)	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	In-Well LNAPL Thickness (feet)	LNAPL Drawdown (feet)	Maximum Theoretical Unconfined LNAPL Drawdown (feet)	LNAPL Drawdown Used in Transmissivity Estimate[a] (feet)	Average LNAPL Recovery Rate for Interval (gal/day)	Average LNAPL Recovery Rate for Interval (ft^3/day)	Estimated LNAPL Transmissivity for Interval (ft^2/day)	Overall Average LNAPL Transmissivity[b] (ft^2/day)
AW-65	5/17/2016 15:12	--		--	--	--	10.85	12.65	1.80	--	0.26	--	--	--	--	
	5/20/2016 10:20	2.80	2.80	2.80	2.15	2.15	10.02	10.05	0.03	-0.83		0.26	0.8	0.10	0.3	
	5/25/2016 11:40	5.06	5.06	7.85	7.80	5.65	10.29	10.34	0.05	-0.56		0.26	1.1	0.15	0.4	
	6/1/2016 14:20	7.11	7.11	14.96	17.65	9.85	10.94	10.95	0.01	0.09		0.09	1.4	0.19	1.5	
	6/8/2016 13:30	6.88	6.88	21.93	26.67	8.97	9.40	9.48	0.08	-1.45		0.26	1.3	0.17	0.5	0.7
AW-68	5/17/2016 11:30	--		--	--	--	11.40	15.11	3.71	--	0.54	--	--	--	--	
	5/20/2016 9:15	2.91	2.91	2.91	5.16	5.16	10.74	10.91	0.17	-0.66		0.54	1.8	0.24	0.3	
	5/25/2016 11:00	5.07	3.60	6.51	6.60	1.44	10.43	10.76	0.33	-0.97		0.54	0.4	0.05	0.07	
	6/1/2016 13:00	7.08	4.04	10.55	6.90	0.30	11.46	11.84	0.38	0.06		0.06	0.1	0.010	0.12	
	6/8/2016 12:15	6.97	6.97	17.51	13.20	6.30	9.90	10.85	0.95	-1.50		0.54	0.9	0.12	0.16	0.2
AW-9	6/8/2016 14:00	--		--	--	--	10.68	14.55	3.87	--	0.57	--	--	--	--	
	6/9/2016 17:35	1.15	1.15	1.15	8.55	8.55	9.60	12.00	2.40	-1.08		0.57	7.4	0.99	1.3	
	6/10/2016 7:00	0.56	0.56	1.71	9.60	1.05	9.60	12.50	2.90	-1.08		0.57	1.9	0.25	0.3	
	6/13/2016 11:00	2.96	2.96	4.88	21.34	11.74	10.27	12.60	2.33	-0.41		0.57	4.0	0.53	0.7	
	6/22/2016 16:30	9.23	9.23	14.10	49.25	27.91	10.40	12.20	1.80	-0.28		0.57	3.0	0.40	0.5	
	6/27/2016 14:27	4.91	4.91	19.02	49.25	0.00	10.06	14.51	4.45	-0.62		0.57	0.0	0	0	0.5
AW-49	6/8/2016 17:00	--		--	--	--	12.71	17.76	5.05	--	0.74	--				
	6/9/2016 9:00	0.67	0.67	0.67	7.80	7.80	11.36	16.24	4.88	-1.35		0.74	11.7	1.56	1.6	
	6/10/2016 7:17	0.93	0.93	1.60	8.55	0.75	11.16	16.20	5.04	-1.55		0.74	0.8	0.11	0.1	
	6/13/2016 10:35	2.92	2.92	4.73	20.11	11.51	11.50	16.89	5.39	-1.21		0.74	3.9	0.53	0.5	
	6/22/2016 17:10	9.27	9.27	14.01	45.31	25.20	11.72	16.91	5.19	-0.99		0.74	2.7	0.36	0.4	
	6/27/2016 15:50	4.94	4.94	18.95	45.31	0.00	11.70	17.02	5.32	-1.01		0.74	0.0	0	0	0.3
AW-10	6/28/2016 8:39	--		--	--	--	9.72	14.80	5.08	--	0.74	--	--	--	--	
	6/28/2016 13:50	0.22	0.22	0.22	5.75	5.75	--	--	--	--		0.74	26.6	3.56	3.5	
	7/1/2016 9:25	2.82	2.82	3.03	16.83	11.08	10.29	11.06	0.77	0.57		0.57	3.9	0.53	0.7	
	7/7/2016 13:25	6.17	6.17	9.20	40.22	23.39	10.72	10.92	0.20	1.00		0.74	3.8	0.51	0.5	
	7/11/2016 13:06	3.99	2.19	11.39	50.48	10.26	10.92	12.35	1.43	1.20		0.74	4.7	0.63	0.6	
	7/12/2016 9:35	0.85	0.68	12.07	54.26	3.78	10.87	12.55	1.68	1.15		0.74	5.5	0.74	0.7	
	7/12/2016 12:50	0.14	0.14	12.21	55.24	0.98	10.95	12.61	1.66	1.23		0.74	7.2	0.97	1.0	
	7/19/2016 12:45	7.00	7.00	19.21	69.20	13.96	10.51	14.15	3.64	0.79		0.74	2.0	0.27	0.3	
	7/21/2016 13:00	2.01	1.35	20.55	75.93	6.73	10.46	14.31	3.85	0.74		0.74	5.0	0.67	0.7	
	7/27/2016 13:00	6.00	5.22	25.77	101.38	25.45	10.52	13.93	3.41	0.80		0.74	4.9	0.65	0.6	0.6

Appendix C

LNAPL Skimming Test Results - Short-Duration Skimming
Epic Midstream Savannah North Terminal
Savannah, Georgia

Well ID	Measurement Date & Time	Time Between Measurement Events (days)	Actual Skimmer Run-Time Between Measurement Events (days)	Cumulative Skimmer Run-Time (days)	Total Volume of LNAPL Recovered (gallons)	Volume of LNAPL Recovered During Measurement Interval (gallons)	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	In-Well LNAPL Thickness (feet)	LNAPL Drawdown (feet)	Maximum Theoretical Unconfined LNAPL Drawdown (feet)	LNAPL Drawdown Used in Transmissivity Estimate[a] (feet)	Average LNAPL Recovery Rate for Interval (gal/day)	Average LNAPL Recovery Rate for Interval (ft^3/day)	Estimated LNAPL Transmissivity for Interval (ft^2/day)	Overall Average LNAPL Transmissivity[b] (ft^2/day)
AW-11	6/28/2016 9:45	--		--	--	--	10.21	13.32	3.11	--	0.45	--	--	--	--	
	6/28/2016 14:00	0.18	0.18	0.18	6.16	6.16	--	--	--			0.45	34.8	4.65	7.5	
	7/1/2016 9:40	2.82	2.82	3.00	18.06	11.90	10.40	12.38	1.98	0.19		0.19	4.2	0.56	2.2	
	7/7/2016 13:50	6.17	6.17	9.17	41.86	23.80	10.87	13.23	2.36	0.66		0.45	3.9	0.52	0.8	
	7/11/2016 12:40	3.95	2.29	11.46	52.12	10.26	11.14	12.98	1.84	0.93		0.45	4.5	0.60	1.0	
	7/12/2016 9:25	0.86	0.66	12.12	58.69	6.57	11.25	12.65	1.40	1.04		0.45	10.0	1.34	2.2	
	7/12/2016 12:25	0.13	0.13	12.24	59.51	0.82	11.39	12.70	1.31	1.18		0.45	6.6	0.88	1.4	
	7/19/2016 12:22	7.00	7.00	19.24	91.52	32.01	11.18	11.97	0.79	0.97		0.45	4.6	0.61	1.0	
	7/27/2016 12:15	5.95	5.95	27.24	119.43	27.91	11.80	12.00	0.20	1.59		0.45	4.7	0.63	1.0	1.2
AW-82	6/28/2016 11:00	--		--	--	--	9.11	12.62	3.51	--	0.51	--	--	--	--	
	6/28/2016 14:15	0.14	0.14	0.14	4.10	4.10	--	--	--			0.51	30.3	4.05	5.8	
	7/1/2016 9:25	2.80	2.80	2.93	6.00	1.90	8.89	12.33	3.44	-0.22		0.51	0.7	0.09	0.1	
	7/7/2016 13:10	6.16	6.16	9.09	12.28	6.28	9.27	12.42	3.15	0.16		0.16	1.0	0.14	0.6	
	7/11/2016 12:00	3.95	2.25	11.34	22.67	10.39	9.66	13.36	3.70	0.55		0.51	4.6	0.62	0.9	
	7/12/2016 9:35	0.90	0.65	11.99	25.95	3.28	9.63	12.65	3.02	0.52		0.51	5.1	0.68	1.0	
	7/12/2016 12:25	0.12	0.12	12.11	26.36	0.41	9.82	12.74	2.92	0.71		0.51	3.5	0.46	0.7	
	7/19/2016 12:00	6.98	6.98	19.09	49.66	23.30	9.69	12.56	2.87	0.58		0.51	3.3	0.45	0.6	
	7/21/2016 13:45	2.07	2.07	21.16	57.74	8.08	9.53	12.85	3.32	0.42		0.42	3.9	0.52	0.9	
	7/27/2016 11:25	5.90	5.90	27.07	79.08	21.34	10.00	13.00	3.00	0.89		0.51	3.6	0.48	0.7	0.7
AW-6	8/2/2016 12:20	--		--	--	--	7.95	9.55	1.60	--	0.23	--	--	--	--	
	8/11/2016 9:25	8.88	5.50	5.50	2.05	2.05	8.15	9.30	1.15	0.20		0.20	0.4	0.05	0.2	
	8/17/2016 10:25	6.04	6.04	11.55	2.76	0.71	7.75	9.01	1.26	-0.20		0.23	0.1	0.02	0.05	
	8/24/2016 17:00	7.27	7.27	18.82	3.28	0.52	7.77	9.39	1.62	-0.18		0.23	0.1	0.01	0.03	0.04
AW-52	7/28/2016 11:20	--		--	--	--	12.78	16.08	3.30	--	0.48	--	--	--	--	
	8/2/2016 11:45	5.02	5.02	5.02	5.75	5.75	12.91	13.37	0.46	0.13		0.13	1.1	0.15	0.9	
	8/11/2016 8:20	8.86	8.86	13.88	8.21	2.46	13.17	13.42	0.25	0.39		0.39	0.3	0.04	0.1	
	8/17/2016 9:45	6.06	6.06	19.93	8.87	0.66	12.85	13.10	0.25	0.07		0.07	0.1	0.015	0.2	
	8/25/2016 10:00	8.01	8.01	27.94	11.08	2.21	12.91	13.42	0.51	0.13		0.13	0.3	0.04	0.2	0.1
AW-57	7/28/2016 10:17	--		--	--	--	10.43	13.82	3.39	--	0.49	--	--	--	--	
	8/2/2016 12:50	5.11	5.11	5.11	6.57	6.57	11.21	11.47	0.26	0.78		0.49	1.3	0.17	0.3	
	8/10/2016 16:25	8.15	8.15	13.26	6.60	0.03	11.30	11.64	0.34	0.87		0.49	0.004	0.0005	0.0007	
	8/17/2016 9:45	6.06	6.06	19.98	7.09	0.49	11.20	11.32	0.12	0.77		0.49	0.1	0.01	0.016	
	8/24/2016 16:40	7.29	7.29	27.27	7.39	0.30	11.05	11.16	0.11	0.62		0.49	0.04	0.01	0.008	0.008
AW-18	8/25/2016 11:15	--		--	--	--	7.00	11.70	4.70	--	0.69	--	--	--	--	
	8/31/2016 11:30	6.01	6.01	6.01	2.87	2.87	7.40	11.40	4.00	0.40		0.40	0.5	0.06	0.1	
	9/7/2016 13:05	7.07	7.07	13.08	3.70	0.83	6.80	10.70	3.90	-0.20		0.69	0.1	0.02	0.02	
	9/15/2016 11:00	7.91	7.91	20.99	7.40	3.70	6.88	10.92	4.04	-0.12		0.69	0.5	0.06	0.07	0.04

Appendix C

LNAPL Skimming Test Results - Short-Duration Skimming
Epic Midstream Savannah North Terminal
Savannah, Georgia

Well ID	Measurement Date & Time	Time Between Measurement Events (days)	Actual Skimmer Run-Time Between Measurement Events (days)	Cumulative Skimmer Run-Time (days)	Total Volume of LNAPL Recovered (gallons)	Volume of LNAPL Recovered During Measurement Interval (gallons)	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	In-Well LNAPL Thickness (feet)	LNAPL Drawdown (feet)	Maximum Theoretical Unconfined LNAPL Drawdown (feet)	LNAPL Drawdown Used in Transmissivity Estimate[a] (feet)	Average LNAPL Recovery Rate for Interval (gal/day)	Average LNAPL Recovery Rate for Interval (ft^3/day)	Estimated LNAPL Transmissivity for Interval (ft^2/day)	Overall Average LNAPL Transmissivity[b] (ft^2/day)
AW-54	8/25/2016 10:45	--		--	--	--	5.45	15.48	10.03	--	1.46	--	--	--	--	
	8/31/2016 11:15	6.02	4.46	4.46	50.00	50.00	6.15	10.55	4.40	0.70		0.70	11.2	1.50	1.6	
	9/7/2016 14:15	7.13	5.13	9.59	100.00	50.00	--	--	--	--		1.46	9.7	1.30	0.7	
	9/14/2016 14:30	7.01	5.26	14.84	150.00	50.00	6.48	9.24	2.76	1.03		1.03	9.5	1.27	0.9	
	9/21/2016 12:20	6.91	7.53	22.37	200.00	50.00	6.10	7.60	1.50	0.65		0.65	6.6	0.89	1.0	0.9
AW-56	8/25/2016 11:45	--		--	--	--	9.12	15.13	6.01	--	0.88	--	--	--	--	
	8/31/2016 10:40	5.95	5.95	5.95	36.12	36.12	10.01	13.02	3.01	0.89		0.88	6.1	0.81	0.7	
	9/7/2016 11:45	7.05	7.05	13.00	67.32	31.20	10.90	13.40	2.50	1.78		0.88	4.4	0.59	0.5	
	9/14/2016 17:30	7.24	7.24	20.24	117.32	50.00	10.99	14.55	3.56	1.87		0.88	6.9	0.92	0.8	
	9/15/2016 7:45	0.59	0.59	20.83	126.82	9.50	10.98	11.10	0.12	1.86		0.88	16.0	2.14	1.8	
	9/21/2016 14:40	6.29	6.29	27.12	--	--	--	--	--	--			--	--	--	1.0
AW-5	9/22/2016 11:45	--		--	--	--	5.50	8.05	2.55	--	0.37	--	--	--	--	
	9/28/2016 10:00	5.93	5.93	5.93	29.00	29.00	6.21	8.15	1.94	0.71		0.37	4.9	0.65	1.3	
	10/5/2016 12:31	7.10	7.10	13.03	46.25	17.25	6.55	7.41	0.86	1.05		0.37	2.4	0.32	0.6	0.6
	END OF TEST INTERVAL - SHUTDOWN DUE TO HURRICANE															
AW-12	9/22/2016 11:45	--		--	--	--	5.47	16.20	10.73	--	1.57	--	--	--	--	
	9/28/2016 8:55	5.88	5.88	5.88	24.63	24.63	11.31	11.41	0.10	5.84		1.57	4.2	0.56	0.3	
	10/5/2016 13:03	7.17	7.17	13.05	30.54	5.91	11.18	12.26	1.08	5.71		1.57	0.8	0.11	0.05	0.05
AW-22	9/22/2016 11:45	--		--	--	--	11.20	15.75	4.55	--	0.66	--	--	--	--	
	9/28/2016 8:40	5.87	5.87	5.87	51.00	51.00	11.82	13.45	1.63	0.62		0.66	8.7	1.16	1.3	
	10/5/2016 13:40	7.21	5.98	11.85	103.53	52.53	11.89	13.48	1.59	0.69		0.66	8.8	1.17	1.3	
	END OF TEST INTERVAL - SHUTDOWN DUE TO HURRICANE															
	10/13/2016 12:50	7.97		0.00	0.00	0.00	10.15	13.85	3.70		0.54	--	--	--	--	
	10/20/2016 10:50	6.92	6.92	6.92	51.00	51.00	11.07	13.47	2.40	0.92		0.54	7.4	0.99	1.3	<1.3
	END OF TEST INTERVAL - DUE TO SKIMMER MALFUNCTION															
AW-51	10/13/2016 11:30	--		--	--	--	8.51	9.43	0.92	--	0.13	--	--	--	--	
	10/20/2016 11:10	6.99	6.99	6.99	9.85	9.85	8.85	9.05	0.20	0.34		0.13	1.4	0.19	1.0	
	10/28/2016 11:10	8.00	8.00	14.99	9.85	0.00	9.54	9.57	0.03	1.03		0.13	0.0	0	0	<1.0

Assumed LNAPL specific gravity = 0.854

All calculations performed pursuant to the methodology detailed in ASTM E2856-13

[a]The maximum theoretical drawdown is used for each interval calculation where the measured drawdown is negative or where it exceeds the theoretical maximum.

[b]Represents the average of the stabilized recovery rates/LNAPL transmissivity estimates (i.e., excludes initial elevated values that would not represent potential long-term recovery rates).

Appendix C

LNAPL Skimming Test Results - Long-Duration Skimming
Epic Midstream Savannah North Terminal
Savannah, Georgia

Well ID	Measurement Date & Time	Time Between Measurement Events (days)	Actual Skimmer Run-Time Between Measurement Events (days)	Cumulative Run Time (days)	Total Volume of LNAPL Recovered (gallons)	Volume of LNAPL Recovered During Measurement Interval (gallons)	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	In-Well LNAPL Thickness (feet)	LNAPL Drawdown (feet)	Maximum Theoretical Unconfined LNAPL Drawdown (feet)	LNAPL Drawdown Used in Transmissivity Estimate[a] (feet)	Average LNAPL Recovery Rate for Interval (gal/day)	Average LNAPL Recovery Rate for Interval (ft^3/day)	Estimated LNAPL Transmissivity for Interval (ft^2/day)	Overall Average LNAPL Transmissivity[b] (ft^2/day)
AW-9	9/14/2016 13:10	--	--		--	--	10.05	13.98	3.93	--	0.57		--	--	--	
	9/14/2016 16:50	0.15	0.15	0.15	9.00	9.00	10.65	12.35	1.70	0.60		0.57	58.9	7.87	10.0	
	9/15/2016 8:05	0.62	0.62	0.79	14.70	4.00	10.35	10.51	0.16	0.30		0.30	6.5	0.87	2.1	
	9/15/2016 8:55	0.03	0.03	0.82	14.85	0.15	10.31	10.51	0.20	0.26		0.26	4.3	0.58	1.6	
	9/15/2016 11:50	0.12	0.12	0.94	15.20	0.35	10.26	10.50	0.24	0.21		0.21	2.9	0.38	1.3	
	9/21/2016 11:52	6.00	6.00	6.95	31.70	16.50	10.75	11.10	0.35	0.70		0.57	2.7	0.37	0.5	
	9/22/2016 9:45	0.91	0.80	7.75	33.00	1.30	11.15	11.40	0.25	1.10		0.57	1.6	0.22	0.3	
	9/28/2016 8:15	5.94	5.94	13.69	52.00	19.00	10.46	10.72	0.26	0.41		0.41	3.2	0.43	0.8	
	10/5/2016 14:15	7.25	7.25	20.94	71.00	19.00	10.19	10.42	0.23	0.14		0.14	2.6	0.35	1.8	1.1
	END OF TEST INTERVAL - SHUTDOWN DUE TO HURRICANE															
	10/13/2016 13:50	7.98	0.00	20.94	0.00	0.00	8.83	12.89	4.06	--	0.59		--	--	--	
	10/20/2016 12:35	6.95	6.95	27.88	97.00	97.00	9.53	9.64	0.11	-0.52			14.0	1.87	2.4	
	END OF TEST INTERVAL - SHUTDOWN DUE TO FULL TANK															
	10/28/2016 11:25	7.95	0.00	27.88	0.00	0.00	9.33	12.73	3.40	--	0.50		--	--	--	
AW-49	9/14/2016 16:35	--	--		--	--	12.15	15.80	3.65	--	0.53		--	--	--	
	9/14/2016 17:20	0.03	0.03	0.03	2.30	2.30	12.25	14.55	2.30	0.10		0.10	73.6	9.84	72.0	
	9/15/2016 8:15	0.62	0.62	0.65	21.10	18.80	12.25	12.41	0.16	0.10		0.10	30.2	4.04	29.6	
	9/15/2016 8:45	0.02	0.02	0.67	21.60	0.50	12.21	12.41	0.20	0.06		0.06	24.0	3.21	39.1	
	9/15/2016 11:45	0.13	0.13	0.80	23.40	1.80	12.33	12.50	0.17	0.18		0.18	14.4	1.92	7.8	
	9/21/2016 12:07	6.02	6.02	6.81	134.40	111.00	12.57	12.86	0.29	0.42		0.42	18.5	2.47	4.3	
	9/22/2016 9:50	0.90	0.90	7.72	146.90	12.50	13.22	13.47	0.25	1.07		0.53	13.8	1.85	2.5	
	9/28/2016 8:35	5.95	5.95	13.67	205.20	58.30	12.37	12.60	0.23	0.22		0.22	9.8	1.31	4.4	
	10/5/2016 14:32	7.25	6.23	19.90	260.70	55.50	12.16	12.29	0.13	0.01		0.01	8.9	1.19	87.1	25.0
	END OF TEST INTERVAL - SHUTDOWN DUE TO HURRICANE															
	10/13/2016 13:00	7.94	0.00	19.90	0.00	--	10.60	15.33	4.73	-1.55	0.69		--	--	--	
	10/20/2016 12:20	6.97	3.63	23.53	267.00	267.00	10.88	14.04	3.16	-1.27		0.53	73.6	9.84	13.5	
	END OF TEST INTERVAL - SHUTDOWN DUE TO FULL TANK															
	10/28/2016 11:20	7.96	0.00	23.53	0.00	--	11.55	14.80	3.25	-0.60	0.47		--	--	--	

Assumed LNAPL specific gravity = 0.854

All calculations performed pursuant to the methodology detailed in ASTM E2856-13

[a]The maximum theoretical drawdown is used for each interval calculation where the measured drawdown is negative or where it exceeds the theoretical maximum.

[b]Represents the average of the stabilized recovery rates/LNAPL transmissivity estimates (i.e., excludes initial elevated values that would not represent potential long-term recovery rates).

Figure 1
LNAPL Transmissivity Test Results: AW-65
EPIC Midstream Savannah North Terminal
Savannah, Georgia

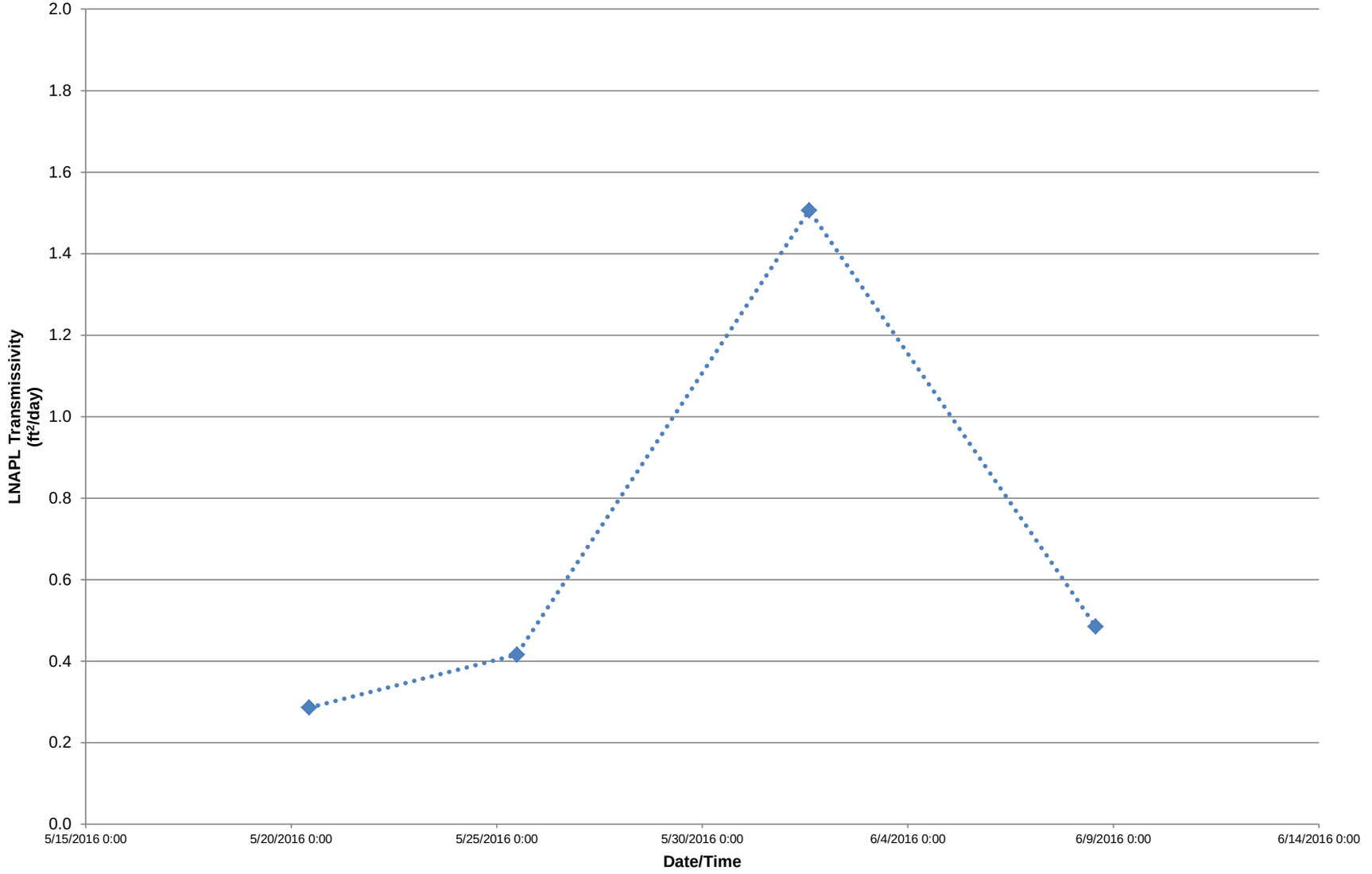


Figure 2
LNAPL Transmissivity Test Results: AW-68
EPIC Midstream Savannah North Terminal
Savannah, Georgia

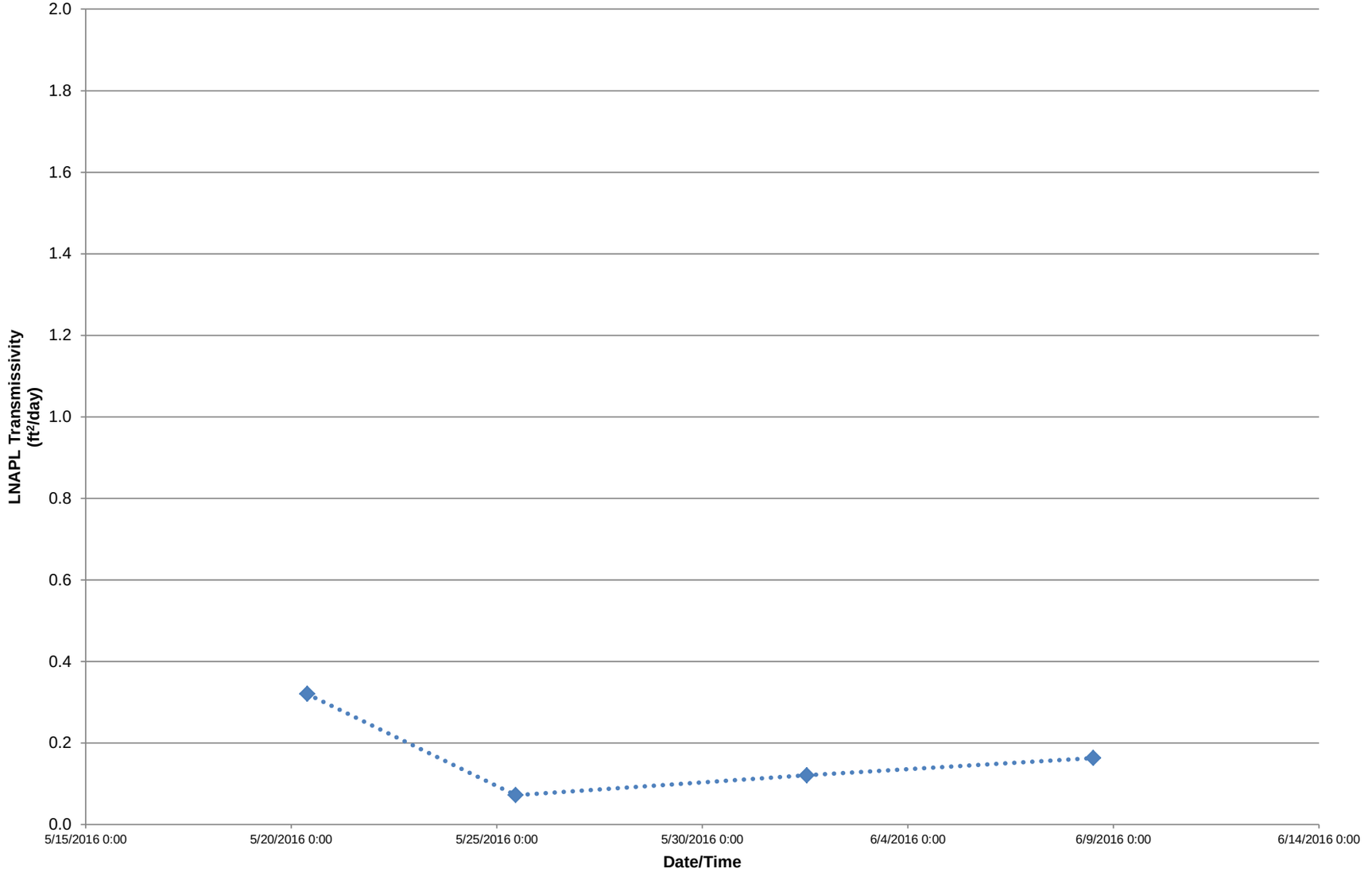


Figure 3
LNAPL Transmissivity Test Results: AW-9
EPIC Midstream Savannah North Terminal
Savannah, Georgia

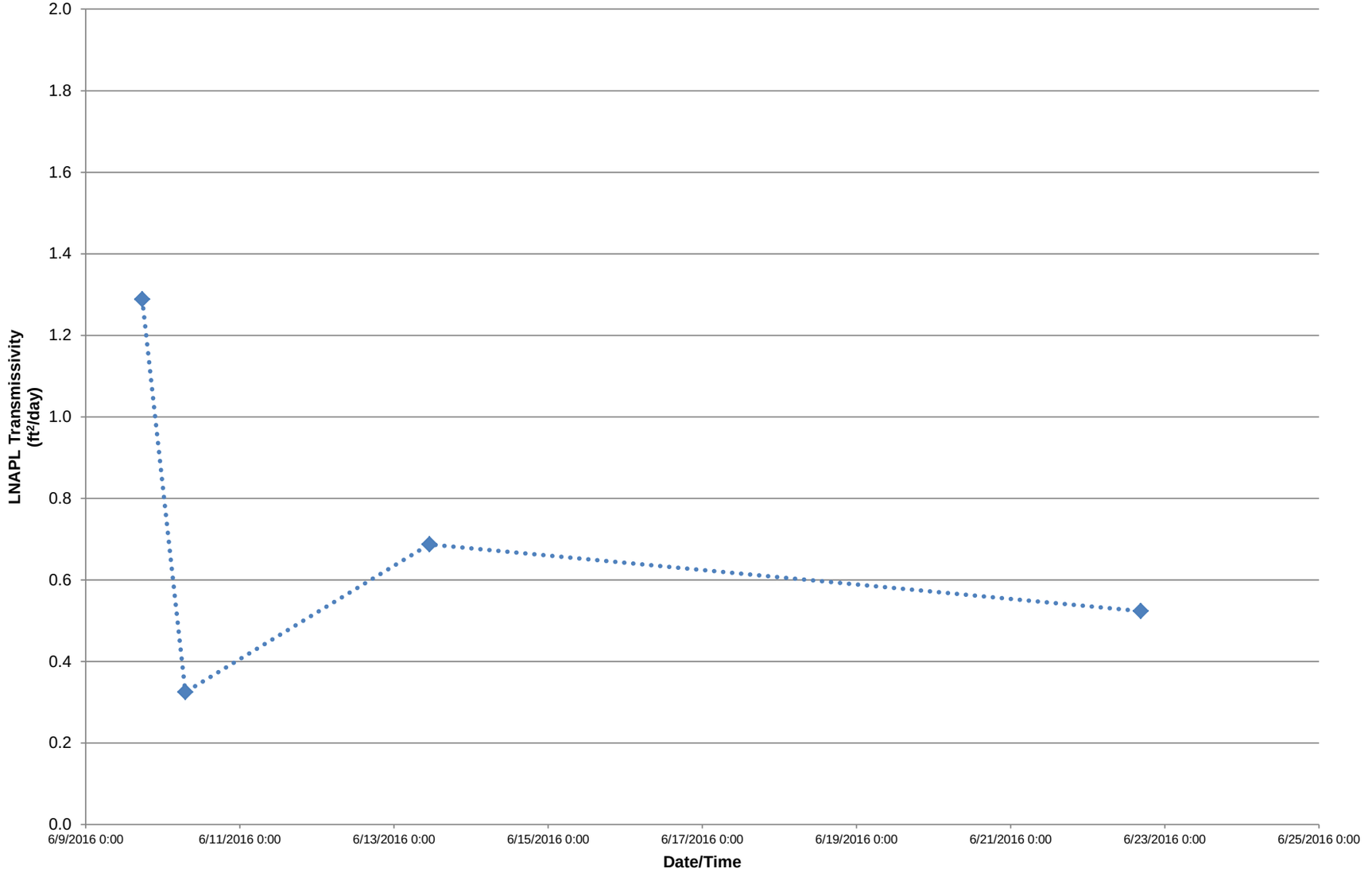


Figure 4
LNAPL Transmissivity Test Results: AW-49
EPIC Midstream Savannah North Terminal
Savannah, Georgia

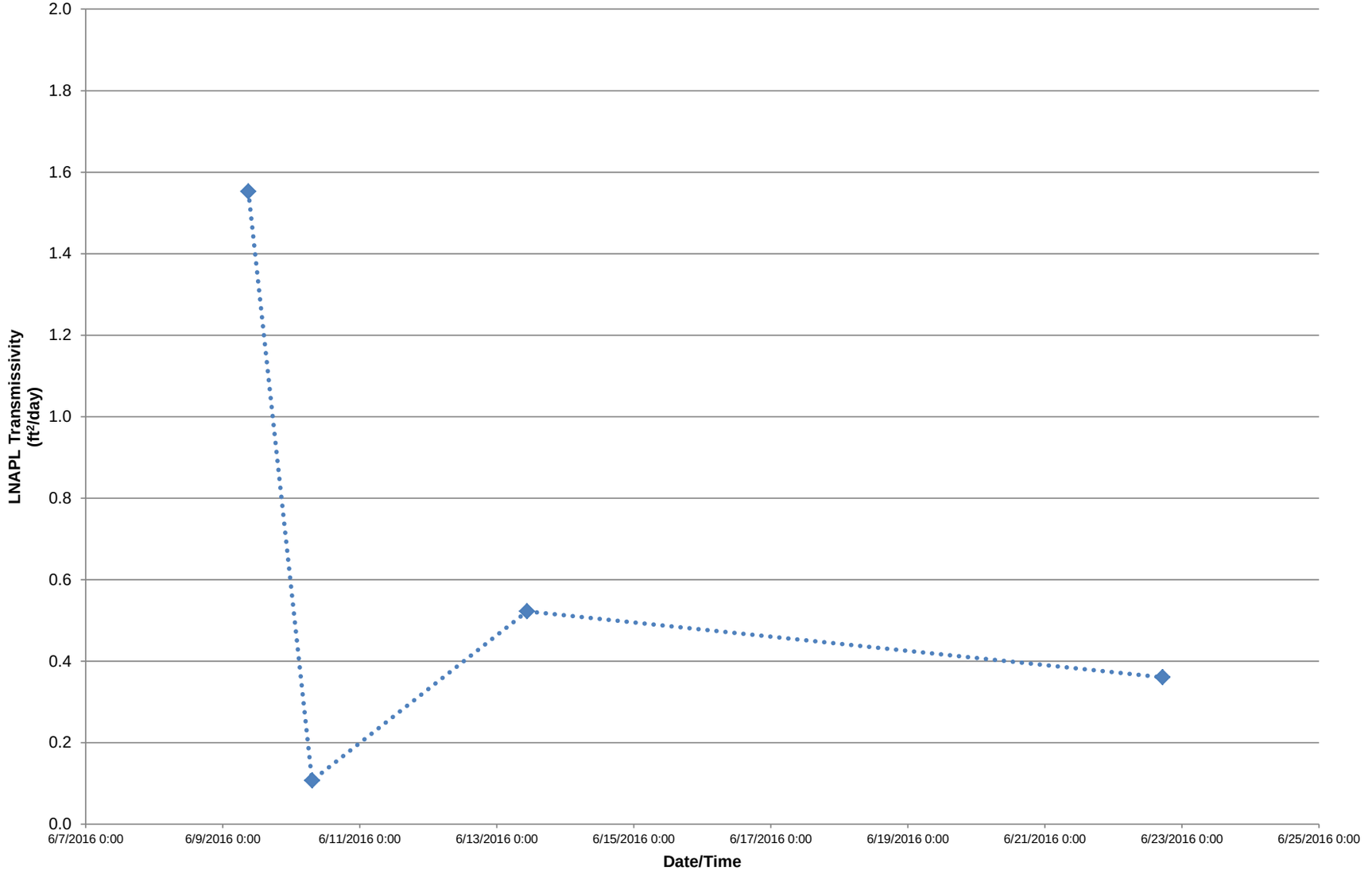


Figure 5
LNAPL Transmissivity Test Results: AW-10
EPIC Midstream Savannah North Terminal
Savannah, Georgia

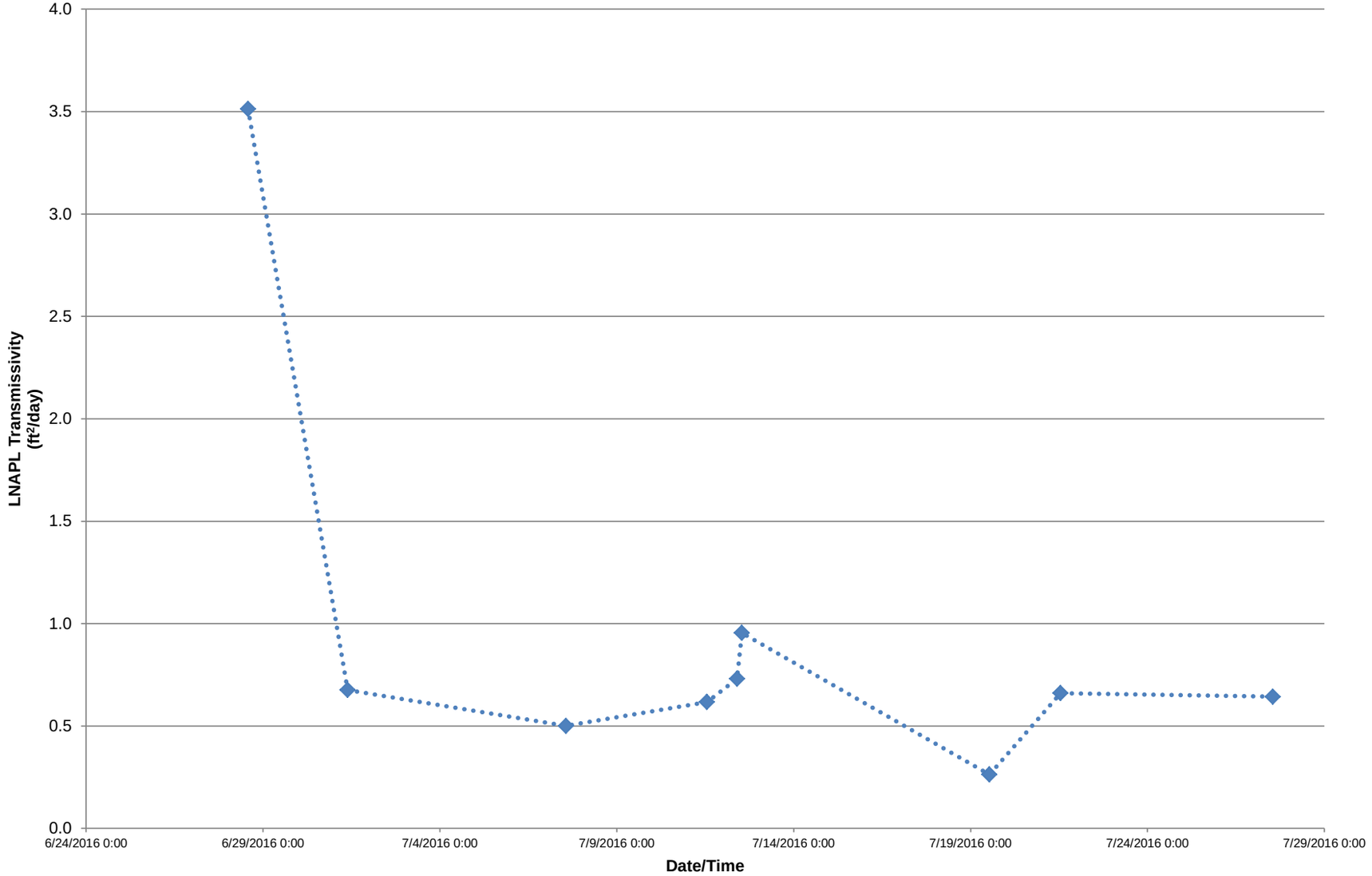


Figure 6
LNAPL Transmissivity Test Results: AW-11
EPIC Midstream Savannah North Terminal
Savannah, Georgia

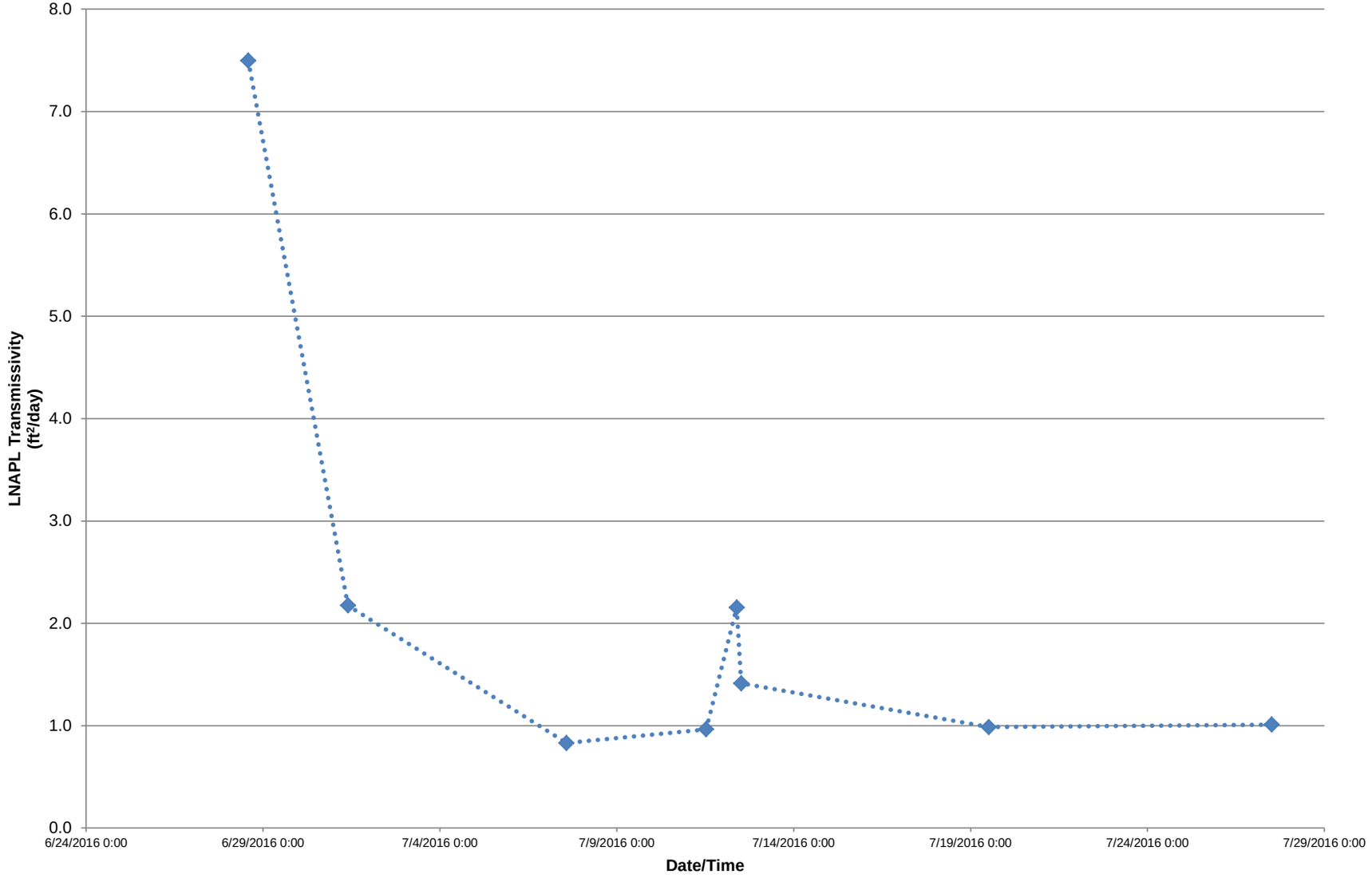


Figure 7
LNAPL Transmissivity Test Results: AW-82
EPIC Midstream Savannah North Terminal
Savannah, Georgia

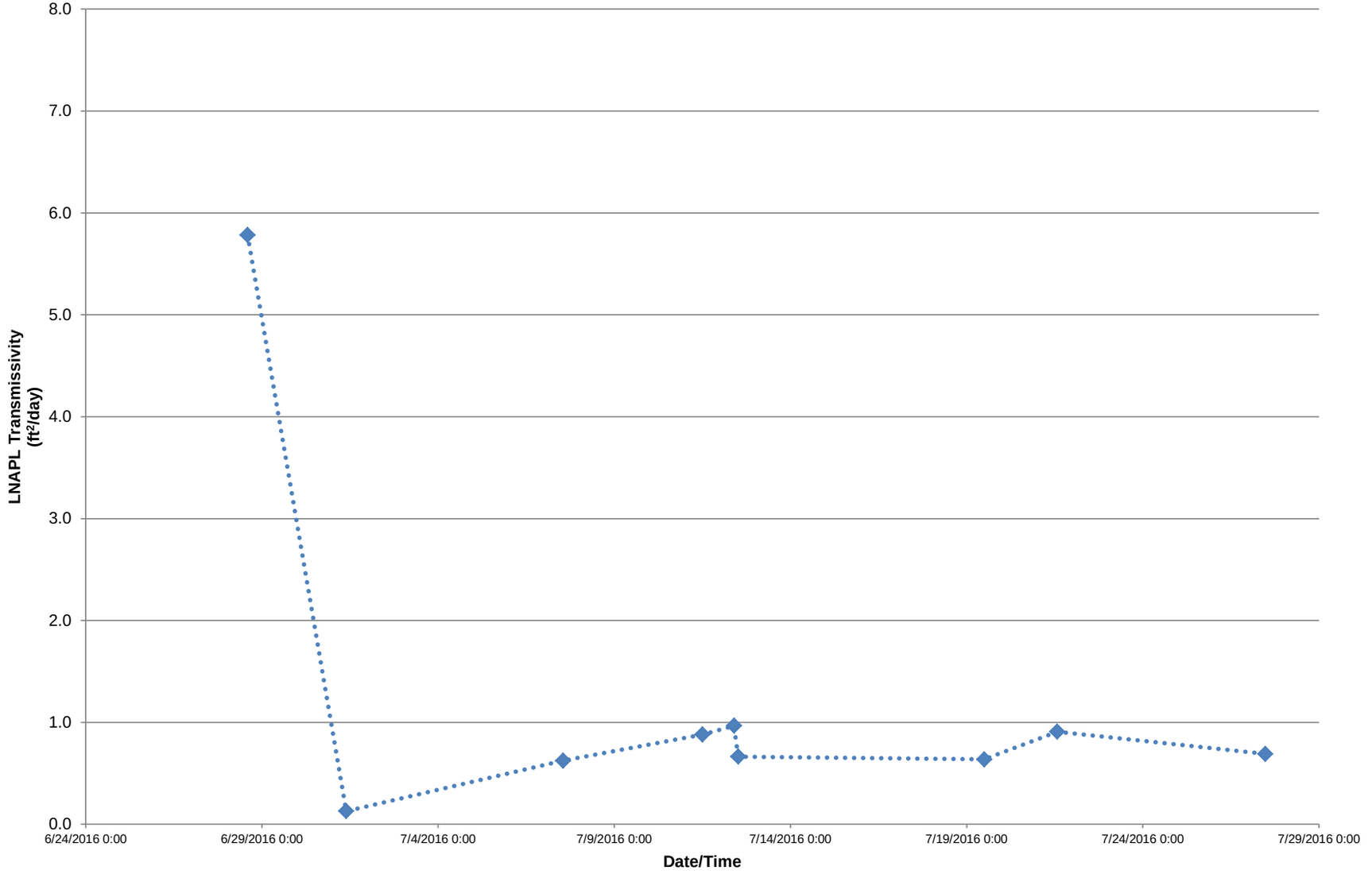


Figure 8
LNAPL Transmissivity Test Results: AW-6
EPIC Midstream Savannah North Terminal
Savannah, Georgia

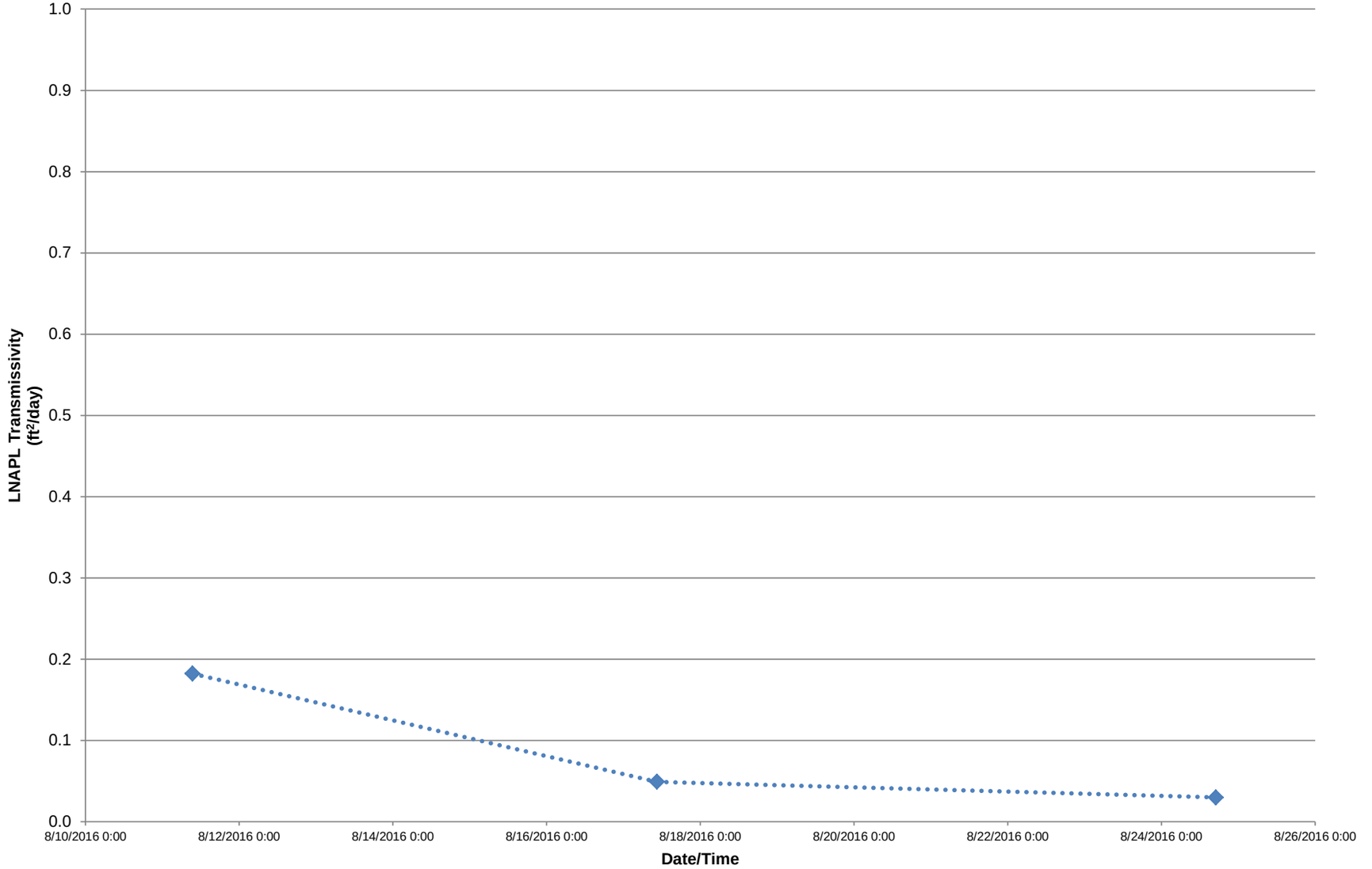


Figure 9
LNAPL Transmissivity Test Results: AW-52
EPIC Midstream Savannah North Terminal
Savannah, Georgia

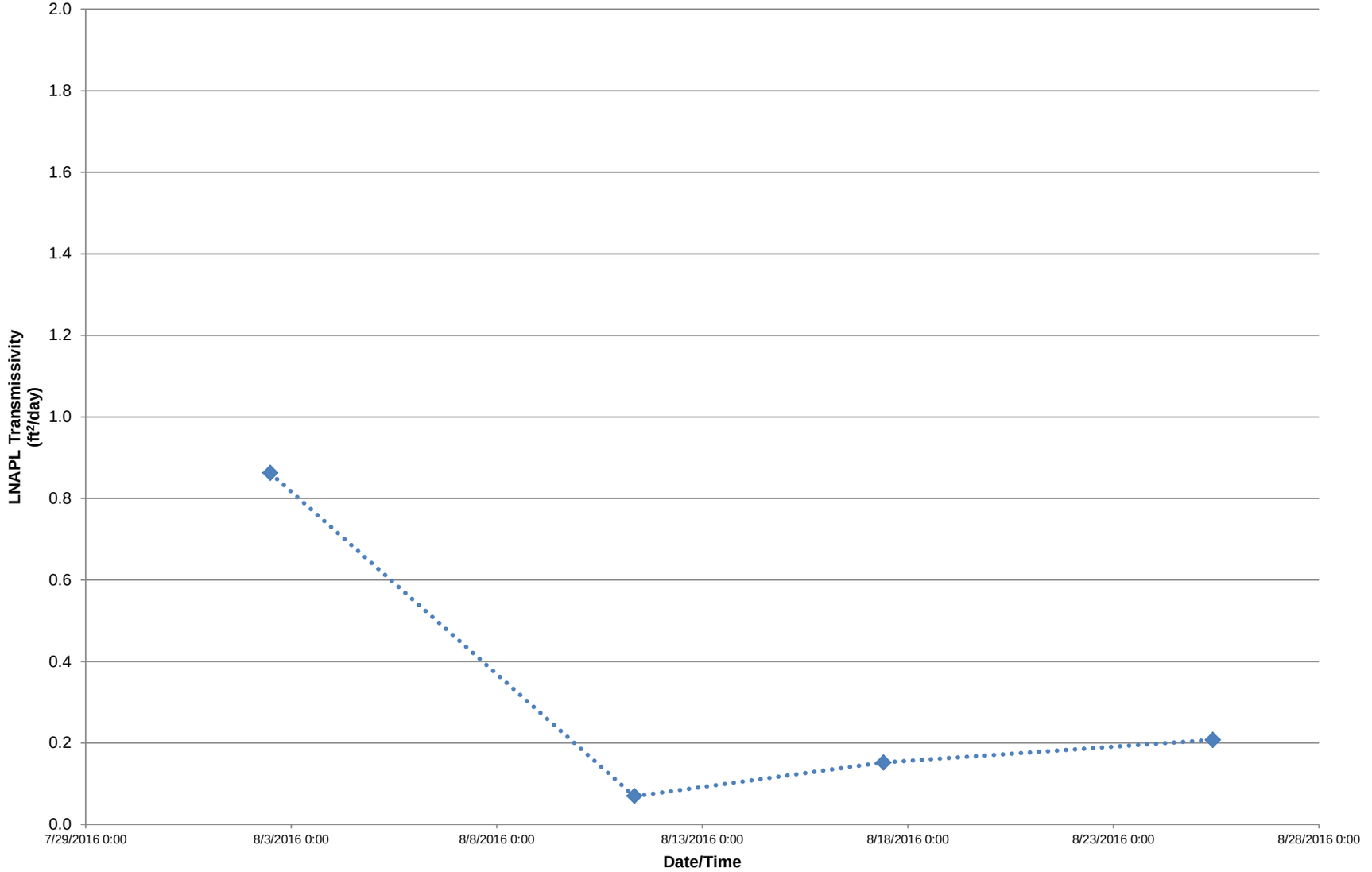


Figure 10
LNAPL Transmissivity Test Results: AW-57
EPIC Midstream Savannah North Terminal
Savannah, Georgia

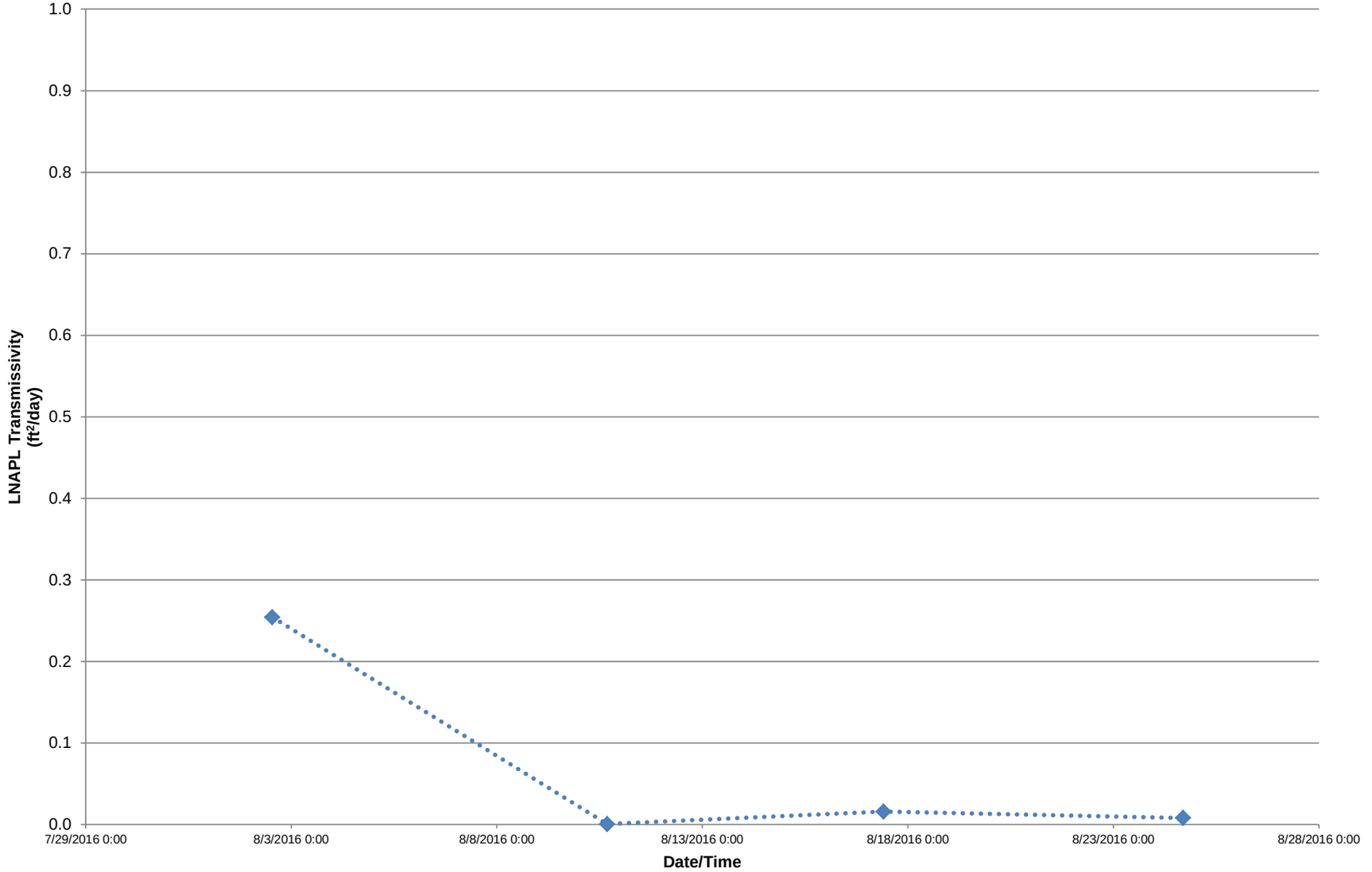


Figure 11
LNAPL Transmissivity Test Results: AW-18
EPIC Midstream Savannah North Terminal
Savannah, Georgia

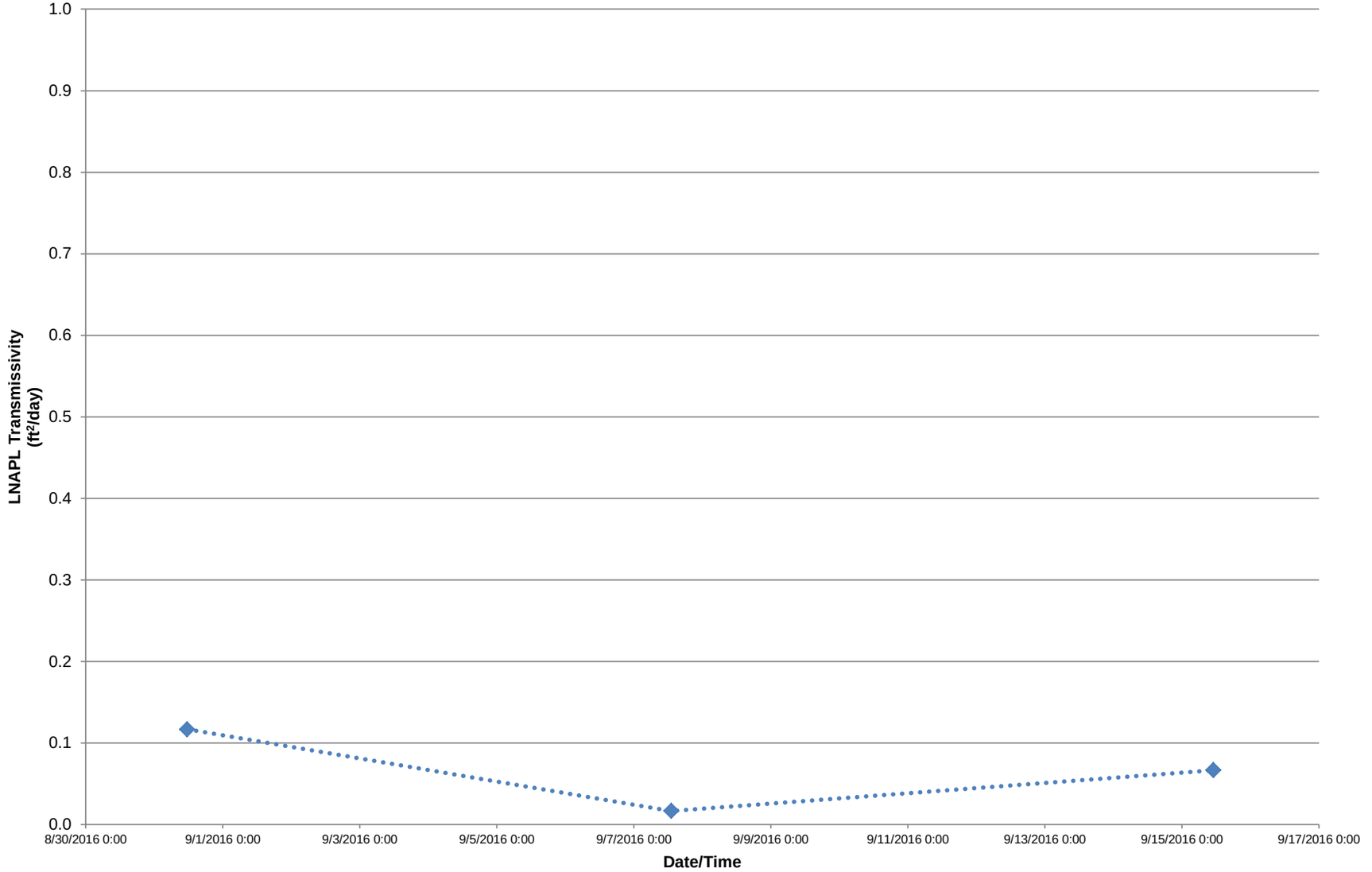


Figure 12
LNAPL Transmissivity Test Results: AW-54
EPIC Midstream Savannah North Terminal
Savannah, Georgia

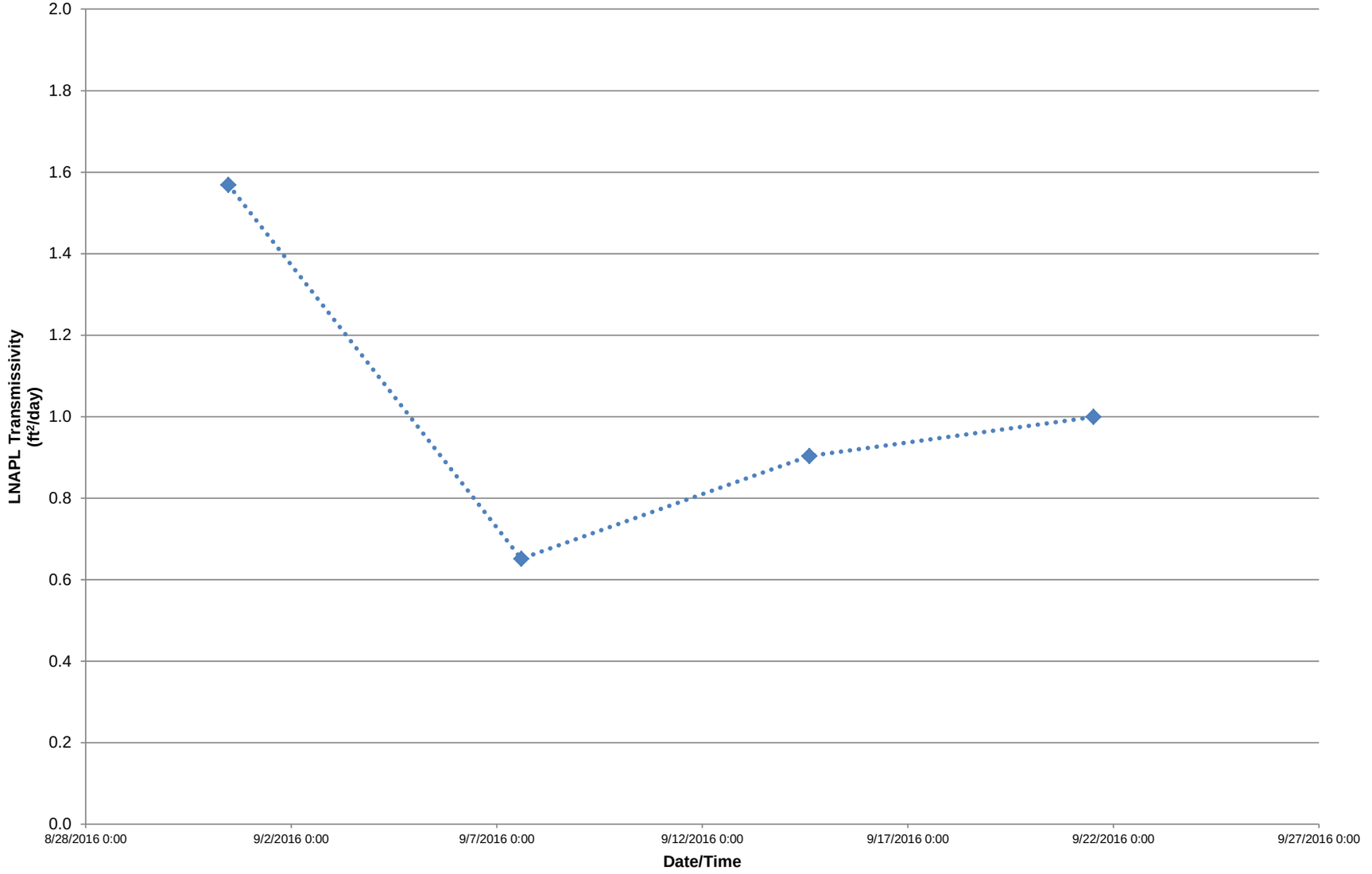


Figure 13
LNAPL Transmissivity Test Results: AW-56
EPIC Midstream Savannah North Terminal
Savannah, Georgia

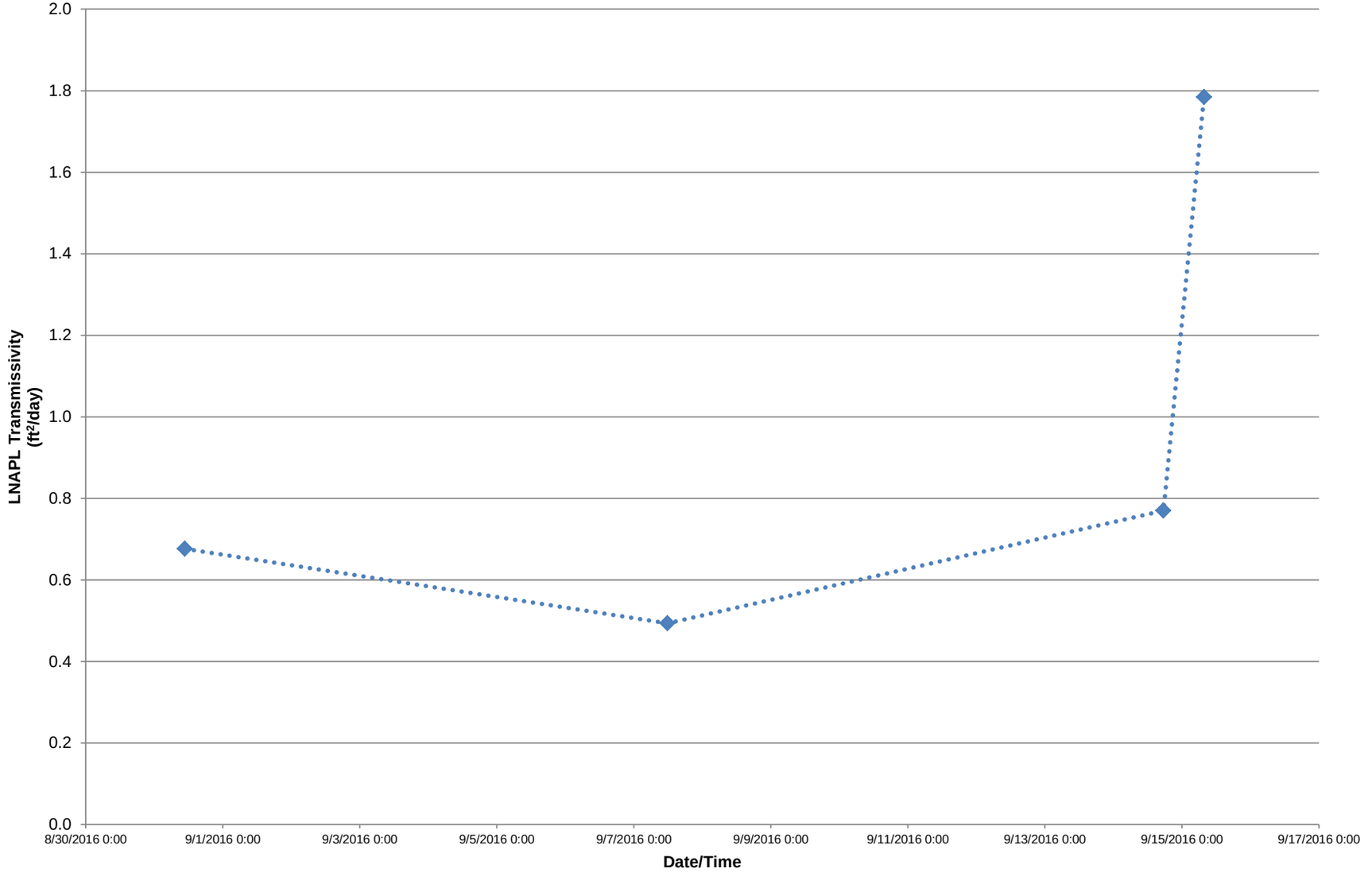


Figure 14
LNAPL Transmissivity Test Results: AW-5
EPIC Midstream Savannah North Terminal
Savannah, Georgia

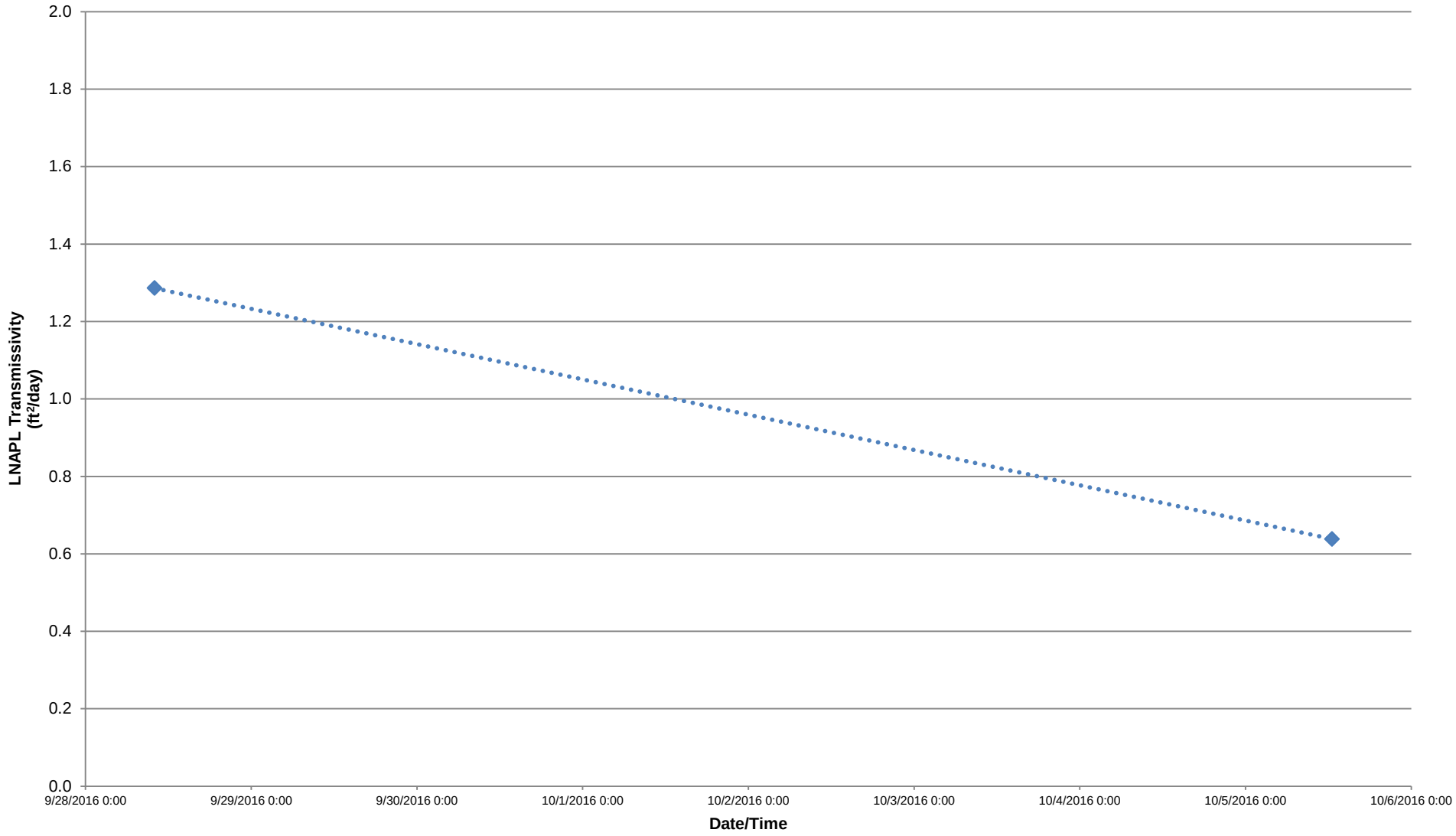


Figure 15
LNAPL Transmissivity Test Results: AW-12
EPIC Midstream Savannah North Terminal
Savannah, Georgia

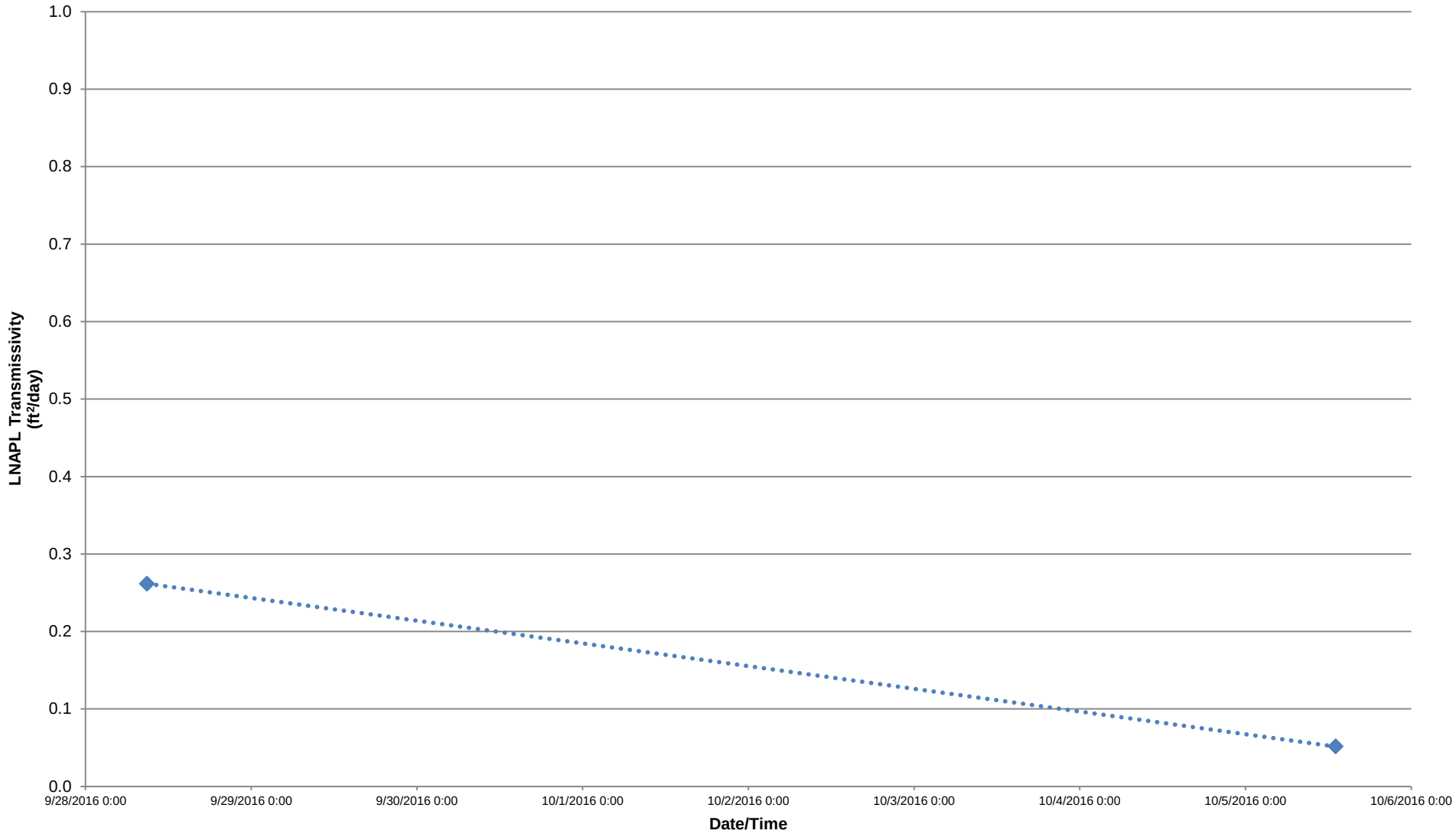


Figure 16
LNAPL Transmissivity Test Results: AW-22
EPIC Midstream Savannah North Terminal
Savannah, Georgia

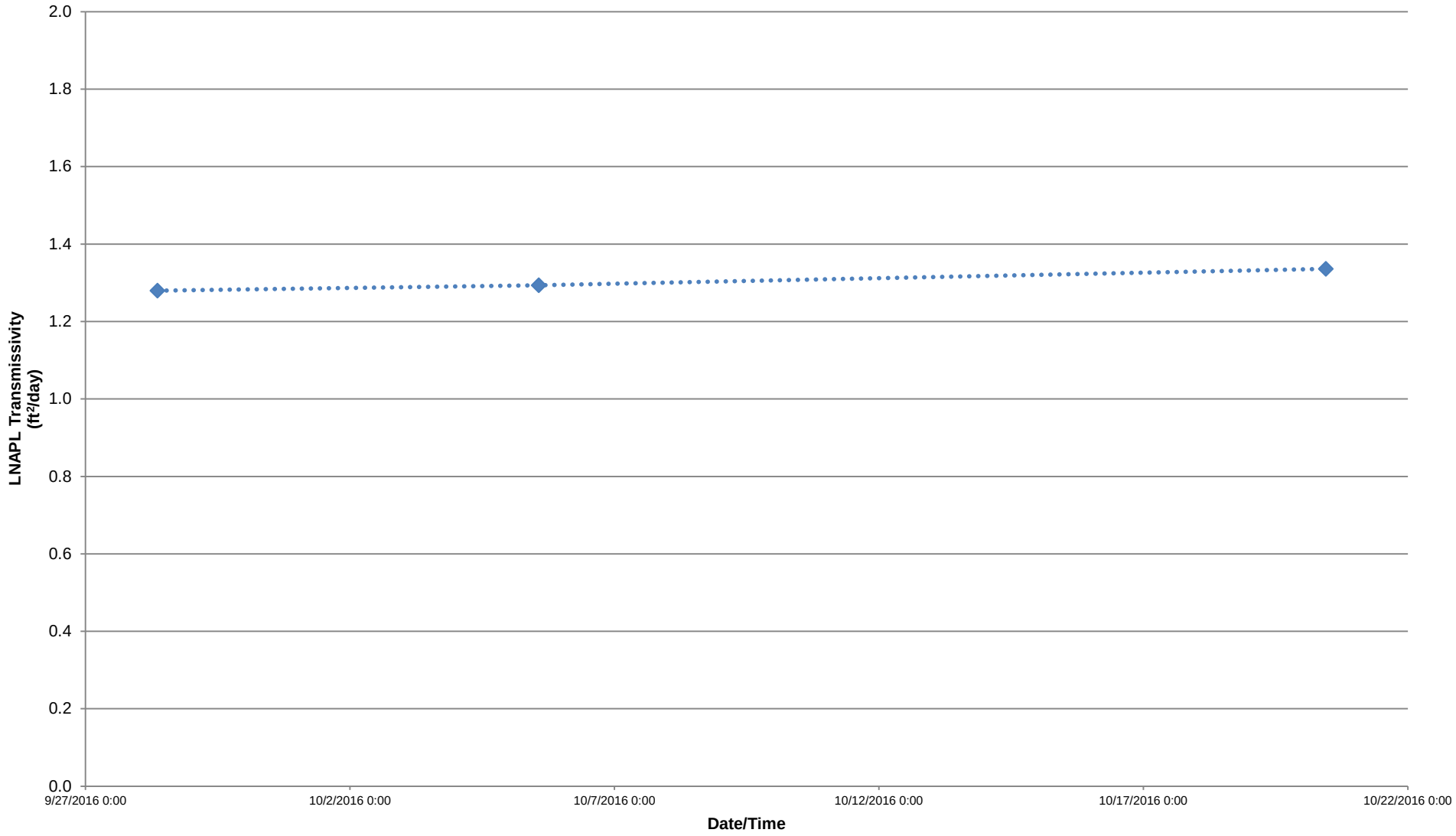


Figure 17
LNAPL Transmissivity Test Results: AW-9 (Long-Term)
EPIC Midstream Savannah North Terminal
Savannah, Georgia

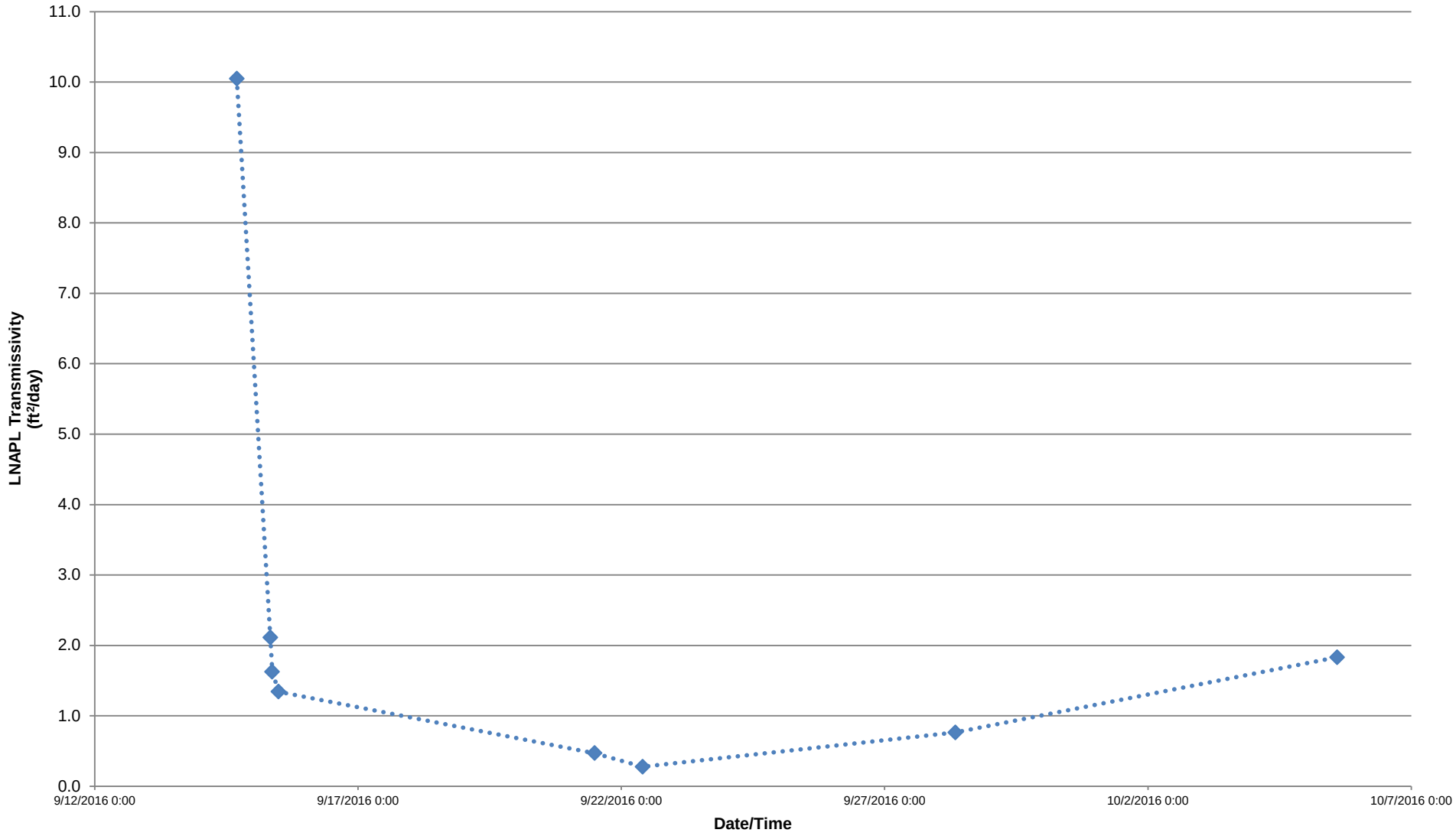
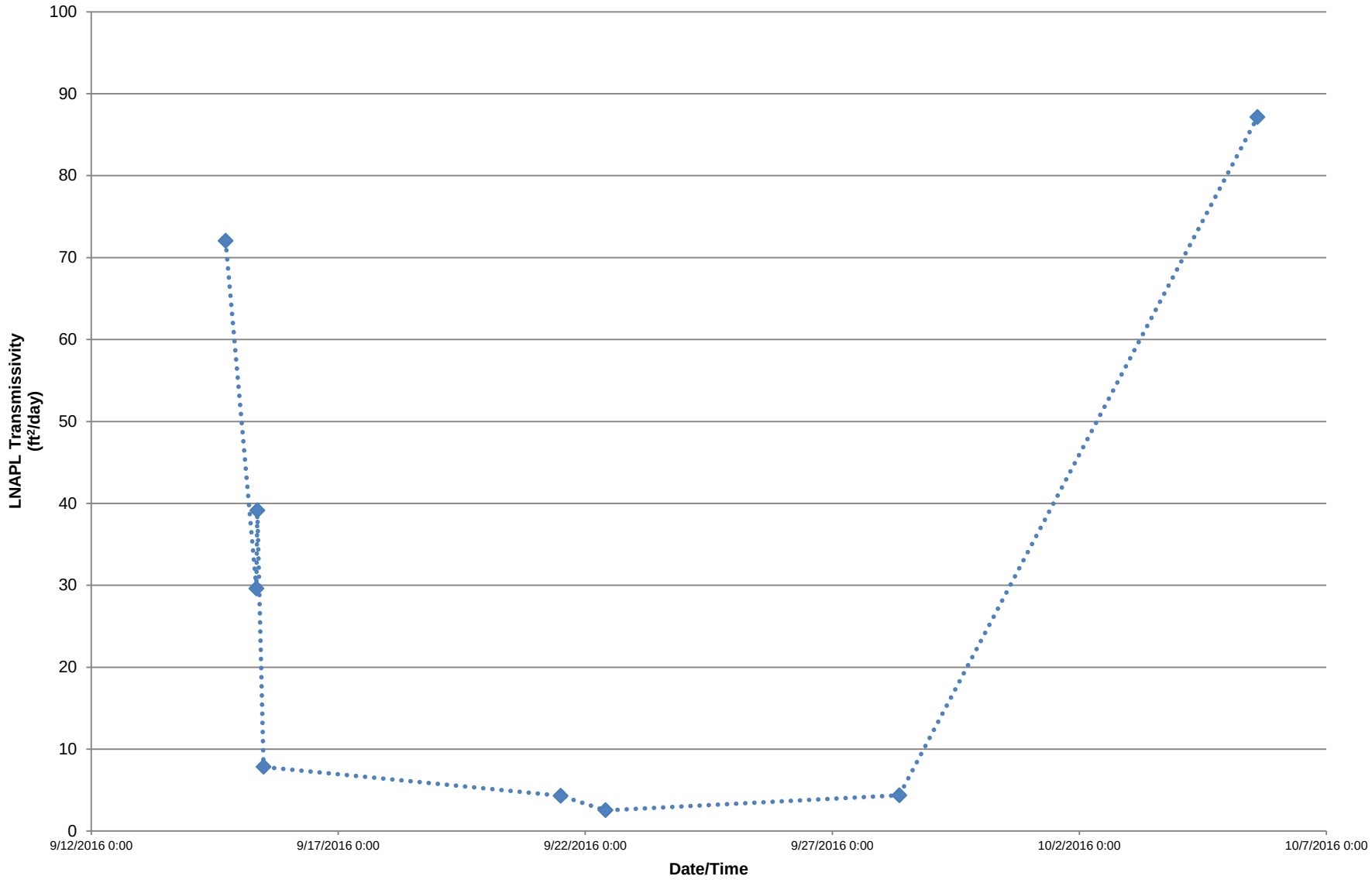


Figure 18
LNAPL Transmissivity Test Results: AW-49 (Long-Term)
EPIC Midstream Savannah North Terminal
Savannah, Georgia



Appendix D
Engineering Fees Summary
May 23, 2016 through November 13, 2016

Appendix D

Engineering Fees
Epic Midstream Savannah North Terminal
Savannah, Georgia

BST

89400
Epic Midstream
Sahvannah, Georgia

Project History Report

May 23, 2016 through November 13, 2016

Employee	Cls	Actv	Hours		Effort
Pyle, Robert T.	110	O	0.5	$	83.00
Ramacciotti, Francis	200	340	0.75	$	111.00
Rousseau, Matthew	210	O	1	$	148.00
Dizinno, John	220	F	1.5	$	222.00
Dizinno, John	220	O	140.5	$	20,794.00
Rousseau, Matthew	220	O	2	$	296.00
Dizinno, John	315	F	10	$	1,250.00
Dizinno, John	325	F	78	$	9,750.00
Dizinno, John	325	O	4	$	500.00
Dizinno, John	330	F	8	$	920.00
Self, Nathan	360	F	10	$	950.00
Self, Nathan	360	O	0.5	$	47.50
Bodiford, Madison R	361	F	77.5	$	7,362.50
Bodiford, Madison R	361	O	18.5	$	1,757.50
Talbert, Matthew	361	O	2.5	$	237.50
Al-Marhoun, Zachary	362	F	110.5	$	10,497.50
Al-Marhoun, Zachary	362	O	106	$	10,070.00
Bodiford, Madison R	362	F	20	$	1,900.00
Bodiford, Madison R	362	O	1	$	95.00
Gruesbeck, Amanda	525	O	5	$	625.00
Brennan, Deborah	630	OC02	1.5	$	172.50
Grace, Steven	725	900	2.5	$	225.00
Grace, Steven	725	F	136	$	12,240.00
Grace, Steven	731	900	2	$	160.00
Grace, Steven	731	F	74	$	5,920.00
Pitre, Lane	804	O	1	$	100.00
Bouquet, Holly	822	O	0.5	$	37.50
Hollister-Bay, Terri	906	O	2.5	$	112.50
Butler, Patricia	906	O	0.5	$	22.50
Hollister-Bay, Terri	906	O	7	$	315.00
		Totals	825.25	$	86,921.50