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May 9, 2016

Ms. Debbie Mayo North Carolina Department of Environmental Quality Division of Waste Management Underground Storage Tank Section 127 N. Cardinal Drive Wilmington, North Carolina 28405

Subject: Active Remediation Monitoring Report

GPM 3035 (Scotchman #35)

Wilmington, New Hanover County, North Carolina

Incident No. 32152

Dear Ms. Mayo:

Attached please find the *Active Remediation Monitoring Report* for the above referenced facility. If you have any questions please feel free to contact me at (704) 324-7045.

Sincerely,

Antea USA of North Carolina, Inc.,

Kyle Sorensen Project Manager

cc: Mr. Rolfe Lann – Director of Environmental; GPM Southeast, LLC





Active Remediation Monitoring Report

GPM 3035 (Scotchman 35)
Wilmington, New Hanover County, North
Carolina
Incident No. 32152

Antea USA of NC Project No. NC30351601 May 9, 2016

Prepared for: GPM Southeast, LLC 8565 Magellan Parkway, Suite 400 Richmond, VA 23227 +1 804 730 1568 Prepared by:
Antea USA of North Carolina, Inc.
3530 Toringdon Way, Suite 106
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Active Remediation Monitoring Report

Site Name:

GPM 3035 (Scotchman #35)

7162 Market Street

Wilmington, New Hanover County, North Carolina

Facility I.D.:

0-020168

UST Incident Numbers: 32152

Risk Rank:

High (H287A)

Latitude:

34.271944N

Longitude:

-77.818889W

Source: Google

UST Owner

and Operator: GPM Southeast, LLC

8565 Magellan Parkway, Suite 400

Richmond, VA 23227

+1 804 730 1568

Property

Owner:

Property RI CS5, LLC

Occupant:

Scotchman #3035

600 LA Terraza Blvd

Escondido, California

7162 Market Street

Wilmington, North Carolina

Consultant:

Antea USA of North Carolina, Inc.

3530 Toringdon Way, Suite 106

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+1 704 543 3911

Analytical

Address:

Laboratory:

State

Pace Analytical Services

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State

FTS Analytical Services

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6107 Financial Drive, Norcross, Georgia 30071

+1 770 449-8800

Release Information

Date Discovered:

March 24, 2004

Estimated Quantity of Release:

Undetermined

Cause of Release:

UST systems

Source of Release:

Former diesel (UST #4) and gasoline UST systems

UST Information:

Current gasoline UST systems (UST #1, #2, and #3)

I, Michael H. Haseltine, a Professional Geologist for Antea USA of North Carolina, Inc., do certify that the information contained in this report is correct and accurate to the best of my knowledge. Antea USA of North Carolina, Inc. is licensed to practice geology, certification number C-110 in North Carolina.



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Active Remediation Monitoring Report

GPM 3035 (Scotchman 35) Wilmington, New Hanover County, North Carolina Incident No. 32152

1.0 BACKGROUND INFORMATION

1.1 Site Location

The GPM Southeast, LLC (GPM) 3035 facility, and herein referred to as the site (formerly referred to as Scotchman 35), is located at 7162 Market Street, Wilmington, New Hanover County, North Carolina. **Figure 1** is a topographic vicinity map of the surrounding area and **Figure 2** is a site map depicting pertinent structures. The New Hanover County GIS records indicate the property is owned by RI CS5, LLC although New Hanover County Register of Deeds database has revealed the NCDOT has taken or will take ownership of the property. The site is no longer used as a convenience store. The history of former underground storage tank systems (USTs) is summarized in **Table 1**.

1.2 Site History

On and around May 24, 2004, impacted soil was documented through laboratory analysis during activities related to the in-place closure of the diesel UST system. The consultant at the time, SEI Engineering & Geological Services, P.C. (SEI), completed and submitted the UST form 24-Hour Release and UST Leak Reporting Form to the North Carolina Department of Environment and Natural Resources (now the North Carolina Department of Environmental Quality [NCDEQ]). UST closure activities conducted in 2004 included the advancement of eight soil borings and the concurrent collection of eight soil samples, SB-1 through SB-8. Documentation of the in-place closure was provided in an *Underground Storage Tank Closure Report*, dated June 15, 2004, which was submitted to the NCDEQ Wilmington Regional Office (WiRO) by SEI.

In 2004 SEI provided oversight of the installation of four shallow groundwater monitoring wells (i.e. MW-1, MW-3, MW-4, MW-5) and one telescoping monitoring well (MW-2). The results of these assessment activities were provided in a *Limited Site Assessment (LSA) Report*, dated December 29, 2004.

In a *Notice of Regulatory Requirements (NORR)*, dated January 3, 2007, the NCDEQ classified the site as High Risk - H287A and requested the completion of a Comprehensive Site Assessment (CSA). The *high-risk* classification was assigned due to the presence of water supply wells located within 1,000 feet of the confirmed release area.

As part of CSA activities in September 2007, Environmental Services and Solutions, PLLC (ESS) supervised and/or advanced soil borings (SB-1, SB-1B, SB-2, SB-3, SB-3B, SB-4 through SB-14, and SB-14B) and subsequently collected samples from 14 discrete locations. Laboratory analyses of soil samples collected from the borings SS-1, SB-1B, SB-



2, SB-4, SB-5, SB-9, and SB-13 identified the presence of petroleum-related compounds in excess of Soil-to-Water Maximum Soil Contamination Concentrations (STW-MSCC's). In addition, ESS personnel directed the installation of six Type II monitoring wells (i.e. MW-6 through MW-11). Laboratory analyses of groundwater sampled from monitoring wells MW-1, MW-3, MW-4, and MW-5 identified dissolved petroleum-related compounds above their respective standards, as specified within Title 15A of the North Carolina Administrative Code, Chapter 2, Subchapter 2L, Section .0202 (2L Standards). On May 16, 2008 ESS submitted the results of these activities within a *CSA Report*.

In a *NORR*, dated September 2, 2008, the NCDEQ requested submittal of a *Corrective Action Plan Report (CAP)*. On May 11, 2009 ESS submitted a *CAP* recommending the installation and operation of soil vapor extraction (SVE) and air sparging (AS) remedial systems to achieve site remediation. The *CAP* was approved by the NCDEQ in correspondence dated June 17, 2009.

ESS provided oversight of the remedial system well installations from August 24 to August 26, 2009. The remedial systems were installed in the fall of 2009 and the system was activated on December 1, 2009. The AS system was shut-down on November 15, 2011, following malfunction of the AS compressor. The SVE system was shut-down on November 29, 2011 pending groundwater sampling. Laboratory results of groundwater samples collected on December 6, 2011 and June 26, 2012 did not indicate petroleum compounds in excess of 2L Standards.

In preparation of site closure confirmatory soil samples were collected by ESS on December 19, 2012. ESS supervised the advancement of seven soil borings. Four samples were collected from each soil boring at depths of one-foot, three-feet, six to eight feet, and eight to ten feet bgs. The twenty eight samples were field-screened using an RKI Instruments Eagle vapor analyzer. Based upon field observations and field screening results, four samples (i.e. SS-1, SS-2, SS-3, and SS-4) were selected from discrete soil borings for risk-based laboratory analyses. The laboratory reports indicated the presence of specific compounds as well as Massachusetts Department of Environmental Protection (MADEP) methods for volatile petroleum hydrocarbons (VPH) and extractable petroleum hydrocarbons (EPH) above the STW-MSCC's. MADEP Methods for VPH and EPH exceeded the STW-MSCC's in sample SS-1. MADEP Methods for VPH exceeded STW-MSCC's and EPH exceeded Residential MSCC's in sample SS-2.

On December 20, 2012 a comprehensive groundwater sampling event was conducted and samples submitted for risk-based analyses. Benzene as well as MADEP Method VPH C₅-C₈ Aliphatics exceeded 2L Standards in samples from well MW-5. Naphthalene was present slightly above 2L Standards in samples from well MW-7. The laboratory results also indicated the presence of bis (2-ethylhexyl) phthalate slightly above 2L Standards in samples from well MW-2. Results of the soil sampling and groundwater sampling conducted in December 2012 have been provided in an *Active Remediation Monitoring Report (ARMR)* dated January 8, 2013.

In correspondence dated January 31, 2013 the NCDEQ requested restart of the remediation systems and semiannual groundwater sampling. The air compressor was rebuilt and reinstalled in 2013 but failed shortly thereafter.



The air compressor was reshipped to the repair shop for assessment and reinstalled for the second time. During routine maintenance on November 26, 2013 the air compressor was found inoperable again. Between December 4 and 18, 2013, ESS, with the assistance of an electrician, removed the air compressor and replaced it with the compressor from the former Scotchman #14 remediation system. On December 18, 2013 ESS personnel restarted the AS and SVE systems and conducted operation and maintenance through January 16, 2014.

Based upon anticipated future site reconstruction due to a North Carolina Department of Transportation (NCDOT) road widening project, the NCDEQ requested postponement of reactivation of the remedial systems and completion of a comprehensive groundwater sampling event in an e-mail dated May 11, 2015.

Free product was encountered by Antea USA of NC personnel in monitoring well MW-5 during the comprehensive groundwater sampling on October 23, 2015. On November 6, 2015, the premium gasoline UST failed tank tightness testing and the system was taken out of service. The NCDEQ has assigned Incident number 43012 to this new release. The NCDEQ requested completion of initial abatement actions in a NORR dated November 30, 2015. Details of the new release were provided in an *Initial Abatement Action Report (IAAR)*, dated February 3, 2016. In a NORR dated February 18, 2016, the NCDEQ requested assessment and cleanup in compliance with Title 15A NCAC and submittal of a Groundwater Monitoring Report.

2.0 POTENTIAL RECEPTOR INFORMATION

2.1 Water Supply Wells

In 2004, SEI conducted a survey to determine the location of water supplies located within a 1,500-foot radius of the subject facility. ESS conducted a survey update in 2007. Information was gathered through mail questionnaires, site reconnaissance and conversations with City of Wilmington and New Hanover County personnel.

Information collected during the mail-survey process is detailed below;

- A total of 9 water supply wells were identified within a 1,500-foot radius of the subject site, eight of which occur within a 1000-foot radius of the site.
- All properties can be connected to the Cape Fear Public Utility Authority water supply.
- Five of the nine wells are reportedly used for potable purposes. The well owners were individually contacted to assess the feasibility of well abandonment and connection to the municipal water supply. Some owners did not respond or rejected abandonment of their water supply wells.
- The subject facility is also connected to the municipal water system.

Properties located west of Market Street have been redeveloped since the survey update in 2007. Recent site visits revealed that two water supply wells located west of Market Street and one water supply located contiguous to the site may no longer be actively used.



2.2 Public Water Supply

Public water is available through the Cape Fear Public Utility Authority.

2.3 Surface Water

At least four storm water retention ponds are located to the northwest and occur within a 1,500-foot radius of the site. In addition, an unnamed tributary of the Howe Creek lies approximately 1,000 feet south of the site. Howe Creek is tidally influenced and drains into the Intercoastal Waterway.

2.4 Wellhead Protection Area

The source area is not reported within an approved wellhead protection area as defined in 42 USC 300h-7(e).

2.5 Surrounding Land Use

The Market Street business corridor is primarily zoned by New Hanover County as category B-2. The B-2 Highway Business District is defined as a heavy commercial district. It's purpose is to provide for the proper grouping and development of business uses which best accommodate the needs of the motoring public with a regional orientation. Residential developments to the west of Market Street business corridor are zoned residential R-10 and R-15 and to the east are zoned residential R-15 and R-20.

2.6 Subsurface Structures

An 8-inch PVC water supply line services the vicinity of the site and is present on the east side of the Market Street right-of-way extending north through the 1,500-foot radius. A branch of that line extends from Market Street to the southern side of the right-of-way of Middle Sound Loop Road. The depth of this line is reportedly at least two feet bgs.

Two eight-inch diameter sanitary sewer lines are present in the vicinity of the site with one line on each side of Market Street. Both lines are reportedly present in the North Carolina Department of Transportation right-of-way for Market Street but both reportedly terminate south of the site. The sanitary sewer lines are reportedly constructed to a depth ranging from approximately seven to ten feet bgs.

A reinforced concrete storm water pipe is located approximately 500 hundred feet south of the site and provides storm water control southward. The pipe ranges in diameter from 15 to 24-inches and is constructed with an invert depth of approximately six feet below ground surface.

2.7 Deep Aquifers in the Atlantic Coastal Plain Province

The site is located within the Atlantic Coastal Plain province. Overall, the Atlantic Coastal Plain slopes eastward at an average rate of less than three feet per mile. The coastal plain is basically flat in interstream areas, but is broken by low escarpments adjacent to stream valleys. New Hanover County is a relatively flat sandy plain with a relief ranging



from sea level to approximately 50 feet above MSL. The subject facility lies approximately 45 feet above mean sea level.

As part of the Atlantic Coastal Plain province, New Hanover County has four predominant aquifer systems in the vicinity of the site. In descending order these include:

- Surficial aquifer comprised of Pleistocene and Pliocene age sediments;
- Castle Hayne aquifer with sediments generally of Eocene age;
- Peedee aquifer which is comprised of Late Cretaceous age sediments; and,
- Black Creek aquifer of Cretaceous age.

Generally, the surficial aquifer is of major importance due to its extended coverage throughout the Coastal Plain. Precipitation infiltrating this aquifer is responsible for the bulk of water recharging the Coastal Plain aquifer system. The surficial aquifer transmits water laterally to streams and serves as a source bed holding the water that moves down gradient to the deeper aquifers. The surficial aquifer occurs within approximately 5 to 20 feet below ground surface (bgs) in most areas of the county and yields sufficient water for domestic use.

Surficial aquifer sediments in the Tidewater Region were deposited under shallow marine or estuarine conditions. These consist of fine sand, silt, clay, shell, and peat beds, plus scattered deposits of coarser-grained material in the form of relic beach ridges and floodplain alluvium. The estimated thickness of the surficial aquifer at the site is approximately 33 feet. The aquifer is composed of 79 percent permeable material and has an estimated hydraulic conductivity of 35 feet per day.

The underlying Castle Hayne confining unit is composed of beds of clay, sandy clay, and clay with sandy streaks. Throughout much of the area, the Castle Hayne confining unit is thin, with a thickness of about 13 feet, and contains enough sand to allow significant vertical movement between the surficial aquifer and the underlying Castle Hayne aquifer. The Castle Hayne confining unit contact was not defined in the borings.

The Castle Hayne aquifer is predominantly composed of limestone (including shell, dolomitic, and sandy limestone ranging from loosely consolidated to hard/crystallized) and sand with minor amounts of clay and was deposited under marine conditions. Sand bed intervals have varying carbonate content and range from fine to coarse grains, but are typically composed of fine to medium-grained sand. Clay occurs as marl beds less than 10 feet thick or as a matrix in both sand and limestone beds. Typically, the upper portion of the Castle Hayne aquifer consists of limestone, while the lower portion is mainly sand. The Castle Hayne aquifer is the most productive in North Carolina. Along its western margin, it occurs near land surface in New Hanover County and is exposed in many streams in the area. The aquifer is approximately 69 feet thick and contains approximately 64 percent permeable material. The estimated hydraulic conductivity is 65 feet per day.



The Peedee confining unit is overlain by the Castle Hayne aquifer in the area. The Peedee confining unit is an estimated 44 feet in thickness and contains sediments with less than 15 percent permeability. The Peedee confining unit is composed of clay, silty clay and sandy clay and represents the Cenozoic-Mesozoic geological boundary.

The Peedee aquifer primarily occurs within the Peedee Formation. The Peedee Formation consists of fine to medium-grained sand interbedded with gray to black marine clay and silt. Glauconitic sand beds and thin beds of consolidated calcareous sandstone and impure limestone are interlayered in the sands in places. The Peedee aquifer is approximately 300 feet thick in the vicinity of the site and has an estimated hydraulic conductivity of 34 feet per day.

The Black Creek confining unit is overlain by the Peedee aquifer. The Black Creek confining unit is approximately 42 feet thick in the Wilmington area and contains sediments having less than 12 percent permeability. The Black Creek aquifer, overlain by the Black Creek confining unit, has a thickness of approximately 334 feet, and the estimated hydraulic conductivity is 25 feet per day.

Potable water is typically not captured from the aquifers located at depths beyond the Black Creek aquifer. These include the Upper Cape Fear and Lower Cape Fear Aquifers.

Based upon the soil boring data reported SEI and observations by ESS during the monitoring well and soil boring advancements, the surficial geology generally of a fine to medium-grained silty sand ranging in color from light gray to dark brown. Based upon the site specific data collected by SEI during the monitoring well installations, including well MW-2, the Type III well did not penetrate the surficial aquifer.

References: Hydrogeologic Framework of the North Carolina Atlantic Coastal Plain. U.S. Geological Survey Professional Paper 1404-I. M.D. Winner, Jr. and R.W. Coble. 1996; Hydrogeologic Framework and Ground Water Conditions in the North Carolina Southern Coastal Plain. North Carolina Department of Environment and Natural Resources, Division of Water Resources. Jeff Lautier. 2006; NCDEQ, Division of Water Resources Hydrogeologic Framework.

3.0 RECENT FIELD ACTIVITIES

In correspondence dated May 19, 2015, the NCDEQ requested continued semi-annual groundwater sampling. The associated costs were requested by Antea USA of North Carolina (Antea USA of NC) and approved in correspondence dated June 24, 2015 (Task Authorization #23). Costs for an additional groundwater sampling event were also approved in Task Authorization #24. Copies of recent correspondence are provided in **Appendix A**.

Antea USA of NC conducted comprehensive groundwater sampling events on October 23, 2015 and March 17, 2016. The results of those activities are provided in this report.



3.1 Groundwater Sampling Activities

Groundwater samples were obtained from wells MW-1 through MW-4 and MW-6 through MW-11 on October 23, 2015 and March 17, 2016. Free product was measured in monitoring well MW-5 at a thickness of 0.12 feet and 0.10 feet on October 23, 2016 and March 17, 2016, respectively, and was not sampled.

At the time of sample collection, the water level was recorded for each monitoring well, the respective well volume was calculated, and a minimum of three well volumes were purged from each well column (or until dry) to ensure replacement of stagnant water with representative formation water.

The samples from the monitoring wells were collected using disposable, polyvinyl chloride (PVC) bailers and nylon cord while donning dedicated disposable nitrile gloves. The samples were slowly poured from the bailers into laboratory supplied containers, and the containers were sealed, labeled, and immediately placed on ice. All samples were inventoried on the chain-of-custody document. The samples were analyzed by SM 6200B for EPA Method 602 compounds benzene, toluene, ethylbenzene and total xylenes (collectively referred to as BTEX), methyl tertiary butyl ether (MTBE), isopropyl ether (IPE) and naphthalene. The groundwater samples were delivered to FedEx for overnight shipment to Pace Analytical Services located in Huntersville, North Carolina for the October 2015 event and to FTS Analytical Services in Norcross, Georgia for the March 2016 event.

3.2 Groundwater Occurrence and Flow

Measurements collected during the October 2015 and March 2016 sampling events indicated depth to water at levels in the shallow wells ranging from 5.58 feet below the top of casing (TOC) in well MW-7 to 10.81 feet below the TOC in well MW-9. Depth to groundwater was observed at 9.59 feet and 11.72 feet below the TOC in the deeper screened well MW-2 during the October 2015 and March 2016 sampling events.

Utilizing the October 2015 and March 2016 data, groundwater elevation contours were constructed and illustrate an east-west trending trough. A summary of well construction information is provided in **Table 2**. **Table 3** provides a summary of groundwater elevation data and **Figure 3** and **Figure 4** depicts groundwater elevation contours for measurements obtained on October 23, 2015 and March 17, 2016, respectively. Historical groundwater elevation data is provided in **Appendix B**.

3.3 Groundwater Analytical Results

Laboratory results of groundwater samples obtained on October 23, 2015 and March 17, 2016 from monitoring wells MW-1 and MW-11 indicated the presence of benzene in excess of 2L Standards. The estimated horizontal extent of benzene is shown in **Figures 5** and **6** during October 23, 2015 and March 17, 2016 sampling events, respectively. The horizontal extent of naphthalene detected above 2L Standard during the March 17, 2016 sampling event is provided in **Figure 7**.



Table 4 provides a summary of laboratory results for groundwater samples. The laboratory report and chain of custody form for the October 23, 2015 and March 17, 2016 sampling events are provided in **Appendix C**. Historical analytical data are provided in **Appendix D**. The groundwater sampling records are provided in **Appendix E**.

4.0 REMEDIAL SYSTEM INFORMATION

Remedial systems at the site include one soil vapor extraction unit and one air sparging unit. All systems are mounted within an enclosed trailer which is located at the south side of the site store. The trailer is compartmentalized into two separate areas. One area encloses the AS equipment and controllers and the other compartment encloses the explosion proof SVE system.

4.1 SVE System

The SVE system utilizes a separate, seven and one-half horsepower Ametek regenerative blower, model number EN808. The SVE system is equipped with a moisture condensate tank, air filters, vacuum gauges, pressure relief valves, temperature gauges and other appurtenances. The SVE system was designed to operate 24 hours per day.

The SVE system is designed to recover vapor from one main line. The line is designed to provide a vacuum to six vertical SVE wells (SVE-1 through SVE-6) and is equipped with pressure gauges, flow meters and flow regulating valves.

4.2 AS System

The AS system utilizes a Becker, rotary vane compressor, model DT 4.40K. Pressurized air from the compressor moves through a flow meter, pressure and temperature gauges, and then into the main header. The main header provides air to four separate one-inch diameter supply lines which provide air to each of the four air sparge wells (AS-1 through AS-4). Each supply line is equipped with pressure gauges, flow meters, and flow regulating valves.

4.3 Systems Operation and Maintenance

The systems deactivated sometime after January 16, 2014 and have not been reactivated based upon recommendations provided by the NCDEQ.



5.0 CONCLUSIONS

The following conclusions are presented based upon the data and site specific information collected by Antea USA of NC and presented in this report;

- On November 6, 2015, the premium gasoline UST failed tank tightness testing and the system was taken out of service. The NCDEQ has assigned Incident number 43012 to this new release.
- Comprehensive groundwater sampling events were conducted on October 23, 2015 and March 17, 2016. As a result of the new release, benzene concentrations were detected above 2L Standards in monitoring wells MW-1 and MW-11 and naphthalene in monitoring well MW-1.
- Free product was measured at thicknesses of 0.12 feet and 0.10 feet in monitoring well MW-5 during the October 23, 2015 and March 17, 2016, sampling events, respectively.

6.0 RECOMMENDATIONS

The following recommendations are presented based upon the data and site specific information collected Antea USA of NC and presented in this report;

 Assessment and remediation activities regarding both incidents should be postponed until NCDOT site activities are completed.



7.0 REMARKS

The recommendations contained in this report represent Antea USA of North Carolina, Inc.'s professional opinions based upon the currently available information and are arrived at in accordance with currently accepted professional standards. This report is based upon a specific scope of work requested by the client. The contract between Antea USA of North Carolina, Inc. and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Antea USA of North Carolina, Inc.'s client and anyone else specifically identified in writing by Antea USA of North Carolina, Inc. as a user of this report. Antea USA of North Carolina, Inc. will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Antea USA of North Carolina, Inc. makes no express or implied warranty as to the contents of this report.

Michel A Shulb	Date: <u>May 9, 2016</u>
Michael H. Haseltine, Project Professional	

Reviewed by:

May 9, 2016

Kyle Sorensen, Project Manager



Tables

Table 1	UST/AST SYSTEM AND OTHER RELEASE INFORMATION
Table 2	SUMMARY OF WELL CONSTRUCTION DATA
Table 3	SUMMARY OF GROUNDWATER ELEVATION DATA
Table 4	SUMMARY OF LABORATORY RESULTS FOR GROUNDWATER SAMPLES

TABLE 1 UST/AST SYSTEM AND OTHER RELEASE INFORMATION GPM 3035 (Scotchman 35)

Wilmington, New Hanover County, North Carolina Antea USA of NC Project No. NC30351601

UST ID Number	Current/Last Contents	Capacity (in gallons)	Construction Details	Description of Associated Piping and Pumps	Date Tank Installed	Status of UST	Was release associated with the UST System?
1	Gasoline	6,000	Single-Walled Steel	DW Flexible Piping, Pressurized	4/16/1961	Current	Undetermined
2	Gasoline	6,000	Single-Walled Steel	DW Flexible Piping, Pressurized	4/16/1961	Current	Undetermined
3	Gasoline	4,000	Single-Walled Steel	DW Flexible Piping, Pressurized	4/16/1961	Current	Yes
4	Diesel	1,000	Single-Walled Steel	Other	4/16/1961	Closed-in-Place 4/25/2004	Yes
Incident Number	Date	Product	Discovery of Release				
32152	March 24, 2004	Released Diesel	Documented during closure of UST #4				
43012	November 6, 2015	Gasoline	Failed tank tightness test of premium gasoline UST #3				

Notes: - UST information provided by NCDEQ Registered Tanks Database

TABLE 2

SUMMARY OF WELL CONSTRUCTION DATA

GPM 3035 (Scotchman 35)

Wilmington, New Hanover County, North Carolina Antea USA of NC Project No. NC30351601

Well No.	Boring Depth (ft, bgs)	Well Diameter (inches)	Well Screen Interval (ft, bgs)	I Top of Casing I		Status
MW-1	20.0	2	5 - 20	94.95	9/20/2004	Current
MW-2	30.0	2	25 - 30	94.88	9/20/2004	Current
MW-3	20.0	2	5 - 20	94.77	9/20/2004	Current
MW-4	20.0	2	5 - 20	94.79	9/20/2004	Current
MW-5	20.0	2	5 - 20	94.66	9/20/2004	Current
MW-6	15.0	2	4.25-14.25	94.68	9/20/2007	Current
MW-7	15.0	2	5 - 15	94.32	9/20/2007	Current
MW-8	18.0	2	3 - 18	95.06	9/21/2007	Current
MW-9	20.0	2	5 - 20	94.34	9/21/2007	Current
MW-10	18.0	2	3 - 18	94.52	9/21/2007	Current
MW-11	18.0	2	3 - 18	94.74	9/21/2007	Current
OB-1	20.0	2	2 - 20	NA	11/25/2008	Current
SVE-1	8.0	2	2 - 8	NA	11/25/2008	Current
SVE-2	9.0	2	4 - 9	NA	8/24/2009	Current
SVE-3	9.0	2	4 - 9	NA	8/24/2009	Current
SVE-4	9.0	2	4 - 9	NA	8/24/2009	Current
SVE-5	9.0	2	4 - 9	NA	8/24/2009	Current
SVE-6	9.0	2	4 - 9	NA	8/24/2009	Current
AS-1	30.0	2	27 - 30	NA	8/25/2009	Current
AS-2	30.0	2	27 - 30	NA	8/25/2009	Current
AS-3	30.0	2	27 - 30	NA	8/25/2009	Current
AS-4	29.0	2	26 - 29	NA	8/25/2009	Current

Notes:

- ft,bgs denotes feet, below ground surface
- NA denotes data not available

TABLE 3 SUMMARY OF GROUNDWATER ELEVATION DATA GPM 3035 (Scotchman 35)

Wilmington, New Hanover County, North Carolina Antea USA of NC Project No. NC30351601

Well No.	Well Screen Interval (ft,bgs)	Top of Casing Elevation (ft)	Measurement Date	Depth to Free Product (ft, TOC)	Depth to Groundwater (ft, TOC)	Adjusted Groundwater Elevation (ft)
			1/16/2014		14.80	80.15
MW-1	5 - 20	94.95	10/23/2015		7.78	87.17
			3/17/2016		9.73	85.22
			1/16/2014		14.72	80.16
MW-2	25 - 30	94.88	10/23/2015		9.59	85.29
			3/17/2016		11.73	83.15
			1/16/2014		14.48	80.29
MW-3	5 - 20	94.77	10/23/2015		8.11	86.66
			3/17/2016		9.58	85.19
			1/16/2014		12.69	82.10
MW-4	5 - 20	94.79	10/23/2015		6.88	87.91
			3/17/2016		8.95	85.84
	5 - 20	94.66	1/16/2014		14.54	80.12
MW-5			10/23/2015	7.28	7.40	87.35
			3/17/2016	9.04	9.14	85.60
			1/16/2014		10.05	84.63
MW-6	4.25-14.25	94.68	10/23/2015		5.97	88.71
			3/17/2016		7.30	87.38
			1/16/2014		11.44	82.88
MW-7	5 - 15	94.32	10/23/2015		5.58	88.74
			3/17/2016		7.46	86.86
			1/16/2014		12.36	82.70
MW-8	3 - 18	95.06	10/23/2015		6.49	88.57
			3/17/2016		7.57	87.49
			1/16/2014		13.87	80.47
MW-9	5 - 20	94.34	10/23/2015		8.66	85.68
			3/17/2016		10.81	83.53
_			1/16/2014		12.31	82.21
MW-10	3 - 18	94.52	10/23/2015		6.58	87.94
			3/17/2016		8.32	86.20

TABLE 3

SUMMARY OF GROUNDWATER ELEVATION DATA

GPM 3035 (Scotchman 35)

Wilmington, New Hanover County, North Carolina Antea USA of NC Project No. NC30351601

Well No.	Well Screen Interval (ft,bgs)	Top of Casing Elevation (ft)	Measurement Date	Depth to Free Product (ft, TOC)	Depth to Groundwater (ft, TOC)	Adjusted Groundwater Elevation (ft)
			1/16/2014		14.43	80.31
MW-11	3 - 18	94.74	10/23/2015		7.13	87.61
			3/17/2016		9.02	85.72

Notes:

- -The depth to water and depth to free product were measured from the top-of-casing.
- -Adjusted groundwater elevations are based on top-of-casing elevations minus the depth to water
- Depth to water has been adjusted due to presence of free product using the following formula's: DTW-DTP= X_0 ; (78%)(X_0) = X_1 ; DTW- X_1 = DTW_{ADJ}
- '--' denotes free product was not detected in monitoring well at this time.
- ft, bgs denotes feet, below ground surface
- ft, TOC denotes feet from well top of casing
- water levels collected by others prior to 10/23/2015

TABLE 4 SUMMARY OF LABORATORY RESULTS FOR GROUNDWATER SAMPLES

GPM 3035 (Scotchman 35)

Wilmington, New Hanover County, North Carolina Antea USA of NC Project No. NC30351601

Sample	Sample	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	IPE	Naphthalene		
Location	Date	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)		
2L St	andards	1	600	600	500	20	70	6		
C	GCLs	5,000	260,000	84,500	85,500	20,000	70,000	6,000		
	1/16/2014	<1.0	<5.0	<1.0	<3.0	<1.0	<1.0	<5.0		
MW-1	10/23/2015	18.9	<1.0	<1.0	<3.0	<1.0	<1.0	<2.0		
MW-1	3/17/2016	745	11.2	293	158	15.7	2.95	7.35		
	1/16/2014	<1.0	<5.0	<1.0	<3.0	<1.0	<1.0	<5.0		
MW-2	10/23/2015	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<2.0		
	3/17/2016	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0		
	1/16/2014	<1.0	<5.0	<1.0	<3.0	<1.0	<1.0	<5.0		
MW-3	10/23/2015	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<2.0		
	3/17/2016	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0		
	1/16/2014	<1.0	<5.0	<1.0	<3.0	<1.0	<1.0	<5.0		
MW-4	10/23/2015	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<2.0		
	3/17/2016	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0		
	1/16/2014	<1.0	<5.0	<1.0	<3.0	<1.0	<1.0	<5.0		
MW-5	10/23/2015	Free Product								
	3/17/2016	Free Product								
	1/16/2014	<1.0	<5.0	<1.0	<3.0	<1.0	<1.0	<5.0		
MW-6	10/23/2015	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<2.0		
	3/17/2016	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0		
	1/16/2014	<1.0	<5.0	<1.0	<3.0	<1.0	<1.0	<5.0		
MW-7	10/23/2015	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<2.0		
	3/17/2016	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0		
	1/16/2014	<1.0	<5.0	<1.0	<3.0	<1.0	<1.0	<5.0		
MW-8	10/23/2015	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<2.0		
	3/17/2016	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	10.7		
	1/16/2014	<1.0	<5.0	<1.0	<3.0	<1.0	<1.0	<5.0		
MW-9	10/23/2015	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<2.0		
	3/17/2016	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0		
	1/16/2014	<1.0	<5.0	<1.0	<3.0	<1.0	<1.0	<5.0		
MW-10	10/23/2015	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<2.0		
	3/17/2016	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0		

TABLE 4

SUMMARY OF LABORATORY RESULTS FOR GROUNDWATER SAMPLES

GPM 3035 (Scotchman 35)

Wilmington, New Hanover County, North Carolina Antea USA of NC Project No. NC30351601

Sample	Sample	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	IPE	Naphthalene
Location	Date	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)	(μg/L)
2L St	andards	1	600	600	500	20	70	6
GCLs		5,000	260,000	84,500	85,500	20,000	70,000	6,000
	1/16/2014	<1.0	<5.0	<1.0	<3.0	<1.0	<1.0	<5.0
MW-11	10/23/2015	43.2	126	77.5	484	<1.0	<1.0	<2.0
	3/17/2016	10.1	34.7	29.5	130	<0.50	<0.50	5.76

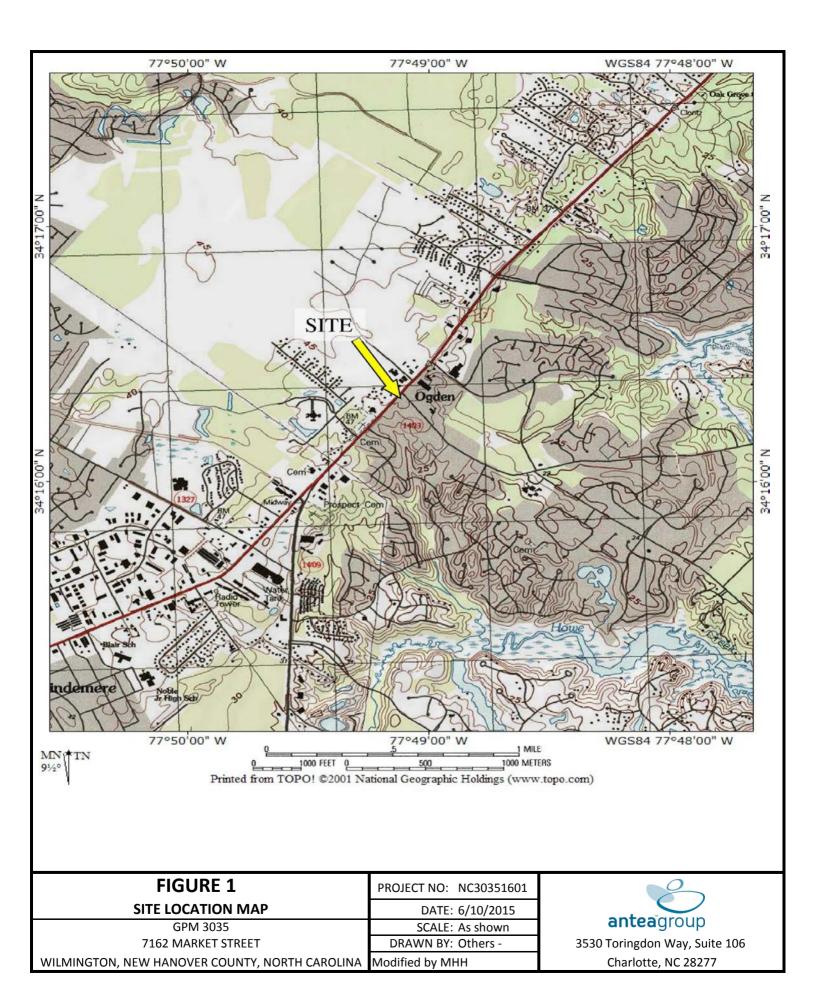
Notes:

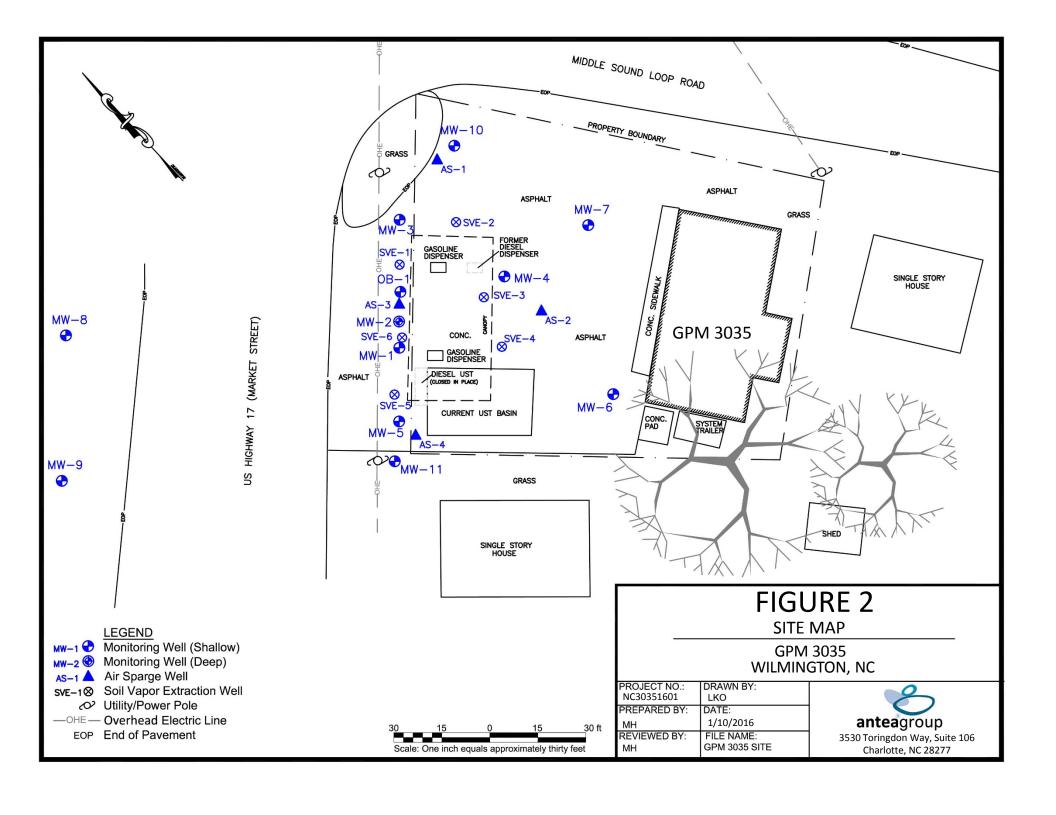
- MTBE Methyl tertiary butyl ether
- IPE Isopropyl ether
- μg/L micrograms per liter
- Samples collected by others prior to 10/23/2015

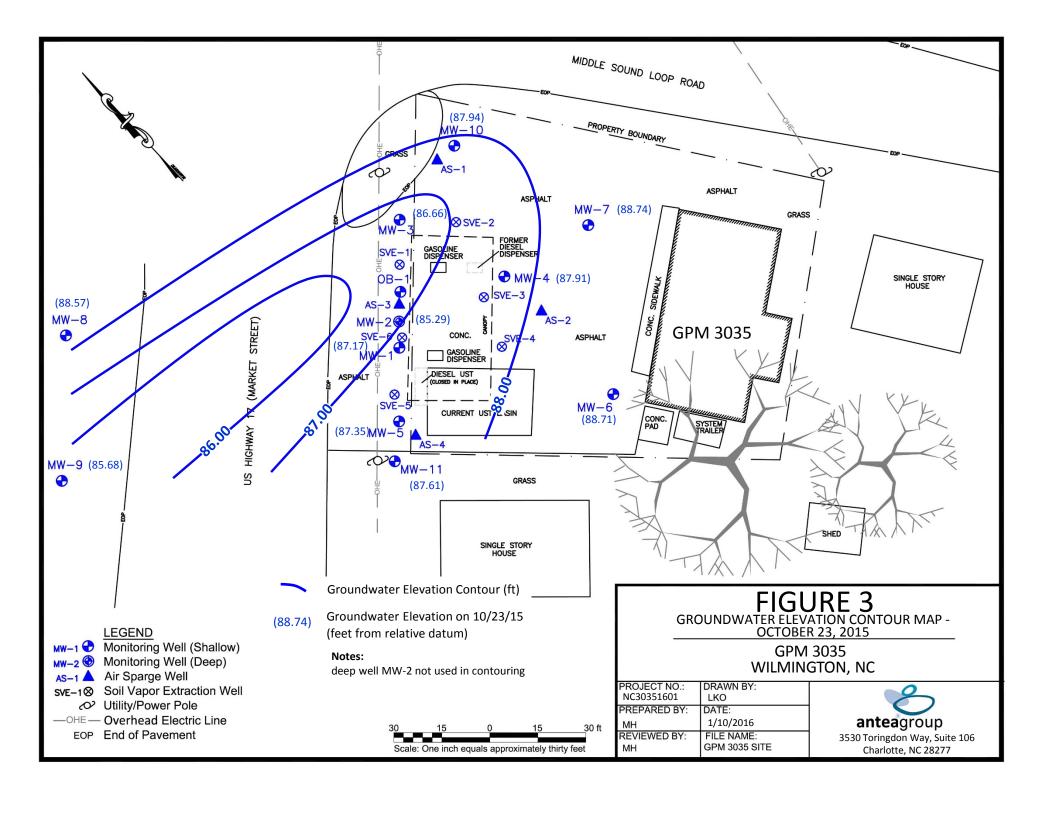


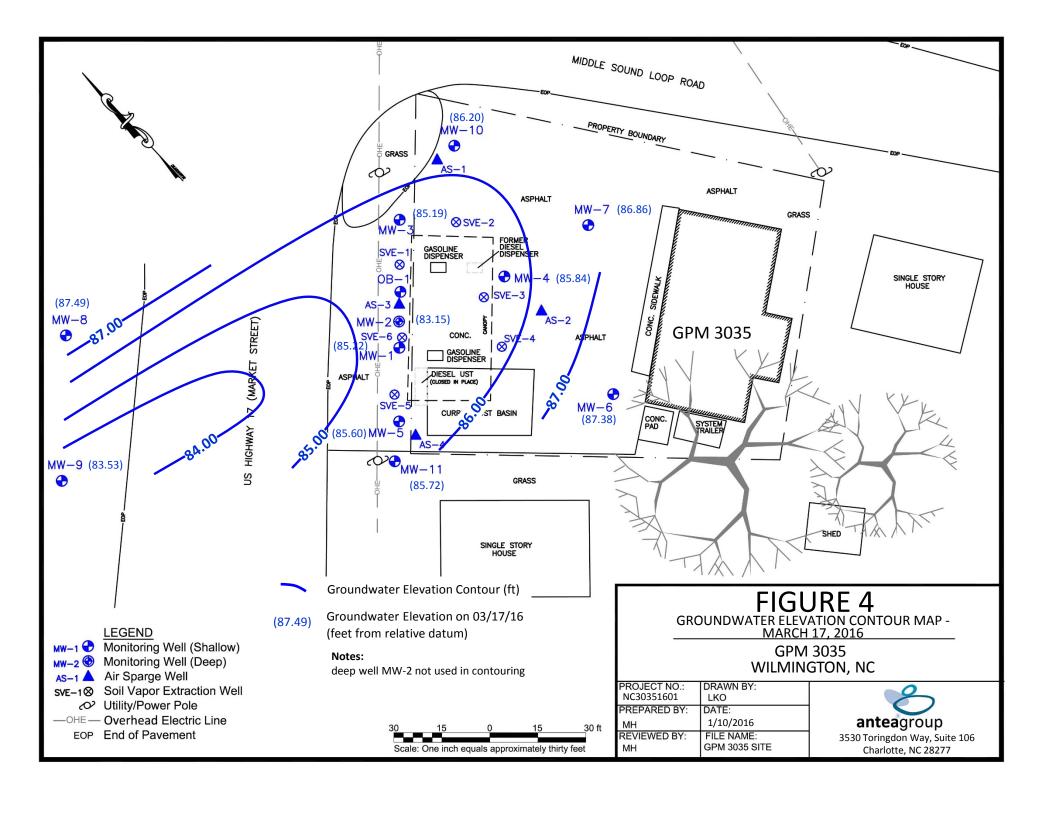
Figures

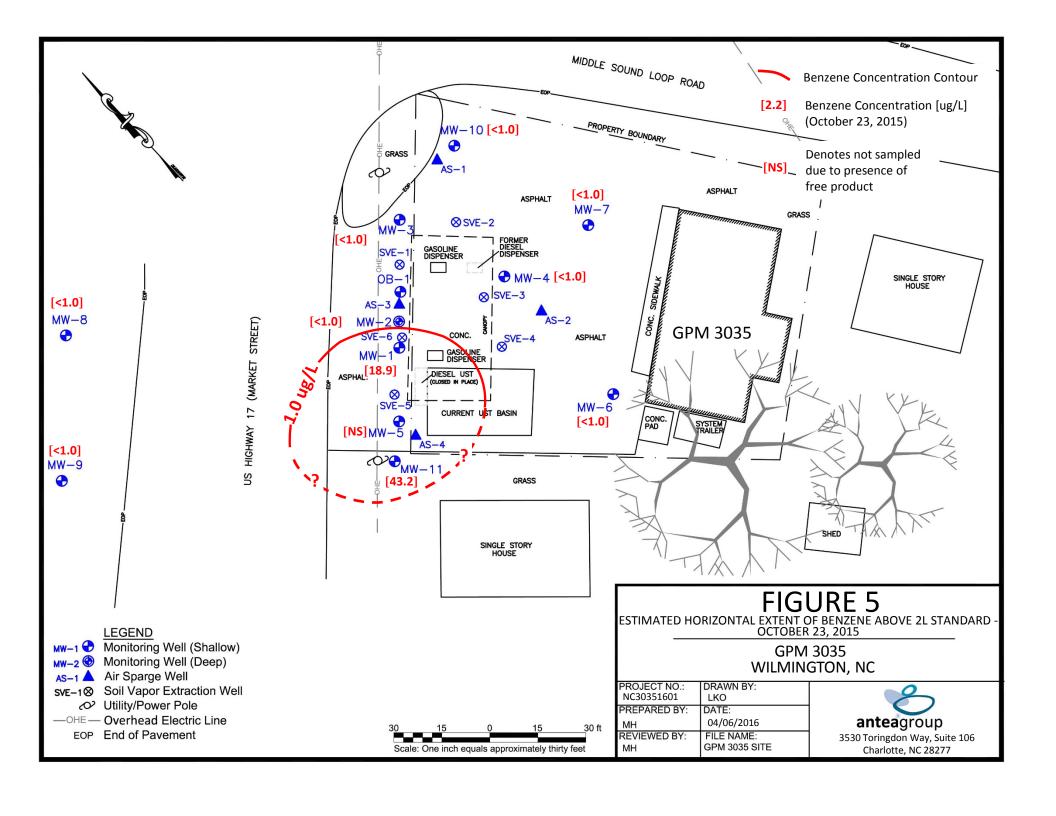
Figure 1	SITE LOCATION MAP
Figure 2	SITE MAP
Figure 3	GROUNDWATER ELEVATION CONTOUR MAP – OCTOBER 23, 2015
Figure 4	GROUNDWATER ELEVATION CONTOUR MAP – MARCH 17, 2016
Figure 5	ESTIMATED HORIZONTAL EXTENT OF BENZENE ABOVE 2L STANDARD – OCTOBER
	23, 2015
Figure 6	ESTIMATED HORIZONTAL EXTENT OF BENZENE ABOVE 2L STANDARD – MARCH
	17, 2016
Figure 7	ESTIMATED HORIZONTAL EXTENT OF NAPHTHALENE ABOVE 2L STANDARD –
	MARCH 17, 2016

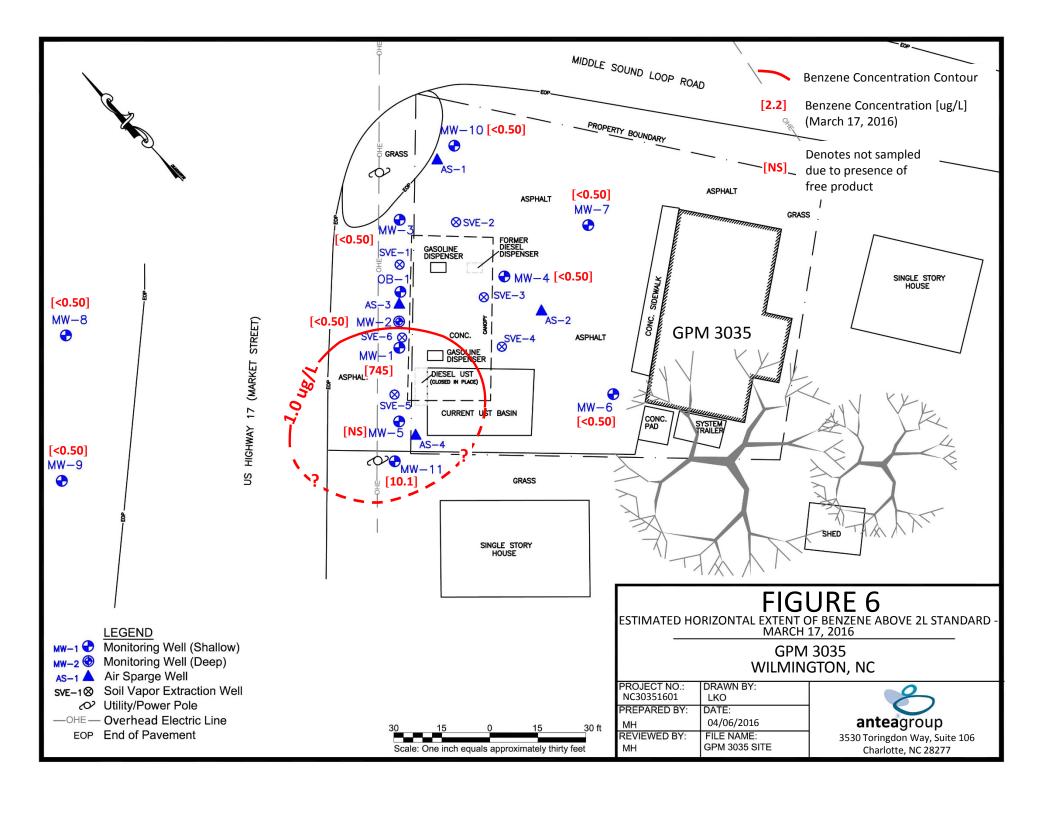


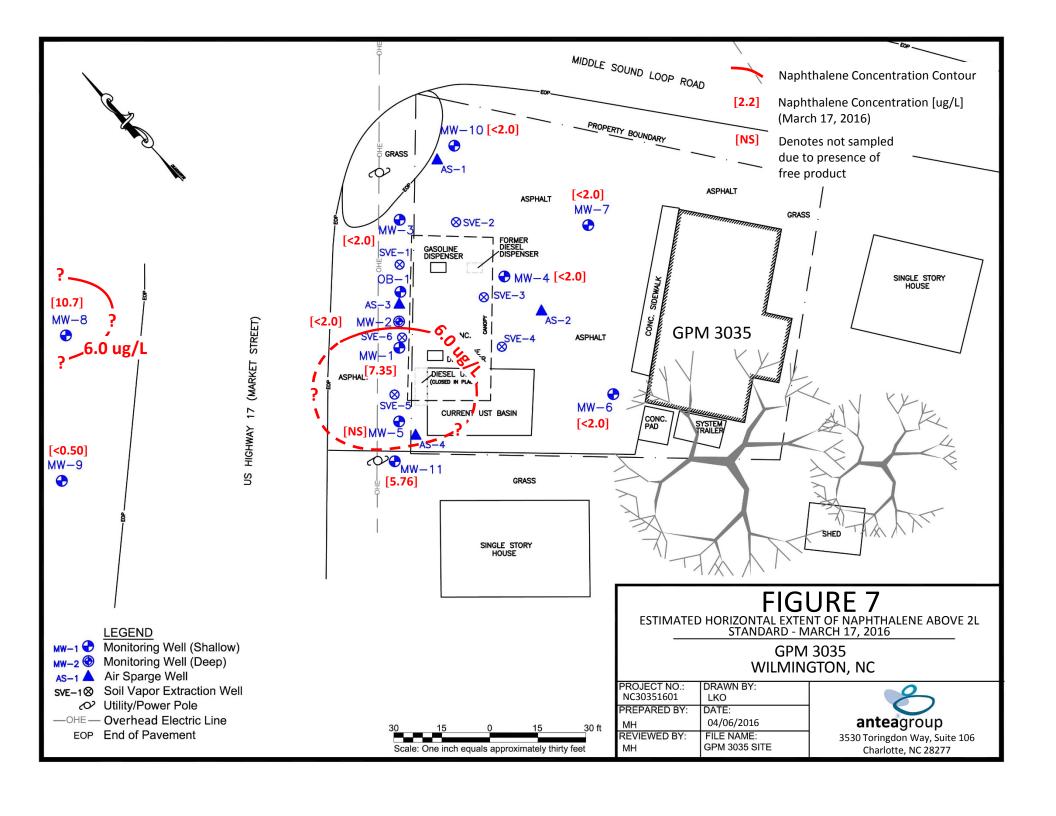














Appendix A

RELEVANT CORRESPONDENCE



North Carolina Department of Environment and Natural Resources

Pat McCrory Governor

May 19, 2015

Mr. Rolfe Lann GPM Southeast, LLC 8565 Magellan, Parkway, Suite 400 Richmond, VA 23227 Donald R. van der Vaart Secretary



Subject: Review of Monitoring Report Scotchman 3035 7160 Market Street Incident # 32152 Wilmington New Hanover County

Dear Mr. Lann:

The Wilmington Regional Office UST Section has reviewed the monitoring report received August 4, 2015. Please continue with semi-annual groundwater monitoring as recommended in the report. The next monitoring event should occur in November 2015. Please submit a pre-approval task authorization form immediately for this activity. In addition, please have the remediation system removed.

If you have any questions, please do not hesitate to contact me at (910) 796-7263.

Sincerely,

Deborah Mayo Hydrogeologist

rah Mago

cc:

Antea Group – Kyle Sorenson WiRO

127 Cardinal Drive, Ext., Wilmington, North Carolina 28405

Phone: 910-796-7215 \ FAX: 910-350-2004 \ Internet: www.ncdenr.gov

		DIRE	ECTED CO	OSTS			ELECTRONIC PRI t of Environment &				N. S. Charles and C.
Site Name GPM 3035 (Scotchma			an 3035)		City / County	Wilmington /	New Hanover	Incident #	32152		
RP STF ID/Name (F/L) / GPM Southeast,			LLC		Incident Mgr	Deborah N	Mayo	Region	WIL		
RP Type (Owner/Operator / Landowner / Attny-in-fact)				Owner/Ope	rator	TA Supplement /	Change Order?	Yes	Prev. TA#	22	
Cons	sult. ID/Co.	Name	1955 / A	ntea USA o	f North Carolina,	Inc.		(Reserved fo	or Incident Mana	ager)	
Phone / Fax Number 404-391-4892 /					'		Task Authorization			ChangeOrd:	
			michelle.dukes@anteagroup.com /		Michelle Dukes	Michelle Dukes		Abatement:	High	RRA Date:	
Proposal# / Scope Dates			NA /		7/1/2015		=100%, NC=0%, Bot			100%	
Has STF Eligibility Been Determined? (T/F)			TRUE		e or NFA Date)	Active					
incuri provi IMPC sepa eligib With	ring costs or ded space a DRTANT: On trate submit ility status of Claim:	for tasks nabove. Including one claim tal, even for the site (i.e.	ne scope of work and the ot originally included with ude a copy of the prior of may be submitted during costs or tasks that work, deductibles, apportion in Consultant/Contract mbursement is depending to the contract of the	h this form, preapproval ng a quarter rere not oric nent, etc.), ar or invoices a	you must complete I form for confirmat or 3-month period. ginally claimed Fin nd the documentary attached?	e and submit tion. Please All preappro nal reimburse validation of	a separate preapprovattach this form to the ovals submitted with ement of costs association of costs as reasociation of paymer [] Proof of paymer	val request designate the cover of the corronn a claim are close ated with the Total Cosponable and necessant attached directly	ed as a "TA Suppresponding claim ved with that claim claimed amount bary expenses per 1 to the front of each	plement / Chang when requesting n, and may not elow may vary d 5A NCAC 2P .04 ch invoice?	ge Order" in the reimbursement be re-used in epending on the
PREAPPROVAL / TASK AUTHORIZATION									FINAL	REIMBURSEN	IENT
			(See Instructions / RRD		Deliver or Action Assessment of the Control of the		orization)		(Must Comp	olete with Claim :	Submittal)
3rd Pty Ded?	Task#	Lab / SubCode	Proposed Units / Type (Consultant)	RO Auth	Proposed Rate/Price (Consultant)	CO Auth	Proposed Task Subtotal (Consultant)	Preapproved Subtotal (UST Section)	Dates of (Consult Started / Co	ant)	Claimed Amount ² (Consultant)
	1.050		1 / agree.	<u>0</u>	\$300.00	\$0.00	\$300.00	\$0.00	1		
	4.031		11 / well	У	\$155.00	у	\$1,705.00	\$1,705.00	1		
	4.090	#220	11 / sample	У	\$43.00	У	\$473.00	\$473.00	1		
	6.101		1 / report	У	\$889.00	У	\$889.00	\$889.00	1		
									1		
							District Line				
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	STATE OF THE STATE OF										
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									/ / / / /		
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							Requested	Preapproved	/ / / / / /		Claimed ²
						TOTAL:	Requested \$3,367.00	Preapproved \$3,067.00	/ / / / / /	TOTAL:	Claimed ²
				Total Sta	andard Costs (Not 1				/ / / / / / / / / / / / / / / / / / /	TOTAL:	Claimed ²

Process Tracking (Date) (Initials)

TA Submittal: 5/12/15 by: MD (PM)

RO Review: 5/15/15 by: dtm (IM)

CO Review: 6/24/15 by: JME (STF) Consultant Receipt Consultan

(Reserved for RO)
Final Joint UST Preapproval Confirmed By: Local Mago

Consultant Receipt Confirmation Signature:

Date 3

1 - If no work has been started, the ePATA expires one year from the Joint UST Preapproval date. Note: Tasks must also be claimed within one year of completion.

This one-year activity deadline from the authorization date does not supercede other regulatory deadlines (e.g., NORR's, NOV's, Enforcements, Remissions, etc.)

2 - Only Tasks included on this PATA form may be claimed. Do not include other Tasks or claimed costs (i.e., Claim preparation) that were not preapproved.

3 - Preapproval is not valid (i.e., claimable) until receipt is confirmed by Consultant. Signature does not indicate full agreement with any reductions, only that the TA was received and read. Objections/appeals may be submitted via Change Order (which also does not supercede other regulatory deadlines as described in #1 above.)

DWM/UST NonDir Cert V.03/19/2013





DONALD R. VAN DER VAART

Secretary

LINDA CULPEPPER

Director

November 30, 2015

Mr. Rolfe Lann GPM Southeast, LLC 8565 Magellan, Parkway, Suite 400 Richmond, VA 23227

Re:

Notice of Regulatory Requirements 15A NCAC 2L .0404 and 2L .0405 Risk-based Assessment and Corrective Action for Petroleum Underground Storage Tanks

Scotchman 3035 7160 Market Street Incident # 43012

Wilmington

New Hanover County

Dear Mr. Lann:

Information received by this office of the UST Section, Division of Waste Management, on November 6, 2015 confirms a release or discharge from a petroleum underground storage tank (UST) system at the above-referenced location. Records indicate that you are the owner or operator of this UST system. Therefore, as a responsible party, you must comply with the initial response and abatement action requirements of Title 15A NCAC 2L .0404 and, if applicable, the assessment and reporting requirements of Title 15A NCAC 2L .0405, within the timeframes specified in the attached rules. (Be aware that if the latter rule is applicable, you must comply with its requirements even if you do not receive formal notification from the UST Section.)

Initial abatement action requirements include the preparation and submittal of an Initial Abatement Action (IAA) Report, in accordance with Title 15A NCAC 2L .0404 and the most recent version of the *Guidelines for Site Checks, Tank Closure, and Initial Response and Abatement for UST Releases*, within 90 days of discovery of the release.

Because a release or discharge has been confirmed, a Licensed Geologist or a Professional Engineer, certified by the State of North Carolina, is required to prepare and certify all reports submitted to the Department in accordance with Title 15A NCAC 2L .0103(e) and 2L .0111(b).

Please note that before you sell, transfer, or request a "No Further Action" determination for a property that has not been remediated to below "unrestricted use" standards, you must file a Notice of



Residual Petroleum ("Notice") with the Register of Deeds in the county where the property is located (NCGS 143B-279.9 and 143B-279.11).

Failure to comply with the State's rules in the manner and time specified may result in the assessment of civil penalties and/or the use of other enforcement mechanisms.

If you have any questions regarding trust fund eligibility or reimbursement from the Commercial or Noncommercial Leaking Petroleum Underground Storage Tank Cleanup Funds, please contact the UST Section Trust Fund Branch at (919) 707-8171. If you have any questions regarding the actions that must be taken or the rules mentioned in this letter, please contact me at the address or telephone number listed below.

Sincerely,

Deloruh Mayer Deborah Mayo

Hydrogeologist

Wilmington Regional Office

UST Section, Division of Waste Management, NCDENR

Enclosures:

Title 15A NCAC 2L .0404 and 2L .0405

A Brief History of North Carolina Session Laws, Rules, and General Statutes...

cc:

New Hanover County Health Department

Antea Group WiRO

IAA request NOR1114.dot





DONALD R. VAN DER VAART

Secretary

LINDA CULPEPPER

Director

February 18, 2016

Mr. Rolfe Lann 8565 Magellan Parkway, Suite 400 Richmond, VA 23227

Re: Notice of Regulatory Requirements

15A NCAC 2L .0407(b)

Risk-based Assessment and Corrective Action for Petroleum Underground Storage Tanks

Scotchman #35 (GPM 3035) 7162 Market Street, Wilmington

New Hanover County Incident Number: 43012 Risk Classification: High

Ranking: pending

Dear Mr. Lann:

Based on review of the file, the Initial Abatement Action Report (IAA) received in February 5, 2016 and the previous Monitoring Report received by the UST Section, the Division of Waste Management, Wilmington Regional office has classified the risk posed by the discharge or release at the subject site as high, as stipulated under Title 15A NCAC 2L .0406. The land use at the site is currently classified as residential. Title 15A NCAC 2L .0407(a) requires you to notify the Department of any changes that might affect the risk or land use classifications that have been assigned.

Title 15A NCAC 2L .0407(b) requires you to comply with assessment and cleanup requirements of Title 15A NCAC 2N .0706 and Title15A NCAC 2L .0106(c) and 2L .0106(g). A Groundwater Monitoring Report prepared in accordance with these requirements and the most recent version of the *Guidelines for Assessment and Corrective Action for UST Releases* must be received by this office within 60 days of the date of this notice

Effective October 1, 2004, the Department requires that all work following the submittal of the Limited Site Assessment Report (Title 15A NCAC 2L .0405) be preapproved if State Trust Fund reimbursement is anticipated. To comply with this requirement, a completed Preapproval/Claim Authorization Form, encompassing the required remedial activities, must be received in this office within 14 days of the date of this letter. Upon completion of the preapproved activities, you should submit your claim promptly. Reimbursement funds are budgeted based on completed preapprovals, but lengthy delays in reimbursement can occur if claims are not submitted immediately following work completion.

Because a release or discharge has been confirmed, a Licensed Geologist or a Professional Engineer, certified by the State of North Carolina, is required to prepare and certify all reports submitted to the Department in accordance with Title 15A NCAC 2L .0103(e) and 2L .0111(b).

If you have any questions regarding trust fund eligibility or reimbursement from the Commercial or Noncommercial Leaking Petroleum Underground Storage Tank Cleanup Funds, please contact the UST Section Trust Fund Branch at (919) 707-8171. If you have any questions regarding the actions that must be taken or the rules mentioned in this letter, please contact me at the address or telephone number listed below.

Sincerely,

Deborah Mayo Hydrogeologist

Wilmington Regional Office

Delirah Mazo

UST Section, Division of Waste Management, NCDENR

cc: New Hanover County Health Department - Dr. David E. Rice

Antea Group

WiRO

Active Remediation Monitoring Report
GPM 3035 (Scotchman 35)
Wilmington, New Hanover County, North Carolina
Antea USA of NC Project No. NC30351601



Appendix B

HISTORICAL GROUNDWATER ELEVATION DATA

ENVIRONMENTAL SERVICES & SOLUTIONS, PLLC

TABLE 3 SUMMARY OF WELL CONSTRUCTION AND GROUNDWATER ELEVATION DATA SCOTCHMAN #35

7162 MARKET STREET (US HIGHWAY 17), WILMINGTON, NORTH CAROLINA

Well No.	Well Depth	Well Screen Interval	Top of Casing Elevation	Date	Depth to Water	Depth to Free Product	Adjusted Groundwater Elevation
	(ft, bgs)	(ft, bgs)	(ft)		(ft, TOC)	(ft, TOC)	(ft)
			94.45	10/4/2004	10.32		84.13
				9/24/2007	15.63		79.32
				12/5/2008	12.50		82.45
				5/13/2010	13.65		81.30
MW-1	20	5 - 20	94.95	11/10/2010	11.49		83.46
			74.73	5/11/2011	14.27		80.68
				12/6/2011	14.63		80.32
				6/26/2012	15.01		79.94
				12/19/2012	14.07		80.88
				10/4/2004	10.47		84.41
				9/24/2007	15.57		79.31
				12/5/2008	12.71		82.17
				5/13/2010	13.33		81.55
MW-2	30	25 - 30	94.88	11/10/2010	12.51		82.37
				5/11/2011	14.23		80.65
				12/6/2011	14.54		80.34
				6/26/2012	14.94		79.94
				12/19/2012	14.00		80.88
				10/4/2004	9.65		85.12
				9/24/2007	15.23		79.54
				12/5/2008	10.56		84.21
				5/13/2010	10.91		83.86
MW-3	20	5 - 20	94.77	11/10/2010	9.80		84.97
				5/11/2011	13.15		81.62
				12/6/2011	14.28		80.49
				6/26/2012	14.69		80.08
				12/19/2012	13.72		81.05
				10/4/2004	9.39		85.40
				9/24/2007	11.68		83.11
				12/5/2008	9.84	-	84.95
				5/13/2010	10.57	-	84.22
MW-4	20	5 - 20	94.79	11/10/2010	9.35	-	85.44
				5/11/2011	13.01	-	81.78
				12/6/2011	13.51		81.28
				6/26/2012	13.08		81.71
				12/19/2012	12.22		82.57

ENVIRONMENTAL SERVICES & SOLUTIONS, PLLC

TABLE 3 SUMMARY OF WELL CONSTRUCTION AND GROUNDWATER ELEVATION DATA SCOTCHMAN #35

7162 MARKET STREET (US HIGHWAY 17), WILMINGTON, NORTH CAROLINA

Well No.	Well Depth (ft, bgs)	Well Screen Interval (ft, bgs)	Top of Casing Elevation (ft)	Date	Depth to Water (ft, TOC)	Depth to Free Product (ft, TOC)	Adjusted Groundwater Elevation (ft)
				10/4/2004	7.28		87.38
				9/24/2007	15.25		79.41
				12/5/2008	12.12		82.54
				5/13/2010	13.19		81.47
MW-5	20	5 - 20	94.66	11/10/2010	10.18		84.48
				5/11/2011	14.03		80.63
				12/6/2011	14.34		80.32
				6/26/2012	14.75		79.91
				12/19/2012	13.63		81.03
				9/24/2007	8.21		86.47
				12/5/2008	7.73		86.95
				5/13/2010	7.97		86.71
MW-6	15	4.25-14.25	94.68	11/10/2010	7.44		87.24
IVI VV -O	13	4.23-14.23	74.00	5/11/2011	9.58		85.10
				12/6/2011	11.20		83.48
				6/26/2012	12.32		82.36
				12/19/2012	10.19		84.49
				9/24/2007	10.02		84.30
				12/5/2008	8.67		85.65
				5/13/2010	9.12		85.20
MW-7	15	5 - 15	94.32	11/10/2010	8.03		86.29
101 00 - 7	13	3 - 13	94.32	5/11/2011	10.57		83.75
				12/6/2011	11.62		82.70
				6/26/2012	12.24		82.08
				12/19/2012	11.38		82.94
				9/24/2007	15.38		79.68
				12/5/2008	10.55		84.51
				5/13/2010	11.90		83.16
MW-8	18	3 - 18	95.06	11/10/2010	12.06		83.00
IVI VV -0	10	3 - 16	93.00	5/11/2011	13.94		81.12
				12/6/2011	14.19		80.87
				6/26/2012	12.78		82.28
				12/19/2012	12.64		82.42
				9/24/2007	14.79		79.55
				12/5/2008	11.89		82.45
				5/13/2010	12.77		81.57
MW-9	20	5 - 20	94.34	11/10/2010	11.43		82.91
1V1 VV -7	20	3 - 20	74.34	5/11/2011	13.38		80.96
				12/6/2011	13.72		80.62
				6/26/2012	14.08		80.26
				12/19/2012	13.17		81.17

ENVIRONMENTAL SERVICES & SOLUTIONS, PLLC

TABLE 3 SUMMARY OF WELL CONSTRUCTION AND GROUNDWATER ELEVATION DATA SCOTCHMAN #35

7162 MARKET STREET (US HIGHWAY 17), WILMINGTON, NORTH CAROLINA

Well No.	Well Depth	Well Screen	Top of Casing	Date	Depth to Water	Depth to Free	Adjusted Groundwater
		Interval	Elevation			Product	Elevation
	(ft, bgs)	(ft, bgs)	(ft)		(ft, TOC)	(ft, TOC)	(ft)
				9/24/2007	14.55		79.97
				12/5/2008	10.32		84.20
				5/13/2010	9.98		84.54
MW-10	18	2 10	94.52	11/10/2010	9.09		85.43
WI W - 10	10	3 - 18	94.32	5/11/2011	11.11		83.41
				12/6/2011	12.25		82.27
				6/26/2012	13.18		81.34
				12/19/2012	12.11		82.41
				9/24/2007	15.45		79.29
				12/5/2008	12.07		82.67
				5/13/2010	11.61		83.13
MXX7 1.1	1.0	2 10	04.74	11/10/2010	9.88		84.86
MW-11 18 3 - 1	3 - 18	94.74	5/11/2011	14.11		80.63	
				12/6/2011	14.50		80.24
				6/26/2012	14.88		79.86
				12/19/2012	13.91		80.83

NOTES:

- 1. Well depths represent number of feet from the top-of-casing to bottom of well.
- 2. Top-of-casing elevations are based on an arbitrary benchmark elevation of 100 feet above mean sea level.
- 3. The depth to water and depth to free product were measured from the top-of-casing.
- 4. Adjusted grpoundwater elevations are based on top-of-casing elevations minus the depth to water, whereas
- 5. (--) denotes free product was not detected in monitoring well at this time.
- 6. Measurements collected prior to 9/24/07 obtained by others

Active Remediation Monitoring Report

GPM 3035 (Scotchman 35)

Wilmington, New Hanover County, North Carolina

Antea USA of NC Project No. NC30351601



Appendix C

RECENT LABORATORY REPORTS





January 11, 2016

Mr. Kyle Sorensen Antea Group 8008 Corporate Center Drive Suite 100 Charlotte, NC 28226

RE: Project: GPM 3035

Pace Project No.: 92273266

Dear Mr. Sorensen:

Enclosed are the analytical results for sample(s) received by the laboratory on October 24, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Report revised on 1.9.16 to correct Sample ID per client request.

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

Sincerely,

They Coth

Trey Carter

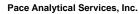
trey.carter@pacelabs.com

Project Manager

Enclosures

cc: Michelle Dukes, Antea Group





Pace Analytical www.pacelabs.com

9800 Kincey Ave. Suite 100 Huntersville, NC 28078 (704)875-9092

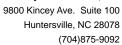
CERTIFICATIONS

Project: GPM 3035 Pace Project No.: 92273266

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078 North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342 North Carolina Wastewater Certification #: 12 South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 West Virginia Certification #: 357 Virginia/VELAP Certification #: 460221

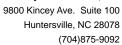




SAMPLE SUMMARY

Project: GPM 3035 Pace Project No.: 92273266

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92273266001	MW-6	Water	10/23/15 09:15	10/24/15 09:00
92273266002	MW-7	Water	10/23/15 09:30	10/24/15 09:00
92273266003	MW-10	Water	10/23/15 09:45	10/24/15 09:00
92273266004	MW-4	Water	10/23/15 10:10	10/24/15 09:00
92273266005	MW-3	Water	10/23/15 10:30	10/24/15 09:00
92273266006	MW-2	Water	10/23/15 11:00	10/24/15 09:00
92273266007	MW-1	Water	10/23/15 11:20	10/24/15 09:00
92273266008	MW-11	Water	10/23/15 11:35	10/24/15 09:00
92273266009	MW-9	Water	10/23/15 12:30	10/24/15 09:00
92273266010	MW-8	Water	10/23/15 12:35	10/24/15 09:00





SAMPLE ANALYTE COUNT

Project: GPM 3035 Pace Project No.: 92273266

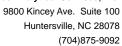
Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92273266001	MW-6	SM 6200B	CAH	11	PASI-C
92273266002	MW-7	SM 6200B	CAH	11	PASI-C
92273266003	MW-10	SM 6200B	CAH	11	PASI-C
92273266004	MW-4	SM 6200B	CAH	11	PASI-C
92273266005	MW-3	SM 6200B	CAH	11	PASI-C
92273266006	MW-2	SM 6200B	CAH	11	PASI-C
92273266007	MW-1	SM 6200B	CAH	11	PASI-C
92273266008	MW-11	SM 6200B	CAH	11	PASI-C
92273266009	MW-9	SM 6200B	CAH	11	PASI-C
92273266010	MW-8	SM 6200B	CAH	11	PASI-C



Project: GPM 3035 Pace Project No.: 92273266

Date: 01/11/2016 09:57 AM

Sample: MW-6	Lab ID: 922	73266001	Collected: 10/23/1	5 09:15	Received: 10/24/15 0	9:00 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared Ana	llyzed	CAS No.	Qual
602 Volatiles by Method 6200	Analytical Meth	nod: SM 6200E	3					
Benzene	ND	ug/L	1.0	1	10/29/1	15 11:03	71-43-2	
Diisopropyl ether	ND	ug/L	1.0	1	10/29/1	15 11:03	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1	10/29/1	15 11:03	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	1	10/29/1	15 11:03	1634-04-4	
Naphthalene	ND	ug/L	2.0	1	10/29/1	15 11:03	91-20-3	
Toluene	ND	ug/L	1.0	1	10/29/1	15 11:03	108-88-3	
m&p-Xylene	ND	ug/L	2.0	1	10/29/1	15 11:03	179601-23-1	
o-Xylene	ND	ug/L	1.0	1	10/29/1	15 11:03	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	91	%	70-130	1	10/29/1	15 11:03	460-00-4	
1,2-Dichloroethane-d4 (S)	118	%	70-130	1	10/29/1	15 11:03	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1	10/29/1	15 11:03	2037-26-5	

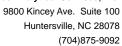




Project: GPM 3035 Pace Project No.: 92273266

Date: 01/11/2016 09:57 AM

Sample: MW-7	Lab ID: 922	73266002	Collected: 10/23/1	5 09:30	Received: 10/24/15 09:0) Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared Analyze	ed CAS No.	Qual
602 Volatiles by Method 6200	Analytical Meth	nod: SM 6200E	3				
Benzene	ND	ug/L	1.0	1	10/29/15 1	1:20 71-43-2	
Diisopropyl ether	ND	ug/L	1.0	1	10/29/15 1	1:20 108-20-3	
Ethylbenzene	ND	ug/L	1.0	1	10/29/15 1	1:20 100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	1	10/29/15 1	1:20 1634-04-4	
Naphthalene	ND	ug/L	2.0	1	10/29/15 1	1:20 91-20-3	
Toluene	ND	ug/L	1.0	1	10/29/15 1	1:20 108-88-3	
m&p-Xylene	ND	ug/L	2.0	1	10/29/15 1	1:20 179601-23-1	
o-Xylene	ND	ug/L	1.0	1	10/29/15 1	1:20 95-47-6	
Surrogates							
4-Bromofluorobenzene (S)	90	%	70-130	1	10/29/15 1	1:20 460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	70-130	1	10/29/15 1	1:20 17060-07-0	
Toluene-d8 (S)	98	%	70-130	1	10/29/15 1	1:20 2037-26-5	





Project: GPM 3035 Pace Project No.: 92273266

Sample: MW-10	Lab ID: 922	73266003	Collected: 10/23/1	5 09:45	Received: 1	0/24/15 09:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
602 Volatiles by Method 6200	Analytical Meth	nod: SM 6200I	3					
Benzene	ND	ug/L	1.0	1		10/29/15 13:00	71-43-2	
Diisopropyl ether	ND	ug/L	1.0	1		10/29/15 13:00	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		10/29/15 13:00	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		10/29/15 13:00	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		10/29/15 13:00	91-20-3	
Toluene	ND	ug/L	1.0	1		10/29/15 13:00	108-88-3	
m&p-Xylene	ND	ug/L	2.0	1		10/29/15 13:00	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/29/15 13:00	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	92	%	70-130	1		10/29/15 13:00	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	70-130	1		10/29/15 13:00	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		10/29/15 13:00	2037-26-5	



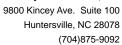
Project: GPM 3035 Pace Project No.: 92273266

Sample: MW-4	Lab ID: 922	73266004	Collected: 10/23/1	5 10:10	Received: 10/	24/15 09:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
602 Volatiles by Method 6200	Analytical Meth	nod: SM 6200	В					
Benzene	ND	ug/L	1.0	1		10/29/15 11:36	71-43-2	
Diisopropyl ether	ND	ug/L	1.0	1		10/29/15 11:36	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		10/29/15 11:36	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		10/29/15 11:36	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		10/29/15 11:36	91-20-3	
Toluene	ND	ug/L	1.0	1		10/29/15 11:36	108-88-3	
m&p-Xylene	ND	ug/L	2.0	1		10/29/15 11:36	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/29/15 11:36	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	91	%	70-130	1		10/29/15 11:36	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	70-130	1		10/29/15 11:36	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		10/29/15 11:36	2037-26-5	



Project: GPM 3035 Pace Project No.: 92273266

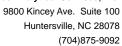
Sample: MW-3	Lab ID: 922	73266005 (Collected: 10/23/1	5 10:30	Received: 1	0/24/15 09:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
602 Volatiles by Method 6200	Analytical Meth	nod: SM 6200E	3					
Benzene	ND	ug/L	1.0	1		10/29/15 11:53	3 71-43-2	
Diisopropyl ether	ND	ug/L	1.0	1		10/29/15 11:53	3 108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		10/29/15 11:53	3 100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		10/29/15 11:53	3 1634-04-4	
Naphthalene	ND	ug/L	2.0	1		10/29/15 11:53	3 91-20-3	
Toluene	ND	ug/L	1.0	1		10/29/15 11:53	3 108-88-3	
m&p-Xylene	ND	ug/L	2.0	1		10/29/15 11:53	3 179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/29/15 11:53	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	91	%	70-130	1		10/29/15 11:53	3 460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	70-130	1		10/29/15 11:53	3 17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		10/29/15 11:53	3 2037-26-5	





Project: GPM 3035 Pace Project No.: 92273266

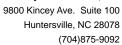
Sample: MW-2	Lab ID: 922	73266006	Collected: 10/23/1	5 11:00	Received: 10	0/24/15 09:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
602 Volatiles by Method 6200	Analytical Meth	nod: SM 6200E	3					
Benzene	ND	ug/L	1.0	1		10/29/15 13:17	7 71-43-2	
Diisopropyl ether	ND	ug/L	1.0	1		10/29/15 13:17	7 108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		10/29/15 13:17	7 100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		10/29/15 13:17	7 1634-04-4	
Naphthalene	ND	ug/L	2.0	1		10/29/15 13:17	7 91-20-3	
Toluene	ND	ug/L	1.0	1		10/29/15 13:17	7 108-88-3	
m&p-Xylene	ND	ug/L	2.0	1		10/29/15 13:17	7 179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/29/15 13:17	7 95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	91	%	70-130	1		10/29/15 13:17	7 460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	70-130	1		10/29/15 13:17	7 17060-07-0	
Toluene-d8 (S)	102	%	70-130	1		10/29/15 13:17	7 2037-26-5	





Project: GPM 3035 Pace Project No.: 92273266

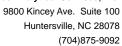
Sample: MW-1	Lab ID: 922	73266007	Collected: 10/23/1	5 11:20	Received: 10	/24/15 09:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
602 Volatiles by Method 6200	Analytical Meth	nod: SM 6200E	3					
Benzene	18.9	ug/L	1.0	1		10/29/15 12:10	71-43-2	
Diisopropyl ether	ND	ug/L	1.0	1		10/29/15 12:10	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		10/29/15 12:10	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		10/29/15 12:10	1634-04-4	
Naphthalene	ND	ug/L	2.0	1		10/29/15 12:10	91-20-3	
Toluene	ND	ug/L	1.0	1		10/29/15 12:10	108-88-3	
m&p-Xylene	ND	ug/L	2.0	1		10/29/15 12:10	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/29/15 12:10	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	93	%	70-130	1		10/29/15 12:10	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	70-130	1		10/29/15 12:10	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		10/29/15 12:10	2037-26-5	





Project: GPM 3035 Pace Project No.: 92273266

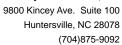
Sample: MW-11	Lab ID: 922	73266008	Collected: 10/23/1	5 11:35	Received: 10)/24/15 09:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
602 Volatiles by Method 6200	Analytical Meth	nod: SM 6200I	3					
Benzene	43.2	ug/L	1.0	1		10/30/15 09:3	1 71-43-2	
Diisopropyl ether	ND	ug/L	1.0	1		10/30/15 09:3°	1 108-20-3	
Ethylbenzene	77.5	ug/L	1.0	1		10/30/15 09:3	1 100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		10/30/15 09:3	1 1634-04-4	
Naphthalene	ND	ug/L	2.0	1		10/30/15 09:3	1 91-20-3	
Toluene	126	ug/L	1.0	1		10/30/15 09:3	1 108-88-3	
m&p-Xylene	316	ug/L	2.0	1		10/30/15 09:3	1 179601-23-1	
o-Xylene	168	ug/L	1.0	1		10/30/15 09:3	1 95-47-6	
Surrogates		-						
4-Bromofluorobenzene (S)	101	%	70-130	1		10/30/15 09:3	1 460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		10/30/15 09:3	1 17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		10/30/15 09:3	1 2037-26-5	





Project: GPM 3035 Pace Project No.: 92273266

Sample: MW-9	Lab ID: 922	73266009	Collected: 10/23/1	5 12:30	Received: 10/24/	15 09:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
602 Volatiles by Method 6200	Analytical Meth	nod: SM 6200E	3					
Benzene	ND	ug/L	1.0	1	10	/29/15 12:27	7 71-43-2	
Diisopropyl ether	ND	ug/L	1.0	1	10	/29/15 12:27	7 108-20-3	
Ethylbenzene	ND	ug/L	1.0	1	10	/29/15 12:27	7 100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	1	10	/29/15 12:27	7 1634-04-4	
Naphthalene	ND	ug/L	2.0	1	10	/29/15 12:27	7 91-20-3	
Toluene	ND	ug/L	1.0	1	10	/29/15 12:27	7 108-88-3	
m&p-Xylene	ND	ug/L	2.0	1	10	/29/15 12:27	7 179601-23-1	
o-Xylene	ND	ug/L	1.0	1	10	/29/15 12:27	7 95-47-6	
Surrogates		_						
4-Bromofluorobenzene (S)	92	%	70-130	1	10	/29/15 12:27	7 460-00-4	
1,2-Dichloroethane-d4 (S)	119	%	70-130	1	10	/29/15 12:27	7 17060-07-0	
Toluene-d8 (S)	99	%	70-130	1	10	/29/15 12:27	7 2037-26-5	





Project: GPM 3035 Pace Project No.: 92273266

Sample: MW-8	Lab ID: 922	73266010	Collected: 10/23/1	5 12:35	Received: 10	0/24/15 09:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
602 Volatiles by Method 6200	Analytical Meth	nod: SM 6200E	3					
Benzene	ND	ug/L	1.0	1		10/29/15 13:34	1 71-43-2	
Diisopropyl ether	ND	ug/L	1.0	1		10/29/15 13:34	1 108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		10/29/15 13:34	1 100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		10/29/15 13:34	1 1634-04-4	
Naphthalene	ND	ug/L	2.0	1		10/29/15 13:34	4 91-20-3	
Toluene	ND	ug/L	1.0	1		10/29/15 13:34	1 108-88-3	
m&p-Xylene	ND	ug/L	2.0	1		10/29/15 13:34	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		10/29/15 13:34	4 95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	92	%	70-130	1		10/29/15 13:34	460-00-4	
1,2-Dichloroethane-d4 (S)	118	%	70-130	1		10/29/15 13:34	17060-07-0	
Toluene-d8 (S)	101	%	70-130	1		10/29/15 13:34	1 2037-26-5	

(704)875-9092



QUALITY CONTROL DATA

Project: GPM 3035 Pace Project No.: 92273266

Date: 01/11/2016 09:57 AM

QC Batch: MSV/34038 Analysis Method: SM 6200B
QC Batch Method: SM 6200B Analysis Description: 602 by 6200B

Associated Lab Samples: 92273266001, 92273266002, 92273266003, 92273266004, 92273266005, 92273266006, 92273266007,

92273266009, 92273266010

METHOD BLANK: 1593755 Matrix: Water

Associated Lab Samples: 92273266001, 92273266002, 92273266003, 92273266004, 92273266005, 92273266006, 92273266007,

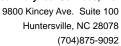
92273266009, 92273266010

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	10/29/15 08:32	
Diisopropyl ether	ug/L	ND	1.0	10/29/15 08:32	
Ethylbenzene	ug/L	ND	1.0	10/29/15 08:32	
m&p-Xylene	ug/L	ND	2.0	10/29/15 08:32	
Methyl-tert-butyl ether	ug/L	ND	1.0	10/29/15 08:32	
Naphthalene	ug/L	ND	2.0	10/29/15 08:32	
o-Xylene	ug/L	ND	1.0	10/29/15 08:32	
Toluene	ug/L	ND	1.0	10/29/15 08:32	
1,2-Dichloroethane-d4 (S)	%	116	70-130	10/29/15 08:32	
4-Bromofluorobenzene (S)	%	92	70-130	10/29/15 08:32	
Toluene-d8 (S)	%	100	70-130	10/29/15 08:32	

LABORATORY CONTROL SAMPLE:	1593756					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Benzene	ug/L	50	55.0	110	60-140	
Diisopropyl ether	ug/L	50	67.3	135	60-140	
Ethylbenzene	ug/L	50	54.8	110	60-140	
m&p-Xylene	ug/L	100	111	111	60-140	
Methyl-tert-butyl ether	ug/L	50	58.7	117	60-140	
Naphthalene	ug/L	50	49.7	99	60-140	
o-Xylene	ug/L	50	55.7	111	60-140	
Toluene	ug/L	50	54.4	109	60-140	
1,2-Dichloroethane-d4 (S)	%			115	70-130	
4-Bromofluorobenzene (S)	%			94	70-130	
Toluene-d8 (S)	%			102	70-130	

MATRIX SPIKE & MATRIX S	SPIKE DUPLICA	ATE: 15937	57		1593758							
	0	2272847006	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD		Qual
Benzene	ug/L	ND	20	20	22.7	23.1	114	116	60-140	2	30	
Diisopropyl ether	ug/L	ND	20	20	28.7	29.5	143	147	60-140	3	30	M1
Ethylbenzene	ug/L	ND	20	20	18.9	19.7	94	99	60-140	4	30	
m&p-Xylene	ug/L	ND	40	40	37.1	38.8	93	97	60-140	5	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	23.7	24.8	119	124	60-140	4	30	
Naphthalene	ug/L	ND	20	20	16.4	18.1	81	89	60-140	10	30	

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





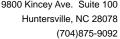
QUALITY CONTROL DATA

Project: GPM 3035 Pace Project No.: 92273266

Date: 01/11/2016 09:57 AM

MATRIX SPIKE & MATRIX SP	IKE DUPLICA	ATE: 15937	57		1593758							
Parameter	9 Units	2272847006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
o-Xylene	ug/L	ND	20	20	19.0	19.8	95	99	60-140	4	30	
Toluene	ug/L	ND	20	20	21.2	21.9	106	110	60-140	4	30	
1,2-Dichloroethane-d4 (S)	%						114	114	70-130			
4-Bromofluorobenzene (S)	%						92	90	70-130			
Toluene-d8 (S)	%						100	100	70-130			

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





QUALITY CONTROL DATA

Project: GPM 3035 Pace Project No.: 92273266

QC Batch: MSV/34053 Analysis Method: SM 6200B
QC Batch Method: SM 6200B Analysis Description: 602 by 6200B

Associated Lab Samples: 92273266008

METHOD BLANK: 1595075 Matrix: Water

Associated Lab Samples: 92273266008

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Benzene	ug/L	ND ND	1.0	10/30/15 05:20	
Diisopropyl ether	ug/L	ND	1.0	10/30/15 05:20	
Ethylbenzene	ug/L	ND	1.0	10/30/15 05:20	
m&p-Xylene	ug/L	ND	2.0	10/30/15 05:20	
Methyl-tert-butyl ether	ug/L	ND	1.0	10/30/15 05:20	
Naphthalene	ug/L	ND	2.0	10/30/15 05:20	
o-Xylene	ug/L	ND	1.0	10/30/15 05:20	
Toluene	ug/L	ND	1.0	10/30/15 05:20	
1,2-Dichloroethane-d4 (S)	%	102	70-130	10/30/15 05:20	
4-Bromofluorobenzene (S)	%	101	70-130	10/30/15 05:20	
Toluene-d8 (S)	%	99	70-130	10/30/15 05:20	

LABORATORY CONTROL SAMPLE: 1595077

Date: 01/11/2016 09:57 AM

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Benzene	ug/L	50	47.0	94	60-140	
Diisopropyl ether	ug/L	50	48.8	98	60-140	
Ethylbenzene	ug/L	50	46.3	93	60-140	
m&p-Xylene	ug/L	100	92.1	92	60-140	
Methyl-tert-butyl ether	ug/L	50	49.4	99	60-140	
Naphthalene	ug/L	50	50.5	101	60-140	
o-Xylene	ug/L	50	46.8	94	60-140	
Toluene	ug/L	50	46.1	92	60-140	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Toluene-d8 (S)	%			101	70-130	

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



QUALIFIERS

Project: GPM 3035 Pace Project No.: 92273266

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

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

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

TNI - The NELAC Institute.

LABORATORIES

M1

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

Date: 01/11/2016 09:57 AM

Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GPM 3035 Pace Project No.: 92273266

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92273266001	MW-6	SM 6200B	MSV/34038		
92273266002	MW-7	SM 6200B	MSV/34038		
92273266003	MW-10	SM 6200B	MSV/34038		
92273266004	MW-4	SM 6200B	MSV/34038		
92273266005	MW-3	SM 6200B	MSV/34038		
92273266006	MW-2	SM 6200B	MSV/34038		
92273266007	MW-1	SM 6200B	MSV/34038		
92273266008	MW-11	SM 6200B	MSV/34053		
92273266009	MW-9	SM 6200B	MSV/34038		
92273266010	MW-8	SM 6200B	MSV/34038		

Pace Analytical*

Sample Condition Upon Receipt (SCUR) Document Number:

F-CHR-CS-003-rev.16

Page 1 of 2*
Issuing Authority:
Pace Huntersville Quality Office

Client Name: Anter Cros	I D		* Page 2 of 2 is for Internal Use	Only
	er Commercia		Proi Due Da	
ustody Seal on Cooler/Box Present:yes	s L no Seals	intact: yes	□ no Proj. Name:	
acking Material: 🔲 Bubble Wrap 📋 Bubble	Bags None	Other	•	
nermometer Used: IR Gun 1402	Type of Ice: Wet	Blue None	Samples on ice, cooling pr	ocess has begun
emp Correction Factor T1402 No Correction			Date and Initials of pe	rean evamining
orrected Cooler Temp.: 7. 0 cmp should be above freezing to 6°C	Biological Tissue	is Frozen: Yes No Comments:	contents: AP	10-28-15
hain of Custody Present:	Yes No ON/A	1.		
nain of Custody Filled Out:	☐Yes ☐No ☐N/A	2.		
hain of Custody Relinquished:	☐Yes ☐No ☐N/A	3.		
ampler Name & Signature on COC:	□Yes □No □N/A	4.		
amples Arrived within Hold Time:	□Yes .□No □N/A	5.		
hort Hold Time Analysis (<72hr):	□Yes □No □N/A	6.		,, a
ush Turn Around Time Requested:	□Yes ☑No □N/A	7.		
ufficient Volume:	☐Yes ☐No ☐N/A	8.		
orrect Containers Used:	□Yes □No □N/A	9.		
-Pace Containers Used:	□Yes □No □N/A	-		
ontainers Intact:	☑Yes □No □N/A	10		
iltered volume received for Dissolved tests	□Yes □No □N/A	11.		
ample Labels match COC:	☐Yes ☐No ☐N/A	12.		
-Includes date/time/ID/Analysis Matrix:	WY			
l containers needing preservation have been checked.	□Yes □No □N/A	13.		
Il containers needing preservation are found to be in ompliance with EPA recommendation.	□Yes □No □N/A			
cceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	□Yes □No			
amples checked for dechlorination:	□Yes □No □N/A	14.		
leadspace in VOA Vials (>6mm):	□Yes □No □N/A	15.		
rip Blank Present:	□Yes □No □N/A	16.		
rip Blank Custody Seals Present	□Yes □No □N/A			
Pace Trip Blank Lot # (if purchased):				
Client Notification/ Resolution:	from a series and the series of the series o		Field Data Required?	Y / N
Person Contacted:	Date	/Time:		
Comments/ Resolution:				and the state of t
SCURF Review: Date SRF Review: Date Note: Whenever there is a discrepancy affecting Nort samples, a copy of this form will be sent to the Nor	e: io/ze/15 th Carolina compliance		0#:922732 	266

Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

92273266



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

	Section B Required Project Information:		Section C			Pag	e:	l of	Page 2
	D17	W. la Sanga	Invoice Information: Attention:		7			200	1489
Address (proporate Center Dr	Copy To:	mp/Kyle Screisen	Company Name:		REGULATORY	AGENCY	,		
Clock the MC			Address:		☐ NPDES		ND WATE	ER [DRINKING WATER
Email To Kyle Socenser @ on tea grap	Purchase Order No.:		Pace Quote Reference:		UST	RCRA		Г (OTHER
Phone: 4 543 391/ Fax:	Project Name: AM:	3035	Pace Project Manager:		Site Location		, [
Requested Due Date/TAT:	Project Number:	<i>y</i> = <i>y</i> =	Pace Profile #: 869-1	3	STATE:	NC	2		
					Analysis Filter	ed (Y/N)			
Section D Matrix Co Required Client Information MATRIX / 0	odes (£) (d)	COLLECTED	Preservatives	S S S			DES.		
SAMPLE ID (A-Z, 0-9 /) Sample IDs MUST BE UNIQUE ## Was MAIRIX / 10 Drinking Water Waste Water Product Soil/Solid Oil Wipe Air Tissue Other	MAL Sp 20 CO	MPOSITE COMPOSITE END/OFFARE	NTAINERS NY AL COLLECTION NY ALCOHOL COLLECT	Is Test Brex + Noph & IPE			Residual Chlorine (Y/N)	92- Pace Pr	273216 Toject No./ Lab I.D.
1 MW-6	WT G	1023/15 0915	4	1			\dashv	1 400 1 1	ω)
2 MW-7	I i	1 0930	1	1			\top		907
3 MW-8		0945							003
4 MW-4		1010							204
5 MW-3		1030							005
6 NW-2		1/00							odo
7 MW-1		1120		35					007
8 Mu)-1(1135							800
9 MW-9		1230							009
10 MW- E	1 1	1235		A					OlO
11									
12									
ADDITIONAL COMMENTS	RELINQUISHED E	AFFILIATION DATE	,	D BY / AFFILIATION	DATE	TIME		SAMPLE	CONDITIONS
	MINANDO	Alleg 1907	5 1330 Coux Por	Dur	しっまり	900	3-0	√	N
	0								
OR	IGINAL	SAMPLER NAME AND SIGNATU	00 1 1				ပိ	Received on Ice (Y/N)	Sealed Cooler (Y/N) Samples Intact (Y/N)
		PRINT Name of SAMPLE	R: Michael Hoseltina				Temp in °	ceive Se (Y)	ples (Y/N (Y/N
		SIGNATURE of SAMPLE	R: Mr-III	DATE Signed	1923/15		Te	Re	Sam

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74		
	Pace Ana	lvtical*
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CHAIN-OF-CUSTODY / Analytical Request Document

of 21 The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately. of Page: Section A Section B Section C Required Client Information Required Project Information: Invoice Information: Attention Copy To: Company Name REGULATORY AGENCY Address: **GROUND WATER** DRINKING WATER Purchase Order No.: Pace Quote UST RCRA OTHER __ Reference: Pace Project Project Name PM 3035 Site Location Manager: NC Project Number: 869-13 STATE Requested Analysis Filtered (Y/N) 288 Section D Matrix Codes C=COMP) COLLECTED Preservatives Required Client Information MATRIX / CODE Drinking Water SAMPLE TEMP AT COLLECTION Water WT COMPOSITE END/OFAE COMPOSITE Waste Water WW (G=GRAB Nash # START Product Soil/Solid SL Oil OL WP SAMPLE ID Analysis Test Residual Chlorine (BTEX Wipe (A-Z, 0-9/,-) MATRIX CODE Unpreserved H₂SO₄ HNO₃ HCI NaOH SAMPLE TYPE Sample IDs MUST BE UNIQUE Tissue TS Na₂S₂O₃ Methanol MTBE ITEM# 709 Pace Project No./ Lab I.D. DATE TIME DATE TIME WIG 0915 MW-6 001 MW-810 MP 2 007 0943 3 003 Man 1010 5 MW-3 005 1030 MW-2 6 1/00 odo 007 1120 MW-1 1135 008 8 Mu)-li MW-9 1230 009 MW- 8 1235 10 OD 11 12 RELINQUISHED BY AFFILIATION SAMPLE CONDITIONS ADDITIONAL COMMENTS DATE TIME ACCEPTED BY / AFFILIATION DATE TIME 900 SAMPLER NAME AND SIGNATURE Received or Ice (Y/IN) Custody aled Cool (Y/N) Temp in PRINT Name of SAMPLER:

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1,5% per month for any invoices not paid within 30 days.

SIGNATURE of SAMPLER:

F-ALL-Q-020rev.07, 15-May-2007

DATE Signed

(MM/DD/YY):

Analytical Report 527124

for Antea Group - Charlotte

Project Manager: Kyle Sorensen GPM 3035

30-MAR-16

Collected By: Client





6017 Financial Dr., Norcross, GA 30071 Ph:(770) 449-8800 Fax:(770) 449-5477

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-15-19), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534-15-1)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)







30-MAR-16

Project Manager: **Kyle Sorensen Antea Group - Charlotte**3530 Toringdon Way
Suite 106
Charlotte, NC 28277

Reference: XENCO Report No(s): 527124

GPM 3035

Project Address: NC

Kyle Sorensen:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 527124. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 527124 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Junk Rounsh

J. Derek Rounsley

Project Manager

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Sample Cross Reference 527124



Antea Group - Charlotte, Charlotte, NC

GPM 3035

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-10	W	03-17-16 13:57		527124-001
MW-7	W	03-17-16 14:03		527124-002
MW-6	W	03-17-16 14:09		527124-003
MW-3	W	03-17-16 14:13		527124-004
MW-4	W	03-17-16 14:18		527124-005
MW-2	W	03-17-16 14:22		527124-006
MW-1	W	03-17-16 14:25		527124-007
MW-11	W	03-17-16 14:31		527124-008
MW-9	W	03-17-16 15:03		527124-009
MW-8	W	03-17-16 15:07		527124-010



Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- ** Surrogate recovered outside laboratory control limit.
- BRL Below Reporting Limit.
- **RL** Reporting Limit

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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5332 Blackberry Drive, San Antonio TX 78238 (210) 509-3334 (210) 509-3335
1211 W Florida Ave, Midland, TX 79701 (432) 563-1800 (432) 563-1713
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282 (602) 437-0330





Antea Group - Charlotte, Charlotte, NC

GPM 3035

Sample Id: MW-10 Matrix: Ground Water Date Received:03.19.16 09.11

Lab Sample Id: 527124-001 Date Collected: 03.17.16 13.57

Analytical Method: 6200 (BTEX, MTBE,IPE, NAPH) by GC/MS by SM6200B Prep Method: SM6200B_PREP

Tech: ZHO % Moisture:

Analyst: ZHO Date Prep: 03.26.16 14.33

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	U	0.500	0.119	ug/L	03.26.16 19.32	U	1
Diisopropyl ether	108-20-3	U	0.500	0.0920	ug/L	03.26.16 19.32	U	1
Ethylbenzene	100-41-4	U	0.500	0.0920	ug/L	03.26.16 19.32	U	1
m,p-Xylenes	179601-23-1	U	1.00	0.176	ug/L	03.26.16 19.32	U	1
Methyl tert-butyl ether (MTBE)	1634-04-4	U	0.500	0.169	ug/L	03.26.16 19.32	U	1
Naphthalene	91-20-3	U	2.00	0.0940	ug/L	03.26.16 19.32	UH	1
o-Xylene	95-47-6	U	0.500	0.122	ug/L	03.26.16 19.32	U	1
Toluene	108-88-3	U	0.500	0.0570	ug/L	03.26.16 19.32	U	1
Total Xylenes	1330-20-7	U	0.500	0.122	ug/L	03.26.16 19.32	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,2-Dichloroethane-D4		17060-07-0	103	%	65-126	03.26.16 19.32		
4-Bromofluorobenzene		460-00-4	100	%	86-111	03.26.16 19.32		
Toluene-D8		2037-26-5	112	%	83-116	03.26.16 19.32		





Antea Group - Charlotte, Charlotte, NC

GPM 3035

Sample Id: MW-7 Matrix: Ground Water Date Received:03.19.16 09.11

Lab Sample Id: 527124-002 Date Collected: 03.17.16 14.03

Analytical Method: 6200 (BTEX, MTBE,IPE, NAPH) by GC/MS by SM6200B Prep Method: SM6200B_PREP

Tech: ZHO % Moisture:

Analyst: ZHO Date Prep: 03.26.16 14.33

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	U	0.500	0.119	ug/L	03.26.16 19.59	U	1
Diisopropyl ether	108-20-3	U	0.500	0.0920	ug/L	03.26.16 19.59	U	1
Ethylbenzene	100-41-4	U	0.500	0.0920	ug/L	03.26.16 19.59	U	1
m,p-Xylenes	179601-23-1	U	1.00	0.176	ug/L	03.26.16 19.59	U	1
Methyl tert-butyl ether (MTBE)	1634-04-4	U	0.500	0.169	ug/L	03.26.16 19.59	U	1
Naphthalene	91-20-3	U	2.00	0.0940	ug/L	03.26.16 19.59	UH	1
o-Xylene	95-47-6	U	0.500	0.122	ug/L	03.26.16 19.59	U	1
Toluene	108-88-3	U	0.500	0.0570	ug/L	03.26.16 19.59	U	1
Total Xylenes	1330-20-7	U	0.500	0.122	ug/L	03.26.16 19.59	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,2-Dichloroethane-D4		17060-07-0	101	%	65-126	03.26.16 19.59		
4-Bromofluorobenzene		460-00-4	100	%	86-111	03.26.16 19.59		
Toluene-D8		2037-26-5	113	%	83-116	03.26.16 19.59		





Antea Group - Charlotte, Charlotte, NC

GPM 3035

Sample Id: MW-6 Matrix: Ground Water Date Received:03.19.16 09.11

Lab Sample Id: 527124-003 Date Collected: 03.17.16 14.09

Analytical Method: 6200 (BTEX, MTBE,IPE, NAPH) by GC/MS by SM6200B Prep Method: SM6200B_PREP

Tech: ZHO % Moisture:

Analyst: ZHO Date Prep: 03.26.16 14.33

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	U	0.500	0.119	ug/L	03.26.16 20.25	U	1
Diisopropyl ether	108-20-3	U	0.500	0.0920	ug/L	03.26.16 20.25	U	1
Ethylbenzene	100-41-4	U	0.500	0.0920	ug/L	03.26.16 20.25	U	1
m,p-Xylenes	179601-23-1	U	1.00	0.176	ug/L	03.26.16 20.25	U	1
Methyl tert-butyl ether (MTBE)	1634-04-4	U	0.500	0.169	ug/L	03.26.16 20.25	U	1
Naphthalene	91-20-3	U	2.00	0.0940	ug/L	03.26.16 20.25	UH	1
o-Xylene	95-47-6	U	0.500	0.122	ug/L	03.26.16 20.25	U	1
Toluene	108-88-3	U	0.500	0.0570	ug/L	03.26.16 20.25	U	1
Total Xylenes	1330-20-7	U	0.500	0.122	ug/L	03.26.16 20.25	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,2-Dichloroethane-D4		17060-07-0	102	%	65-126	03.26.16 20.25		
4-Bromofluorobenzene		460-00-4	98	%	86-111	03.26.16 20.25		
Toluene-D8		2037-26-5	114	%	83-116	03.26.16 20.25		





Antea Group - Charlotte, Charlotte, NC

GPM 3035

Sample Id: MW-3 Matrix: Ground Water Date Received:03.19.16 09.11

Lab Sample Id: 527124-004 Date Collected: 03.17.16 14.13

Analytical Method: 6200 (BTEX, MTBE,IPE, NAPH) by GC/MS by SM6200B Prep Method: SM6200B_PREP

Tech: ZHO % Moisture:

Analyst: ZHO Date Prep: 03.26.16 14.33

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	U	0.500	0.119	ug/L	03.26.16 20.52	U	1
Diisopropyl ether	108-20-3	U	0.500	0.0920	ug/L	03.26.16 20.52	U	1
Ethylbenzene	100-41-4	U	0.500	0.0920	ug/L	03.26.16 20.52	U	1
m,p-Xylenes	179601-23-1	U	1.00	0.176	ug/L	03.26.16 20.52	U	1
Methyl tert-butyl ether (MTBE)	1634-04-4	U	0.500	0.169	ug/L	03.26.16 20.52	U	1
Naphthalene	91-20-3	U	2.00	0.0940	ug/L	03.26.16 20.52	UH	1
o-Xylene	95-47-6	U	0.500	0.122	ug/L	03.26.16 20.52	U	1
Toluene	108-88-3	U	0.500	0.0570	ug/L	03.26.16 20.52	U	1
Total Xylenes	1330-20-7	U	0.500	0.122	ug/L	03.26.16 20.52	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,2-Dichloroethane-D4		17060-07-0	102	%	65-126	03.26.16 20.52		
4-Bromofluorobenzene		460-00-4	98	%	86-111	03.26.16 20.52		
Toluene-D8		2037-26-5	113	%	83-116	03.26.16 20.52		





Antea Group - Charlotte, Charlotte, NC

GPM 3035

Sample Id: MW-4 Matrix: Ground Water Date Received:03.19.16 09.11

Lab Sample Id: 527124-005 Date Collected: 03.17.16 14.18

Analytical Method: 6200 (BTEX, MTBE,IPE, NAPH) by GC/MS by SM6200B Prep Method: SM6200B_PREP

Tech: ZHO % Moisture:

Analyst: ZHO Date Prep: 03.26.16 14.33

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	U	0.500	0.119	ug/L	03.26.16 21.19	U	1
Diisopropyl ether	108-20-3	U	0.500	0.0920	ug/L	03.26.16 21.19	U	1
Ethylbenzene	100-41-4	U	0.500	0.0920	ug/L	03.26.16 21.19	U	1
m,p-Xylenes	179601-23-1	U	1.00	0.176	ug/L	03.26.16 21.19	U	1
Methyl tert-butyl ether (MTBE)	1634-04-4	U	0.500	0.169	ug/L	03.26.16 21.19	U	1
Naphthalene	91-20-3	U	2.00	0.0940	ug/L	03.26.16 21.19	UH	1
o-Xylene	95-47-6	U	0.500	0.122	ug/L	03.26.16 21.19	U	1
Toluene	108-88-3	U	0.500	0.0570	ug/L	03.26.16 21.19	U	1
Total Xylenes	1330-20-7	U	0.500	0.122	ug/L	03.26.16 21.19	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,2-Dichloroethane-D4		17060-07-0	99	%	65-126	03.26.16 21.19		
4-Bromofluorobenzene		460-00-4	100	%	86-111	03.26.16 21.19		
Toluene-D8		2037-26-5	114	%	83-116	03.26.16 21.19		





Antea Group - Charlotte, Charlotte, NC

GPM 3035

Sample Id: MW-2 Matrix: Ground Water Date Received:03.19.16 09.11

Lab Sample Id: 527124-006 Date Collected: 03.17.16 14.22

Analytical Method: 6200 (BTEX, MTBE,IPE, NAPH) by GC/MS by SM6200B Prep Method: SM6200B_PREP

Tech: ZHO % Moisture:

Analyst: ZHO Date Prep: 03.26.16 14.33

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	U	0.500	0.119	ug/L	03.26.16 21.45	U	1
Diisopropyl ether	108-20-3	U	0.500	0.0920	ug/L	03.26.16 21.45	U	1
Ethylbenzene	100-41-4	U	0.500	0.0920	ug/L	03.26.16 21.45	U	1
m,p-Xylenes	179601-23-1	U	1.00	0.176	ug/L	03.26.16 21.45	U	1
Methyl tert-butyl ether (MTBE)	1634-04-4	U	0.500	0.169	ug/L	03.26.16 21.45	U	1
Naphthalene	91-20-3	U	2.00	0.0940	ug/L	03.26.16 21.45	UH	1
o-Xylene	95-47-6	U	0.500	0.122	ug/L	03.26.16 21.45	U	1
Toluene	108-88-3	U	0.500	0.0570	ug/L	03.26.16 21.45	U	1
Total Xylenes	1330-20-7	U	0.500	0.122	ug/L	03.26.16 21.45	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,2-Dichloroethane-D4		17060-07-0	101	%	65-126	03.26.16 21.45		
4-Bromofluorobenzene		460-00-4	99	%	86-111	03.26.16 21.45		
Toluene-D8		2037-26-5	112	%	83-116	03.26.16 21.45		





Antea Group - Charlotte, Charlotte, NC

GPM 3035

Sample Id: MW-1 Matrix: Ground Water Date Received:03.19.16 09.11

Lab Sample Id: 527124-007 Date Collected: 03.17.16 14.25

Analytical Method: 6200 (BTEX, MTBE,IPE, NAPH) by GC/MS by SM6200B Prep Method: SM6200B_PREP

Tech: ZHO % Moisture:

Analyst: MWE Date Prep: 03.25.16 07.35

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	745	5.00	1.19	ug/L	03.26.16 23.10	D	10
Diisopropyl ether	108-20-3	2.95	0.500	0.0920	ug/L	03.25.16 17.58		1
Ethylbenzene	100-41-4	293	5.00	0.920	ug/L	03.26.16 23.10	D	10
m,p-Xylenes	179601-23-1	155	1.00	0.176	ug/L	03.25.16 17.58		1
Methyl tert-butyl ether (MTBE)	1634-04-4	15.7	0.500	0.169	ug/L	03.25.16 17.58		1
Naphthalene	91-20-3	7.35	2.00	0.0940	ug/L	03.25.16 17.58		1
o-Xylene	95-47-6	2.55	0.500	0.122	ug/L	03.25.16 17.58		1
Toluene	108-88-3	11.2	0.500	0.0570	ug/L	03.25.16 17.58		1
Total Xylenes	1330-20-7	158	0.500	0.122	ug/L	03.25.16 17.58		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,2-Dichloroethane-D4		17060-07-0	92	%	65-126	03.25.16 17.58		
4-Bromofluorobenzene		460-00-4	100	%	86-111	03.25.16 17.58		
Toluene-D8		2037-26-5	115	%	83-116	03.25.16 17.58		





Antea Group - Charlotte, Charlotte, NC

GPM 3035

Sample Id: MW-11 Matrix: Ground Water Date Received:03.19.16 09.11

Lab Sample Id: 527124-008 Date Collected: 03.17.16 14.31

Analytical Method: 6200 (BTEX, MTBE,IPE, NAPH) by GC/MS by SM6200B Prep Method: SM6200B_PREP

Tech: ZHO % Moisture:

Analyst: ZHO Date Prep: 03.26.16 14.33

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	10.1	0.500	0.119	ug/L	03.26.16 22.41		1
Diisopropyl ether	108-20-3	U	0.500	0.0920	ug/L	03.26.16 22.41	U	1
Ethylbenzene	100-41-4	29.5	0.500	0.0920	ug/L	03.26.16 22.41		1
m,p-Xylenes	179601-23-1	77.9	1.00	0.176	ug/L	03.26.16 22.41		1
Methyl tert-butyl ether (MTBE)	1634-04-4	U	0.500	0.169	ug/L	03.26.16 22.41	U	1
Naphthalene	91-20-3	5.76	2.00	0.0940	ug/L	03.26.16 22.41	Н	1
o-Xylene	95-47-6	52.1	0.500	0.122	ug/L	03.26.16 22.41		1
Toluene	108-88-3	34.7	0.500	0.0570	ug/L	03.26.16 22.41		1
Total Xylenes	1330-20-7	130	0.500	0.122	ug/L	03.26.16 22.41		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,2-Dichloroethane-D4		17060-07-0	96	%	65-126	03.26.16 22.41		
4-Bromofluorobenzene		460-00-4	102	%	86-111	03.26.16 22.41		
Toluene-D8		2037-26-5	113	%	83-116	03.26.16 22.41		





Antea Group - Charlotte, Charlotte, NC

GPM 3035

Sample Id: MW-9 Matrix: Ground Water Date Received:03.19.16 09.11

Lab Sample Id: 527124-009 Date Collected: 03.17.16 15.03

Analytical Method: 6200 (BTEX, MTBE,IPE, NAPH) by GC/MS by SM6200B Prep Method: SM6200B_PREP

Tech: ZHO % Moisture:

Analyst: ZHO Date Prep: 03.27.16 17.34

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	U	0.500	0.119	ug/L	03.27.16 20.44	U	1
Diisopropyl ether	108-20-3	U	0.500	0.0920	ug/L	03.27.16 20.44	U	1
Ethylbenzene	100-41-4	U	0.500	0.0920	ug/L	03.27.16 20.44	U	1
m,p-Xylenes	179601-23-1	U	1.00	0.176	ug/L	03.27.16 20.44	U	1
Methyl tert-butyl ether (MTBE)	1634-04-4	U	0.500	0.169	ug/L	03.27.16 20.44	U	1
Naphthalene	91-20-3	U	2.00	0.0940	ug/L	03.27.16 20.44	U	1
o-Xylene	95-47-6	U	0.500	0.122	ug/L	03.27.16 20.44	U	1
Toluene	108-88-3	U	0.500	0.0570	ug/L	03.27.16 20.44	U	1
Total Xylenes	1330-20-7	U	0.500	0.122	ug/L	03.27.16 20.44	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,2-Dichloroethane-D4		17060-07-0	101	%	65-126	03.27.16 20.44		
4-Bromofluorobenzene		460-00-4	100	%	86-111	03.27.16 20.44		
Toluene-D8		2037-26-5	115	%	83-116	03.27.16 20.44		





Antea Group - Charlotte, Charlotte, NC

GPM 3035

Sample Id: MW-8 Matrix: Ground Water Date Received:03.19.16 09.11

Lab Sample Id: 527124-010 Date Collected: 03.17.16 15.07

Analytical Method: 6200 (BTEX, MTBE,IPE, NAPH) by GC/MS by SM6200B Prep Method: SM6200B_PREP

Tech: ZHO % Moisture:

Analyst: ZHO Date Prep: 03.27.16 17.34

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	U	0.500	0.119	ug/L	03.27.16 21.11	U	1
Diisopropyl ether	108-20-3	U	0.500	0.0920	ug/L	03.27.16 21.11	U	1
Ethylbenzene	100-41-4	U	0.500	0.0920	ug/L	03.27.16 21.11	U	1
m,p-Xylenes	179601-23-1	U	1.00	0.176	ug/L	03.27.16 21.11	U	1
Methyl tert-butyl ether (MTBE)	1634-04-4	U	0.500	0.169	ug/L	03.27.16 21.11	U	1
Naphthalene	91-20-3	10.7	2.00	0.0940	ug/L	03.27.16 21.11		1
o-Xylene	95-47-6	U	0.500	0.122	ug/L	03.27.16 21.11	U	1
Toluene	108-88-3	U	0.500	0.0570	ug/L	03.27.16 21.11	U	1
Total Xylenes	1330-20-7	U	0.500	0.122	ug/L	03.27.16 21.11	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,2-Dichloroethane-D4		17060-07-0	102	%	65-126	03.27.16 21.11		
4-Bromofluorobenzene		460-00-4	98	%	86-111	03.27.16 21.11		
Toluene-D8		2037-26-5	110	%	83-116	03.27.16 21.11		



QC Summary 527124



Antea Group - Charlotte

GPM 3035

Analytical Method: 6200 (BTEX, MTBE, IPE, NAPH) by GC/MS by SM6200B

Prep Method: SM6200B_PREP

Seq Number: 991188 Matrix: Water Date Prep: 03.25.16

MB Sample Id: 706947-1-BLK LCS Sample Id: 706947-1-BKS LCSD Sample Id: 706947-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diisopropyl ether	< 0.0920	25.0	28.4	114	27.8	111	77-125	2	20	ug/L	03.25.16 08:55	
m,p-Xylenes	< 0.176	50.0	46.3	93	45.7	91	90-125	1	20	ug/L	03.25.16 08:55	
Methyl tert-butyl ether (MTBE)	< 0.169	50.0	58.8	118	56.7	113	53-149	4	20	ug/L	03.25.16 08:55	
Naphthalene	< 0.0940	25.0	24.1	96	23.4	94	52-116	3	20	ug/L	03.25.16 08:55	
o-Xylene	< 0.122	25.0	23.1	92	23.0	92	86-119	0	20	ug/L	03.25.16 08:55	
Toluene	< 0.0570	25.0	22.6	90	22.2	89	89-116	2	20	ug/L	03.25.16 08:55	
	MD	MR	T	CS I	CS	I CC	D I CS	en re	mita	Unite	Analysis	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,2-Dichloroethane-D4	108		96		93		65-126	%	03.25.16 08:55
4-Bromofluorobenzene	104		98		97		86-111	%	03.25.16 08:55
Toluene-D8	116		86		87		83-116	%	03.25.16 08:55

Analytical Method: 6200 (BTEX, MTBE,IPE, NAPH) by GC/MS by SM6200B Prep Method: SM6200B_PREP

Seq Number: 991190 Matrix: Water Date Prep: 03.26.16

MB Sample Id: 706948-1-BLK LCS Sample Id: 706948-1-BSD LCSD Sample Id: 706948-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.119	25.0	21.0	84	21.2	85	81-123	1	20	ug/L	03.26.16 15:58	
Diisopropyl ether	< 0.0920	25.0	20.6	82	21.5	86	77-125	4	20	ug/L	03.26.16 15:58	
Ethylbenzene	< 0.0920	25.0	25.9	104	26.2	105	87-123	1	20	ug/L	03.26.16 15:58	
m,p-Xylenes	< 0.176	50.0	51.9	104	52.6	105	90-125	1	20	ug/L	03.26.16 15:58	
Methyl tert-butyl ether (MTBE)	< 0.169	50.0	41.7	83	43.7	87	53-149	5	20	ug/L	03.26.16 15:58	
Naphthalene	< 0.0940	25.0	31.2	125	32.7	131	52-116	5	20	ug/L	03.26.16 15:58	Н
o-Xylene	< 0.122	25.0	25.6	102	26.4	106	86-119	3	20	ug/L	03.26.16 15:58	
Toluene	< 0.0570	25.0	25.5	102	26.0	104	89-116	2	20	ug/L	03.26.16 15:58	
Surrogate	MB %Rec	MB Flag			LCS Flag	LCSI %Re			imits	Units	Analysis Date	

a di	%Rec Flag	%Rec Flag	%Rec Flag			Date
1,2-Dichloroethane-D4	103	100	101	65-126	%	03.26.16 15:58
4-Bromofluorobenzene	102	98	100	86-111	%	03.26.16 15:58
Toluene-D8	113	116	115	83-116	%	03.26.16 15:58



QC Summary 527124



Antea Group - Charlotte GPM 3035

Analytical Method: 6200 (BTEX, MTBE,IPE, NAPH) by GC/MS by SM6200B Prep Method: SM6200B_PREP

Seq Number: 991192 Matrix: Water Date Prep: 03.27.16

MB Sample Id: 706949-1-BLK LCS Sample Id: 706949-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec		Limits		Units	Analysis Date	Flag
Benzene	< 0.119	25.0	22.2	89)	81-123		ug/L	03.27.16 19:24	
Diisopropyl ether	< 0.0920	25.0	22.7	91		77-125		ug/L	03.27.16 19:24	
Ethylbenzene	< 0.0920	25.0	26.6	106	j	87-123		ug/L	03.27.16 19:24	
m,p-Xylenes	< 0.176	50.0	53.7	107	,	90-125		ug/L	03.27.16 19:24	
Methyl tert-butyl ether (MTBE)	< 0.169	50.0	44.9	90)	53-149		ug/L	03.27.16 19:24	
Naphthalene	< 0.0940	25.0	28.7	115	i	52-116		ug/L	03.27.16 19:24	
o-Xylene	< 0.122	25.0	26.8	107	•	86-119		ug/L	03.27.16 19:24	
Toluene	< 0.0570	25.0	26.2	105	i	89-116		ug/L	03.27.16 19:24	
Surrogate	MB %Rec	MB Flag		CS Rec	LCS Flag		Limits	Units	Analysis Date	
1,2-Dichloroethane-D4	100		1	01			65-126	%	03.27.16 19:24	
4-Bromofluorobenzene	102		1	00			86-111	%	03.27.16 19:24	
Toluene-D8	111		1	14			83-116	%	03.27.16 19:24	

Analytical Method:6200 (BTEX, MTBE,IPE, NAPH) by GC/MS by SM6200BPrep Method:SM6200B_PREPSeq Number:991188Matrix: Ground WaterDate Prep:03.25.16

Parent Sample Id: 527123-007 MS Sample Id: 527123-007 S MSD Sample Id: 527123-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Diisopropyl ether	< 0.0920	25.0	18.8	75	18.4	74	77-125	2	20	ug/L	03.25.16 18:25	X
m,p-Xylenes	< 0.176	50.0	49.0	98	46.8	94	65-151	5	20	ug/L	03.25.16 18:25	
Methyl tert-butyl ether (MTBE)	< 0.169	50.0	38.8	78	39.0	78	51-155	1	20	ug/L	03.25.16 18:25	
Naphthalene	< 0.0940	25.0	26.9	108	29.1	116	34-135	8	20	ug/L	03.25.16 18:25	
o-Xylene	< 0.122	25.0	24.3	97	23.8	95	58-148	2	20	ug/L	03.25.16 18:25	
Toluene	< 0.0570	25.0	24.4	98	23.5	94	81-125	4	20	ug/L	03.25.16 18:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,2-Dichloroethane-D4	96		98		65-126	%	03.25.16 18:25
4-Bromofluorobenzene	98		98		86-111	%	03.25.16 18:25
Toluene-D8	116		114		83-116	%	03.25.16 18:25



QC Summary 527124



Antea Group - Charlotte

GPM 3035

Analytical Method: 6200 (BTEX, MTBE,IPE, NAPH) by GC/MS by SM6200B Prep Method: SM6200B_PREP

Seq Number:991190Matrix:Ground WaterDate Prep:03.26.16Parent Sample Id:527123-011MS Sample Id:527123-011 SMSD Sample Id:527123-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	262	2500	2290	81	2200	78	70-135	4	20	ug/L	03.27.16 02:12	
Diisopropyl ether	< 9.20	2500	1910	76	1880	75	77-125	2	20	ug/L	03.27.16 02:12	X
Ethylbenzene	4270	2500	6710	98	6500	89	70-140	3	20	ug/L	03.27.16 02:12	
m,p-Xylenes	14800	5000	19200	88	18800	80	65-151	2	20	ug/L	03.27.16 02:12	
Methyl tert-butyl ether (MTBE)	<16.9	5000	3800	76	3780	76	51-155	1	20	ug/L	03.27.16 02:12	
Naphthalene	552	2500	2960	96	3320	111	34-135	11	20	ug/L	03.27.16 02:12	
o-Xylene	6360	2500	8850	100	8500	86	58-148	4	20	ug/L	03.27.16 02:12	
Toluene	42100	2500	43000	36	41700	0	81-125	3	20	ug/L	03.27.16 02:12	X

Surrogate	MS MS %Rec Flag	MSD MSD %Rec Flag	Limits	Units	Analysis Date
1,2-Dichloroethane-D4	96	97	65-126	%	03.27.16 02:12
4-Bromofluorobenzene	96	99	86-111	%	03.27.16 02:12
Toluene-D8	115	113	83-116	%	03.27.16 02:12

Analytical Method: 6200 (BTEX, MTBE,IPE, NAPH) by GC/MS by SM6200B Prep Method: SM6200B_PREP

Seq Number: 991192 Matrix: Ground Water Date Prep: 03.27.16

Parent Sample Id: 527258-010 MS Sample Id: 527258-010 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Benzene	< 0.119	25.0	21.0	84	70-135	ug/L	03.28.16 04:23	
Diisopropyl ether	0.100	25.0	21.0	84	77-125	ug/L	03.28.16 04:23	
Ethylbenzene	< 0.0920	25.0	24.5	98	70-140	ug/L	03.28.16 04:23	
m,p-Xylenes	< 0.176	50.0	50.0	100	65-151	ug/L	03.28.16 04:23	
Methyl tert-butyl ether (MTBE)	2.97	50.0	44.4	83	51-155	ug/L	03.28.16 04:23	
Naphthalene	< 0.0940	25.0	27.7	111	34-135	ug/L	03.28.16 04:23	
o-Xylene	< 0.122	25.0	24.9	100	58-148	ug/L	03.28.16 04:23	
Toluene	< 0.0570	25.0	24.4	98	81-125	ug/L	03.28.16 04:23	

Surrogate	MS MS %Rec Flag	Limits	Units	Analysis Date
1,2-Dichloroethane-D4	95	65-126	%	03.28.16 04:23
4-Bromofluorobenzene	98	86-111	%	03.28.16 04:23
Toluene-D8	112	83-116	%	03.28.16 04:23



Blank Summary 527124



Antea Group - Charlotte, Charlotte, NC

GPM 3035

706947-1-BLK WATER Sample Id: Matrix:

Lab Sample Id: 706947-1-BLK

Analytical Method: 6200 (BTEX, MTBE, IPE, NAPH) by GC/MS by SM6200B

Prep Method: SM6200B_PREP

ZHO Tech:

MWE Analyst:

Date Prep: 03.25.16 07:35 Seq Number: 991188

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Diisopropyl ether	108-20-3	11	0.500	0.0920	ug/L	03.25.16 10:49	II	1
m,p-Xylenes		U	1.00	0.0920	·	03.25.16 10:49	11	1
1 2	179601-23-1	U			ug/L		U 11	1
Methyl tert-butyl ether (MTBE)	1634-04-4	U	0.500	0.169	ug/L	03.25.16 10:49	U	1
Naphthalene	91-20-3	U	2.00	0.0940	ug/L	03.25.16 10:49	U	1
o-Xylene	95-47-6	U	0.500	0.122	ug/L	03.25.16 10:49	U	1
Toluene	108-88-3	U	0.500	0.0570	ug/L	03.25.16 10:49	U	1



Blank Summary 527124



Antea Group - Charlotte, Charlotte, NC

GPM 3035

Sample Id: 706948-1-BLK Matrix: WATER

Lab Sample Id: **706948-1-BLK**

Analytical Method: 6200 (BTEX, MTBE, IPE, NAPH) by GC/MS by SM6200B

Prep Method: SM6200B_PREP

Tech: ZHO

Analyst: ZHO Date Prep: 03.26.16 14:33

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	U	0.500	0.119	ug/L	03.26.16 17:45	U	1
Diisopropyl ether	108-20-3	U	0.500	0.0920	ug/L	03.26.16 17:45	U	1
Ethylbenzene	100-41-4	U	0.500	0.0920	ug/L	03.26.16 17:45	U	1
m,p-Xylenes	179601-23-1	U	1.00	0.176	ug/L	03.26.16 17:45	U	1
Methyl tert-butyl ether (MTBE)	1634-04-4	U	0.500	0.169	ug/L	03.26.16 17:45	U	1
Naphthalene	91-20-3	U	2.00	0.0940	ug/L	03.26.16 17:45	U	1
o-Xylene	95-47-6	U	0.500	0.122	ug/L	03.26.16 17:45	U	1
Toluene	108-88-3	U	0.500	0.0570	ug/L	03.26.16 17:45	U	1



Blank Summary 527124



Antea Group - Charlotte, Charlotte, NC

GPM 3035

Date Prep: 03.27.16 17:34

Sample Id: 706949-1-BLK Matrix: WATER

Lab Sample Id: **706949-1-BLK**

Analytical Method: 6200 (BTEX, MTBE, IPE, NAPH) by GC/MS by SM6200B

Prep Method: SM6200B_PREP

Tech: ZHO

Analyst: ZHO

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	U	0.500	0.119	ug/L	03.27.16 20:18	U	1
Diisopropyl ether	108-20-3	U	0.500	0.0920	ug/L	03.27.16 20:18	U	1
Ethylbenzene	100-41-4	U	0.500	0.0920	ug/L	03.27.16 20:18	U	1
m,p-Xylenes	179601-23-1	U	1.00	0.176	ug/L	03.27.16 20:18	U	1
Methyl tert-butyl ether (MTBE)	1634-04-4	U	0.500	0.169	ug/L	03.27.16 20:18	U	1
Naphthalene	91-20-3	U	2.00	0.0940	ug/L	03.27.16 20:18	U	1
o-Xylene	95-47-6	U	0.500	0.122	ug/L	03.27.16 20:18	U	1
Toluene	108-88-3	U	0.500	0.0570	ug/L	03.27.16 20:18	U	1



FTS LABORATORIES CHAIN OF CUSTODY

COC# ATL302600

6017 Financial Drive, Norcross, GA 30071

	1000	ANALYTICAL SERVICES															# (77								5477
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Pa	Line No.	Sample ID #	Sample Depth (Ft)	Colle Date		Matrix	Composite	Grab	No. of Containers	6200 B, M, I, N only	(SICK WIBE	2													
Page 21 of 22	1	MW-10		3/1/6	1357	Con		V	2	V															
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2	3	MW-6			1409																				
	4	MW-3			1413																				
dimension.	5	mw-t			1418			П																	
- American	6	MW-2			1422	\square		П																	
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1.000	10	MW-8		V	1507	V		V	vt	V					.,										
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		elinquished By:			e / Time		eceiv				ľ		Date	/ Tim		1	TAT S		when	sam	ples a	ire re	c'd b	y 2Pl	
	5) Re	elinquished By:		Dat	e / Time	6) R	leceiv	ed I	Ву:				Date	:/Tim	e	-		Day:				-		-	

Matrix Guide: (W=Water) (DW = Drinking Water) (GW = Groundwater) (SW = Surface Water) (L = Liquid) (O = Oil) (S = Soil) (SD = Solid) (SL = Sludge) (A = Air) (C = Air Cartridge) Chemical Preservation Codes: 1 = HCL / 2 = HNO₃ / 3 = H₂SO₄ / 4 = NaOH + NaAsO₂ / 5 = NaOH + ZnAc / 6 = Na₂S₂O₃ / 7 = NaHSO₄ & MeOH / 8 = DI Water & MeOH

Container Type: VC=Vial (Clear); VA =Vial (Amber); GC=Glass (Clear); GA=Glass (Amber); P=Plastic (HDPE); TB=Tedlar Bag; ES=EnCore Sampler; ZB=Ziploc Bag; O=Other



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: Antea Group - Charlotte

Work Order #: 527124

Analyst:

Date/ Time Received: 03/19/2016 09:11:00 AM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used: #61

	Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?		1.2	
#2 *Shipping container in good condition?		Yes	
#3 *Samples received on ice?		Yes	
#4 *Custody Seals intact on shipping conta	iner/ cooler?	N/A	
#5 Custody Seals intact on sample bottles	?	N/A	
#6 *Custody Seals Signed and dated?		N/A	
#7 *Chain of Custody present?		Yes	
#8 Sample instructions complete on Chain	of Custody?	Yes	
#9 Any missing/extra samples?		No	
#10 Chain of Custody signed when relinqui	shed/ received?	Yes	
#11 Chain of Custody agrees with sample	abel(s)?	Yes	
#12 Container label(s) legible and intact?		Yes	
#13 Sample matrix/ properties agree with 0	Chain of Custody?	Yes	
#14 Samples in proper container/ bottle?		Yes	
#15 Samples properly preserved?		Yes	
#16 Sample container(s) intact?		Yes	
#17 Sufficient sample amount for indicated	test(s)?	Yes	
#18 All samples received within hold time?		Yes	
#19 Subcontract of sample(s)?		No	
#20 VOC samples have zero headspace (le	ess than 1/4 inch bubble)?	Yes	
#21 <2 for all samples preserved with HNC samples for the analysis of HEM or HEM-SC analysts.		N/A	
#22 >10 for all samples preserved with Na.	AsO2+NaOH, ZnAc+NaOH?	N/A	
* Must be completed for after-hours deliv	very of samples prior to placing in t	he refrigera	tor

PH Device/Lot#:

Checklist completed by:

Dario Lagunas

Date: 03/19/2016

Date: 03/19/2016

Date: 03/19/2016

Active Remediation Monitoring Report

GPM 3035 (Scotchman 35)

Wilmington, New Hanover County, North Carolina

Antea USA of NC Project No. NC30351601



Appendix D

HISTORICAL GROUNDWATER ANALYTICAL DATA

ENVIRONMENTAL SERVICES & SOLUTIONS, PLLC

TABLE 4 SUMMARY OF LABORATORY RESULTS FOR GROUNDWATER SAMPLES SCOTCHMAN #35

7162 MARKET STREET (US HIGHWAY 17), WILMINGTON, NORTH CAROLINA

No.	nthalene
Description	/T.)
MW-1 10/4/2004 30 <100 760 830 <20 <20	ıg/L)
MW-1	6
MW-1	270
MW-1 5/13/2010 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0	< 5.0
MW-1 11/10/2010 83 81 5.3 110 3.0 <1.0 5/11/2011 <1.0	70
S/11/2011 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 <1.0	<2.0
12/6/2011	< 5.0
6/26/2012 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 12/20/2012 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 <1.0 10/4/2004 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 9/24/2007 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 12/5/2008 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 12/5/2008 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 5/13/2010 <1.0 <1.0 <1.0 <1.0 <3.0 <1.0 <1.0 11/10/2010 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 12/6/2011 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 12/6/2012 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 12/20/2012 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 12/20/2012 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 12/5/2008 41 550 590 2,500 <1.0 <1.0 12/5/2008 41 550 590 2,500 <1.0 <1.0 12/5/2008 41 550 590 2,500 <1.0 <1.0 11/10/2010 <5.0 25 390 1,300 <5.0 <5.0 5/11/2011 <1.0 <5.0 69 27 <1.0 <1.0 12/6/2011 <1.0 <5.0 69 27 <1.0 <1.0 12/6/2011 <1.0 <5.0 69 27 <1.0 <1.0	< 5.0
12/20/2012 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 <1.0	< 5.0
MW-2 10/4/2004 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 <1.0	< 5.0
MW-2 1/2/5/2008 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 MW-2 11/10/2010 <1.0	0.86J
MW-2 12/5/2008 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 5/13/2010 <1.0	<10
MW-2 5/13/2010 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 11/10/2010 <1.0	< 5.0
MW-2 11/10/2010 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 5/11/2011 <1.0	8.3
5/11/2011 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 12/6/2011 <1.0	<2.0
12/6/2011 <1.0	< 5.0
6/26/2012 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 12/20/2012 <1.0	< 5.0
12/20/2012 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0 10/4/2004 260 1,900 490 2,600 <100	< 5.0
10/4/2004 260 1,900 490 2,600 <100 <70 9/24/2007 18 <50	< 5.0
9/24/2007 18 <50 190 220 <10 <10 12/5/2008 41 550 590 2,500 <1.0	< 5.0
MW-3 12/5/2008 41 550 590 2,500 <1.0 <1.0 5/13/2010 13.2 382 515 1,921 <1.0	120
MW-3	< 50
MW-3 11/10/2010 <5.0 25 390 1,300 <5.0 <5.0 5/11/2011 <1.0 <5.0 69 27 <1.0 <1.0 12/6/2011 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0	170
5/11/2011 <1.0 <5.0 69 27 <1.0 <1.0 12/6/2011 <1.0	285
12/6/2011 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0	160
	23
6/26/2012 <1.01 <5.01 <1.01 <3.01 <1.01 <1.01	< 5.0
0/20/2012 \1.0 \3.0 \1.0 \3.0 \1.0	< 5.0
12/20/2012 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0	< 5.0
10/4/2004 23 220 65 750 <10 <10	12
9/24/2007 3.7 5.9 56 67 <1.0 <1.0	5.2
12/5/2008 <1.0 <5.0 1.3 <3.0 <1.0 <1.0	< 5.0
5/13/2010 <1.0 2.7 29.8 15.0 <1.0 <1.0	15.0
MW-4 11/10/2010 <1.0 <5.0 1.8 6.8 <1.0 <1.0	< 5.0
5/11/2011 <1.0 <5.0 4.0 <3.0 <1.0 <1.0	< 5.0
12/6/2011 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0	< 5.0
6/26/2012 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0	< 5.0
12/20/2012 <1.0 <5.0 <1.0 <3.0 <1.0 <1.0	< 5.0

TABLE 4 SUMMARY OF LABORATORY RESULTS FOR GROUNDWATER SAMPLES SCOTCHMAN #35

7162 MARKET STREET (US HIGHWAY 17), WILMINGTON, NORTH CAROLINA

Well	Date	Benzene	Toluene	Ethyl-	Total	MTBE	IPE	Naphthalene
No.				benzene				
		(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
2L Sta	andards	1	600	600	500	20	70	6
	10/4/2004	12	< 50	<10	<30	270	<10	<10
	9/24/2007	<1.0	< 5.0	18	< 3.0	<1.0	<1.0	< 5.0
	12/5/2008	87	47	380	640	15	<1.0	170
	5/13/2010	28.0	28.7	1.2	48.3	10.7	<1.0	<2.0
MW-5	11/10/2010	7.3	14	11	20	<1.0	<1.0	< 5.0
	5/11/2011	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	12/6/2011	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	6/26/2012	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	12/20/2012	140	220	53	440	1.6	<1.0	<25
	9/24/2007	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	12/5/2008	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	5/13/2010	<1.0	<1.0	<1.0	< 3.0	<1.0	<1.0	<2.0
MW-6	11/10/2010	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
101 00 -0	5/11/2011	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	12/6/2011	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	6/26/2012	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	12/20/2012	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	9/24/2007	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	12/5/2008	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	5/13/2010	<1.0	<1.0	<1.0	< 3.0	<1.0	<1.0	<2.0
MW-7	11/10/2010	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
101 00 - 7	5/11/2011	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	12/6/2011	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	6/26/2012	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	12/20/2012	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	7.4
	9/24/2007	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	12/5/2008	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	12
	5/13/2010	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<2.0
MW-8	11/10/2010	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
141 44 -0	5/11/2011	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	12/6/2011	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	6/26/2012	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	12/20/2012	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	9/24/2007	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0
	12/5/2008	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	5/13/2010	<1.0	<1.0	<1.0	< 3.0	<1.0	<1.0	<2.0
MW-9	11/10/2010	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
1VI VV -7	5/11/2011	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	12/6/2011	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	6/26/2012	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	12/20/2012	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0

ENVIRONMENTAL SERVICES & SOLUTIONS, PLLC

TABLE 4 SUMMARY OF LABORATORY RESULTS FOR GROUNDWATER SAMPLES SCOTCHMAN #35

7162 MARKET STREET (US HIGHWAY 17), WILMINGTON, NORTH CAROLINA

Well	Date	Benzene	Toluene	Ethyl-	Total	MTBE	IPE	Naphthalene
No.				benzene	Xylenes			
		(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
2L Sta	andards	1	600	600	500	20	70	6
	9/24/2007	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	12/5/2008	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	5/13/2010	<1.0	<1.0	<1.0	< 3.0	<1.0	<1.0	< 2.0
MW-10	11/10/2010	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
WI W - 10	5/11/2011	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	12/6/2011	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	6/26/2012	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	12/20/2012	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	9/24/2007	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	12/5/2008	1.7	< 5.0	18	< 3.0	<1.0	<1.0	6.5
	5/13/2010	1.5	<1.0	2.8	< 3.0	<1.0	<1.0	< 2.0
MW-11	11/10/2010	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
1V1 VV - 1 1	5/11/2011	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	12/6/2011	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	6/26/2012	<1.0	< 5.0	<1.0	< 3.0	<1.0	<1.0	< 5.0
	12/20/2012	<1.0	< 5.0	<1.0	<3.0	<1.0	<1.0	< 5.0

NOTES:

- 1. Analytical results expressed in micrograms per liter (ug/L)
- 2. MTBE is an abbreviation for methyl tertiary butyl ether
- 3. IPE is an abbreviation for isopropyl ether
- 4. Analytical result exceeding 2L Standard is in bold type.
- 5. NA is an abbreviation for not available
- 6. Measurements obtained prior to 9/24/07 obtained by others

Environmental Services Solutions, PLLC

TABLE 5

SUMMARY OF LABORATORY RESULTS FOR GROUNDWATER SAMPLES BY RISK-BASED METHODS

SCOTCHMAN #35

7160 MARKET STREET (US HIGHWAY 17), WILMINGTON, NORTH CAROLINA

Sample ID →	MV	W-1	MV	W-2	MV	W-3	M	W-4	MV	W-5	MV	V-6		
Sample Date →	10/4/2004	12/20/2012	10/4/2004	12/20/2012	10/4/2004	12/20/2012	10/4/2004	12/20/2012	10/4/2004	12/20/2012	9/24/2007	12/20/2012		
	EPA 601, 602,	EPA 602, 625,		EPA 602, 625,										
	625, 504.1	504.1 (EDB),	625,504.1	504.1 (EDB),	EPA 602 & 625,	504.1 (EDB),	NCAC 2L							
$\mathbf{Analyses} \rightarrow$	(EDB), MADEP	6010B (Pb),	(EDB), MADEP	` //	(EDB), MADEP	6010B (Pb),	(EDB), MADEP	1 //	(EDB), MADEP	1	MADEP VPH &	, , , ,	Groundwater	Gross Contaminant
1	` '/	MADEP VPH &		` ' ' '	* //	1 11	` //	MADEP VPH &	` //	MADEP VPH &		MADEP VPH &	Quality	Levels (GCLs)
	SM3030C (Pb)	EPH		EPH	Standards									
Detected	Compound													
Compounds ↓	Concentrations													
	(ug/L)													
EPA METHOD 601 and/or	602													
Benzene	30	<1.0	<1.0	<1.0	260	<1.0	23	<1.0	12	140	<1.0	<1.0	1	5,000
Toluene	<100	< 5.0	< 5.0	< 5.0	1,900	<5.0	220	<5.0	< 50	220	<5.0	<5.0	600	260,000
Ethylbenzene	760	<1.0	<1.0	<1.0	490	<1.0	65	<1.0	<10	53	<1.0	<1.0	600	84,500
Total Xylenes	830	<3.0	<3.0	<3.0	2,600	<3.0	750	<3.0	<30	440	<3.0	<3.0	500	85,500
MTBE	<20	<1.0	<1.0	<1.0	<100	<1.0	<10	<1.0	270	1.6	<1.0	<1.0	20	20,000
IPE	<20	<1.0	<1.0	<1.0	< 70	<1.0	<10	<1.0	<10	<1.0	<1.0	<1.0	70	70,000
Naphthalene	NA	0.86J	NA	<5.0	NA	<5.0	NA	<5.0	NA	<25	<5.0	<5.0	6	6,000
SM 3030C or 6010B														
Lead	34	< 5.0	< 5.0	< 5.0	6.3	< 5.0	7.6	< 5.0	7.0	< 5.0	NA	< 5.0	15	15,000
EPA METHOD 504.1														
EDB	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	NA	< 0.010	0.02	50
EPA METHOD 625														
Chrysene	< 50	<1.0		0.30J	< 50	<1.0	<10	<20	<10	<1.0	<10	<20	5	5
Fluoranthene	< 50	<1.0	<10	0.54J	< 50	<1.0	<10	<20	<10	<1.0	<10		300	300
1-Methylnaphthalene	88		<10	NA	< 50	NA	<10	NA	<10	NA		NA	1	1,000
2-Methylnaphthalene	140		<10		< 50	NA	<10	NA	<10	NA		NA	30	12,500
Naphthalene	270			<1.0	120	<1.0	12		<10	1.7	<10		6	6,000
Bis (2-ethylhexyl) phthalate		0.53J		4.4	< 50	0.67J	<10	<20	<10	0.56J			3	170
Dimethyl phthalate	< 50			3.4	< 50	<1.0	<10	<20	<10	<1.0	<10		NE	NE
Pyrene	< 50	<1.0		0.39J	< 50	<1.0	<10	<20	<10	<1.0	<10		200	200
4-Chloro-3-methylphenol	< 50			0.51J	< 50	<10	<10	<200	<10		<10		NE	NE
2,4-Dimethylphenol	< 50			<10	<50	<10	<10	<200	<10	5.4J			100	100,000
Phenol	< 50	<10	<10	<10	<50	<10	<10	<200	<10	3.4J	<10	<200	30	30,000
MADEP METHODS FOR														
C ₅ -C ₈ Aliphatics (VPH)	1,300			<100	6,100	<100	570						400	NE
C ₉ -C ₁₂ Aliphatics (VPH)	6,100	<100		<100	12,000	10Ј	670	11J	210				700	NE
C ₉ -C ₁₈ Aliphatics (EPH)	<100	34J		42J	130	28J								
C ₁₉ -C ₃₆ Aliphatics (EPH)	<100	25J	<100	120	<100	27J	<100	25J	<100	33J	<100	29J	10,000	NE
C ₉ -C ₁₀ Aromatics (VPH)	4,700	<100	150	<100	5,800	<100	280	<100	<100	120	<100	<100	200	NE
C ₁₁ -C ₂₂ Aromatics (EPH)	330	48J	<100	34J	120	40J	<100	39J	<100	33J	<100	34J	200	

TABLE 5

SUMMARY OF LABORATORY RESULTS FOR GROUNDWATER SAMPLES BY RISK-BASED METHODS

SCOTCHMAN #35

7160 MARKET STREET (US HIGHWAY 17), WILMINGTON, NORTH CAROLINA

Sample ID \rightarrow	MV	N-7	MV	W-8	MV	V-9	MV	V-10	MV	V-11]	
Sample Date →	9/24/2007	12/20/2012	9/24/2007	12/20/2012	9/24/2007	12/20/2012	9/24/2007	12/20/2012	9/24/2007	12/20/2012		
Analyses →	EPA 602 & 625, MADEP VPH & EPH	EPA 602, 625, 504.1 (EDB), 6010B (Pb), MADEP VPH & EPH	EPA 602 & 625, MADEP VPH & EPH	` //	EPA 602 & 625, MADEP VPH & EPH	EPA 602, 625, 504.1 (EDB), 6010B (Pb), MADEP VPH & EPH	EPA 602 & 625, MADEP VPH & EPH	EPA 602, 625, 504.1 (EDB), 6010B (Pb), MADEP VPH & EPH	EPA 602 & 625, MADEP VPH & EPH	EPA 602, 625, 504.1 (EDB), 6010B (Pb), MADEP VPH & EPH	NCAC 2L Groundwater Quality Standards	Gross Contaminant Levels (GCLs)
Detected	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound	Compound
Compounds ↓	Concentrations	Concentrations	Concentrations	Concentrations	Concentrations	Concentrations	Concentrations	Concentrations	Concentrations	Concentrations	Concentrations	Concentrations
	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
EPA Method 601 and/or 60	2											
Benzene	<1.0	<1.0			<1.0	<1.0					1	5,000
Toluene	< 5.0	< 5.0		< 5.0	< 5.0	< 5.0	< 5.0		< 5.0	< 5.0	600	260,000
Ethylbenzene	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0		<1.0		600	84,500
Total Xylenes	<3.0	<3.0			<3.0	<3.0					500	85,500
MTBE	<1.0	<1.0			<1.0	<1.0					20	20,000
IPE	<1.0	<1.0			<1.0	<1.0					70	70,000
Naphthalene	< 5.0	7.4	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6	6,000
SM 3030C or 6010B												
Lead	NA	< 5.0	NA	< 5.0	NA	< 5.0	NA	< 5.0	NA	< 5.0	15	15,000
EPA METHOD 504.1												
EDB	NA	< 0.010	NA	< 0.010	NA	< 0.010	NA	< 0.010	NA	< 0.010	0.02	50
EPA METHOD 625												
Chrysene	<10	<20			<10	<1.0		<20			5	5
Fluoranthene	<10	<20			<10	<1.0		<20			300	300
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1	1,000
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30	12,500
Naphthalene	<10	<20			<10	<1.0					6	6,000
Bis (2-ethylhexyl) phthalate	<10	<20			<10	0.75J	<10				3	170
Dimethyl phthalate	<10	<20			<10	<1.0	<10				NE 200	NE 200
Pyrene	<10	<20			<10	<1.0	<10				200	200
4-Chloro-3-methylphenol	<10	<200	<10		<10	<10			<10		NE 100	NE 100,000
2,4-Dimethylphenol	<10	<200	<10		<10	<10			<10		100	100,000
Phenol	<10	<200	<10	<200	<10	<10	<10	<200	<10	<200	30	30,000
MADEP METHODS FOR		:100	.100	.100	.100	:100	.100	.100	:100	.100	400	NIE
C ₅ -C ₈ Aliphatics (VPH)	<100	<100			<100		<100				400	NE
C ₉ -C ₁₂ Aliphatics (VPH)	<100	8.4J			<100						700	NE
C ₉ -C ₁₈ Aliphatics (EPH)	<100	35J			<100	38J						
C ₁₉ -C ₃₆ Aliphatics (EPH)	<100	46J		20J	<100	42J	<100				10,000	NE
C ₉ -C ₁₀ Aromatics (VPH)	<100	<100			<100						200	NE
C ₁₁ -C ₂₂ Aromatics (EPH)	<100	110	<100	38J	<100	26J	<100	40J	<100	28J		

NOTES:

- MW-1 to MW-5 sampled and analyzed by others during Phase II LSA activities
- Analytical results presented in micrograms per liter (ug/L).
- < denotes analytical result below laboratory method detection limit. Number to right of symbol is the method detection limit.
- NE denotes narrative standard has not been established for compound.
- NA denotes that this sample was not analyzed for this compound
- Analytical results exceeding NCAC 2L Groundwater Quality Standards are in **Bold** type.
- All other compounds were below quantitation limits.

Active Remediation Monitoring Report

GPM 3035 (Scotchman 35)

Wilmington, New Hanover County, North Carolina

Antea USA of NC Project No. NC30351601



Appendix E

Sampled By Facility	/ Personnel	□ ES&T	Facilit	y GPM 3	3035		Site		W-1
Other: Antea Gro			Projec				Date	(m/d/y) 1	0/23/15
Site Description X	Monitoring W	ell 🗆 Extr	action Well	☐ Irrigation	Well □ Spri	ng 🗆 Boreh	ole 🗆 Pro	be Other:	
	O°F			lear, wa					
Well Locked? ☐ yes	□ no	Dama	aged/Rep	airs Needec	<u>j:</u>				
☐ TOC ☐ MP Descripti	on:		Flush						WA-A
TOC/MP Stickup:	□ft □ m a	bove/belov	v ground	Well Insi	de Diamet	er(ID): 🕱 :	2-inch 🗆	4-inch Othe	r:
Site Remarks (nearby wells	s pumping, tid	e, stream	stage, etc.)						_
Water Level Data	Measuremen	Units: C	oft Om	Well or	Borehole To	tal Depth (TD)	from MP o	r TOC:	20
□ E-Tape, #	Pre-Purge Initial		Purge mation	Purging Start	During Purging	Purging End		fter npling	Remarks
☐ Steel Tape ☐ Other	IIIIIdi	COMM	mauon	Otart	(0.9//3				
Time (hh:mm; 24-hr clock)	776	?							······································
Depth to Water	1.10	4							
Tape Correction						-			
Water Level (WL)							_		
Product Thickness Product Recovery						+	-		
□ gallone □ litere									
Measure water level from fixed measuring TOC, measure water level from north is MPTOC Stickup measurement is from gumped: C - cascading. Water Level observed. If free product removed from	ide of casing. Me pround surface to	iasure static o nearest 0.1 ft Water - Tape ne removed in	r pre-purging w or 0.01 m. Depi Correction facto gallons or liters,	ater level twice; re th to Water codes: vr. Record free ord	N - not measure oduct presence at	t; D - dry; O - obsi	nucted P - nuc	nning: F. flowing (artesian well! R - remently
Field WQ Data Po	irge Depth:	12.20		ab X Bailer	☐ Pump	Description		1144	***
Casing Volume:n Conversion Factor = 0.0408 to	ro)(\ or feet and gal	wu]•[_ lons; 0.154	(Well ID)] ² • I4 for feet ar	(Conve nd liters; 0.50	ersion Factor)] = 66 for meters	and liters; We	m ID in inci	185	Il Goes Dry ile Purging □
Cum. Vol. Purged							(Final)	Meter Type	Remarks
☐ Pumping Rate		_							
Time (hh:mm; 24-hr clock)									
pH (Temperature Corrected? (1)	<u> </u>								
Temperature □°C □°F									
Dissolved Oxygen mg/L	-								
□ SC or □ EC µS/cm	-								<u> </u>
Turbidity DNTU	/1			ern that	L				
Color/Tint		lone	o bec	SUN TIME				_	
Odor		DAR							
Record time purging starts and ends liters. Pumping Rate is gpm or Lpm, do or average pumping rate during purgin Conductance corrected for temperature	pending on box c p. Record equipm (µS/cm at 25°C):	hecked in cas	ing volume calcon in methods, deck al Conductivity i	pritamination proce not corrected for te	dures, equipment mperature (µS/cn	failures, purge wa i). μS/cm = μmh	iter disposal me o/cm. 1 gallor	whet are in daily	field notes SC: Specific
	ample Depth:	Date	Time	ab (X Bailei Bottles	Filtered	Description Lab			Remarks
Field Sample ID (unique ID on bottles)	Code	(m/d/y)	(hh:mm)	(total to lab)	(0.45 µm)	ID	Case ID	SDG ID	
MW-1	P0 1	10/23/15	1120	4					
			• 6	l					
Sample ID may be up to 15 characters BF#, Field Blank; BR#, Equipment Rim and SDG 10 (sample delivery group, of Enter sample preservation and handling	sate; BT#, Trip Bla	ink, SF#, Field	3 Spike (# = 1 to	y) Lab ID (up ii	U D CHBRACIERS) IS Inh empire remise	manne or recording	n SDG may b	a lab's SDG, a coo	sier ID number, or mmddyv,
Sampler's Name (print)	Mich	ael Ha	aseltin	e sid	nature /	MA			
Outsiples a Harrie (pint)				Entered into		Ву			Page of

Sampled By D Facilit		☐ ES&T	-		3035		Site		
Other: Antea Gro	oup		Projec	t No.			Date	(m/d/y) 1	0/23/15
Site Description 🕱	Monitoring V	Vell 🗆 Extr	action Well	☐ Irrigation	Well □ Spr	ing 🗆 Sore	hole 🗆 Pro	be Other:	
	C O°F			lear, wa		~~~			
Well Locked? ☐ yes	□ no	Dama	aged/Rep	airs Needec	d:				
TOC MP Descript	ion:		Flush						
		above/belov	v ground	Well Insi	de Diamet	er (ID): 🕱	2-inch 🗆	4-inch Othe	r:
Site Remarks (nearby well	s pumping, t	ide, stream	stage, etc.)						
Water Level Data	Measureme	nt Units: C	oft Om	Well or	Borehole To				30
☐ E-Tape, # ☐ Steel Tape ☐ Other	Pre-Purg Initial		Purge mation	Purging Start	During Purging	Purgin End	9 1	ofter mpling	Remarks
Time (hh:mm; 24-hr clock)	-								
Depth to Water	950	7							
ape Correction	<u> </u>	*							
Vater Level (WL)						1			
		_							
Product Thickness Product Recovery			-			1			
gallons Cliters leasure water level from fixed measure									
OC, measure water lavel from north: PD/TOC Stickup measurement is from umped: C - cascading. Water Level bserved. If free product removed from FIELD WQ Data Pi	ide of casing. I ground surface t (WL) = Depth to well, record volu urge Depth:	o nearest 0.1 ft o Water - Tape ume removed in	or pre-purging woor 0.01 m. Dep Correction facts gallons or liters	ater sever twice, re th to Water codes: r. Record free pro list product type in ab X Bailler	N - not measure oduct presence at a "Remarks" colun	d; D - dry; O - ob t time of water let nn. Description	structed; P - pur vei measuremen	nping; F - flowing (it; use "S" for free	(artesian well): A . reren
Casing Volume: [(Conversion Factor = 0.0408 to	TD) -	(WL)]•[(Well ID)	(Conve	ersion Factor)] =	and liters: W	Igal □ lite Iall ID in incl	710	ile Purging
Conversion Factor = 0.0408 to Conversion Factor = 0.0408 to	r reet and g	alions; U. 134	14 101 1881 ai	id illers, 0.30	30 101 1110(613	and mors, re	(Final)	Meter	Remarks
Pumping Rate						***************************************		Туре	
Fime (hh:mm; 24-hr clock)									
H (Temperature Corrected? [])									
emperature □°C □°F									
Dissolved Oxygen mg/L									
SC or □EC µS/cm						444			
urbidity 🗆 NTU			-						
Color/Tint	(lecr							
Odor	1	Jona							
		ľ							
Record time purging starts and enditers. Pumping Rate is gpm or Lpm, dor average pumping rate during purgin Conductance corrected for temperature	epending on box g. Record equi i (µS/cm at 25°C	checked in cas pment calibratio); EC: Electric	ing volume calc n methods, dec al Conductivity	utation. Ose Fina	duras, equipment mperatura (µS/cn	failures, purge w	rater disposal m ho/cm. 1 gallo	ethod, etc. in daily	
Sample Data s Field Sample ID	ample Depth Result	Date	Time	Bottles	Filtered	Lab			Remarks
(unique ID on bottles)	Code	(m/d/y)	(hh:mm)	(total to lab)	(0.45 µm)	ID	Case ID	SDG ID	
MW-2	P0	10/23/15	1100	4					
7.7.									
									<u> </u>
Sample ID may be up to 15 characters BF#, Field Blank: BR#, Equipment Rin and SDG ID (sample delivery group, c Enter sample preservation and handlin	sate; BT#, Tnp I	Blank; SF#, Field	d Spike (# = 1 b	9) Lab ID (up to	o o characters) is	et umpet of forest	om. SOG may b	e lab's SDG, a coo	oler ID number, or mmddy
Sampler's Name (print)	Micl	hael Ha	aseltin	e sig	nature /	MAN			
			Date	Entered into	Database	8	у		Page of

Sampled By Gracility Personnel GES&T Facility GPM 3035 Site ID MW-3										
Other: Antea Gro			Projec				Date	(m/d/y)	10/23/15	
Site Description X	Monitoring V	Vell 🗆 Extr	action Well	☐ Irrigation	Well D Spr	ring 🛭 Bore	hole D Pro	be Othe	r:	
	□°F	Weat		lear, wa						
Well Locked? ☐ yes I	⊒ no	Dama	iged/Rep	airs Needec	<u>j:</u>					
☐ TOC ☐ MP Description	on:		Flush							
TOC/MP Stickup:		above/below	ground	Well Insi	de Diamet	er (ID): 🛚	2-inch 🗆	4-inch O	ther:	
Site Remarks (nearby wells	pumping, t	ide, stream s	stage, etc.)							
Water Level Data	deasureme	nt Units:	ft Om	Well or	Borehole To	otal Depth (TI) from MP o	r TOC:	20	
☐ E-Tape, # ☐ Steel Tape ☐ Other	Pre-Purg Initial	e Pre-F Confire		Purging Start	During Purging	Purgin End		fter npling	Remarks	
Time (hh:mm; 24-hr clock)										
Depth to Water	8.11									
Tape Correction										
Water Level (WL)										
Product Thickness										
Product Recovery gallons Ditters Measure water level from fixed measuring										
TOC, measure water level from north aid MP/TOC Stickup measurement is from g pumped: C - cascading. Water Level (observed. If free product removed from v Field WQ Data Pu Casing Volume: [te of casing. A round surface to WL) = Depth to well, record volu-	Measure static or o nearest 0.1 ft co o water - Tape C ime removed in the removed	pre-purging were 0.01 m. Dep Correction factor pallons or liters [Gr [(Well ID)] 2 a	eater level twice, re- th to Water codes: or. Record free pro , list product type in tab	ord initial and c N - not measure duct presence at "Remarks" colur Pump (rsion Factor)	Description	structed; P - puri ver measuremen	easurement in ping; F - flow it use 'S' for it	wheel in 24-hour clock format), for recently free product thickness if sheen	
Conversion Factor = 0.0408 for	feet and ge	allons; 0.154	4 for feet ar	nd liters; 0.506	6 for meters	and liters; W	ell ID in inch	ies \	While Purging	
Cum. Vol. Purged Pumping Rate							(Final)	Met Typ	1 101111001100	
Time (hh:mm; 24-hr clock)										
pH (Temperature Corrected? [])										
Temperature □°C □°F										
Dissolved Oxygen mg/L	-									
□ SC or □ EC µS/cm										
Turbidity 🗆 NTU		<u> </u>								
Color/Tint		(6	or t	o how	in tent					
Odor		No	ne							
Record time purging starts and ends liters. Pumping Rate is gpm or Lpm, dep or average pumping rate during purging. Conductance corrected for temperature (ending on box	checked in casir oment calibration); EC: Electrica	ig volume calci	utation. Use "Final ontamination procet not corrected for ter	tives advisoment	for recording sam	pie rieid measuri later disposat me ho/cm. 1 gallon	otherics, total i	fails field notes SC: Specific	
Field Sample ID	Result	Date	Time	Bottles	Filtered	Lab ID	Case ID	SDG IC	Remarks	
(unique ID on bottles)	Code	(m/d/y)	(hh:mm)	(total to lab)	(0.45 µm)	IU	Oase ID	aud IL		
M_{-3}	P0	10/23/15	1030	#						
	I							***************************************		
					***************************************			***************************************	-	
Sample ID may be up to 15 characters. BF#, Field Blank; BR#, Equipment Rinst and SDG ID (sample delivery group, up Enter sample preservation and handling	te; BT#, Trip 8	llank; SF#, Field	Spike (# = 1 to	9). Lab ID (up to	i 5 characters) is th sandos reciter	name of laborato	my that wet ahary on. SDG may be	rze ine sampii a lab's SDG, a	e. Case iD (up to 5 characters) i cooler ID number, or minddyv.	
Camplar's Name (-1-4)	Mick	nael Ha	seltin	e sia	nature	MIM		:		
Sampler's Name (print)	141101			Entered into 0		<i>",",</i> "	·		Page of	

Site Description Microtoring Well Extraction Well Spring Borehole Probe Other Air Temo: "C "F Weather C Carly Warring Borehole Probe Other Air Temo: "C "F Weather Cearly Warring Well Cocked? "Yes On Daraged/Repairs Needed: TOC MP Description: Flush TOC/MP Stickup: In m above/blooking yound Well Inside Diameter (ID); Microtorian Air Temos ToC/MP Stickup: In m above/blooking yound Well Inside Diameter (ID); Microtorian Air Temos ToC/MP Stickup: In m above/blooking yound Well Inside Diameter (ID); Microtorian Air Temos ToC/MP Stickup: In m above/blooking yound Well Inside Diameter (ID); Microtorian Air Temos ToC/MP Stickup: Inside Tocked Tocke	Sampled By D Facility	y Personnel	□ ES&T	Facili	ty GPM	3035		Site	ID /	nh-4
Air Temp:	Anton Cro			B				Date	(m/d/y)	10/23/15
Air Temp:	Site Description X	Monitorina V	Vell □ Extr	action Well	☐ Irrigation	Well □ Spr	ing D Boret	nole 🗆 Pro	be Othe	í.
Well Locked? Jess no Damaged/Repairs Needed:									***************************************	
□TOC □MP Description: Flush TOC/MP Stickup: □ th □ m above/below ground Well Inside Diarmeter (ID): 1 2-inch □ 4-inch Other: Stee Remark's (nearby wells pumping, lide, stream stage, etc.) Water Level Data Measurement Units: □ th □ m Well or Borehole Total Depth (ITD) from MP or TOC: 2 ○ □E-Tape, # □ m Pre-Purge Pre-Purge Pre-Purge Purging During Purging After Remark's Steel Tape □ m Pre-Purge Pre-Purge Purging During Purging After Remark's Depth (ITD) from MP or TOC: 2 ○ □E-Tape, # □ m Pre-Purge Pre-Purge Pre-Purge Purging During Purging After Remark's Steel Tape □ m Pre-Purge Purging During Purging Purging Purging After Remark's Depth (ITD) from MP or TOC: 2 ○ □E-Tape Orneretion Water Level (WL) □E-Tape Correction □E-Tape Correction □E-Tape Correction Water Level (WL) □E-Tape Correction □E-Tape (WL) □E-Tape Correction □E-Tape (WL) □E-Tape Correction □E-Tape (WL)		***************************************	Dama	***************************************						
TOC/MP Stickup:		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Flush						
Site Remarks (nearby wells pumping, tide, stream stage, etc.) Water Level Data Measurement Units:			above/below	ground	Well Insi	ide Diamet	er (ID): 🕱	2-inch 🗆	4-inch Ot	her:
Carting Remarks Pre-Purge Pre-Purge Pre-Purge Pre-Purge Start Purging Purging Purging End Sampling Remarks	······································	s pumping, ti	ide, stream s	stage, etc.)						
E-rape, # Pre-Purge Pre-Purge Pre-Purge Start Purging End Sampling End	Water Level Data	Measureme	nt Units: E	lft Om	Well or	r Borehole To	tal Depth (TD) from MP o	or TOC:	20
Depth to Water Tape Correction Water Level (WL) Product Thickness Product Recovery Gallons liters Field WQ Data Purge Depth: 3.12 Grab Maler Purge Grab Maler Purge Grab Maler Purge General Recovery Gallons Gallons Recovery Gallons Gallons Recovery Gallons	□ E-Tape, #									Remarks
Tape Correction Water Level (WL) Product Thickness Product Recovery gallons ☐ Riters Record with relative the first fir	Time (hh:mm; 24-hr clock)									
Water Level (WL) Product Thickness Product Recovery gallons lifers Massare water fevel from form measuring point (MP) or too of well county (TDC). Record water depth to make of 0.18 or 0.000 m, with minus (.) sign if level is above MP or TDC. If no make on MP or TD	Depth to Water	69	P							
Product Recovery gallons liters Massure state free! from face measuring point (MP) or tool well casing (TDC). Record water depth to nearest 0.01 to 7.000 m, with minus (1) sign if lavel is above MP or TDC. Ill no make on MM and the continuation of the product from the continuation of the continuation o	Tape Correction									
Product Recovery gallons likers	Water Level (WL)								<u> </u>	
Product Recovery gallons likers	Product Thickness									
TOC. measure wester level from north ede of casarys. Measure stallic or pre-purping water level measurements in the re-not close stamp of the control of the control of the product of the product presence in other parts of the product presence is the re-of the presence in the presence in the presence is the presence in the presence	□ gallons □ liters									
Conversion Factor = 0 0.408 for feet and gallons; 0,1544 for feet and liters; 0.5066 for meters and liters; Will ID in inches Writine (hyring) Meter Type Remarks Result Code for type Remarks Result Code: Po Pimary Sample De D	TOC, measure water level from north si MP/TOC Stickup measurement is from pumped; C - cascading. Water Level observed. If free product removed from Field WQ Data Pu	de of casing. A pround surface to (WL) = Depth to well, record voluinge Depth:	deasure static or or nearest 0.1 ft or or water - Tape (ime removed in part of the control of t	r pre-purging wor 0.01 m. Dep Correction facto gallons or liters	ester level twice, re th to Water codes: or. Record free pro , list product type in rab A Bailer	N - not measure oduct presence at a "Remarks" colun	phirmation measured; D - dry; O - obsitime of water leving. Description	prements and matricted; P - puried measurement	nping: F - flow t: usa 'S' for f	rines (in 24-hour clock format) ing (artissian well); it is recently ree product thickness if sheen Vell Goes Dry
□ Cum. Vol. Purged □ Cum. Purged □ Cum. Vol. Purg	Casing Volume: [0	r feet and ga	(WL)]*[allons: 0.154	_(Well ID)] * 4 for feet al	nd liters; 0.500	ersion Factor)] = 66 for meters	and liters; W	ell ID in inch	16S V	Vhile Purging □
Time (nh:mm; 24-hr clock) pH (femperature Corrected? C) Temperature Corrected? C) Temperature Corrected? C) Temperature Corrected? C) Temperature Corrected? C) Turbidity NTU Color/Tint Color EC µS/cm Turbidity NTU Color/Tint Color Special Corrected Color Colo	□ Cum. Vol. Purged							(Final)	Met	1 101110110
PH (Temperature □°C □°F Dissolved Oxygen mg/L □ SC or □ EC μS/cm Turbidity □ NTU Color/Tint Odor Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Lavel Data section. Cum. Vol. Purged. cumulative volume removed before sampling, in gallom liters. Purmping Rate is gam or Lpm. depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sample read purging. Record equipment calculation. Use "Final" column above for recording sample field measurements, total volume purged before sample or swerage pumping rate during purging. Record equipment calculation. Use "Final" column above for recording sample field measurements, total volume purged before sample or swerage pumping rate during purging. Record equipment calculation. Use "Final" column above for recording sample field measurements, total volume purged before sample or swerage pumping rate during purging. Record equipment calculation. Use "Final" column above for recording sample field measurements, total volume purged before sample or swerage pumping rate during purging. Record equipment calculation. Use "Final" column above for recording sample field measurements, total volume purged before sample of recording sample field measurements, total volume purged before sample and record to temperature (§Scon.)										
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Turbidity			***							
Color/Tinit Cury to provide the purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged: cumulative volume removed before sampling, in gallons liters. Pumping Rate is gmm or Lom, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sampling rate during purging. Record equipment calculations used to the control of the sample field measurements, total volume purged before sampling rate during purging. Record equipment calculation. Use "Final" column appears for recording sample field descensive, purge water desposal method, etc. in daily field notes. Sc. Spec Conductance corrected for temperature (µS/cm at 25°C): EC. Electrical Conductivity not corrected for temperature (µS/cm). µS/cm = µmho/cm. 1 gallon (US) = 3.785 L = 0.833 imperial gallon. Sample Data Sample Depth: Grab Saller Pump Description: Field Sample ID Result Code (m/d/y). All Date Code (m/d/y). Pump Description: Field Sample ID no bottles). Code (m/d/y). Pol 10/23/15 Pumping Bottles Filtered Lab ID Case ID SDG ID Remarks. Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample; D#, Duplicate Sample; S#, Split Sample (sant to sacond its BF#, Field Salaric R#, Field Salaric R#. Trip Blank; SF#, Field Splike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mode Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field note.										
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BF#, Field Blank; BF#, Equipment Rinsate, BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of satoratory max with analyze line sample. Case ID may be the lab service request number or sys-min. SDG may be lab's SDG, a cooler ID number, or made and SDG. ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or sys-min. SDG may be lab's SDG, a cooler ID number, or made Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field not	MW-4	P0	10/23/15	1410	1		-			
BFs, Field Blank; BFs, Equipment Rinsate; BTs, Trip Blank; SFs, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory max with analyze the sample. Cookie (In minute) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or system. SDG may be lab's SDG, a cooker ID number, or made and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or system. SDG may be lab's SDG, a cooker ID number, or made Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field noted. **Description** **All and a collection** **Description** **Descrip		-					 			
BF#, Field Blank; BF#, Equipment Rinsate, BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of satoratory max with analyze line sample. Case ID may be the lab service request number or sys-min. SDG may be lab's SDG, a cooler ID number, or made and SDG. ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or sys-min. SDG may be lab's SDG, a cooler ID number, or made Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field not		+								_
Sampler's Name (mist) Michael Haseltine Signature /MA	BF#, Field Blank; BR#, Equipment Rins	ate; BT#, Trip B	lank, SF#, Field	Spike (# = 1 to	9) LabiU (up to	o o characters) is shi sandoa rantas	name or laborator if number or www.	m. SDG may b	n lab's SDG. a	cooler ID number, or minddy
Sample Straine (hint)	Sampler's Name (print)	Mich	nael Ha	seltin	e Sig	nature /	m	<i>σ</i>		

ATTEAM			T = 111	CD1/	2025		T		Δ.	7
Sampled By D Facilit		□ ES&T	-		3035		Site		MIN	
Other: Antea Gro	oup		Proje	ct No.			Date	(m/d/	y) 1(0/23/15
Site Description X	Monitoring W	ell 🗆 Ext	raction Wel	I □ Irrigation	Well □ Spr	ing 🗆 Bore	hole D Pro	obe Ot	her:	
	C □°F			lear, wa			······································			
Well Locked? ☐ yes				pairs Neede	***************************************	·····				***************************************
☐ TOC ☐ MP Descripti			Flush						***************************************	***************************************
	Oft Om at	nove/helov		Well Ins	ide Diamet	er (ID); 🔯	2-inch 🗆	4-inch	Other	**************************************
Site Remarks (nearby wells										
	***************************************				or Borehole To	tal Danth /Ti	D) from MD.	TOC:	1	5
Water Level Data	Measurement Pre-Purge		Purge	Purging	During	Purgin		After		Remarks
☐ Steel Tape ☐ Other	Initial		mation	Start	Purging	End		mpling		
Time (hh:mm; 24-hr clock)	+									
Depth to Water	5.97									
Tape Correction	,									
Water Level (WL)										71000
Product Thickness	-				****				T	
Product Recovery			***************************************							
Measure water level from fixed measurer TOC, measure water level from north ai MPTOC Stickup measurement is from pumped; C - cascading. Water Level tobserved, if free product removed from	ide of casing. Me ground surface to r (WL) = Depth to V	asure static d nearest 0.1 ft Vater - Tape	or pre-purging to or 0.01 m. Dep Correction fact	water level twice; it pth to Water codes tor. Record free pr	ecord initial and cr N - not measure roduct presence at	onfirmation meat d; D - dry; O - ob time of water le	surements and n	neasureme noino: F - I	nt timas : llowina (s	(in 24-hour clock format). Irrasian wall): R - racantiu
	irge Depth:	9.03		rab X Baile		Description			11441	100
Casing Volume: [n	(V	/L)]•[(Well ID)] ²	•[(Conv	rersion Factor)] =	4.5	gal Dlite	ers		Goes Dry le Purging
Conversion Factor = 0.0408 to	r feet and gall	ons; 0.154	14 for feet a	ind liters; 0.50	66 for meters	and liters; vi	/ell ID in inci	nes M	leter	Remarks
☐ Cum. Vol. Purged ☐ Pumping Rate	***	e e e e e e e e e e e e e e e e e e e		000000000000000000000000000000000000000				- E	уре	nemarks
Time (hh:mm; 24-hr clock)	<u> </u>						1			
DH (Temperature Corrected? ©)	†					······································		-		
Temperature □°C □°F	<u> </u>									***************************************
Dissolved Oxygen mg/L										
□ SC or □ EC µS/cm	<u> </u>						1			***************************************
Turbidity DNTU										***************************************
	Cle	1 1	b +0:	hid			1			
Color/Tint		one	2 7 0	1004	-		-			
Odor	10	Offe				A	-	_		
Record time purging starts and ends liters. Pumping Rate is gpm or Lpm, de or average pumping rate during purging Conductance corrected for temperature Sample Data	pending on box ch	ecked in casi ant natibination	ing volume cald	tontamination proce not corrected for te	ar column above in idures, equipment imperature (µS/cm	or recording sam failures, burde v	spie neid measur vater disposat mi sho/cm. 1 gallor	ements, tot athod, etc.	in deily f	e purged before sampling eld notes. SC: Specific
Field Sample ID	Result	Date	Time	Bottles	Filtered	Lab	Conc. In	600	In	Remarks
(unique ID on bottles)	Code	(m/d/y)	(hh:mm)	(total to lab)	(0.45 μm)	ID	Case ID	SDG	יוי	
MW-6	P0 10	0/23/15	09/19	7						
			***************************************			,				
Sample ID may be up to 15 characters. BF#, Field Blank; BR#, Equipment Rins and SDG ID (sample delivery group, up Enter sample preservation and handling	ate; BT#, Trip Blar	ik; SF#, Field are required	Spike (# = 1 t for blanks. Ci	o 9). Lab ID (up to ase ID may be the I	o 5 characters) is i lab service reques	name of laborato i number or yy-ri	ory that will analy nm. SDG may b	/ze ine san e lab's SOC	npie. Ca: 3, a cook	se to tup to 5 characters; ir ID number, or minddyy.
Sampler's Name (print)	Micha	ael Ha	aseltin		gnature	////h	/			
			Date	Entered into I	Database	B	У			Page of

Sampled By D Facilit	y Personnel	☐ ES&T	Facili	ty GPM	3035		Site	ID M	v-1
Other: Antea Gro			Proje				Date	(m/d/y)	10/23/15
Site Description X	Monitoring V	Well D Ext	raction Well	☐ Irrigation	n Well □ Spr	ing □ Bore	hole 🗆 Pro	obe Other:	
	C O°F	Wea		lear, wa					
Well Locked? ☐ yes	□no			airs Neede	ed:				
☐ TOC ☐ MP Descript		**************************************	Flush						
	0 ft	above/belov	v ground	Well In:	side Diamet	er (ID): 🕱	2-inch	4-inch Oth	ier:
Site Remarks (nearby well	s pumping, t	ide, stream	stage, etc.)						
Water Level Data	Measureme	nt Units: [oft om	Well	or Borehole To	ital Depth (TD) from MP	or TOC:	15
☐ E-Tape, # ☐ Steel Tape ☐ Other	Pre-Purg Initial		Purge mation	Purging Start	During Purging	Purgin End	9 1	After mpling	Remarks
Time (hh:mm; 24-hr clock)	-								
Depth to Water	559	3							
Tape Correction									
Water Level (WL)									
Product Thickness			T						
Product Recovery									
Measure water level from fixed measuri TCC, measure water level from north s MP/TOC Stickup measurement is from pumped; C - cascading. Water Level observed. If free product removed from	ide of casing. I ground surface t (WL) * Depth to well, record vol	Measure static of to nearest 0.1 ft to Water - Tape urne removed in	or pre-purging v or 0.01 m. Dec Correction facts gallons or liters	vater level twice; white Water code or. Record free p i, list product type	record initial and c s: N - not measure product presence at in "Remarks" colum	onlimation meas d; D - dry; O - ob t time of water lei nn.	urements and r structed; P - pur vel measuremer	neasurement tim moino: F • flowin	nes (in 24-hour clock format). a fartesian well! R - recently
	urge Depth:				Pump	Description		Tw	ell Goes Dry
Conversion Factor = 0.0408 for	TO) - or feet and g	(WL)]*[allons; 0.154	(Well ID) 14 for feet a	nd liters; 0.5	version Factor)] = 066 for meters	and liters; W	I gal □ lite fell ID in inc I (Final)	hes W	hile Purging
☐ Cum. Vol. Purged ☐ Pumping Rate							(**************************************	Meter Type	1 101110110
Time (hh:mm; 24-hr clock)									
pH (Temperature Corrected? □)									
Temperature □°C □°F									
Dissolved Oxygen mg/L						-			
□ SC or □ EC µS/cm							-		
Turbidity DNTU	ļ.,				· ,				
Color/Tint		LEV -	o h	now	tut	***************************************			
Odor	1	rone							
Record time purging starts and ends				la Water l'ai	al Date section	Cum Vol Puros	4 comulation v	niuma ramovad i	halova samolina in aatlans or
Record time purging starts and ends liters. Pumping Rate is gpm or Lpm, de or average pumping rate during purging Conductance corrected for temperature	spending on box	checked in cas	ing volume calc	utation. Use Fit	tar column source :	failures nume w	pre resu measu: pre risposal m	ethod, etc. in dai	ily field notes SC: Specific
	ample Depth		□G		Pump	Description	on:		Domarka
Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab	Filtered) (0.45 μm)	Lab ID	Case ID	SDG ID	Remarks
MW-7	P0	10/23/15	0930	4					
,			/ 🚳		_				
Sample ID may be up to 15 characters BFs, Field Blank; BRs, Equipment Rins and SDG. ID (sample delivery group, u Enter sample preservation and handling	sate; BT#, Tnp E	Blank; SF#, Field	Spike (# = 1 h	09) Lab ID (up	to 5 characters) is	name of laborato	ry man will anar en SOG may b	yze ine sample. le lab's SDG, a c	cooler ID number, or mmddw.
	B 4 1	1 1 1	1. •			MAIN	,		
Sampler's Name (print)	Mich	nael Ha	aseltin	e si	gnature	MININ			
			Date	Entered into	Database	B	/		Page of

Site Description Monitoring Well Extraction Well Impatton Well Spring Borehole Probe Other	Sampled By D Facility	/ Personnel	□ ES&T	Facilit	y GPM	3035		Site	ID NU	リーと
Air Temo:								Date	(m/d/y) 1	.0/23/15
Air Temo:	Site Description X	Monitoring \	Well D Ext	raction Well	☐ Irrigation	n Well □ Spr	ing D Bore	hole D Pro	be Other:	
Well Locked? Jess no Damaged/Repairs Needed:										
TOC/MP Stickup:		□ no	Dam	aged/Rep	airs Neede	ed:				
Site Remarks (nearby wells pumping, 166, stream stage, etc.) Water Level Data Measurement (Units: tr m Well or Borehole Total Depth (TD) from MP or TOC:	☐ TOC ☐ MP Descripti	on:		Flush						**************************************
Water Level Data Prop-Burge Purging Purging Purging Prop-Burge Prop-Burge Purging	TOC/MP Stickup:	0 ft 0 m	above/belov	v ground	Well Ins	side Diamet	er (ID): 🕱	2-inch 🗆	4-inch Othe	er:
Effect Confirmation Pre-Purge Pre-Purge Pre-Purge Purging Purging End Sampling End End Sampling End End Sampling End	Site Remarks (nearby wells	s pumping, t	tide, stream	stage, etc.)						
Effect Confirmation Pre-Purge Pre-Purge Pre-Purge Purging Purging End Sampling End End Sampling End End Sampling End	Water Level Data	Measureme	ent Units: C	oft om	Well	or Borehole To	ital Depth (Tt) from MP	or TOC:	8
Depth to Water Tape Correction Water Level (WL) Product Thickness Product Recovery gallons littles littles littles little	□ E-Tape, #							Q*		Remarks
Depth to Water Tape Correction Water Level (WL) Product Thickness Product Recovery gallons illers Water Level (WL) Product Thickness Product Recovery gallons illers Interest water there have been been considered to the product recovery to the pro		Initial	Contil	mation	Start	Purging	EIIU	- Jai	inpairing	
Taple Correction Water Level (WL)		10	a							
Water Level (WL) Product Thickness Product Recovery gallons liters Vascure seate feet from base inseauring coint (MP) to 10 of self casing, (TDC). Record enter depth to reason (15 ft or 0.002 m, with minus () sign if level is above MP or TOC. It no mank on MP or TOC		6:1	1							
Product Recovery gallons Bless Bl	Tape Correction						-			
Product Recovery gallons titers Wassers water when the manufacture point (MP) or too and camp (TOC). Record water depth to nearest 0.0 if or 0.002 m, with minute 1 in more of color comp. Massers water do of the color control of the color color control of the color color control of the color colo	Water Level (WL)									***************************************
□ gallons □ litters Massaur water through from finath measuring point (MP) or top of well casing (TOC). Record water dayin to nearest 0.01 its or 0.002 in, with minus (r) sign if level is above MP or TOC. If no man's on MP or TOC, execution in the company of the level through the company of the company of the level through the company of the comp										
Measure state level from final measuring point (MP) or top of well casing (TOC). Record wells adjoined to 7 (Oct. 8) in marks of 10 in 0.0002 m, with minute 1, sign of lawfeel above MP or TOC. 8 in or marks of 10 minute 1 measurements used in 10 minute 1			200000000000000000000000000000000000000				***			
TOC, measure water fewel from north olds of casmy. Measure state or pre-purping water water broke, feeded with all and continuation measurements into measurements and measurement in the control of the product of the control of the	A A A A A A A A A A A A A A A A A A A	g point (MP) or	top of well casi	ng (TOC). Reco	ord water depth to	nearest 0.01 ft or	0.002 m, with mi	nus (-) sign if le	vel is above MP o	TOC. If no mark on MP or
Casing Volume:	TOC, measure water level from north air	de of casing.	Measure static o	or pre-purging w	atar iavel twice; i	record initial and c	onlimation meas	etructed: P - nu	neasurement ilme mnino: F - flowing	s (in 24-nour clock format). (artesian well): R - recently
Casing Volume:	pumped; C - cascading. Water Level (observed. If free product removed from	(WL) = Depth to well, record vol-	ume removed in	Correction factors gallons or liters.	r. Hecord free p list product type	roduct presence a in "Remarks" colur	nn.	ve: measuremer	it, use 5 for tree	product tracativess it sneem
Casing Volume:	Field WQ Data Pu	irge Depth:	11.51	□ Gr	ab 🕱 Baile	r 🗆 Pump	Description	ın:		
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches Cum. Vol. Purged Meter Type Remarks	Casing Volume: [(D) -	(WL)]•[_(Well ID)] ² •	[(Con	version Factor)] =	58 P	gal 🗆 lite	310 1	
□ Cum. Vol. Purged □ Pumping Rate □ Pumping Bate □ Pumping Bate □ Pumping Starts and ends in ¬Piging Starts and Piging Interval Piging I	Conversion Factor = 0.0408 to	r feet and g	allons; 0.154	14 for feet ar	nd liters; 0.50	066 for meters	and liters; W	ell ID in incl	nes YY	-
Time (hh:mm; 24-hr clock) PH (**renearature Corrected?** □) Temperature □°C □°F Dissolved Oxygen mg/L □SC or □EC µS/cm Turbidity □ NTU Color/Tint Odor Record time purping starts and ends in "Purping Start" and "Purping End" columns in Water Level Data section. Cum. Vol. Purped: cumulative volume removed before sampling, in gallons or interest purping has its agent or columns purping start and ends in "Purping Start" and "Purping End" columns in Water Level Data section. Cum. Vol. Purped: cumulative volume removed before sampling, in gallons or swrage purping falls during purping. Record captivenent calibration methods, decontarrination procedures, equipment falls under purping. Record departing on the volume purping before sampling or swrage purping rate during purping. Record equipment calibration methods, decontarrination procedures, equipment fallsures, purpe water disposal method, etc. in daily field notes. SC. Specific Conductance connected for temperature (gliborn). If patient (US) = 3.785 L = 0.833 imperial gallon. Sample Data Sample Depth: □ Grab \$\frac{		**************************************			***					Remarks
PH (Temperature Corrected? D) Temperature Corrected? D) Temperature Corrected? D) Temperature Corrected? Corrected Correcte							<u> </u>	1		
Temperature ©°C ©°F Dissolved Oxygen mg/L SC or ©EC µS/cm Turbidity ® NTU Color/Tint Odor Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged. cumulative volume removed before sampling, in gallons or livers. Purging Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before sampling or average pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment laitures, purging water disposal method, etc. in daily field notes. SC: Specific Conductance corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/cm at 25°C); EC: Electrical Conductivity or corrected for temperature (US/c						-		 		
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Itters. Pumping Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "I-inal" column above to frecoroning sample reliations under the supposal method, etc. in daily field notes. SC: Specific conductance corrected for temperature (µS/cm at 25°C): EC: Electrical Conductivity not corrected for temperature (µS/cm at 25°C): EC: Electrical Conductivity not corrected for temperature (µS/cm at 25°C): EC: Electrical Conductivity not corrected for temperature (µS/cm). µS/cm = µmho/cm. 1 gallon (US) = 3.785 L = 0.833 Imperial gallon Sample Data Sample Depth: □ Grab (X Baiter □ Pump Description: Field Sample ID (unique ID on bottles) Code (m/d/y) (hh:mm) (total to lab) (0.45 µm) Description: Field Sample ID (unique ID on bottles) Pp 10/23/15 12.35 4		<u> </u>	- 4" d 88	- Ead'	an in Water Lev	al Data saction	Cum Vol Puros	1 comulative v	niume removed be	dore sampling, in callons or
Sample Data	liters. Pumping Rate is gpm or Lpm, de	pending on box	checked in cas	ing volume calci	Jiation. Use 'Fir	rair column above	for recording sam	pie lieid measu ster discosst m	ements, total you athor atc. in dails	me purged before sampling field notes. SC: Specific
Field Sample ID (unique ID on bottles) Po 10/23/15 12.35 4 Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample: D#, Duplicate Sample; S#, Split Sample (sent to second lab) BF#, Field Blank; BR#, Equipment Rimsate, BF#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID up to 5 characters and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mendolyy Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes. Sampler's Name (print) Michael Haseltine Signature	Or average pumping rate during purging Conductance corrected for temperature	(H2/cm at 52,C); EC: Electric	al Conductivity	not corrected for t	emperature (µS/cn	n). μS/cm = μm	ho/cm. 1 gallo	1 (US) = 3.785 L =	0.833 imperial gallon
(unique ID on bottles) Code (m/dy) (hh:mm) (total to lab) (0.45 µm) ID Case ID SDG ID MW. 9 Po 10/23/15 1/235 4 Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: Po, Primary Sample: D#, Duplicate Sample; S#, Split Sample (sent to second lab) BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mindby Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes. Sampler's Name (print) Michael Haseltine Signature	Sample Data Sa	imple Depti	1:	□ Gi	ab DX Baile	and		xn:		T = :
Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample, D#, Duplicate Sample; S#, Split Sample (sent to second lab) BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG. ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or mindby. Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes. Sampler's Name (print) Michael Haseltine Signature		1						Case ID	SDG ID	Hemarks
Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0. Primary Sample, D#, Duplicate Sample; S#, Split Sample (sent to second lab) BF#, Field Blank; BR#, Equipment Rimsate, BT#. Trip Blank; SF#, Field Splike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or minddyy Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes. Sampler's Name (print) Michael Haseltine Signature				10.26	A.	(0.43 µm)				
BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of aboratory that will analyze the sample. Case ID may be the lab service request number or yy-mm. SOG may be lab's SOG, a cooler ID number, or mindby and SOG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SOG may be lab's SOG, a cooler ID number, or mindby Enter semple preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes. Sampler's Name (print) Michael Haseltine Signature	14100,0	+ 20	10/23/13	1000	7					
BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of aboratory that will analyze the sample. Case ID may be the lab service request number or yy-mm. SOG may be lab's SOG, a cooler ID number, or mindby and SOG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SOG may be lab's SOG, a cooler ID number, or mindby Enter semple preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes. Sampler's Name (print) Michael Haseltine Signature										
BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of aboratory that will analyze the sample. Case ID (as the sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yn-mm. SOG may be lab's SOG, a cooler ID number, or medday, and SOG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yn-mm. SOG may be lab's SOG, a cooler ID number, or medday, Enter semple preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes. Sampler's Name (print) Michael Haseltine Signature										
BF#, Field Blank; BR#, Equipment Rinsate; BT#, Trip Blank; SF#, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of aboratory that will analyze the sample. Case ID (as the field service request number or ty-mine. SOG may be lab's SOG, a cooler ID number, or monthly; and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or ty-mine. SOG may be lab's SOG, a cooler ID number, or modely; Enter semple preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes. Sampler's Name (print) Michael Haseltine Signature	Canada (Dansa) ha saa ka 66 ahaarataa	Sample Sec	ust Corte Date	and Time mis	t be entered S	lesuit Codes: PO	Primary Sample:	D#, Duplicate S	ample; S#. Solit S	ample (sent to second lab):
Sampler's Name (print) Michael Haseltine Signature	BF#, Field Blank; BR#, Equipment Rins	ate; BT#, Trip I	Blank; SF#, Fiek	Spike (# = 1 to	9). Lab ID (up	to 5 characters) is	name of laboration in market or worth	ry that will anal lim. SDG may b	yze ine sample. V e lab's SDG, a co	pase to (up to 5 characters) oler ID number, or minddyv.
Complete Vitality (Print)	Enter sample preservation and handling	data on chain-	of-custody form.	Also record de	tailed information	about duplicate, s	plit, rinsate, spike	, and/or blank s	ample collection/	andling in daily field notes.
Complete Vitality (Print)										
Complete Change (print)	0						. 1			
Complete Change (print)	Sampler's Name (print)	Micl	hael Ha	aseltin	e si	gnature .	Mor			
Date Entered into DatabaseByBy of	Campion o Hamo (pain)							/		Page of

Sampled By Facilit	y Personnel	ES&T	Faci	lity GPM	3035		Site	ID N	IW-9
Other: Antea Gro				ect No.			Date	(m/d/y)	10/23/15
Site Description X	Monitoring Wel	□ Extre	action We	ell 🗆 Irrigation	n Well □ Sp	ring 🛭 Bore	hole D Pro	be Other	T.
	O O°F	Weatl		Clear, wa					
Well Locked? ☐ yes	□ no			pairs Neede	d:				
☐ TOC ☐ MP Descripti	ion:	F	<u>-lush</u>						***************************************
TOC/MP Stickup:	□ft □ m abo	ve/below	ground	Well Ins	side Diame	ter (ID): 🔯	2-inch 🗆	4-inch Ot	her:
Site Remarks (nearby wells	s pumping, tide	stream s	tage, etc	.)					
Water Level Data	Measurement (Jnits: 🛛	ft 🗆 m	Well	or Borehole To				0
☐ E-Tape, # ☐ Steel Tape ☐ Other	Pre-Purge Initial	Pre-P Confirm		Purging Start	During Purging	Purgin End	0 1	fter npling	Remarks
Time (hh:mm; 24-hr clock)									
Depth to Water	8.66								
Tape Correction									
Water Level (WL)									
Product Thickness									
Product Recovery gallons Diters		200000000000000000000000000000000000000							
Measure water level from fixed measure TOC, measure water level from north a MP/TOC Stickup measurement is from pumped: C - cascading. Water Level observed. If free product removed from Field WQ Data Pt	ide of casing. Meas ground surface to ne (WL) = Denth to Wi	ure static or arest 0.1 ft or iter - Tape C removed in g	pre-purging r 0.01 m. D orrection fa allons or lits	water level twice: epth to Water code: ctor. Record free pers, list product type Grab X Baile	record initial and of E. N - not measure roduct presence a in "Remarks" colu	confirmation meas ad; D - dry; O - ob at time of water le	urements and m structed; P - pun vel measuremen	easurement to nping; F - flowi t; usa "S" for f	mes (in 24-hour clock format), ing (artesian wall), R - recently ree product thickness if sheen
Casing Volume: [n	(WL)]•[(Well ID)	² •[(Con	version Factor)] =	57 9	gal 🗆 lite	110	Vell Goes Dry Vhile Purging □
Conversion Factor = 0.0408 to	r feet and gallo	ns; 0.1544	for feet	and liters; 0.50	066 for meters	and liters; W	ell ID in inch (Final)	les V	
☐ Cum. Vol. Purged ☐ Pumping Rate		-						Тур	1 101111001100
Time (hh:mm; 24-hr clock)									
pH (Temperature Corrected? □)									
Temperature □°C □°F									
Dissolved Oxygen mg/L	-								
□SC or □EC µS/cm									
Turbidity D NTU				, , ,		1 .			
Color/Tint			lea	to long	m/ 1	Int			
Odor		1	JONE	2					
Record time purging starts and ends liters. Pumping Rate is gpm or Lpm, de or average pumping rate during purging Conductance corrected for femperature Sample Data Se	pending on box che	ked in casin	g volume ca methods, de Conductivit	alculation. Use "Fin econtamination proc by not corrected for t	al' column above	for recording sam I failures, burge w	pie tield measuri ater disposal me ho/cm. 1 gallon	ements, total v ithod, etc. in d	ciume purged before sampling silv field notes. SC: Specific
Field Sample ID	1 0 1	Date	Time	Bottles	Filtered	Lab ID	Case ID	SDG ID	Remarks
(unique ID on bottles)		n/d/y)	(hh:mm)	(total to lab)	(0.45 μm)		J455 ID	000 10	
10/102	P0 10,	/23/15	100	4 7	.				
	+				-				
	_	-+			-				
Sample ID may be up to 15 characters. BF#, Field Blank; BR#, Equipment Rins and SDG ID (sample delivery group, uf Enter sample preservation and handling	ate; BT#, Trip Blank	SF#, Field !	Spike (# = 1	to 9). Lab ID (up	to 5 characters) is lab service reque	i name of laborato st number or www	ry that will analy im. SDG may be	ze ine sample i lab's SOG, a	cooler ID number, or mmddyv.
Camplada Nama (Micha	el Ha	seltir	ne le	gnature				
Sampler's Name (print)	TVITCITA	CITIU		te Entered into		B	<i>j</i>		Page of

A	M	*	-	A	G	D	1	1		D
sa.	1.4		-	æ.	1.3	n	•	٦.	3	_

Sampled By D Facility	/ Personnel	□ ES&T	Facili	y GPM 3	3035		Site	ID M	WBID
Other: Antea Gro			Projec				Date	(m/d/y)	10/23/15
Site Description X	Monitoring V	Vell 🗆 Exti	action Well	☐ Irrigation	Well □ Spr	ing 🗆 Borel	nole 🗆 Pro	be Other:	
) O°F	Wea		lear, wa					
Well Locked? ☐ yes	□ no	Dama	aged/Rep	airs Needed	j;				
☐ TOC ☐ MP Descripti	on:		Flush		200018699899899898898898898				
TOC/MP Stickup:		above/belov	v ground	Well Insi	de Diamet	er (ID): 🕱	2-inch 🗆	4-inch Oth	ier:
Site Remarks (nearby wells	s pumping, ti	de, stream	stage, etc.)						
Water Level Data	Measuremer	nt Units: C) ft 🗆 m	Well or	Borehole To	tal Depth (TC) from MP o	or TOC:	18
☐ E-Tape, # ☐ Steel Tape ☐ Other	Pre-Purge Initial		Purge mation	Purging Start	During Purging	Purging End		ifter noling	Remarks
Time (hh:mm; 24-hr clock)	\(\)								
Depth to Water	6.58	3							
Tape Correction									
Water Level (WL)									
Product Thickness									
Product Recovery									
Measure water level from fixed measurin TOC, measure water level from north all MP/TOC Stickup measurement is from g pumped; C - cascading. Water Level tobserved. If free product removed from Field WQ Data Pu	de of casing. M round surface to Will a Danih to	feasure static on prearest 0.1 ft Water - Tana	r pre-purging word, or 0.01 m. Depi Correction factor gallons or liters.	ater level twice; re- th to Water codes: or. Record free pro	cord initial and or N - not measure duct presence at "Remarks" colun	ontirmation meas f; D - dry: O - obt time of water lev	urements and m structed; P × pur rel measuremen	neasurement tim nping; F - flowin	g (artesian well); R - recently
,	D) -	(WL)]*[(Well ID) 12.	[(Conve	rsion Factor) =	5.70	gal 🗆 lite	710	ell Goes Dry hile Purging D
Conversion Factor = 0.0408 to	r leet and ga	Illons; U. 154	4 for leet at	IO INDIS, U.SUC	o for meters	anu mers, vv	(Final)	Meter	
Pumping Rate		00000000000000000000000000000000000000						Туре	
Time (hh:mm; 24-hr clock)									
pH (Temperature Corrected? □)									
Temperature □°C □°F									
Dissolved Oxygen mg/L									
□ SC or □ EC µS/cm								_	
Turbidity 🗆 NTU									
Color/Tint						***************************************	<u> </u>		
Odor	U	ear J	, Par	11 test					
	, V	Jone							
Record time purging starts and ends liters. Pumping Rate is gpm or Lpm, de or average pumping rate during purging Conductance corrected for temperature	pending on box of Record equip (µS/cm at 25°C)	checked in casi ment calibration : EC: Electrical	ng volume calco n methods, deco al Conductivity r	itation. Use "Final intamination proces iot corrected for ter	column above to tures, equipment nperature (µS/cm	or recording sam; failures, purge w). μS/cm = μm/	pie field measur ater disposal me ho/cm. 1 gallor	ements, total vo ithod, atc. in dai	lume purged before sampling ly field notes. SC: Specific
	mple Depth:	Date	Time	ab IX Bailer Bottles	Filtered	Descriptio Lab	· · · · · · · · · · · · · · · · · · ·		Remarks
Field Sample ID (unique ID on bottles)	Code	(m/d/y)	(hh:mm)	(total to lab)	(0.45 µm)	ID	Case ID	SDG ID	
Mw-30	P0	10/23/15	8945	攀 4					
	1								1
Sample ID may be up to 15 characters. BFs, Field Blank; BRs, Equipment Rins and SDG ID (sample delivery group, up Enter sample preservation and handling	ate; BT#, Trip Bi	lank; SF#, Field	Spike (# = 1 to	9). Lab ID (up to	i 5 characters) is th service recises	name or laboralo I number or www.m	ry inaiwaianan m. SDG may b	rze ine sample. a lab's SOG, a c	case it (up to 5 characters) coler ID number, or minddyv.
Sampler's Name (print)	Mich	nael Ha	seltin	e Sig	nature	NM			
			Date	Entered into D		B ₃	1		Page of

Sampled By D Facilit	y Personnel C	ES&T	Facili	ty GPM	3035		Site	ID	Mu	1-11
Other: Antea Gro	oup		Proje	ct No.			Date	(m/d/)	_/) 10)/23/15
Site Description X	Monitoring Wel	l 🗆 Extra	action Well	☐ Irrigation	Well 🗆 Sp	ring □ Boret	ole 🗆 Pro	be Ott	ner:	
Air Temp: □ °0	C □°F	Weat	her: C	lear, wa	arm				***************************************	
Well Locked? ☐ yes	□ no	***************************************		airs Neede	d:				***************************************	
☐ TOC ☐ MP Descript	ion:		<u>Flush</u>							
TOC/MP Stickup:	Oft Om abo	ove/below	ground	Well Ins	ide Diamet	er (ID): 🕱	2-inch 🗆	4-inch (Other	*
Site Remarks (nearby well	s pumping, tide	, stream s	tage, etc.)							3
Water Level Data	Measurement (Jnits: 🗆	ft 🗆 m		r Borehole To	otal Depth (TD			18	8
☐ E-Tape, # ☐ Steel Tape ☐ Other	Pre-Purge Initial	Pre-P Confire		Purging Start	During Purging	Purging End		ifter npling		Remarks
Time (hh:mm; 24-hr clock)										
Depth to Water	7.13								ļ	
Tape Correction									<u> </u>	
Water Level (WL)									ļ	
Product Thickness										
Product Recovery gallons Diters										
Measure water level from fixed measurer TOC, measure water level from north a MP/TOC Stickup measurement is from g	ide of casing Meas	ours static or	non-ouroma w	valar laval Ivoca: n	ecord initial and c	onfirmation measu	rements and r	neasuremen	t times (in 24-hour clock format).
pumped; C - cascading. Water Level observed. If free product removed from	(WL) = Depth to W:	tter - Tana C	Correction factor	or. Record free or	oduct presence a	t time of water levi	el measuremen	t use "S" k	or free pr	oduct thickness if sheen
	irge Depth:	10,8	l 🗆 Gi	rab 🕱 Baile	r 🗆 Pump	Description			,	
Casing Volume: [n	(WI)]•[_(Well ID)] ² 4	[(Conv	rersion Factor)] =	<u>55</u> 0	gal 🗆 lite	ers		Goes Dry e Purging
Conversion Factor = 0.0408 to	r feet and gallo	ns; 0.1544	4 for feet a	nd liters; 0.50	66 for meters	and liters; W	ell ID in incl (Final)		eter	Remarks
☐ Cum. Vol. Purged ☐ Pumping Rate			8000		***************************************				/ре	nemarks
Time (hh:mm; 24-hr clock)						***************************************				
pH (Temperature Corrected? □)										
Temperature D°C D°F					I					
Dissolved Oxygen mg/L										
□SC or □EC µS/cm										
Turbidity 🗆 NTU										
Color/Tint	all	en.	10	monn -	ant.					
Odor	+ GI		rethe	el) FC	00	or				
				l l						
Record time purging starts and ends liters. Pumping Rate is gpm or Lpm, de or average pumping rate during purging Conductance corrected for temperature	pending on box che (µS/cm at 25°C):	cked in casin	ig volume calc	ulation. Use "Fina ontamination proce not corrected for te	Bi" column Bbove : Iduras advincant	for recording samp failures, purpe we	te fleid measur ter disposal me o/cm. 1 gallor	ements, tota ithod. etc. ir	u volume i daily fie	purged before sampling lid notes. SC: Specific
Sample Data Se	ample Depth:	Date	Time	Bottles	Filtered	Lab	1			Remarks
(unique ID on bottles)	I ~ I	m/d/y)	(hh:mm)	(total to lab)	(0.45 µm)	ID	Case ID	SDG	ID	
MW-11	P0 10	/23/15	1135	4						***************************************
						-				
Sample ID may be up to 15 characters. BFs, Field Blank; BRs, Equipment Rins and SDG ID (sample delivery group, up Enter sample preservation and handling	ate; BT#, Trip Blank	; SF#, Field	Spike (# = 1 to for blanks. Ca	9). LabiD (up t	o 5 characters) is lab service reque:	name of laborator it number or vv-mr	y that will anal) n. SDG may b	ze ine sam e lab's SOG	pie. Cas , a coole	e IU (up to 5 characters) r ID number, or minddvv.
Canada Nama ()	Micha	el Ha	seltin	P 6:2	natura	MA				
Sampler's Name (print)	IVIICIIa	CITIA		Entered into	nature ,	///// Bv			-	Page of

Sampled By D Facilit	y Personnel	☐ ES&T	Facili	ty GP	M 3035	5		ID M	
Other: Antea Gro	oup		Project	ct No.			Date	(m/d/y)	03/17/16
Site Description 🕱	Monitoring W	/ell □ Extr	action Well	☐ Irrigation	Well □ Spri	ing 🗆 Boreh	ole 🗆 Pro	be Other:	:
Air Temp: 🗆 °	C 🗆 °F	Weat	her: C	lear, wa	rm				
Well Locked? ☐ yes	□ no	Dama	aged/Rep	airs Needed	j :				
☐ TOC ☐ MP Descript	ion:		Flush						
TOC/MP Stickup:	□ ft □ m a	above/below	ground	Well Insi	de Diamet	er (ID): 🕱 2	e-inch 🗆	1-inch Oth	ner:
Site Remarks (nearby well	s pumping, ti	de, stream :	stage, etc.)						
Water Level Data	Measuremen	nt Units: C	lt 🗆 m	Well or	Borehole To	tal Depth (TD)	from MP o	r TOC:	18
□ E-Tape, #	Pre-Purge		ourge mation	Purging Start	During Purging	Purging End		fter noling	Remarks
Steel Tape Other	Initial	Comm	IIIauori	Start	ruignig	End	Joan	ipiirig (
Time (hh:mm; 24-hr clock)	832		-						
Depth to Water	0,50					1	_		
Tape Correction	<u> </u>								
Water Level (WL)									
Product Thickness									
Product Recovery gallons Ditters		200							
Measure water level from fixed measuri TOC, measure water level from north in MP/TOC Stickup measurement is from pumped; C - cascading. Water Level observed. If free product removed from	side of casing. M ground surface to (WL) = Depth to well, record volume.	leasure static o nearest 0.1 ft o Water - Tape i	r pre-purging wor 0.01 m. Dep Correction facto gallons or litters	ater level twice; re th to Water codes: or. Record free pro , list product type in	icord initial and or N - not measure oduct presence at n "Remarks" colun	onirmation measu d; D - dry; O - obst time of water leve nn.	rements and m ructed; P = pur il measurement	easurement tin noing: F - flowir	nes (in 24-nour clock format). ng (artesian well); R - recently
	urge Depth:	1.00		ab X Bailer		Description		I IA	/ell Goes Dry
Casing Volume: [(Conversion Factor = 0.0408 for	TD)(or feet and ga	(WL)]*[illons; 0.154	_(Well ID)] ² 4 4 for feet a	(Conve	ersion Factor)] = 66 for meters	and liters; We	gal Dite	es V	/hile Purging □
☐ Cum. Vol. Purged							(Lustr)	Mete Type	1 100111001100
☐ Pumping Rate		_			-				
Time (hh:mm; 24-hr clock)									
pH (Temperature Corrected? □)	-				-		***************************************		
Temperature □°C □°F								_	
Dissolved Oxygen mg/L								_	
□ SC or □ EC µS/cm								_	
Turbidity DNTU	1	+-	-++	-/-				-	_
Color/Tint	1 Cler	2 p 8	Jan 1	MC					
Odor	1	sone							
Record time purging starts and end liters. Pumping Rate is gpm or Lpm, do or average pumping rate during purgin Conductance corrected for temperature Sample Data S	epending on box o	checked in casi ment calibration ; EC: Electrica	ng volume calc n methods, dec al Conductivity	ulation. Use Fina	ir column above i dures, equipment mperature (JIS/cm	or recording samp failures, purpe wa	ler disposal me o/cm. 1 gallon	ements, total vi	nume purged before sampling tily field notes. SC: Soecifi
Field Sample ID	Result Code	Date	Time	Bottles	Filtered	Lab ID	Case ID	SDG ID	Remarks
(unique ID on bottles)		(m/d/y)	(hh:mm)	(total to lab)	(0.45 μm)				
MW-10	P0	03/17/16	[22]				1		
	+								
	+				 				_
Sample ID may be up to 15 characters BF#, Field Blank; BR#, Equipment Rin and SDG ID (sample delivery group, of Enter sample preservation and handlin	sate; BT#, Trip BI	lank; SF#, Field	Spike (# = 1 to	9). Lab ID (up to	o o characters) is lab service recues	name of laborator) if number or vv-mn	r that will analy b. SDG may be	ze ine sample. e lab's SDG, a	cooler ID number, or mmddvy
	D 4: 1					Ja 24			
Sampler's Name (print)	iviich	nael Ha		Entered into I	nature Database	NIND BY			Page of

GROUNDWATER SAMPLING RECORD

Sampled By D Facility	Personnel C	ES&T	Facil	ity G	PM 3035	5	Site		NW	
Other: Antea Gro	oup		Proje	ct No.			Date	(m/d/	y) 03	3/17/16
Site Description 🕱	Monitoring Wel	□ Extra	ction We	II 🗆 Irrigatio	on Well 🗆 Spr	ing 🗆 Boreh	ole 🗆 Pro	be Ott	her:	
Air Temp: □ °0) □°F	Weath	ner: (Clear, w	/arm					
Well Locked? ☐ yes	□ no	Dama	ged/Re	pairs Need	led:				***************************************	
☐ TOC ☐ MP Descripti	on:	F	lush							1-A-A
TOC/MP Stickup:	□ft □ m abo	ve/below	ground	Well Ir	nside Diamet	er (ID): 🕱	2-inch 🗆	4-inch	Other	*
Site Remarks (nearby wells	pumping, tide	, stream st	tage, etc.)						
Water Level Data	Measurement (Jnits: 🗆	ft 🗆 m	Well	or Borehole To				/	5
☐ E-Tape, # ☐ Steel Tape ☐ Other	Pre-Purge Initial	Pre-Pu Confirm		Purging Start	During Purging	Purging End		ifter noing	-	Remarks
Time (hh:mm; 24-hr clock)									-	
Depth to Water	7.46								-	
Tape Correction									_	
Water Level (WL)									<u> </u>	
Product Thickness								-		
Product Recovery ☐ gallons ☐ liters				2						
Measure water level from fixed measure TOC, measure water level from north a MP/TOC Stickup measurement is from g pumped; C - cascading. Water Level observed. If free product removed from	de of casing. Mea: round surface to ne (WL) = Depth to Wi	sure static or parest 0.1 ft or ster - Tape Co	pre-purging 0.01 m. De orrection fac	water level twice oth to Water cod stor. Record free	i; record initial and c les: N - not measure i product presence a	ontirmation measu d; D - dry; O - obs t time of water levi	rements and n tructed: P - out	neasuremer noina: F • fi	nt times (riasian well): R - recently
Field WQ Data Po		7,54			ler 🗆 Pump	Description			1 1 2 2 . 1	0 0
Casing Volume:n Conversion Factor = 0.0408 to	r feet and gallo	ns: 0.1544	(Well ID)]2	•[(Co	onversion Factor) = 5066 for meters	= 3.7 □ and liters; We	gal Dite	ers nes		Goes Dry le Purging
☐ Cum. Vol. Purged	1		1	11			(Final)	M	eter ype	Remarks
☐ Pumping Rate	01	CU:	T B	don					ypo	
Time (hh:mm; 24-hr clock)	<u> </u>									
pH (Temperature Corrected? □)		+	_		-			-		
Temperature □°C □°F	-		_				_	-		
Dissolved Oxygen mg/L	-	-	_							·····
□ SC or □ EC µS/cm	<u> </u>	-						\dashv		***************************************
Turbidity DNTU	-	+-+	- k		1.7		 	+		
Color/Tint	(6		D A	(orn	477		 		-	
Odor	100	4								
Record time purging starts and ends liters. Pumping Rate is gpm or Lpm, de or average pumping rate during purging Conductance corrected for temperature Sample Data Sci	pending on box che	cked in casing	g volume cal methods, de Conductivity	contamination of	-inai" column above ocedures, equipment r temperature (µS/cr	tor recording samp failures, burge we	ile riekt measur iter disposat m ko/cm. 1 gallor	ements, tot athod, etc. i	in daily fi	eld notes. SC: Specific
Field Sample ID	1 0 1	Date	Time	Bottles	and the same and the same	Lab ID	Case ID	SDG	ID	Remarks
(unique ID on bottles)	+ '		(hh:mm)	(total to la	b) (0.45 μm)		0400 10			
nw-7	P0 03	/17/16	700			-				
-	+									
	1									
Sample ID may be up to 15 characters BF#, Field Blank; BR#, Equipment Rins and SDG ID (sample delivery group, u Enter sample preservation and handling	ate; BT#, Trip Blank	; SF#, Field S	Spike (# = 1	to 9). Lab ID (u	ip to 5 characters) is he lab service reque	name of laborator st number or vv-mr	y that will anal n. SDG may b	yze the san e lab's SDC	npie. Ca 3. a cook	se it (up to 5 characters) or ID number, or mmddvv.
Sampler's Name (print)	Micha	el Ha	seltir	ne s	Signature	11/1/				

Date Entered into Database ___

Sampled By D Facilit	y Personnel	☐ ES&T	Facilit	y GP	M 3035		Site		J-6
Other: Antea Gro	oup		Projec	t No.			Date	(m/d/y) C	3/17/16
Site Description X	Monitoring V	Vell □ Extr	action Well	☐ Irrigation	Well D Spri	ng 🗆 Boreh	ole 🗆 Pro	be Other:	
	C O°F			lear, wa					
Well Locked? ☐ yes	□ no	Dama	aged/Rep	airs Needed	<u>:</u>				
☐ TOC ☐ MP Descript	ion:		Flush						**************************************
TOC/MP Stickup:		above/below	v ground	Well Insi	de Diamete	er (ID): 🕱 2	e-inch 🗆	4-inch Othe	er:
Site Remarks (nearby well	s pumping, t	ide, stream	stage, etc.)						
Water Level Data	Measureme	nt Units: E	oft om	Well or	Borehole Tol	tal Depth (TD)	from MP o	or TOC:	5
☐ E-Tape, # ☐ Steel Tape ☐ Other	Pre-Purg Initial		Purge mation	Purging Start	During Purging	Purging End		itter /	Remarks
Time (hh:mm; 24-hr clock)	muar	00.1111	mauori	- Clart					
Depth to Water	7.30	5							
	1.50	+-			-	1			
Tape Correction		_				1			**************************************
Water Level (WL)		_				-			***************************************
Product Thickness Product Recovery			_			+	_		
☐ gallons ☐ liters									
Measure water level from fixed measuri TOC, measure water level from north a MP/TOC Stickup measurement is from pumped; C - cascading. Water Level observed. If free product removed from	ide of casing. If ground surface to (WL) = Depth to	Measure static o to nearest 0.1 ft to Water - Tape	r pre-purging wo or 0.01 m. Dept Correction facto	ster level twice; re th to Water codes: r. Record free pro	cord initial and co N - not measured oduct presence at	intirmation measur f; D - dry; O - obst time of water leve	rements and mi nucted: P - our	neasurement time noino: F - flowing	(artesian well): R - recently
		7.70		ab X Bailer		Description	ic .		
Casing Volume: [Conversion Factor = 0.0408 fo	TD) -]•[uw	(Well ID)]2.	(Conve	ersion Factor)] = 66 for meters	3.8 D	III ID in inch	ers We	ell Goes Dry nile Purging
☐ Cum. Vol. Purged			-				(Final)	Meter Type	Remarks
☐ Pumping Rate								Туре	
Time (hh:mm; 24-hr clock)	_								
pH (Temperature Corrected? □)	-		_						
Temperature □°C □°F								_	
Dissolved Oxygen mg/L	 						•	_	
□ SC or □ EC µS/cm	-		_					-	<u> </u>
Turbidity DNTU	+ -	11-1	1 1	1.41				_	+
Color/Tint	Ac.	les 4	196	notari				_	
Odor	1 /V.	2/4							
Record time purging starts and endititers. Pumping Rate is gpm or Lpm, di or average pumping rate during purgin Conductance corrected for temperature Sample Data S	spending on box	checked in casi pment calibration); EC: Electric	ing volume calci n methods, deco al Conductivity r	dation. Use Fina	ir column above ii dures, equipment mperature (JIS/cm	or recording sampli failures, nume wal	e rieid measur ler disposal me o/cm. 1 gallor	ements, total voit athod, etc. in dails	me purged before sampling field notes. SC: Specific
Field Sample ID	Result	Date	Time	Bottles	Filtered	Lab		000.0	Remarks
(unique ID on bottles)	Code	(m/d/y)	(hh:mm)	(total to lab)	(0.45 µm)	ID	Case ID	SDG ID	
MW-C	P0	03/17/16	HU	2					
			/						
Sample ID may be up to 15 characters BF#, Field Blank: BR#, Equipment Rin and SDG ID (sample delivery group, or Enter sample preservation and handling	sate; BT#, Trip E	Blank; SF#, Field	Spike (# = 1 to tor blanks. Ca	se ID may be the	o o characters) is ab service reques	name of laborator) I number or vv-mn	r that will analy n. SDG may b	yze ine sampie. e lab's SDG, a co	oler ID number, or mmddyy.
Sampler's Name (print)	Micl	hael Ha	seltin	e sig	nature	nun	1/2		
			Date	Entered into		By			Page of

Sampled By Facility	Personnel [J ES&T	Facil	ity GP	M 3035	5	Site			5-3
Other: Antea Gro	ир		Proje	ect No.			Date	(m/d/y) 03	/17/16
Site Description X	Monitoring We	ll 🗆 Extr	action We	II 🗆 Irrigation	Well □ Spr	ing 🗆 Boreh	ole 🗆 Pro	be Oth	er:	
Air Temp: □ °C	□°F	Weat	her: (Clear, wa	ırm				·	
Well Locked? ☐ yes [□ no	-		pairs Neede	d:				-	
☐ TOC ☐ MP Description	on:	7A.A.A.A.A.A.A.A.A.A.A.A.A.A.A.A.A.A	<u>Flush</u>							
	Ift I m ab				ide Diamet	er (ID): 🕱	2-inch 🗆	4-inch C	ther:	
Site Remarks (nearby wells	pumping, tide	stream :	stage, etc.)						
	deasurement					tal Depth (TD			2	
☐ E-Tape, # ☐ Steel Tape ☐ Other	Pre-Purge Initial	Pre-F Confin		Purging Start	During Purging	Purging End		After mpling		Remarks
Time (hh:mm; 24-hr clock)										
Depth to Water	9.59									
Tape Correction										
Water Level (WL)										
Product Thickness				-						
Product Recovery ☐ gallons ☐ liters									,	
Measure water level from fixed measuring TOC, measure water level from north sid MP/TOC Stickup measurement is from gr pumped; C - cascading. Water Level (V observed. If free product removed from w Field WQ Data Pur	te of casing. Med round surface to n WL) = Depth to W well, record volume	sure static or earest 0.1 ft of later - Tape (removed in p	r pre-purging or 0.01 m. De Correction far gallons or lita	water level twice; re apth to Water codes: ctor. Record free pr	ocord initial and c N - not measure oduct presence at n "Remarks" colur	ontirmation measu d; D - dry; O - obs ; time of water levi	rements and n tructed; P × pur at measuremen	neasurement noina: F • flo	times (ir wing (art	asian wall): R - recently
Casing Volume:	D)(W	L)]•[_(Well ID)]2	• [(Conv	ersion Factor)] =	5,/0	gal 🗆 lite	210		Goes Dry
Conversion Factor = 0.0408 for	feet and gallo	ons; 0.154	4 for feet	and liters; 0.50	66 for meters	and liters; We	ell ID in incl	nes Me		Purging
☐ Cum. Vol. Purged ☐ Pumping Rate								Ty		Remarks
Time (hh:mm; 24-hr clock)						90.AA.N				
pH (Temperature Corrected? □)										
Temperature □°C □°F										
Dissolved Oxygen mg/L										
□ SC or □ EC µS/cm										
Turbidity 🗆 NTU									_	***************************************
Color/Tint	a	3	00	rown to	it					
Odor	Very	tryt	per	2 dar						
Record time purging starts and ends i liters. Pumping Rate is gpm or Lpm, dep or average pumping rate during purging. Conductance corrected for temperature (I Sample Data Sai	ending on box ch	ecked in casi ent calibration	ng volume ca i methods, de il Conductivit	iculation. Use Fina	ir column above i dures, equipment mperature (JIS/cn	or recording samp failures, purge we	iter disposal m lo/cm. 1 gallor	ements, total ethod, etc. in	daily fiel	purged before sampling id notes. SC: Specific
Field Sample ID	Result Code	Date	Time	Bottles	Filtered	Lab ID	Case ID	SDG I	D	Remarks
(unique ID on bottles)		(m/d/y) 3/17/16	(hh:mm)	(total to lab)	(0.45 μm)			200.		
		, = , = 5	11/							
-										
Sample ID may be up to 15 characters. BF#, Fleld Blank; BR#, Equipment Rinsa and SDG ID (sample delivery group, up Enter sample preservation and handling of	te; BT#, Trip Blan to 15 characters)	k; SF#, Field are required	Spike (# = 1 for blanks. (to 9). Lab ID (up to case ID may be the	o 5 characters) is lab service reques	name of laborator if number or yy-mir	y that will anal n. SDG may b	yze me samp e lab's SDG,	se. Casi	D number, or minddyy.
	N / ! a la a	- III-	. ندامه			h m				
Sampler's Name (print)	Micha	е на	iseitir	ie Się	nature	NM				· · · · · · · · · · · · · · · · · · ·

Sampled By D Facilit	y Personne	□ ES&T	Facili	ty G	PM 303	5	Site	ID N	1WA
Other: Antea Gro			-	ct No.			Date	(m/d/y	03/17/16
Site Description X	Monitoring	Well D Extr	action Well	☐ Irrigatio	on Well 🗆 Sp	ring 🗆 Bore	hole D Pro	obe Othe	er:
	C O°F			lear, w					
Well Locked? ☐ yes	□ no	Dama		airs Need					
☐ TOC ☐ MP Descript	ion:		Flush						
TOC/MP Stickup:	0 ft	above/below	v ground	Well In	nside Diame	ter (ID): 🕱	2-inch	4-inch O	ther:
Site Remarks (nearby well	s pumping,	tide, stream	stage, etc.)						
Water Level Data	Measureme	ent Units: E	lt om	Well	or Borehole To	otal Depth (TC) from MP	or TOC:	20
☐ E-Tape, # ☐ Steel Tape ☐ Other	Pre-Pure Initial		ourge mation	Purging Start	During Purging	Purgin End		After mpling	Remarks
Time (hh:mm; 24-hr clock)	v								
Depth to Water	8.91								
Tape Correction									
Water Level (WL)									
Product Thickness									
Product Recovery									
Measure water level from fixed measure TOC, measure water level from north s MP/TOC Stickup measurement is from pumped; C - cascading. Water Level observed. If free product removed from	ide of casing, ground surface (WL) = Depth t well, record vol	Measure static o to nearest 0.1 ft o Water - Tape ume removed in	r pre-purging v or 0.01 m. Des Correction fact gallons or liters	vater level twice; oth to Water code or. Record free i, list product typ	; record initial and o es: N - not measure product presence a e in "Remarks" colu-	confirmation meas ed; D - dry; O - ob it time of water lev	urements and ri structed; P - pur	neasurement mping; F • flor	times (in 24-hour clock format). wing (artesian well); R - recently
	irge Depth:				ler 🗆 Pump	Descriptio			
Casing Volume:C Conversion Factor = 0.0408 fo	r feet and g	_(WL)]*[allons; 0.154	_(Well ID)] ² 4 4 for feet a	ond liters; 0.5	nversion Factor)] = 5066 for meters	= <u>5.4</u> □ and liters; W	gal 🗆 lite	JI J	Well Goes Dry While Purging □
☐ Cum. Vol. Purged ☐ Pumping Rate							(Final)	Mei	1101110110
Time (hh:mm; 24-hr clock)									
pH (Temperature Corrected? □)									
Temperature □°C □°F						·····			
Dissolved Oxygen mg/L									
□ SC or □ EC µS/cm									
Turbidity 🗆 NTU					`				
Color/Tint	1	la -	0 05	ar t	it				
Odor	No	2							
Record time purging starts and ends liters. Pumping Rate is gpm or Lpm, di or average pumping rate during purging Conductance corrected for temperature Sample Data Sa	pending on box Record equi	checked in casi pment calibration); EC: Electrica	ng volume calc i methods, dec il Conductivity	ulation. Use *F ontamination pro	inal" column above ocedures, equipment temperature (µS/cr	for recording sam; I failures, purge w	ple field measur ater disposal mi ho/cm. 1 gallor	ements, total athod, etc. in	volume purged before sampling daily field notes. SC: Specific
Field Sample ID	Result Code	Date	Time	Bottles	Filtered	Lab ID	Case ID	SDG II	Remarks
(unique ID on bottles)	+	(m/d/y)	(hh;mm)	(total to lat	0) (0.45 μm)	10	0000 10	550	
Mw-4	P0	03/17/16	FIJO						
Sample ID may be up to 15 characters. BF#, Field Blank; BR#, Equipment Rins and SDG ID (sample delivery group, up Enter sample preservation and handling	ate; BT#, Trip to to 15 characte data on chain-	Blank; SF#, Field ars) are required of-custody form.	Spike (# = 1 to for blanks. Ca Also record do	o 9). Lab ID (up ise ID may be th stailed information	p to 5 characters) is le lab service reque on about duplicate, s	name of laborato st number or yy-m iplit, rinsate, spike	ry that will analy m. SDG may b	yze the sampi e lab's SDG, i	 ie. Case ID (up to 5 characters) a cooler ID number, or mmddyy.
Sampler's Name (print)	Mic	hael Ha	iseltin	e s	ignature	11/11/			

Sampled By Facility	Personne	□ ES&T	Facili	ty GP	M 3035	5	Site	ID .	Mu	1-2
Other: Antea Gro			Proje				Date	(m/d/	v) 03	3/17/16
Site Description	Monitoring 1	Well 🗆 Extr	action Well	☐ Irrigation	Well Spr	ing 🗆 Boreh	ole D Pro	be Ott	ner:	
	□°F			lear, wa						
Well Locked? ☐ yes (⊐ no	Dama	aged/Rep	airs Neede	d:					
☐ TOC ☐ MP Description	on:		Flush							.a.a
TOC/MP Stickup: [above/below	ground	Well Ins	ide Diamet	er (ID): 🕱	2-inch 🗆	4-inch (Other	
Site Remarks (nearby wells	pumping,	tide, stream :	stage, etc.)							
		ent Units: C				tal Depth (TD			3	
☐ E-Tape, # ☐ Steel Tape ☐ Other	Pre-Purg Initial	pe Pre-F Confin	ourge mation	Purging Start	During Purging	Purging End		After mpling		Remarks
Time (hh:mm; 24-hr clock)										
Depth to Water	11.7	3								
Tape Correction										
Water Level (WL)										
Product Thickness										
Product Recovery										
Measure water level from fixed measuring TOC, measure water level from north sid MP/TOC Stickup measurement is from grumped; C - cascading. Water Level (tobserved. If free product removed from water Level)	te of casing. round surface WL) = Depth t well, record vol	Measure static or to nearest 0.1 ft of to Water - Tape (ume removed in)	r pre-purging word, or 0.01 m. Dep Correction factor gallons or liters	rater level twice; re th to Water codes: or. Record free pro	cord initial and co N - not measured oduct presence at	onfirmation measu d; D - dry; O - obs time of water levi	rements and re tructed; P - pur	neasuremen nping: F - fi	t times (i owing (ar	n 24-hour clock format). tesian well); R - recently
		18,27		ab X Bailer		Description			141 - 11	^ ^
Casing Volume: [rrd Conversion Factor = 0.0408 for	o) - feet and g	_(WL)]*[allons; 0.154	_(Well ID)] ²⁴ 4 for feet al	Convend liters; 0.50	ersion Factor)] = 66 for meters	89 and liters; We	all ID in incl	168	Whil	Goes Dry e Purging 🏻
☐ Cum. Vol. Purged							(Final)		eter /pe	Remarks
☐ Pumping Rate Time (hh:mm; 24-hr clock)								_		
pH (Temperature Corrected? D)					 			+	$\neg \dagger$	
Temperature □°C □°F					1					
Dissolved Oxygen mg/L										
□SC or □EC µS/cm										
Turbidity D NTU										
Color/Tint		Cla								
Odor	1/63	schil ndo	1							
	· ·	100								
Record time purging starts and ends in liters. Pumping Rate is gpm or Lpm, dep or average pumping rate during purging. Conductance corrected for temperature ()	ending on box Record equi µS/cm at 25°C	checked in casing prient calibration (c); EC: Electrical	ng volume calco methods, deco il Conductivity i	ulation. Use *Fina ontamination proce not corrected for ter	I" column above to dures, equipment mperature (US/cm	or recording samp failures, purge wa i). μS/cm = μmh	le field measur ter disposal me o/cm. 1 gallor	ements, toti sthod, etc. ir	ti volume n daily fie	purged before sampling ild notes. SC: Specific
Sample Data Sal	mple Depth Result	Date	Time	Bottles	☐ Pump Filtered	Description Lab	1:			Remarks
(unique ID on bottles)	Code	(m/d/y)	(hh:mm)	(total to lab)	(0.45 µm)	ID	Case ID	SDG	ID	
01W-2	P0	03/17/16	AN							
			1							
					4.0-4		* D	manda: 6a d	2000	-X- fX-
Sample ID may be up to 15 characters. BF#, Field Blank: BR#, Equipment Rinsa and SDG 10 (sample delivery group, up Enter sample preservation and handling of	te; BT#, Trip 8 to 15 characte	Blank; SF#, Field ers) are required	Spike (# = 1 to for blanks. Ca	se ID may be the li	5 characters) is in ab service request	name of laborator; I number or yy-mr	y that will analy n. SDG may b	/ze the sam e lab's SDG	pie. Cas , a coole	 iD (up to 5 characters) r ID number, or mmddyy.
Sampler's Name (print)	Micl	nael Ha	seltin	e Sig	nature //	MN				
			Date	Entered into 0	Database	Ву			-	Page of

Site Description Monitoring Well Extraction Well Irrigation Well Spring Borehole Probe Other: Air Temp: °C °F Weather: Clear, Warm	n MP or format)
Air Temp:	format). recently
Well Locked?	format). recently
TOC MP Description: Flush TOC/MP Stickup: ft m above/below ground Well Inside Diameter (ID): 22-inch 4-inch Other: Site Remarks (nearby wells pumping, tide, stream stage, etc.) Water Level Data Measurement Units: ft m Well or Borehole Total Depth (TD) from MP or TOC:	format). recently
TOC/MP Stickup:	format). recently
Water Level Data	format). recently
Water Level Data Measurement Units: □ ft □ m	format). recently
Pre-Purge Pre-Purge Pre-Purge Purging	format). recently
Steel Tape Other Initial Confirmation Start Purging End Sampling	format). recently
Depth to Water Fape Correction Water Level (WL) Product Thickness Product Recovery gallons liters leasure water level from fixed measuring point (MP) or top of well casing (TDC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TDC. If no mark of CC, measure water level from north side of casing. Measure static or pre-purging water level brice; record initial and confirmation measurements and measurement into (MP) or TDC. If or 0.01 m. Depth to Water codes: N - not measured: D offy: O - obstructed; P - pumping: F - flowing (arresian water), R - umped: C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness observed. If free product removed from well, record volume removed in gallons or liters. list product type in "Remarks" column. Field WQ Data Purge Depth: D - 2 Grab Bailer Pump Description: Well Goes Dry	format). recently
Product Thickness Product Recovery gallons liters Measure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark of OC, measure water level from north side of casing. Measure static or pre-purging water level bride; record initial and confirmation measurements and measurement times (PA-Dour clock MP/OC) Stickup measurement is from ground surface to nearest 0.11 ft or 0.01 m. Depth to Water codes: N - not measured: Orly: O - obstructed; P - pumping; F - flowing (artissian well); R - pumping: C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness observed. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column. Field WQ Data Purge Depth: D - 2 Grab M Bailler Pump Description: Well Goes Dry Well Goes Dry	format). recently
Vater Level (WL) Product Thickness Product Recovery I gallons liters leasure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark of the control of the con	format). recently
Product Thickness Product Recovery gallons liters leasure water level from fixed measuring point (MP) or top of well casing (TDC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TDC. If no mark of CC, measure water level from north side of casing. Measure static or pre-purging water level bride; record initial and confirmation measurements and measurement times (in 24-hour clock in the confirmation measurement is from ground surface to nearest 0.1 ft or 0.01 m. Depth to Water codes: N - not measured: D - dry: O - obstructed; P - pumping: F - flowing (arrises and measurement) and measurement wall; R - umped: C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness been depth of the confirmation measurement is measurement. The product presence at time of water level measurement; use "S" for free product thickness been depth of the confirmation measurement in the confirmation of the con	format). recently
Product Recovery gallons liters leasure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark of OC, measure water level from north side of casing. Measure static or pre-purging water levels whice; record initial and confirmation measurements and measurement times (PA-Dour clock MP/FTOC Stockup measurement is from ground surface to nearest 0.11 for 0.01 m. Depth to Water codes: N - not measured: D or dry: O - obstructed; P - pumping; F - flowing (artissian well); R - umped; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness been dependent removed from well, record volume removed in gallons or liters, list product type in "Remarks" column. Field WQ Data Purge Depth: D - Grab Bailler Pump Description: Well Goes Dry Conversion Factor) = D - Q -	format). recently
Egallons ☐ liters #easure water level from fixed measuring point (MP) or top of well casing (TOC). Record water depth to nearest 0.01 ft or 0.002 m, with minus (-) sign if level is above MP or TOC. If no mark or MP/TOC Stickup measurement level from north side of casing. Measure static or pre-purging water level twice; record initial and confirmation measurements and measurement times (in 24-hour clock of MP/TOC Stickup measurement is from ground surface to nearest 0.1 ft or 0.01 m. Depth to Water codes: N - not measured: D - dry: O - obstructed; P - pumping; F - flowing (artiseian well); R - numper; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness ibserved. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column. ### Conversion Factor: Pump Description: Well Goes Dry Well Goes Dry Well Goes Dry Well Goes Dry Pump	format). recently
Co. measure water level from north side of casing. Measure static or pre-purging water level brice; record initial and confirmation measurements and measurement limes (in 24-hour clock profit of the product pressurement is from ground surface to nearest 0.1 for 0.01 m. Depth to Water codes: N - not measured: D dry: O - obstanced; P - pumping; F - flowing (arresian well); R - umped; C - cascading. Water Level (WL) = Depth to Water - Tape Correction factor. Record free product presence at time of water level measurement; use "S" for free product thickness observed. If free product removed from well, record volume removed in gallons or liters, list product type in "Remarks" column. Field WQ Data Purge Depth: D 2	format). recently
Casing Volume: [(TD) - (WL)] • [(Well ID)] 2 • [(Conversion Factor)] = 5.0 gal liters Well Goes Dry	
Conversion Factor = 0.0408 for feet and gallons; 0.1544 for feet and liters; 0.5066 for meters and liters; Well ID in inches While Purging	
☐ Curn. Vol. Purged (Final) Meter Remark ☐ Pumping Rate	s
Fime (hh:mm; 24-hr clock)	
OH (Temperature Corrected? C)	
Temperature □°C □°F	
Dissolved Oxygen mg/L	
□SC or □EC µS/cm	
Furbidity 🗆 NTU	
Color/Tint / lea to closer	
Odor Stiffer prettol star	
Record time purging starts and ends in "Purging Start" and "Purging End" columns in Water Level Data section. Cum. Vol. Purged: cumulative volume removed before sampling, in guiters. Pumping Rate is gpm or Lpm, depending on box checked in casing volume calculation. Use "Final" column above for recording sample field measurements, total volume purged before a reverse pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment field purgent, solven expression of the purgent of the purgent of the pumping start of the purgent of the purgent of the pumping start of the pumping rate during purging. Record equipment calibration methods, decontamination procedures, equipment field pumping the pumping that during purging. Record equipment calibration purgent field pumping the pumping that the	ampling Specific
Field Sample ID Result Date Time Bottles Filtered Lab (unique ID on bottles) Code (m/d/y) (hh:mm) (total to lab) (0.45 μm) ID Case ID SDG ID	5
(M/1) - PO 03/17/16 476 2	
Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: P0, Primary Sample; D#, Duplicate Sample; S#, Split Sample (sent to secs 55#, Field Blank; BR#, Equipment Rinsete; BT#, Trip Blank; SF#, Field Splik (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required to blanks. Case ID may be the lab service request number or sy-mm. SDG may be lab's SDG, a cooler ID number, or name of the sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field	racters) wnddyy.
11.14/	
Sampler's Name (print) Michael Haseltine Signature	

Sampled By D Facilit		□ ES&T	-		IVI 3035)	Site)-[[
Other: Antea Gro	oup		Proje	ct No.			Date	(m/d/y) 0	3/17/16
Site Description 🕱	Monitoring	Well D Extr	action Well	☐ Irrigation	Well □ Spr	ing 🗆 Boreh	ole 🗆 Pro	be Other:	
Air Temp: □ °	C □°F	Weat	ther: C	lear, wa	rm				
Well Locked? ☐ yes	□ no	Dama	aged/Rep	airs Neede	d:				
☐ TOC ☐ MP Descript	ion:		Flush						
TOC/MP Stickup:	0 ft	above/below	v ground	Well Insi	ide Diamet	er (ID): 🕱 2	e-inch	4-inch Othe	er:
Site Remarks (nearby well	s pumping,	tide, stream	stage, etc.)						
Water Level Data	Measureme	ent Units: E	oft □ m	Well or	r Borehole To	tal Depth (TD)		or TOC:	18
☐ E-Tape, # ☐ Steel Tape ☐ Other	Pre-Purq Initial		Purge mation	Purging Start	During Purging	Purging End		After mpling	Remarks
Time (hh:mm; 24-hr clock)	-								
Depth to Water	9.00	2							
Tape Correction									
Water Level (WL)									
Product Thickness						Ī			
Product Recovery									
	ide of casing, ground surface (WL) = Depth t well, record vol urge Depth:	Measure static of to nearest 0.1 ft is water - Tape is ume removed in	r pre-purging vor 0.01 m. Des Correction fact gallons or liters	water level twice; re oth to Water codes; or. Record free pro s, list product type in rab Daller	None initial and or None not measure oduct presence at a "Remarks" colun	onfirmation measured; D - dry; O - obstitione of water level ms. Description	rements and n ructed; P - pur il measuremen	neasurement times mping; F - flowing ht; use "S" for free	s (in 24-hour clock format)
Casing Volume: [(Conversion Factor = 0.0408 fo	ro)	_(WL)]*[allons; 0.154	_(Well ID)] ² , 4 for feet a	nd liters; 0.500	ersion Factor)] = 66 for meters	and liters; We	gal □ lite	710 1	nile Purging 🗖
☐ Cum. Vol. Purged		Ac			1)		(Final)	Meter	Remarks
☐ Pumping Rate		Ung	(2)	2 90	2/10/15			Type	
Time (hh:mm; 24-hr clock)	<u> </u>	`		4					
pH (Temperature Corrected? □)									
Temperature □°C □°F									
Dissolved Oxygen mg/L									-
□ SC or □ EC µS/cm									
Turbidity 🗆 NTU			\					_	ļ
Color/Tint	(lear	40 V	an +	ant				
Odor	SI	Sol De	0 10	0-				_	
		7 1	<u> </u>						
Record time purging starts and ends liters. Pumping Rate is gpm or Lpm, do or average pumping rate during purging Conductance corrected for temperature	pending on bot 2. Record equi	checked in casi pment calibration	ng volume calc n methods, dec	culation. Use "Fina contamination proce not corrected for ter	i" column above i dures, equipment mperature (µS/cm	or recording sample failures, purge wat i). µS/cm = µmho	e field measur er disposal m o/cm. 1 gallor	ements, total volu athod, etc. in daily	me purged before samplin
	Result	·	Time	Bottles	Filtered	Description Lab	1,		Remarks
Field Sample ID (unique ID on bottles)	Code	Date (m/d/y)	(hh:mm)	(total to lab)	(0.45 µm)	ID	Case ID	SDG ID	Indirection
MW-11	P0	03/17/16	1431	2					
	-					 			
	-								1
Sample ID may be up to 15 characters BF#, Field Blank; BR#, Equipment Rins and SDG ID (sample delivery group, u Enter sample preservation and handling	ate; BT#, Trip I	Blank; SF#, Field ers) are required	Spike (# = 1 to for blanks. Ca	o 9). Lab ID (up to ase ID may be the li	o 5 characters) is ab service reques	name of laboratory i number or yy-mm	that will anal s. SDG may b	yze the sample. C e lab's SDG, a col	case ID (up to 5 characters oler ID number, or minddyy
	Mic	hael Ha	saltin	A		WIIM	,		
Sampler's Name (print)	IVIIC	naci Na	13CILIII	C 519	nature	. , , , , , ,			

			I = - :	· · ·	DN 4 202	_	Clas	ID 0	Λ./) 0
Sampled By Facility		I ES&T	Facil		PM 303.	5	Site		1/W	147/46
Other: Antea Gro	oup		Proje	ct No.			Date	(m/d/	y) U:	3/17/16
Site Description 🕱	Monitoring We	□ Extr	action Wel	I □ Irrigatio	on Well Sp	ring 🗆 Bore	hole D Pro	be Ott	her:	
Air Temp: □ °0	D°F	Weat	ther: C	lear, w	arm					
Well Locked? ☐ yes				airs Need						
☐ TOC ☐ MP Descripti		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Flush							
	☐ft ☐ m ab			Well In	side Diamet	er (ID): 🕱	2-inch 🗆	4-inch (Othe	A-M-A
Site Remarks (nearby wells										
	Measurement				or Borehole To	stal Danth (TE) from MP	or TOC:	2	2
□ E-Tape, #	Pre-Purge		Purge	Purging	During	Purgin		After	T	Remarks
☐ Steel Tape ☐ Other	Initial	Confin		Start	Purging	End		mpling		
Time (hh:mm; 24-hr clock)										
Depth to Water	109									
Tape Correction										
Water Level (WL)										
Product Thickness				pres <u>identes programments de la constante de l</u>			I			
Product Recovery			-							
☐ gallons ☐ liters Measure water level from fixed measuring	and the state of t	1	- (TOC) P	and water danib	10 paramet 0.01 # or	0.002 m with mi	nue () ninn if fa	ual ie aboue	NAD or 1	OC II sa mad an 149 as
TOC, measure water level from north si MP/TOC Stickup measurement is from g	de of casing. Mea	ture static o	r pre-purping y	water level twice:	record initial and o	confirmation meas	urements and n	neasuremer	it times	(in 24-hour clock format).
pumped; C - cascading. Water Level observed. If free product removed from	(WL) = Depth to W	ster - Tape	Correction fact	or. Record free	product presence a	t time of water les	rei measuremer	it; use "S" i	or free p	roduct thickness if sheen
	rge Depth:	9.19			ler 🗆 Pump	Description	n:			
		1,,1	_(Well ID)] ²			10	gal 🗆 lite	250	Wel	Goes Dry
Casing Volume:n Conversion Factor = 0.0408 fo	r feet and gallo	.)]•[ns: 0.154	_(Well ID)] 4 for feet a	nd liters; 0.5	nversion Factor)] = 5066 for meters	and liters; W	ell ID in incl	nes		le Purging 🗆
☐ Cum. Vol. Purged			-				(Final)	M	eter	Remarks
☐ Pumping Rate							<u> </u>		уре	
Time (hh:mm; 24-hr clock)										
pH (Temperature Corrected? □)										***************************************
Temperature □°C □°F										
Dissolved Oxygen mg/L										
□ SC or □ EC µS/cm										
Turbidity 🗆 NTU										
Color/Tint	Cha	t to	Dav.	- traf						
Odor	101	1/								
	1-0	1								
Record time purging starts and ends liters. Pumping Rate is gpm or Lpm, de	in "Purging Start"	and "Purgi	ng End" colu	mns in Water Le	ivel Data section.	Cum. Vol. Purgeo	f: cumulative w	olume remo	ved belo	re sampling, in gallons or
or average pumping rate during purging Conductance corrected for temperature	Record equipme	at calibration	methods, dec	contamination pro	cedures, equipment	failures, purge w	ater disposal mi	ethod, etc. is	n daily fi	eld notes. SC: Specific
	ample Depth:		□ G			Description				•
Field Sample ID		Date	Time	Bottles		Lab			***************************************	Remarks
(unique ID on bottles)	Code (m/d/y)	(hh:mm)	(total to lat	o) (0.45 μm)	ID	Case ID	SDG	ID	
mw-9	PO 03	/17/16	1503	1						

-										
Sample ID may be up to 15 characters. 8F#, Field Blank; BR#, Equipment Rins and SDG ID (sample delivery group, up	ate; BT#, Trip Blank	; SF#, Field	Spike (# = 1 t	o 9). Lab ID (u)	p to 5 characters) is le lab service reque	name of laborato st number or vv-m	ry that will analy m. SDG may b	yze ine sam e lab's SDG	ipie. Ca i, a cooli	se IU (up to 5 characters) or ID number, or mmddyv.
Enter sample preservation and handling	data on chain-of-cu	stody form.	Also record d	etailed information	on about duplicate, s	plit, rinsate, spike	, and/or blank s	ample colle	ction/har	ndling in daily field notes.
Sampler's Name (print)	Micha	el Ha	seltin	e s	ignature	h/h	v			

Sampled By Facility Personnel ES&T Facility GPM 3035							Site	Site ID MW-8		
Other: Antea Group Project No.							Date (m/d/y) 03/17/16			
Site Description Monitoring Well Extraction Well Spring Borehole Probe Other:										
Air Temp: □°C □°F Weather: Clear, warm										
Well Locked? ☐ yes ☐ no Damaged/Repairs Needed:										
□TOC □MP Description: Flush										
TOC/MP Stickup: ☐ ft ☐ m above/below ground Well Inside Diameter (ID): 🕱 2-inch ☐ 4-inch Other:										
Site Remarks (nearby wells pumping, tide, stream stage, etc.)										
Water Level Data Measurement Units: ft m Well or Borehole Total Depth (TD) from MP or TOC: 18										
☐ E-Tape, # ☐ Steel Tape ☐ Other	Pre-Purg Initial		Purge mation	Purging Start	During Purging	Purging End		After Remarks ampling		
Time (hh:mm; 24-hr clock)										
Depth to Water	7.5	7								
Tape Correction										
Water Level (WL)										
Product Thickness										
Product Recovery										
Measure water level from fixed measuring TOC, measure water level from north sid MP/TOC Stickup measurement is from gr	te of casing. A round surface t	Measure static o	r pre-purging v	vater level twice; re oth to Water codes:	cord initial and co N - not measure	onfirmation measu d; D - dry; O - obst	rements and n ructed; P - pur	neasurement nping: F - flor	times (in 24-hour clock format), wing (artesian wall); R - recently	
pumped; C - cascading. Water Level (1 observed. If free product removed from v	WL) = Depth to vell, record volu	Water - Tape ume removed in	Correction fact gallons or liters	or. Record free pro i, list product type it	oduct presence at 1 "Remarks" colun	time of water leve	ii measuremen	t; use "S" for	free product thickness if sheen	
	rge Depth:			rab X Bailer		Description				
Casing Volume: [(TD)(WL)] • [(Well ID)] 2 • [(Conversion Factor] =										
☐ Cum. Vol. Purged					-		(Final)	Me		
Pumping Rate Time (hh:mm; 24-hr clock)										
pH (Temperature Corrected? D)										
Temperature □°C □°F					İ					
Dissolved Oxygen mg/L										
□SC or □EC µS/cm										
Turbidity DNTU										
Color/Tint	a	ect to	breen	traff						
Odor		pne								
Record time purging starts and ends i liters. Pumping Rate is gpm or Lpm, dep	ending on box	checked in casi	ng volume calc	ulation. Use Fina	i" column above fi	or recording sample	le field measur	ements, total	volume purged before sampling	
or average pumping rate during purging. Conductance corrected for temperature (Record equip µS/cm at 25°C	ment calibration); EC: Electrica	methods, dec al Conductivity	ontamination proce not corrected for te	dures, equipment mperature (µS/cm	lasures, purge wa). μS/cm = μmh	ter disposal me o/cm. 1 gallor	thoo, etc. in (US) = 3.78	daily field notes. SC: Specific 5 L = 0.833 imperial gallon	
Sample Data Sa	mple Depth	:	□G	rab 🕅 Bailer	☐ Pump	Description	1:	-	· · · · · · · · · · · · · · · · · · ·	
Field Sample ID (unique ID on bottles)	Result Code	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Lab ID	Case ID	SDG II	Remarks	
MW- 8	P0	03/17/16	1607	7/	(0.45 μπ)					
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1 0		100							
										
Sample ID may be up to 15 characters. Sample Result Code, Date, and Time must be entered. Result Codes: PO, Primary Sample: D#, Duplicate Sample: S#, Split Sample (sent to second lab):										
BFs, Field Blank; BRs, Equipment Rinsate; BTs, Trip Blank; SFs, Field Spike (# = 1 to 9). Lab ID (up to 5 characters) is name of laboratory that will analyze the sample. Case ID (up to 5 characters) and SDG ID (sample delivery group, up to 15 characters) are required for blanks. Case ID may be the lab service request number or yy-mm. SDG may be lab's SDG, a cooler ID number, or minddyl. Enter sample preservation and handling data on chain-of-custody form. Also record detailed information about duplicate, split, rinsate, spike, and/or blank sample collection/handling in daily field notes.										
		,								
Sampler's Name (print)	Mich	nael Ha	seltin	e sin	nature	nm				
Date Entered into DatabaseBy Page of										