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FEDEX: 796001139185

June 14, 2013

Ms. Jeannette DeBartolomeo
Oil Control Program
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

RE: Supplemental Investigation Report
Southside Facility #20025
31 Heather Lane
Perryville, Cecil County, Maryland
MDE Case No. 2006-0489-CE

Dear Ms. DeBartolomeo,

Kleinfelder, on behalf of Southside Oil, LLC (Southside), is pleased to submit the enclosed *Supplemental Investigation Report* for the above referenced Site. This report provides a summary of recent Site characterization activities, a Site conceptual model, and includes a detailed summary of recent subsurface and groundwater monitoring activities completed in accordance with the *Work Plan Approval* letter issued by the MDE on December 14, 2012.

Southside and Kleinfelder appreciate the continued guidance of the MDE in the successful completion of this project. Please contact us at (410) 850-0404 if you have questions or require additional information.

Sincerely,
Kleinfelder East, Inc.

Paxton Wertz
Geologist

Donald A. Trego, QEP
Program Manager

Enclosures

cc: Ms. Susan Bull – MDE
Mr. Fred VonStaden – Cecil County Health Department
Mr. Marshall Hare – Southside Oil, LLC (Project File)

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SUPPLEMENTAL INVESTIGATION REPORT
Southside Facility #20025
31 Heather Lane
Perryville, Maryland
MDE Case No. 2006-0489 CE

June 14, 2013

Prepared By:
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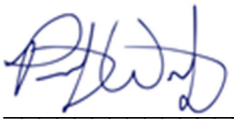
QUALITY ASSURANCE/QUALITY CONTROL

SUPPLEMENTAL INVESTIGATION REPORT

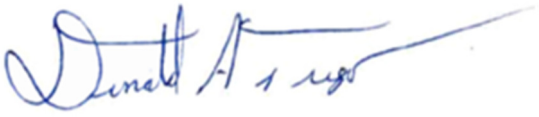
Southside Facility #20025
31 Heather Lane
Perryville, Maryland
MDE Case No. 2006-0489 CE

The following personnel have reviewed this report for accuracy, content and quality of presentation:



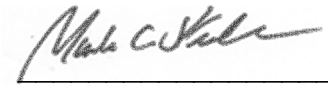
Paxton Wertz
Project Geologist

6/14/2013
Date



Donald Trego, QEP
Program Manager

6/14/2013
Date



Mark C. Steele
Client Account Manager

6/14/2013
Date

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1.0 INTRODUCTION

Southside Oil, LLC (Southside) retained Kleinfelder East, Inc. (Kleinfelder) to prepare a Supplemental Investigation Report (SIR) and Site Conceptual Model (SCM) for the Southside Facility #20025 located at 31 Heather Lane, Perryville in Cecil County, Maryland (Site). The Site is an open leaking underground storage tank (LUST) site with the Maryland Department of the Environment – Oil Control Program (MDE - OCP) under Case Number 2006-0489-CE. The SIR was requested by the MDE in a letter dated December 14, 2012 which provided the approval of Kleinfelder's *Subsurface Investigation Work Plan* dated September 14, 2012 (**Appendix A**). The Work Plan outlined the installation of on-site and off-site wells for horizontal and vertical delineation of dissolved phase hydrocarbons, groundwater sampling and continued potable well sampling at two off-site properties.

1.1 Purpose

This report was prepared to document the results of the additional investigation activities and to summarize and provide an update to the 2011 *Supplemental Site Assessment Report* (SSAR) *and Site Conceptual Model* (SCM) submitted by Kleinfelder on behalf of Southside.

1.2 Report Organization

The following Sections describe the contents of this report:

- Section 2.0 contains background information along with the Site setting, potential receptors, chronology including a summary of site characterization activities completed to date.
- Section 3.0 contains a summary of the geologic and hydrogeologic setting.
- Section 4.0 contains a summary of the site assessment activities completed for this report.
- Section 5.0 contains the results of the site assessment activities.
- Section 6.0 discusses the nature and extent of constituents of concern (COCs) at the Site.
- Section 7.0 provides the SCM.

- Section 8.0 provides an evaluation of the seven risk factors in accordance with the MDE Maryland Environmental Assessment Technology for Leaking Underground Storage Tanks (MEAT) document.
- Section 9.0 discusses waste management associated with SIR activities.
- Section 10.0 discusses a summary of the findings.
- Section 11.0 presents recommendations for future Site activities.
- Section 12.0 discusses the limitations of the report.
- Section 13.0 contains references.

2.0 SITE OVERVIEW

Background information pertaining to existing Site features and land use was compiled by Kleinfelder personnel.

2.1 Site Description

The Site is located on the north side of Heather Lane, southeast of Interstate 95 at Exit 93 in the Town of Perryville, Maryland (**Figures 1** and **2**). The approximate geographical coordinates for the Site are 39 degrees, 35 minutes, 18.7 seconds North (Latitude) by 36 degrees 03 minutes, 51.7 seconds West (Longitude) (**Figure 1**). The Site is comprised of one parcel (Map 29, Grid 16, Parcel 49) that covers a total area of approximately 1.42 acres and is owned by National Properties Retail, LP of Orlando, Florida. Southside leases the Site and shares a convenience store building with the adjacent Pilot Travel Center #290 located north of the Site. A Site plan showing the key site features at the Site is included as **Figure 3**.

The Site is an active Exxon-branded service station with a convenience store, a canopy, four underground storage tanks (USTs) and seven dispenser islands. The Site does not have a private well, and municipal water is supplied to the Site by the Town of Perryville. The UST system was installed in 1990 and is located near the southeast corner of the Site. The UST system is constructed of double walled fiberglass and consists of three 12,000-gallon gasoline USTs and one 6,000-gallon diesel UST with rigid double-walled fiberglass product piping. There are 11 monitoring wells, one bedrock well, and three tank field observation wells located on the site. There are two off-site monitoring wells associated with the monitoring well network.

2.2 Area Description

The Site is zoned commercial (C2) by the Town of Perryville/Cecil County. The surrounding properties are commercial along the Heather Lane corridor. Residential properties are located along Perryville and Blythedale Roads, which extend north-south near the property. **Figure 2** shows a Local Area Map depicting the half-mile area surrounding the Site.

North: The Site is bordered to the north by the Pilot #290 Travel Center fuel station. The diesel dispensers and canopy for this facility directly abut the Site.

South: The Site is bordered to the south by Heather Lane, beyond which are residential properties, the closest of which is 1825 Perryville Road. An outlet mall is also located southwest of the property

East: The Site is bordered to the east by Perrylawn Drive (Route 222), beyond which are an auto repair facility (Harbold Motor Company), a church, a barber shop, and residential properties along Blythedale Road (Route 824) and Reservoir Road.

West: The Property is bordered to the west by a parking lot for a Denny's Restaurant. Beyond the Denny's Restaurant, there is a Days Inn hotel, a fast food restaurant and a water tower. Please note that there are no water supply wells directly associated with the water tower.

2.3 Potential Receptors

The following sections summarize the identification and description of potential receptors in the vicinity of the Site.

2.3.1 Surface Waters and Wetlands

The closest body of surface water to the Site is an unnamed tributary to the Susquehanna River located approximately 1,200 feet west of the Site. Another tributary to the Susquehanna River, Mill Creek, is located approximately 2,300 feet east of the Site, and Perryville Reservoir is located approximately 2,500 feet east of the Site. The Susquehanna River is located approximately 1.35 miles southwest of the Site (**Figure 1**).

2.3.2 Potable Well Search

A well survey was conducted as part of the *Supplemental Site Assessment Report and Site Conceptual Model* in submitted December 2011 to verify groundwater use in the area and to identify potential groundwater receptors near the Site. Kleinfelder used public records and visual observations in performing the survey. The survey consisted of a database search for permitted wells in the area with the MDE Groundwater Permits Program, the requesting of hard copy well completion reports for all reports filed for the

area around the site, a freedom of information act (FOIA) request with the Cecil County Health Department, and a visual survey of neighboring properties and land uses. Approximately 21 suspected or confirmed potable wells are located within 1,000 feet of the Site (**Figure 2**). No information was available for the majority of potable wells in the area, likely due to the ages of the properties and wells which pre-date well permitting in Maryland. Although a search of available well and water records has been performed, the accuracy and completeness of these records are the responsibility of the regulatory agency. The possibility exists that unrecorded wells may be located near the Site. A tabulated summary of the well records is provided **Table 1**.

Five potable wells in the area of the Site have been sampled per approval with and at the direction of the MDE:

- 1803 Perryville Road
- 1825 Perryville Road
- 1836 Perryville Road
- 1812 Perryville Road, and
- 7 Patterson Avenue

Kleinfelder has confirmed with the Town of Perryville Town Planner (Mary Ann Skilling) that a municipal water line is located west of Perryville Road from St. Marks Church Road through wooded areas to the Perryville Outlet Mall and then extends northward from the Outlet Mall to the commercial area surrounding and including the Site. Residential properties in the vicinity of the Site currently do not have municipal water supply.

2.3.3 Utilities

The on-site building is slab on grade construction. Below grade utilities at or adjacent to the Site include water, storm water, sanitary sewer, and electric lines. The approximate locations of identified utilities are depicted on **Figure 3**.

2.3.4 Other Potential Receptors

Other potential receptors include the Susquehanna Seventh Day Adventist Church and Susquehanna Seventh Day Adventist School which are located approximately 650 feet east of the Site.

2.4 Previous Site Activities

The Site has operated as an Exxon retail service station since 1990 when the current USTs were installed.

In April 2005, a groundwater use survey was completed by Groundwater & Environmental Services (GES), on behalf of Exxon Mobil Corporation (ExxonMobil), for a ½ mile radius surrounding the Site. The survey results indicated that the Exxon service station was supplied with municipal water and private potable wells were identified within a 1,000 feet of the Site. Based on the results of the groundwater use survey, the requirements of COMAR 26.10.02.03-4 for existing gasoline UST systems are applicable to the Site.

In 2005, ExxonMobil installed three monitoring wells (MW-1 through MW-3) in response to High Risk Groundwater Use Areas (HRGUA) regulations. The installation and sampling of these wells was documented in the *Subsurface Investigation Report* dated September 6, 2005. Based on the detection of methyl tertiary butyl ether (MTBE) in monitoring well MW-2 above the MDE action level of 20 micrograms per liter (µg/L) (**Table 2**), the MDE-OCP assigned Case Number 2006-0489-CE to ExxonMobil in a letter dated December 7, 2005.

Semi-annual groundwater monitoring and reporting was initiated in compliance with the MDE directive and the first Semi-Annual Groundwater Monitoring Report (GMR) is dated April 28, 2006.

In March 2007, two additional wells (MW-4 and MW-5) were installed for additional site characterization and delineation purposes (**Figure 3**) as reported in the *Monitoring Well Installation* letter report dated June 26, 2007. Semi-annual groundwater sampling and gauging continued through 2009.

ExxonMobil completed a *Phase II Environmental Site Assessment* (ESA) Report dated October 2009. The Phase II ESA was completed by ExxonMobil in preparation for sale of the Site and the field investigation was conducted in August through September 2009 during which five soil borings (SB-1 through SB-5) were advanced for soil assessment. Four of the borings (SB-2 through SB-5) were completed as monitoring wells MW-6,

MW-7, MW-8, and MW-9 for groundwater sampling purposes. Locations of the soil borings and wells are depicted on **Figure 3**.

An evaluation of the case for closure was submitted by ExxonMobil on October 30, 2009 in the *Second Half 2009 Groundwater Monitoring Report / Case Closure Request*. The report documented semi-annual groundwater monitoring activities and included a detailed evaluation of the seven risk factors identified in the MEAT guidance document.

On August 6, 2010, the MDE issued a Site Status letter documenting the Department's review of the October 2009 *Phase II ESA and Case Closure Request* documents. Based on field reconnaissance and interviews conducted by the Department, a private potable well was identified at 1825 Perryville Road immediately south and adjacent to Heather Lane approximately 600 feet south of the Site (**Figure 3**). The MDE denied ExxonMobil's request for case closure and required the continuation of semi-annual groundwater monitoring of the existing monitoring well network and collection of a water sample from the domestic well at 1825 Perryville Road.

On August 25, 2010, Southside assumed ownership and the remedial obligation from ExxonMobil for the Site.

In October 2010, access was obtained from the property owner of 1825 Perryville Road to collect the water sample requested by the MDE. The well was sampled on October 5, 2011 and a confirmation sample was collected on October 21, 2011. Both samples indicated the presence of MTBE at concentrations of 24 and 21 µg/L, respectively, which are above the MDE action level of 20 µg/L (**Table 3**). A point of entry treatment (POET) system consisting of two 50-pound granular activated carbon vessels was installed on the well on November 11, 2011.

Kleinfelder, on behalf of Southside, submitted a *Work Plan for Additional Potable Well Sampling and Well Survey Update* to the MDE on November 11, 2010. The proposed scope of work included the collection of samples from five additional off-site potable wells south of the Site and a well survey update. The Work Plan was approved by the MDE on March 29, 2011 and included a request for additional subsurface delineation for horizontal and vertical delineation of subsurface petroleum impact and an increase in the groundwater monitoring frequency to quarterly. Upon completion of the approved work plan, the MDE outlined requirements for a SCM.

Off-site access and sampling requests for off-site residences were obtained as outlined in the MDE's Work Plan approval letter, except for one property owner at 1811 Perryville Road. Two letters requesting access to sample the well at 1811 Perryville Road were issued to the property owners (James and Judith Clayton) by Kleinfelder on April 5th and September 1st 2011. Additionally, the MDE made a separate request for access in the *Request to Sample Your Drinking Water Well* letter dated August 26th 2011. The property owner at 1811 Perryville Road has refused the multiple access attempts to sample the potable well on the property.

Potable well samples were collected from the remaining proposed properties in April 2011 and reported to each property owner and copied to the MDE under separate cover. Samples were collected from the potable wells located at: 1825 Perryville Road; 1836 Perryville Road; 1803 Perryville Road; 1812 Perryville Road, and 7 Patterson Avenue (**Figure 4** and **Table 3**). The analytical results for the potable well sampling indicated MTBE was detected above the laboratory reporting limits at 1825 and 1836 Perryville Road. An MTBE concentration of 6.8 µg/L was reported for the sample collected at 1836 Perryville Road, which is below the MDE action level of 20 µg/L. The influent MTBE concentration of the POET at 1825 was reported at 24 µg/L and is consistent with previous sampling results. No COCs were detected in the remaining potable well samples.

On May 13, 2011, Kleinfelder, on behalf of Southside, submitted a *Work Plan for Supplemental Site Assessment Activities* which included the installation of three monitoring wells, including one deeper vertical extent well and two off-site monitoring wells to the east and south of the Site. A reduction in the groundwater sampling program was also proposed in the Work Plan.

The MDE approved the Work Plan on August 9, 2011; however, the Department did not approve the reduction in the groundwater monitoring program and provided a directive to continue quarterly groundwater sampling and potable well sampling of two off-site properties (1825 and 1836 Perryville Road).

Off-site access was obtained for the installation of monitoring well MW-12 at 1825 Perryville Road. Access to install a monitoring well on the grass-covered median between Perrylawn Drive and the Site was denied by the State Highway Administration (SHA); however, a permit was granted to advance a direct push boring for the collection of a groundwater sample east of the tank field and Site.

In December 2011, Kleinfelder, on behalf of Southside, submitted the *Supplemental Site Assessment Report (SSAR) and Site Conceptual Model (SCM)* to the MDE reporting the Site assessment and characterization activities completed to that point. Following the review of the December 2011 *SSAR and SCM*, the MDE requested a work plan in June 2012 to assess the vertical and lateral extent of petroleum constituents in the subsurface to the east of the Site tank field.

In September 2012, Kleinfelder, on behalf of Southside, submitted the *Subsurface Investigation Work Plan* detailing the plan to assess the vertical and lateral extent of petroleum constituents in the overburden and bedrock aquifer to the south and east of the Site. Additional characterization activities were provided in the November 2012 *Supplemental Information for Subsurface Investigation Work Plan*.

On December 14, 2012, the MDE issued the *Work Plan Approval* in response to the above referenced work plans.

3.0 GEOLOGY AND HYDROGEOLOGY

The Site is located within the Western Shore Lowlands Region of the Coastal Plain Physiographic Province. The Maryland Geologic Survey, Geologic Map of Maryland (1968), was reviewed and the Site lies within the Potomac Group and is also mapped near the late Precambrian Volcanic Complex of Cecil County and the Paleozoic Port Deposit Gneiss and the Volcanic Complex of Cecil County. The Potomac Group is composed mostly of sands, silts and clays that vary in color. The Raritan and Patapsco Formations of the Potomac Group are indicative of soils encountered during on-site drilling activities; however, granite is logged on well completion reports for nearby potable wells which may suggest the presence of the Port Deposit Gneiss at depths of approximately 35 to 45 feet below grade. The Raritan and Patapsco Formations consist of gray, brown, and red variegated silts and clays. The Volcanic Complex of Cecil County consists of metamorphosed andesitic and dacitic volcanic rocks (greenstone, greenschist, quartz amphibolite, and schistose felsite); amygdules and locally preserved volcano-clastic textures with an unknown thickness. The Port Deposit Gneiss is listed among the granitic series of Eastern Piedmont rocks and is described as a moderately to strongly deformed intrusive complex composed of gneissic biotite quartz diorite, hornblende-biotite quartz diorite, and biotite granodiorite with all rocks foliated and some strongly sheared.

Soils encountered during subsurface investigation activities at the Site consisted of red, brown and gray clays and silts with a sand layer within the clays that is apparently continuous longitudinally from north to south through the center of the Site, but discontinuous from east to west. This sand unit appears partially confined at the southeastern portion of the Site, and unconfined to unsaturated in the northern portion of the Site. Clays of varying sand and silt content dominate the surficial lithology at the Site. Bedrock encountered during the subsurface investigation consisted of aphanitic greenstone, suggestive of the Volcanic Complex of Cecil County.

A complete description of the materials encountered during drilling activities is included on the boring and well construction logs in **Appendix B**. An updated generalized geologic cross-section was constructed with the locations shown on **Figure 5**. Cross-section A-A' and B-B' are included as **Figures 6** and **7**.

Perched water conditions exist in the tank field area with high water levels (between 0 to 3 feet below top of casing (TOC)) observed in the tank field wells. Static groundwater

levels have been measured at the Site and range from 18.32 (MW-5) to 37.45 (MW-13) feet below TOC (**Table 2**). The perched water conditions observed in the tank field wells contribute to recharge of the underlying overburden aquifer resulting in radial groundwater flow centered in the vicinity of the tank field superimposed on the apparent regional groundwater flow direction observed in the overburden aquifer. The apparent groundwater flow for the central and northern portion of the Site is predominantly semi radial to the north/northeast under a hydraulic gradient of approximately 0.035 foot per foot (ft/ft) between monitoring wells MW-4 and MW-2. The apparent groundwater flow on the southern portion of the Site is semi-radial consistent with topography and toward local drainage features (Mills Creek to the east/southeast, the unnamed creek to west/southwest and south toward the Susquehanna River) under a hydraulic gradient of 0.075 ft/ft to the south/southeast (between MW-6 and MW-12) as calculated from the April 5, 2013 groundwater gauging event. The April 5, 2013 Hydrocarbon Distribution / Groundwater Contour Map is provided as **Figure 8**.

4.0 SITE ASSESSMENT SUMMARY

The Site Assessment activities conducted include installation of one bedrock well, including borehole geophysical logging and packer testing, and the installation of one on-site and one off-site overburden monitoring well. A second bedrock well was proposed and approved by the MDE for installation and testing at 1825 Perryville Road; however, Kleinfelder was not able to obtain an access agreement for the installation of this well with the property owner. The MDE was notified of the modification of the scope of work.

4.1 Bedrock Well Installation

4.1.1 Borehole Advancement

One bedrock well was installed during the supplemental subsurface investigation. Bedrock well BR-1 was installed on-site to assess geologic conditions of the bedrock east of the tank field, obtain groundwater quality data in the bedrock aquifer, and hydraulic properties of the bedrock aquifer. The location of bedrock well BR-1 is included on **Figure 3**.

Bedrock well BR-1 was drilled on the March 19 and 20, 2013. The borehole was advanced to a terminal depth of approximately 150 feet below grade utilizing the air rotary drilling method. Prior to drilling, the location was cleared via air knife / vacuum excavation to a depth of five feet below grade to verify that the area was clear of underground utilities. A ten inch borehole was advanced to approximately 49 feet below grade, which was approximately five feet into competent bedrock, and a six inch diameter steel casing was installed. Two feet of hydrated bentonite was used to seal the bottom of the casing and the bedrock. The remaining annulus surrounding the casing was grouted with a Portland cement and bentonite slurry and allowed to cure overnight. Once the grout had sufficiently cured, a six inch borehole was advanced to the terminal depth of approximately 150 feet below grade. The lithology encountered consisted generally of clay of varying degrees of stiffness and plasticity in the overburden, approximately five feet of saprolite, and bedrock consisting of aphanitic to microcrystalline greenstone. The boring and well construction log of bedrock well BR-1 is included within **Appendix B**.

4.2.2 Borehole Geophysics

On March 29, 2013, ARM Group completed a borehole geophysical survey on bedrock well BR-1. The borehole geophysical survey was conducted to identify planar features in the borehole and to assess which planar features may be water bearing. The geophysical survey consisted of fluid temperature, fluid conductivity, natural gamma, short and long normal resistivity, 3-arm caliper, acoustic televiewer, single point resistance, spontaneous potential and heat pulse flow meter logging.

Water bearing features in the bedrock well were identified by variations in the fluid temperature, fluid conductivity, and spontaneous potential logs. The heat pulse flow meter was used to assess the presence and magnitude of vertical fluid movement within the borehole. Fractures were identified with the 3-arm caliper tool and the acoustic televiewer logs.

4.2.3 Packer Testing

Packer testing was conducted at discrete intervals in bedrock well BR-1 to assess the presence of petroleum constituents present in the bedrock aquifer and hydraulic properties of fractures and planar features within the bedrock aquifer. The packer tests were conducted by ARM Group on April 10, 2013. Packer tests were conducted using a straddle packer configuration to isolate selected intervals within each borehole. The intervals were selected based upon the results of the geophysical survey conducted on the borehole. Intervals containing potentially water bearing fractures or dense fracture sets were selected for packer testing. Packer testing was performed on the following intervals in bedrock well BR-1:

- 52-62 feet below grade, fracture depth 54 feet below grade
- 79.5-89.5 feet below grade, fracture depth 86.5 feet below grade
- 95-105 feet below grade, fracture depth 98.5 feet below grade
- 127-137 feet below grade, fracture depth 135.5 feet below grade

The straddle packer system consisted of two inflatable packers separated by a length of schedule 40 perforated steel pipe to act as a screen across the packer interval. Once inflated, the packers isolated the selected interval from the remainder of the borehole. If fractures in the aquifer do not intersect one another a short distance from the borehole, and if an adequate seal is formed between the packers and the borehole, the straddle

packer system allows for discrete testing of aquifer and chemical parameters within the packer test interval. The head in the packer interval, as well as the head above and below the packer spread, was monitored and recorded with direct read vented data logging pressure transducers. Direct read pressure transducers allow for the assessment of the viability of the seal of the packers within the borehole and the degree of connection between the interval tested and the intervals above and below.

Water quality and hydraulic parameters were monitored during the packer testing. Groundwater was purged from the packer assembly via a submersible pump, through a flow through cell to monitor water quality parameters. Flow was measured through a flow meter and a flow totalizer. Once water quality parameters had stabilized, a groundwater sample was collected for laboratory analysis of full list volatile organic compounds (VOCs) and fuel oxygenates using EPA Method 8260B.

4.3 Monitoring Well Installation

The site investigation activities included the installation of one on-site and one off-site overburden monitoring well (MW-13 and MW-14) to delineate MTBE in the overburden aquifer. The locations of the wells are depicted on **Figure 3**. Kleinfelder, on behalf of Southside, secured an access agreement with Mr. Vincent Jones of Perryville, Maryland on February 22, 2013 for the installation, testing, maintenance and sampling of monitoring well MW-14.

Monitoring wells MW-13 and MW-14 were advanced via air rotary to depths of approximately 41 and 38 feet below grade, respectively. Soil cuttings were logged for lithology and screened with a photoionization detector (PID) in the field to assess the concentrations of VOCs in soil samples. No PID readings were detected above background in the soil samples; therefore, soil samples were not collected for laboratory analysis.

The monitoring wells were constructed using 2-inch diameter schedule 40 PVC riser and 20 feet of 0.020-inch machine slotted PVC screen. The 20 foot long well screen was installed to the bottom of the borehole and PVC riser was used to extend the monitoring well to the surface. A clean No. 2 Moiré sand envelope was installed in the annular space between the borehole and the well screen or casing from the bottom of the boring to approximately two feet above the screened interval. Approximately two feet of bentonite clay was placed on top of the sand pack and hydrated to form a seal

above the sand. After allowing the bentonite to set, the remaining annular space was grouted with a Portland cement and bentonite slurry to approximately one foot below the top of casing. The monitoring wells were then completed with lockable expansion-grip caps and covered with bolt down, water-tight steel traffic boxes set in concrete pads. The boring and construction log of monitoring wells MW-13 and MW-14 are presented in **Appendix B**.

Following installation, the wells were developed using a submersible pump until the water discharged was of minimal turbidity. Monitoring well MW-13 was pumped until it was dry. Water produced during well development was treated with portable granular activated carbon filters before discharging to the surface.

The vertical elevations of the TOC for each well were measured with standard surveying equipment. Elevations were measured in relation to the TOC elevations for the existing monitoring well network.

4.4 Potable Well Sampling

The potable wells located at 1825 and 1836 Perryville Road are sampled quarterly as directed by the MDE after initial sampling was conducted in October 2010 and April 2011 detected the presence of MTBE in the potable wells. The approximate potable well locations are depicted on **Figures 2** and **4**. Access to each well sampled was obtained prior to sampling. Quarterly water samples are collected at each property for analysis of full list VOCs plus fuel oxygenates using EPA Method 524.2. The potable well located at 1825 Perryville Road was not sampled during the First Quarter 2013 due to an expired access agreement and ongoing access negotiations with the property owner.

Prior to March 2012, the potable well located at 1825 Perryville Road had MTBE detected at concentrations above the MDE action level of 20 µg/L. A point of entry treatment (POET) system was installed at the residence on November 11, 2010 and has been maintained and monitored on a quarterly basis since installation. The potable well located at 1836 Perryville Road has historically had concentrations of MTBE detected that are below 10 µg/L. Analytical data for the off-site potable wells (and POET system at 1825 Perryville Road) are summarized in **Table 3**.

4.5 Groundwater Sampling

As required by the MDE, groundwater samples are collected from the Site monitoring wells on a quarterly basis. The most recent sampling event was conducted on April 5, 2013. Groundwater samples were collected from the monitoring and tank field wells and submitted to Lancaster Laboratories for analysis of full list VOCs, ethanol and fuel oxygenates using EPA Method 8260B and total petroleum hydrocarbon – gasoline range organics (TPH-GRO) and total petroleum hydrocarbon – diesel range organics (TPH-DRO) using EPA Method 8015B.

5.0 SITE ASSESSMENT RESULTS

The site assessment results provide insight into COC distribution within the overburden and bedrock aquifers in the vicinity of the Site. The advancement, geophysical survey and packer testing of bedrock well BR-1 identified and tested the hydraulic and water quality conditions of fractures east of the Site tank field. The installation and groundwater sampling of monitoring wells MW-13 and MW-14, and the Site monitoring well network, refined groundwater flow conditions at the Site. The lithologic information collected during the advancement of bedrock well BR-1 and monitoring wells MW-13 and MW-14, in conjunction with existing Site boring logs, provide insight to potential preferential pathways in the overburden aquifer.

5.1 Borehole Geophysical Survey Results

The geophysical survey conducted on bedrock well BR-1 was used to identify potentially water bearing fractures in the borehole that were likely to serve as pathways for COCs in the bedrock aquifer. The acoustic televiewer and three-arm caliper tools were used to identify four fractures that could serve as pathways for COCs or were of sufficient size to warrant further examination. The fluid temperature, fluid conductivity, single point resistance, long normal and short normal resistivity, and spontaneous potential tools provided little insight to the nature of water bearing features or fluid flow within the borehole. No measurable vertical flow was observed within the borehole with the heat pulse flow meter under ambient conditions. Measurable upward flow was observed from specific fractures during the stressed heat pulse flow meter test. These results were utilized to refine the selection of packer intervals to be further examined. The geophysical borehole survey report is included as **Appendix C**.

5.2 BR-1 Borehole Packer Testing Results

Four packer test intervals were selected based on the geophysical survey results. The intervals were selected based on the likelihood of a planar feature serving as a water bearing fracture and thus a preferential pathway for the migration of COCs. The criteria included the aperture of the planar feature and instrument response observed by the various geophysical logging methods employed. The fractures included for analysis generally have relatively large apertures and contribute to vertical borehole fluid flow. The packer testing report generated by ARM Group is included as **Appendix D**.

The results of hydraulic head collected during the packer testing indicate that there is hydraulic connection within and between the lower three zones tested, and that there is limited to no direct hydraulic interaction between the upper most packer interval and the three lower intervals. Upon examination of the hydrograph for the upper most interval, it is worthwhile to note that the top packer was not inflated during the test; therefore, the response observed in both the pumping zone and the zone above are identical.

The groundwater samples collected from the fractures tested in bedrock well BR-1 were tested for full list VOCs and fuel oxygenates and only toluene and MTBE were above the laboratory detection limits. Toluene, detected at concentrations ranging from 25 to 120 µg/L, is a common component of adhesives used in the manufacture of tape. Copious amounts of tape were used during the packer testing process to secure the packer inflations lines, pressure transducer cables and vent lines to the steel risers used to lower and raise the packer assembly. The low levels of toluene reported in packer test samples collected from bedrock well BR-1 are consistent with cross-contamination of sample media from tape residue. The MTBE concentrations detected in the packer test were as follows:

- 33 µg/L in the 52-62 foot interval;
- 11 µg/L in the 79.5-89.5 foot interval;
- 10 µg/L in the 95-105 foot interval; and
- 7 µg/L in the 127-137 foot interval.

The Lancaster Laboratories Analysis Report is included as **Appendix E**.

5.3 Potable Well Sampling Results

As required by the MDE, potable well samples are collected quarterly from 1825 and 1836 Perryville Road. The water samples are analyzed for full list VOCs and fuel oxygenates using EPA Method 524.2. The potable well located at 1825 Perryville Road was not sampled during the First Quarter 2013 due to an expired access agreement and ongoing access negotiations with the property owner. Other than MTBE, VOCs and fuel oxygenates were not detected above the laboratory detection limits in the potable well sample collected from 1836 Perryville Road; MTBE was detected at 5.6 µg/L. This MTBE concentration is consistent with previous sample results collected from the potable well located at 1836 Perryville Road. Potable well sampling results are included as **Appendix F**, and are summarized in **Table 3**.

5.4 Monitoring Well Groundwater Sampling Results

During the First Quarter 2013, the petroleum constituents benzene, total xylenes, MTBE, tertiary butyl alcohol (TBA), tertiary amyl methyl ether (TAME), di-isopropyl ether (DIPE), TPH-GRO and TPH-DRO were reported in groundwater samples collected from Site monitoring wells and tank field wells. The monitoring well gauging and analytical data are summarized in **Table 2**. The results of the April 5, 2013 groundwater sampling event are depicted on **Figure 8** and the associated Lancaster Laboratories Analysis Report are included as **Appendix G**.

6.0 NATURE AND EXTENT OF CONSTITUENTS OF CONCERN

The nature and extent of liquid, absorbed, dissolved, and vapor phase hydrocarbons at the Site are examined below.

6.1 Liquid Phase Hydrocarbon

Liquid phase hydrocarbon has not been detected in the Site monitoring wells or tank field wells since monitoring began in August 2005.

6.2 Adsorbed Phase Hydrocarbons

The soil analytical data collected during boring and well installations is summarized in **Table 4**. A review of **Table 4** indicates that VOCs, TPH-GRO and TPH-DRO were not detected above the MDE's Non-Residential Cleanup Standards and the Protection of Groundwater Standards, except MTBE in three soil samples collected from soil borings SB-1 and SB-3 which were advanced in 2009 in the vicinity of the tank field. The soil analytical data and exceedances in soil boring samples are noted for MTBE only against the MDE Protection of Groundwater soil standards in three samples:

- SB-1 at 10-12 feet below grade;
- SB-1 at 24-26 feet below grade; and
- SB-3 at 12-14 feet below grade.

The sample at SB-1 at 10-12 feet below grade was collected from a depth interval within the capillary fringe of the groundwater interface and may not represent vadose zone conditions. The samples collected at SB-1 at 24-26 feet below grade and SB-3 at 12-14 feet below grade were collected from depths within wet or saturated soil conditions and do not reflect vadose zone soil conditions at those locations near the tank field. Samples of perched water from the tank field wells have exhibited MTBE concentrations as high as 28,900 µg/L and through infiltration it is likely that the MTBE has leached downward to the groundwater interface in the tank field area. Volatile organic compound concentrations in soil are considered delineated to the north, south, west and east by borings advanced during monitoring well installation and Phase II ESA activities.

6.3 Dissolved Phase Hydrocarbons

Groundwater samples from monitoring wells MW-1 though MW-10D, MW-13, MW-14 and BR-1 were collected for the First Quarter 2013 monitoring period on April 5, 2013. Additionally, samples of the perched water within the tank field were collected from the three tank field wells. The water samples were analyzed for full list VOCs, ethanol, and fuel oxygenates using EPA Method 8260B. The groundwater monitoring and analytical data is presented in **Table 2** and the April 5, 2013 sampling data is shown on **Figure 8**.

The fuel oxygenates, MTBE, TAME and TBA, are the primary COCs at the Site. The fuel oxygenate concentrations are exhibiting decreasing trends in each of the on-site wells. Historically, benzene, toluene, ethylbenzene, total xylenes (BTEX), MTBE, TBA, TAME, ethyl tertiary butyl ether (ETBE), DIPE, TPH-GRO, and TPH-DRO have been detected in monitoring well MW-4 and the Site tank field wells. Occasional detections of BTEX constituents, TPH-GRO, and TPH-DRO are reported in groundwater samples collected from other Site monitoring wells; however, BTEX compounds were only detected in monitoring well MW-4 at a concentration of 18 µg/L in the April 2013 sampling event. The fuel oxygenates TBA and TAME have been regularly detected in groundwater samples collected from monitoring wells MW-4, MW-6, and MW-10D and are currently detected at concentrations less than 1,000 µg/L. MTBE is regularly reported in groundwater samples collected from monitoring wells MW-2, MW-4, MW-5, MW-6, MW-10D, MW-12, and was detected in the newly installed monitoring well MW-14. A review of **Table 2** indicates that MTBE has been detected in groundwater samples collected from monitoring wells MW-2, MW-4, MW-5, MW-6, and MW-10D at concentrations above the MDE action level of 20 µg/L. The April 2013 groundwater sampling results indicate that MTBE was detected in the monitoring wells MW-2, MW-4, MW- 5, MW-6, and MW-10D, MW-12, and MW-14 at concentrations ranging from 7 µg/L (MW-12) to 310 µg/L (MW-4).

Similarly to monitoring well MW-4, the tank field wells have historically reported concentrations of BTEX, MTBE, TBA, TAME, ETBE, DIPE, TPH-GRO, and TPH-DRO. The highest observed concentrations of petroleum constituents were reported in groundwater samples collected from the tank field wells in August 2006 (**Table 2**). These results included 28,900 µg/L of MTBE and 5,034 µg/L of total BTEX reported in tank field well TF-2, and 30,300 µg/L TBA reported in tank field well TF-1. Tank field well TF-3 was not sampled in August 2006. The dissolved phase hydrocarbon

concentrations in the perched water of the tank field have decreased significantly over time. Currently, MTBE and TBA are below the laboratory detection limits and total BTEX ranges from below laboratory detection limits to 30 µg/L in perched water samples collected from the tank field wells. Ethanol (650 µg/L) was reported in the groundwater sample collected from tank field well TF-3 during the April 5, 2013 groundwater sampling event.

While the fuel oxygenate concentrations exhibit generally decreasing trends and are limited spatially to the vicinity of the tank field and surrounding monitoring wells, MTBE is reported in the bedrock well BR-1, in off-site monitoring wells, and in two potable wells. The reported concentration of MTBE in the on-site bedrock well BR-1 is above the MDE action level in the 52 – 62 foot sampling interval, while the MTBE concentrations reported in the deeper sampling intervals of bedrock well BR-1, off-site monitoring wells and the potable wells are below the MDE action level.

6.4 Vapor Phase Hydrocarbons

Subsurface vapor phase hydrocarbon concentrations have not been directly investigated because the likelihood for vapor phase impacts to be present at concentrations of concern to potential exposure pathways is limited due to: 1) the absence of LPH, 2) the limited soil impact with only MTBE detected above its Protection of Groundwater Standard, and 3) the VOC concentrations in the monitoring wells around the existing building are below laboratory detection limits. As such, further evaluation of subsurface vapor phase hydrocarbons is not considered warranted.

7.0 SITE CONCEPTUAL MODEL SUMMARY

A *Supplemental Site Assessment Report and Site Conceptual Model* was submitted by Kleinfelder, on behalf of Southside, to the MDE in December, 2011. In that report, a site conceptual model was presented based upon Site characterization activities conducted to that point. In June 2012, the MDE requested additional characterization activities and an update to the Site Conceptual Model based on the finding from those activities. A review of the Site boring logs, historical groundwater monitoring data and the recent Site characterization activities provide the framework for the following update of the Site Conceptual Model.

7.1 Site Geology

This Site Conceptual Model is formed with the interpretation that the overburden in the vicinity of the Site is resultant of transport processes that deposited the soils in recent geologic history. This is consistent the Potomac Group mapped as underlying the Site.

The boring logs of monitoring wells MW-13 and MW-14, which were drilled to the top of competent bedrock, and bedrock well BR-1 provide insight to the depth of bedrock and the character of saprolite in the vicinity of the Site. Saprolite in these borings consists of clay material and is approximately three to five feet thick on top of the bedrock. Additionally, in bedrock well BR-1 and in monitoring well MW-13, lignite was observed with clay at depths of approximately 28 and 27 feet, respectively. The presence of lignite suggests that the soil encountered in the overburden above the saprolite is transported soil, rather than a primary soil that formed as a result of bedrock weathering.

A review of the Site boring logs collected to date indicates that the geology to the east of the tank field consists primarily of moist to dry clay with varying amounts of sand and silt as impurities within the clay units. To the west of the tank field, including the tank field itself also largely consist of clay with varying sand and silt content. However; units consisting primarily of sand are encountered at depths of approximately 16 to 27 feet below grade to the west of the tank field. The thickness of the sand unit observed is varies between 3.5 feet and nine feet. Based on a review of the Site boring logs, the sand unit is representative of a channel and is located at depths between approximately 16 and 33 feet below grade. This sand unit appears continuous and is observed in monitoring wells MW-5, through MW-10D, MW-12, and MW-14 and soil borings SB-1

and SB-3. This sand channel is oriented longitudinally from north to south and is bracketed to the east by borings MW-1, MW-2 and MW-4; and to the west by the boring of MW-3. The sand channel extends to off-site monitoring wells MW-12 and MW-14. A cross section location diagram, as well as an updated cross section showing the north to south longitudinal profile of the Site, is included as **Figures 5**, **6** and **7**. Site boring logs are included as **Appendix B**.

7.2 Overburden MTBE Assessment

The observed concentrations of petroleum constituents are highest and most numerous in the vicinity of the tank field, suggesting that the tank field area was the source of the release. The highest concentrations of petroleum constituents were observed in late 2006 to early 2007, after which the concentrations began to decrease. Monitoring well MW-4 and the tank field wells reported concentrations of BTEX, MTBE, TBA, TAME, ETBE, DIPE, TPH-GRO, and TPH-DRO. Other than the fuel oxygenates, these constituents are generally not detected in monitoring wells outside the immediate vicinity of the tank field. This observation is due to the differences in the physical properties between VOCs and the fuel oxygenates. A summary of physical and chemical properties presented in the Interstate Technology and Regulatory Council's (IRTC) 2005 Overview of Groundwater Remediation Technologies for MTBE and TBA indicates that benzene is comparatively less soluble and more highly retarded than fuel oxygenates such as MTBE, TBA and TAME. While MTBE and TBA are each highly soluble, strongly partition from the gas phase to water phase, and are not significantly retarded (slowed) by sorption processes, the mobility of TBA is typically less than that of MTBE as TBA is considered more biodegradable.

It is likely that a single pulse source petroleum release occurred within the tank field in the summer of 2006 (**Table 2**). Because of the low transmissive properties of the clay found in the shallow overburden of the Site, the majority of the petroleum constituents in the dissolved phase were retarded and spatially limited to the vicinity of the tank field. Those constituents with higher solubility and mobility migrated through the clay via matrix diffusion, by which constituents move through media from higher concentrations to lower concentrations, potentially exacerbated by precipitation and recharge in the area. Because of relatively high solubility and lower retardation, MTBE, TBA, and TAME passed via matrix diffusion to the sand channel below the clay layer. Perched water in the tank field creates a vertical hydraulic gradient in the vicinity of the tank field, and the dissolved phase hydrocarbon constituents create a chemical gradient between

the water in the tank field and the saturated and unsaturated pore water of the clay beneath and around the tank field. While BTEX constituents are chemically retarded from transport because of comparatively lower solubility and higher retardation, the higher solubility and lower retardation factor of fuel oxygenates facilitates unsaturated diffusive transport through the clay and into the sand unit.

In order for the petroleum constituents to migrate beyond the immediate vicinity of the tank field, processes other than purely diffuse transport must be considered. Groundwater elevations throughout the Site suggest that the sand unit is under semi-confined conditions. Depth to water, and the resulting groundwater elevations, measured in April 2013 and presented in **Figures 6** and **7** indicate unconfined conditions in the sand channel in monitoring well MW-9, and unsaturated conditions in the sand channel in monitoring wells MW-8 and MW-12. However, groundwater elevations in monitoring wells MW-5 and MW-6 are consistent with confined conditions. This suggests spatial variations in the saturation state of the sand channel. Downgradient of the tank field, static water levels are below the elevation of the sand channel, and the overburden aquifer is dominated by clay and silt. During the transition of the saturated portion of the overburden aquifer, water from the sand channel most likely infiltrates the underlying units. If the sand channel experiences a spatially continuous or pulsing state of saturation (i.e. seasonally high groundwater elevation associated with significant recharge), then advective flow is likely to be responsible for the transport of fuel oxygenate constituents to clay and silt portions of the overburden aquifer found in the vicinity of monitoring wells MW-12 and MW-14.

Based on the historical monitoring data, it is likely that TBA and TAME were retarded at shorter distances from the tank field than was MTBE. This is supported by the presence of MTBE in the off-site monitoring wells MW-12 and MW-14 and in the monitored potable wells; all which lack reported concentrations of TBA or TAME.

7.3 Bedrock MTBE Assessment

Packer testing was conducted on bedrock well BR-1 to assess the vertical and lateral distribution of petroleum constituents in the bedrock aquifer at the Site. Packer testing of bedrock well BR-1 indicated that MTBE was present in groundwater samples collected from the four fracture zones selected for testing. The packer zones selected to test these fractures were as follows:

- 52-62 feet below grade
- 79.5-89.5 feet below grade
- 95-105 feet below grade
- 127-137 feet below grade

The packer intervals were selected due to relatively large, open, potentially water bearing fractures located within the zones. The concentration of MTBE decreased with the depth of the packer interval, with the highest concentration reported in the groundwater sample collected from the 52 – 62 feet below grade packer interval. The head observed in each packer zone during testing indicates that there is hydraulic connection within and between the lower three zones tested, and that there is limited to no direct hydraulic interaction between the upper most packer interval and the three lower intervals. This suggests that the reported concentration of MTBE in the groundwater sample collected from the 52 – 62 feet below grade packer interval is representative of that fracture; however, the relatively lower concentrations of MTBE reported in the groundwater samples from the lower three packer intervals may be a result of mixing within the borehole facilitated by the movement of the packer string or by the pumping that occurred during the packer testing. The reported concentrations of MTBE in the groundwater samples collected from the lower three zones are below the MDE action level.

Groundwater samples have been collected from potable wells located downgradient of the Site on a regular basis since April 2011 (**Table 3**). In October 2010 the MTBE was reported at concentrations of 24 µg/L and 21 µg/L in potable well samples collected from 1825 Perryville Road. Following the confirmatory sampling, a POET system was installed property and a quarterly sampling regime was initiated. Reported concentrations of MTBE have remained below the MDE action level since March 2012. Four additional potable wells were sampled in April 2011 and the reported concentrations of VOCs were below the respective laboratory detection limits in three of the four wells, while MTBE was reported in the sample collected from the potable well located at 1836 Perryville Road. Potable well samples have been collected from the property located at 1836 Perryville Road on a quarterly basis since April 2011. Reported concentrations of MTBE have remained below the MDE trigger level of 10 µg/L in samples collected from this property. The results of the potable well sampling indicate that MTBE in the bedrock aquifer in the vicinity of the these two properties is less than the MDE action level and displays a general decreasing concentration trend. The locations of the potable wells are depicted on **Figure 4**.

8.0 RISK BASED EVALUATION

An evaluation of the seven risk factors outlined in the MDE MEAT document was conducted for the Site.

8.1 Liquid Phase Hydrocarbon

Liquid phase hydrocarbon has not been detected in the Site monitoring wells or tank field wells since monitoring began in August, 2005 (**Table 2**).

8.2 Current and Future Use of Impacted Groundwater

The use of groundwater within one half mile of the Site for consumption is limited to the southeast and east of the Site. The Site and properties to the north and west of the Site are served with municipal water by the Town of Perryville. The properties to the east and south of the Site are located outside of the Perryville town limits and municipal water service is currently not available. Groundwater in the vicinity of the Site flows to the east and southeast. Five potable wells have been sampled to the south and southeast of the Site. Of the five locations sampled, MTBE was detected above the laboratory reporting limit in the wells located at 1825 and 1836 Perryville Road and the wells have been sample quarterly since initial sampling. The MTBE concentration detected in the potable well at 1825 Perryville Road was above the MDE action level of 20 µg/L prior to March 2012 while the MTBE concentration in the potable well at 1836 Perryville Road has been less than 7 µg/L in all the sampling events (**Figure 4** and **Table 3**). Potable wells located to the east of the Site have not been sampled.

8.3 Migration of Contamination

A review of the groundwater monitoring well and potable well sampling data indicate that that concentrations of fuel oxygenates are generally decreasing for the majority of the wells. Dissolved phase MTBE has been detected in groundwater samples at concentrations above the MDE action level in five on-site monitoring wells, the three tank field wells, one sampling interval of bedrock well BR-1 (52 – 62 feet below grade) and one off-site potable well (prior to March 2012). The presence of MTBE detected in groundwater samples collected during packer testing and quarterly groundwater monitoring from bedrock well BR-1, as well as potable well sampling results, indicate

that MTBE is present in the bedrock aquifer to the south and east of the Site tank field. The presence of MTBE in the groundwater samples collected from monitoring wells MW-12 and MW-14 indicate the off-site migration of MTBE to the south and southeast in the overburden aquifer. MTBE was not detected in monitoring well MW-13 to the east of the Site in the overburden aquifer. The reported concentrations of MTBE in groundwater samples collected from off-site monitoring and potable wells are below the MDE action level.

8.4 Human Exposure

Potential exposure pathways consist of ingestion, inhalation, or adsorption associated with different environmental media, such as air, soil, surface water and groundwater. The Site is paved with asphalt and concrete pavement with landscaped areas surrounding the perimeter. The station building is a one-story structure constructed on a concrete slab and is located upgradient of the apparent source area. The soil impact identified at the Site is limited to the tank field area at depths of 10 feet or greater, below MDE non-residential standards, and the Site is paved which limits exposure. Based on these conditions, the on-site vapor intrusion and dermal exposure pathways are considered incomplete.

The Site and commercial areas to the west and north of the Site are supplied with municipal water from the Town of Perryville, which obtains its water supply from the Susquehanna River. Therefore, the risk for the ingestion of groundwater pathway is incomplete for these areas.

As presented in Section 8.2, potable wells are located to the east and south of the Site. Water samples have been collected from two potable wells downgradient of the Site to the southeast indicates that the ingestion of groundwater pathway is complete; however, the reported concentration of MTBE in the potable well samples is below the MDE action level. The well at 1825 Perryville Road is equipped with a POET system which is maintained and monitored on a quarterly basis, thereby further mitigating the ingestion of impacted groundwater exposure pathway at 1825 Perryville Road. The MTBE concentration in the water samples collected at 1836 Perryville Road have remained below MDE action level since monitoring of the well was initiated in April 2011. Because the concentrations are below the MDE action level of 20 µg/L and the MDE trigger level of 10 µg/L, the risk of ingestion of groundwater is considered to be within MDE guidelines

for acceptable drinking water. Water samples have not been collected from potable wells on properties to the east of the Site.

8.5 Environmental and Ecological Exposure

The closest body of surface water to the Site is an unnamed tributary to the Susquehanna River located approximately 1,200 feet west of the Site. Another tributary to the Susquehanna River, Mill Creek, is located approximately 2,300 feet east of the Site and Perryville Reservoir is located approximately 2,500 feet east of the Site. The Susquehanna River is located approximately 1.35 miles southwest of the Site (**Figure 1**). No wetlands as identified in the National Wetland Inventory are located within one mile of the Site.

8.6 Impact to Utilities and Other Buried Services

The on-site subsurface utilities include water, sanitary sewer, electric, and telephone. The approximate locations of the utilities are depicted on **Figure 3**. The sanitary sewer lines are located approximately 10 feet below grade. The utility lines are not considered a potential receptor as they do not intersect the groundwater interface which was encountered at depths greater than 20 feet below grade.

Due to the perched water in the tank field, utilities located in or near the tank field, including electrical supply and product piping systems, may act as preferential pathways. The dispenser system and station building are located at higher elevations than the tank field; therefore, utilities serving the tank field are not considered a preferential pathway for fluid migration. It is possible that petroleum vapors could migrate from the tank field along associated utility lines; however, these conduit penetrations to service station buildings are typically sealed and the risk is considered low.

8.7 Other Sensitive Receptors

Other potential receptors include the Susquehanna Seventh Day Adventist Church and Susquehanna Seventh Day Adventist School located approximately 650 feet east of the Site.

9.0 WASTE MANAGEMENT

Waste generated during the Site investigation activities included drill cuttings and water, and development water from the installation of bedrock well BR-1; and soil cuttings and development water from the installation of monitoring wells MW-13 and MW-14. Development water and water generated during the drilling of bedrock well BR-1 was treated with activated carbon and discharged to the landscaped area.

A total of 19, 55-gallon steel Department of Transportation (DOT) drums of drill cuttings were generated during the installation of monitoring wells MW-13, MW-14, and bedrock well BR-1. The cuttings were transported to the Reco Biotechnology facility in Richmond, Virginia for disposal. Waste documentation for the installation of bedrock well BR-1 and monitoring wells MW-13 and MW-14 is included as **Appendix H**.

10.0 SUMMARY OF FINDINGS

A review of the Site specific geology, hydrogeology and nature and extent of COCs provides the information to form a SCM of Southside Facility 20025 in Perryville, Maryland. The SCM is a model of the Site that incorporates the data acquired to date to form a comprehensive model of the Site. Site investigation activities have evaluated the potential source of release at the Site, the overburden and bedrock aquifers, the migration of COCs between the various units, and Site characteristics that may facilitate COC migration.

The source of release at the Site is interpreted as being within the existing tank field and the apparent release occurred following to the installation of monitoring wells to satisfy HRGUA requirements in 2006 as evidenced by the MTBE spike detected in the perched water of the tank field. It is our understanding that UST upgrades and repairs were completed by ExxonMobil in the tank field at this time; however, these records are not readily available. Samples of perched water from the tank field wells have exhibited MTBE concentrations as high as 28,900 µg/L and through infiltration it is likely that the MTBE has leached downward to the groundwater interface in the tank field area. The dissolved phase hydrocarbons detected in the perched water of the tank field vertically migrated to overburden aquifer present at approximately 20 to 25 feet below grade in the vicinity of the tank field. The centerline of the dissolved phase hydrocarbons in groundwater extends from the source area toward monitoring well MW-14. The plume is delineated in the overburden aquifer to the north, west, and east of the source area. Packer test results indicate that MTBE is present in the bedrock aquifer on-site to the east of the tank field at levels above the MDE action level in the first sampling interval (52 – 62 feet below grade) only. The direction of plume migration within the overburden is consistent with the apparent direction of groundwater flow. Localized radial groundwater flow away from the tank field superimposed on regional groundwater flow to the southeast is consistent with reported MTBE concentrations in Site monitoring wells and downgradient potable wells. Elevated head caused by perched water conditions in the tank field is the probable cause of the localized radial groundwater flow regime. Off-site migration of petroleum constituents along the regional groundwater flow direction is likely enhanced by the relict sand channel observed at depths of approximately 16 to 33 feet below grade at the Site. An evaluation of the seven risk factors identified in the MDE MEAT document indicates that off-site migration of MTBE is a concern, but that Site conditions, the decreasing nature of dissolved phase

petroleum constituents, chemical specific parameters (i.e. solubility and mobility) restrict the potential for migration of additional petroleum constituents to potential receptors.

11.0 RECOMMENDATIONS

Based on a review of the SCM, current and historical analytical data and the risk based evaluation presented herein, Kleinfelder, on behalf of Southside, offers the following recommendations:

- Bedrock well BR-1 is located to the east of the Site tank field. The groundwater sample collected during packer testing indicates that MTBE is present in the bedrock aquifer in the 52 – 62 feet below grade packer interval at a concentration of 33 µg/L. This packer interval was chosen to focus on the fracture located at approximately 54 feet below grade. The MTBE concentrations in the packer intervals decreased with depth to 7 µg/L. As discussed in Section 7.3 this decrease of MTBE concentrations observed during packer testing suggests that the bedrock aquifer is not impacted below the fracture located at approximately 54 feet below grade. As such, it is recommended to abandon bedrock well BR-1 to approximately 60 feet below grade to seal off potential vertical pathway between the fracture located at approximately 54 feet below grade and those located deeper within the bedrock aquifer; while leaving the borehole open from approximately 50 to 60 feet below grade to facilitate monitoring of the shallow bedrock aquifer. The sampling of bedrock well BR-1 would be incorporated into the quarterly sampling schedule.

- In the *Subsurface Investigation Work Plan* dated September 14, 2012 Kleinfelder, on behalf of Southside, proposed the installation of a second bedrock well to the south of the tank field at 1825 Perryville Road. Access to the property for this proposed bedrock well installation was not granted. Based on the geophysical and packer testing analytical results of bedrock well BR-1, and the decreasing trend of MTBE concentrations reported in the potable well sampling results from 1825 Perryville Road, the installation of a second bedrock well is not considered warranted.

- In lieu of a second bedrock well, Kleinfelder, on behalf of Southside, recommends collection of confirmation potable well samples be collected from the potable wells sampled in April 2011 (1803 Perryville Road; 1812 Perryville Road, and 7 Patterson Avenue). These potable wells were sampled in April 2011 with COCs not detected above the laboratory detection limits.

- Potable wells located to the east of the Site have not been sampled during Site characterization activities. Kleinfelder, on behalf of Southside, recommends collecting potable well samples from the property located at 8 Blythedale Road. The property is located on the northeast corner of the intersection of Blythedale and Reservoir Roads. Additionally, it is recommended that a potable well sample be collected from 60 Reservoir Road. This property is the first residence on the south side of Reservoir Road.

12.0 LIMITATIONS

This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions and at the date the services are provided. Our conclusions, opinions and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no other representation, guarantee, or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. It should be recognized that definition and evaluation of geologic and environmental condition are a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present. Although risk can never be eliminated, more-detailed and extensive investigations yield more information, which may help understand and manage the level of risk. Since detailed investigation and analysis involves greater expense, our clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies, including subsurface investigations or field tests, may be performed to reduce uncertainties.

13.0 REFERENCES

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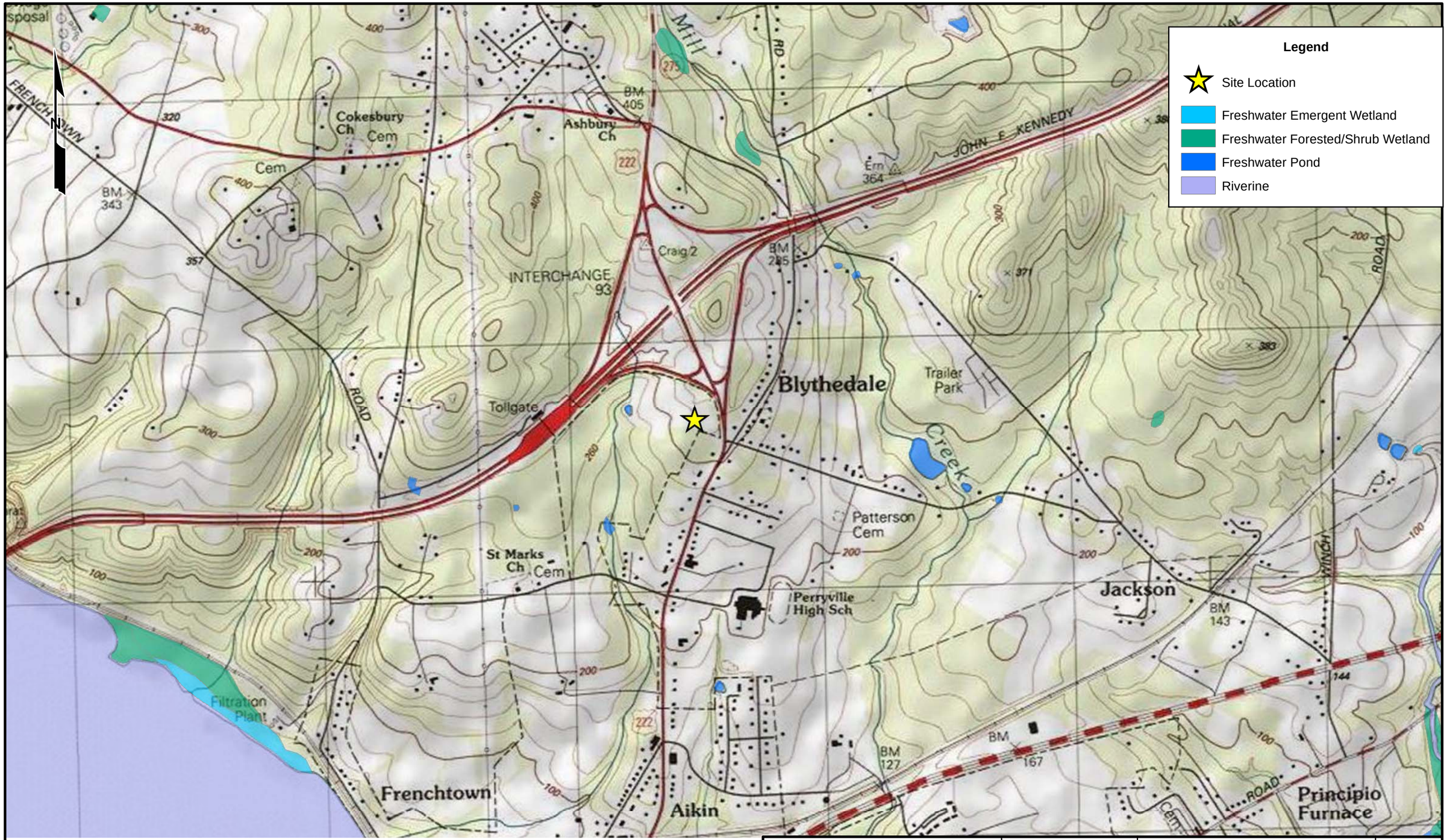
Figures



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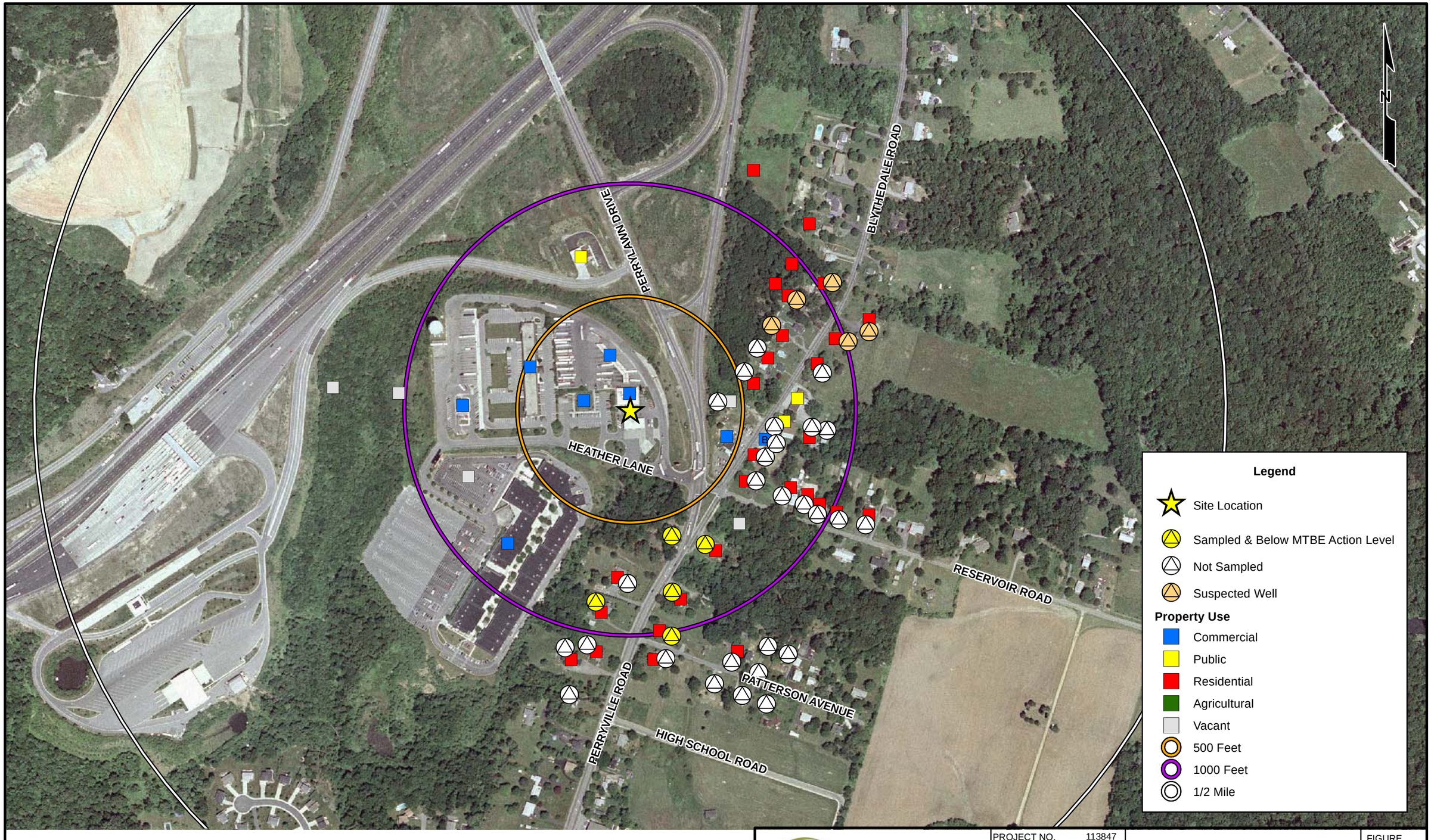
PROJECT NO.	113847
DRAWN:	11/09/11
DRAWN BY:	JR
CHECKED BY:	NH
FILE NAME:	20025 RAM 102511.mxd

REGIONAL AREA MAP

SOUTHSIDE FACILITY #20025
31 HEATHER LANE
PERRYVILLE, MARYLAND
CECIL COUNTY

FIGURE
1



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PROJECT NO.	113847
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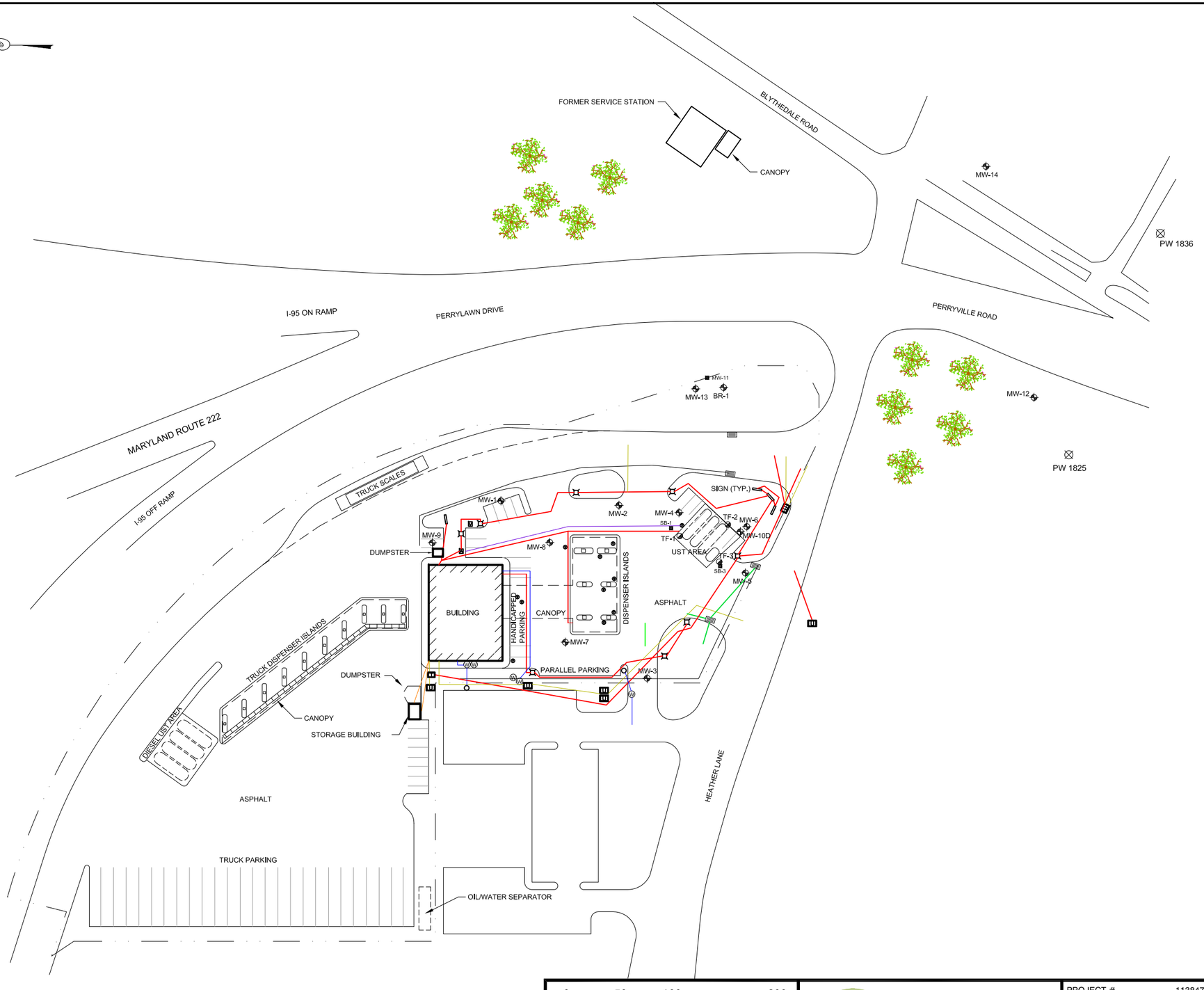
DRAWN BY:	JR
CHECKED BY:	PW
FILE NAME:	20025 LAM_PW SAMPLE LOC.mxd

LOCAL AREA MAP

SOUTHSIDE FACILITY # 20025
31 HEATHER LANE
PERRYVILLE, MARYLAND
CECIL COUNTY

FIGURE
2



LEGEND

- EXXONMOBIL AREA
- PROPERTY BOUNDARY
- MONITORING WELL
- TANK PAD WELL
- SOIL BORING
- POTABLE WELL
- UTILITY VAULT
- UNKNOWN VAULT
- HYDRANT
- VACUUM
- AIR TOWER
- UTILITY LIGHT
- WATER MANHOLE
- TRANSFORMER
- STORM SEWER INLET
- OVERHEAD ELECTRIC/TELEPHONE LINE
- UNDERGROUND ELECTRIC LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- TELEPHONE LINE
- VEEDER ROOT

UST UNDERGROUND STORAGE TANK

0 50 100 200

SCALE : 1 INCH EQUALS 100 FEET

DRAWING SOURCE :
EXXONMOBIL SITE PLAN, ORIGINAL DRAWING DONE BY SMO, KLEINFELDER, HANOVER, MD, DATED APRIL 17, 2007 AND KLEINFELDER FIELD RECONNAISSANCE.

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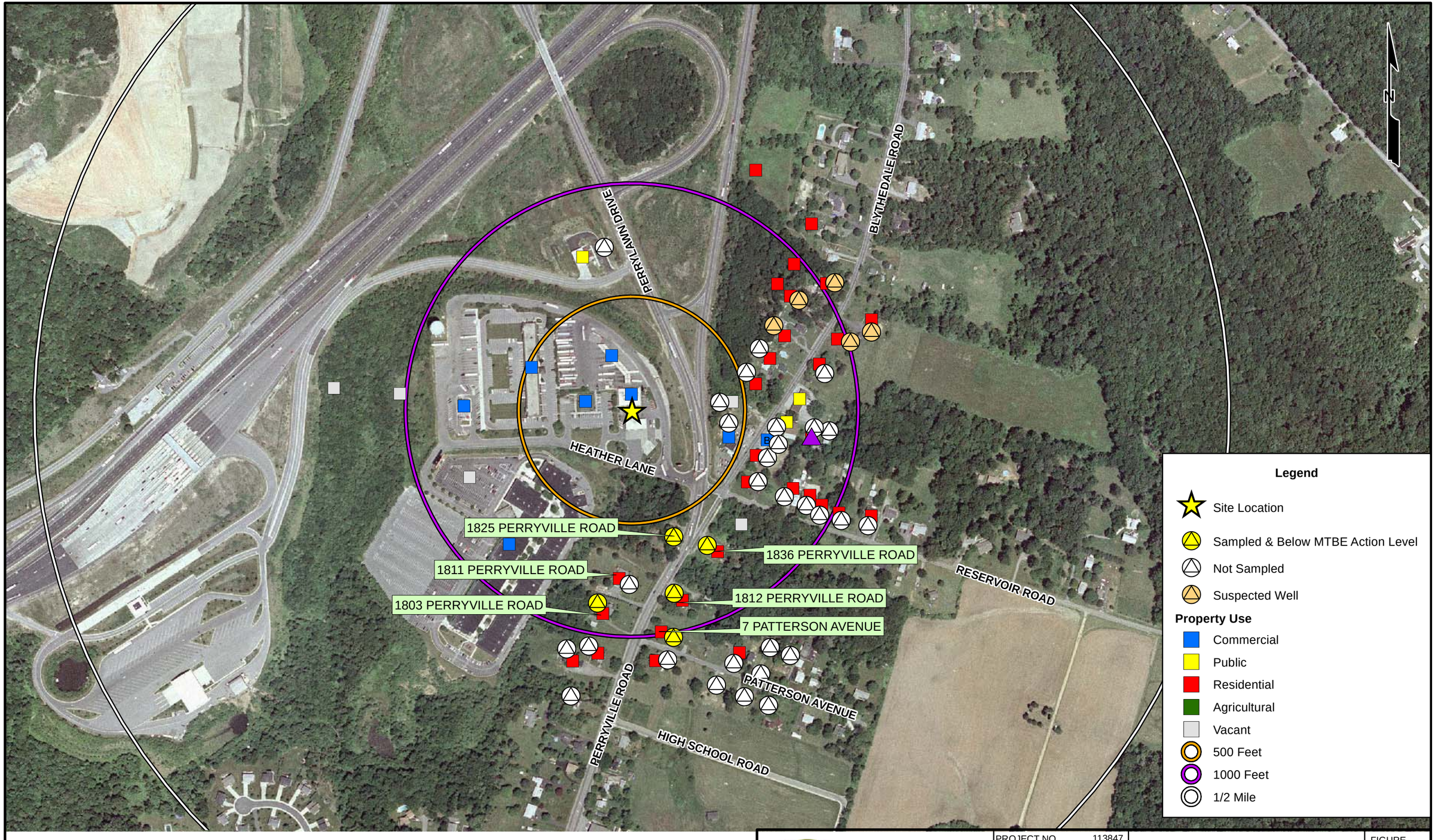
PROJECT #	113847
DRAWN :	6/10/13
DRAWN BY :	JDS
REVISED BY :	PW
FILE NAME :	20025 SECTION 2013.dwg

SITE PLAN

SOUTHSIDE FACILITY # 20025
31 HEATHER LANE
PERRYVILLE, MARYLAND
CECIL, COUNTY

FIGURE:
3



400 200 0 400 Feet

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PROJECT NO.	113847
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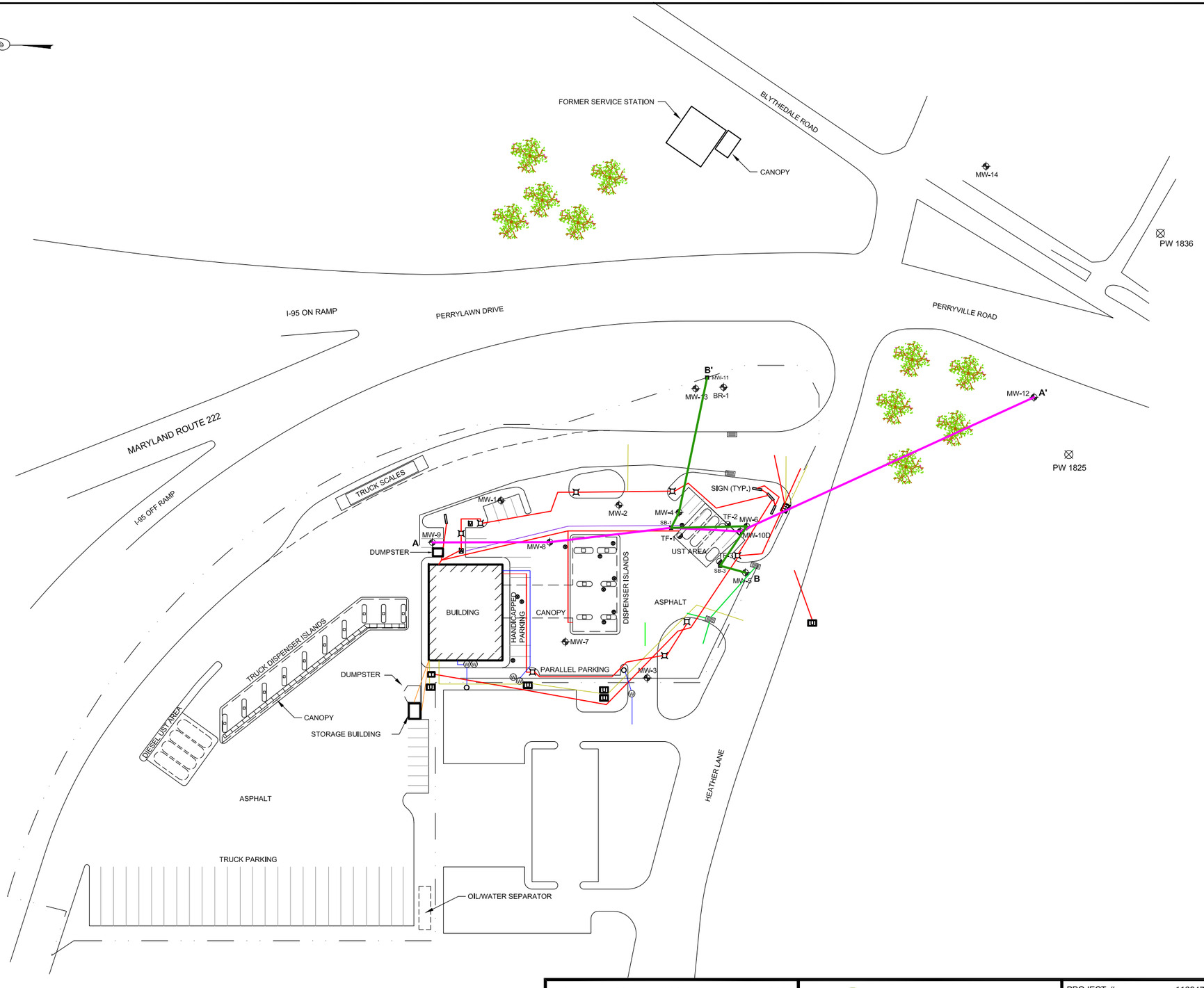
FILE NAME:	20025 PW Sample Loc Map.mxd

POTABLE WELL SAMPLING LOCATION MAP

SOUTHSIDE FACILITY # 20025
31 HEATHER LANE
PERRYVILLE, MARYLAND
CECIL COUNTY

FIGURE
4



LEGEND

- EXXONMOBIL AREA
- PROPERTY BOUNDARY
- MONITORING WELL
- TANK PAD WELL
- SOIL BORING
- POTABLE WELL
- UTILITY VAULT
- UNKNOWN VAULT
- HYDRANT
- VACUUM
- AIR TOWER
- UTILITY LIGHT
- WATER MANHOLE
- TRANSFORMER
- STORM SEWER INLET
- OVERHEAD ELECTRIC/TELEPHONE LINE
- UNDERGROUND ELECTRIC LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- TELEPHONE LINE
- VEEDER ROOT
- UST — UNDERGROUND STORAGE TANK
- A — A' LITHOLOGIC CROSS-SECTION A-A'
- B — B' LITHOLOGIC CROSS-SECTION B-B'

0 50 100 200

SCALE : 1 INCH EQUALS 100 FEET

DRAWING SOURCE :
EXXONMOBIL SITE PLAN, ORIGINAL DRAWING DONE BY SMO, KLEINFELDER, HANOVER, MD, DATED APRIL 17, 2007 AND KLEINFELDER FIELD RECONNAISSANCE.

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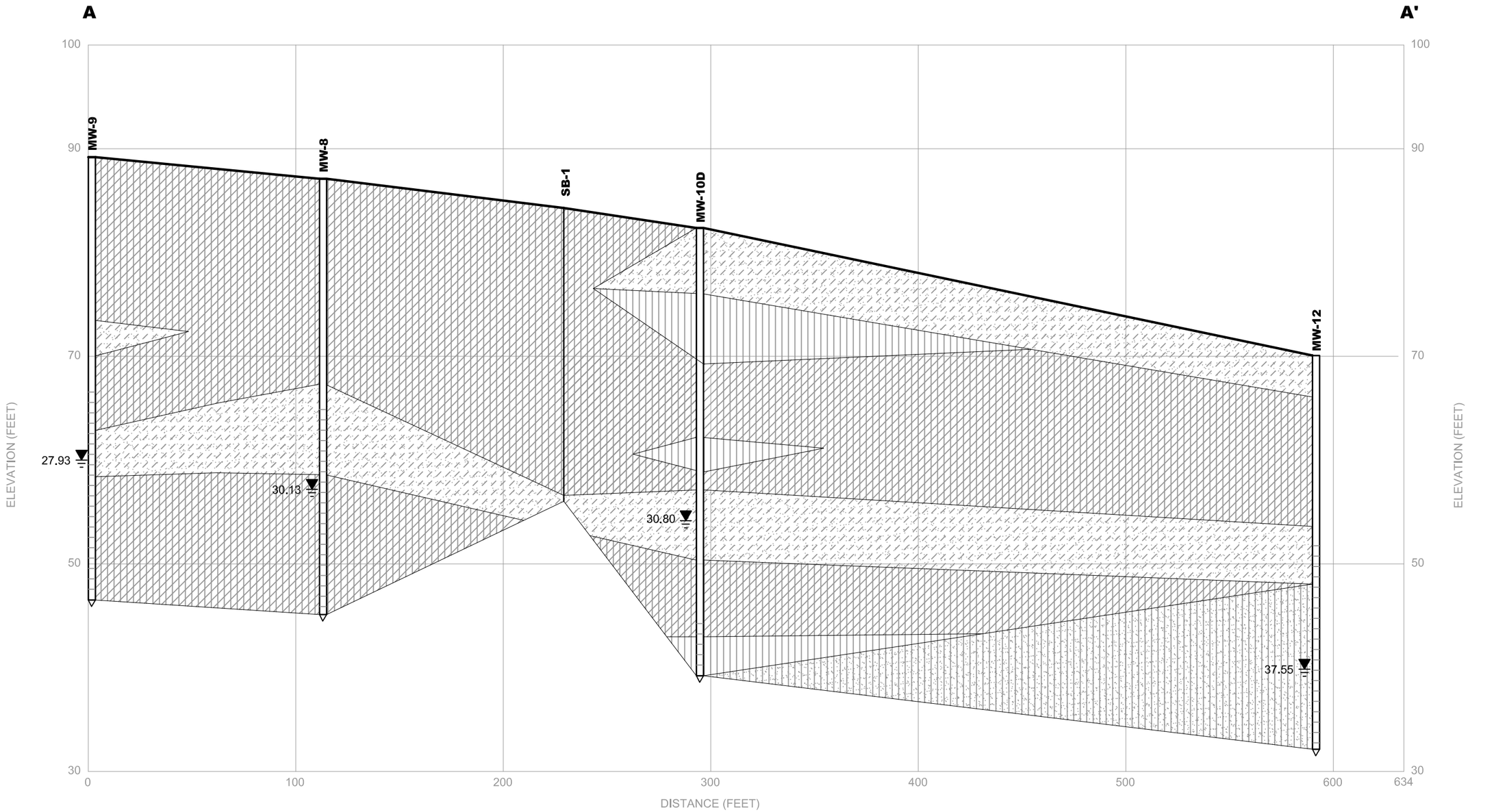
REVISED BY :	PW
FILE NAME :	20025 SECTION 2013.dwg

CROSS SECTION LOCATION MAP

SOUTHSIDE FACILITY # 20025
31 HEATHER LANE
PERRYVILLE, MARYLAND
CECIL, COUNTY

FIGURE:
5



LEGEND

- SILT w/ SAND
- POORLY SORTED SAND WITH CLAY AND GRAVEL
- CLAY AND SILTY CLAY
- CLAYEY SILTS
- DEPTH TO WATER (APRIL 2013)

50 25 0 50
HORIZONTAL APPROXIMATE SCALE (feet)

10 5 0 10
VERTICAL APPROXIMATE SCALE (feet)

NOTES:
LOCATIONS ARE APPROXIMATE

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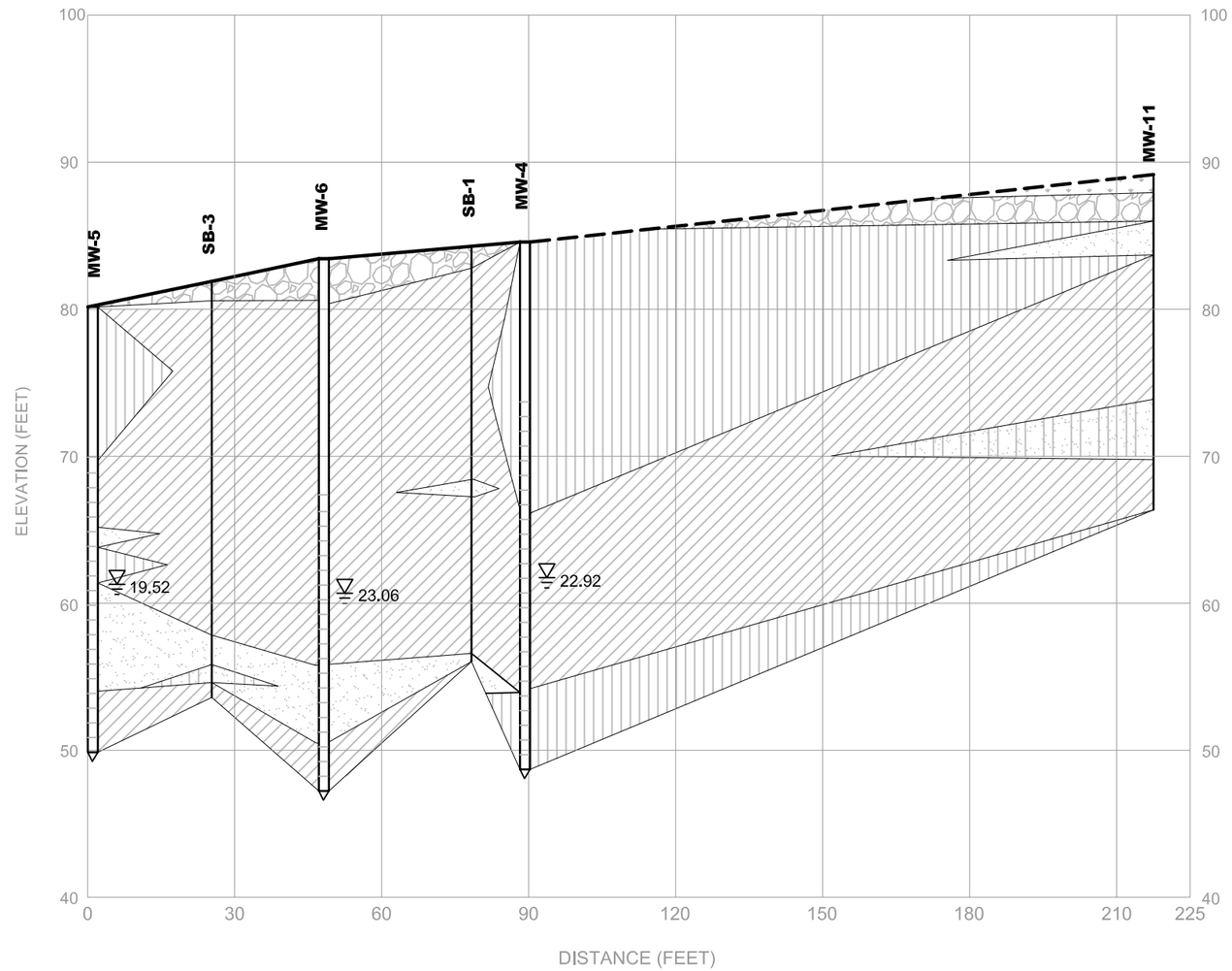
LITHOLOGIC CROSS-SECTION A-A'

SOUTHSIDE FACILITY # 20025
31 HEATHER LANE
PERRYVILLE, MARYLAND
CECIL, COUNTY

FIGURE:
6

B

B'



LEGEND

- CLAYEY SILTS
- SILTY SAND
- SAND w/ CLAY
- CLAY
- GRAVEL w/ SILT, CLAY OR SAND
- ORGANIC
- DEPTH TO WATER (APRIL 2013)

30 15 0 30
HORIZONTAL APPROXIMATE SCALE (feet)

10 5 0 10
VERTICAL APPROXIMATE SCALE (feet)

NOTES:
LOCATIONS ARE APPROXIMATE

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DRAWN BY :	JDS
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FILE NAME :	20025 Section B-B 2013.dwg

LITHOLOGIC CROSS-SECTION B-B'

SOUTHSIDE FACILITY # 20025
31 HEATHER LANE
PERRYVILLE, MARYLAND
CECIL, COUNTY

FIGURE:
7

Legend

- Monitoring Well
- Bedrock Monitoring Well
- Tank Field Well
- Soil Boring
- Potable Well
- Southside Area
- Property Boundary
- Groundwater Contours (Dashed Where Inferred)
- Apparent Groundwater Flow Direction

Contour Interval = 2.0 feet

Well ID
Groundwater Elevation (ft.)
Benzene (µg/L)
Toluene (µg/L)
Ethybenzene (µg/L)
Total Xylenes (µg/L)
Methyl Tertiary Butyl Ether (MTBE) (µg/L)
Tert Butyl Alcohol (TBA) (µg/L)
Tert Amyl Methyl Ether (TAME) (µg/L)
Ethyl Tert Butyl Ether (ETBE) (µg/L)
Di-Isopropyl Ether (DIPE) (µg/L)
Naphthalene (µg/L)
Ethanol (µg/L)
Total Petroleum Hydrocarbon-Gasoline Range Organics (TPH-GRO) (mg/L)
Total Petroleum Hydrocarbon-Diesel Range Organics (TPH-DRO) (mg/L)

ND = Not Detected (Reporting Limit)
NSVD = Not Surveyed to Vertical Datum
J = Estimated Value
µg/L = Micrograms per Liter
mg/L = Milligrams per Liter

NOTE:
1. MW- 10D NOT USED TO DETERMINE GROUNDWATER CONTOURS.

N

Heather Lane
Perryville Road
Former Service Station

MW-9
61.12
ND(5)
ND(5)
ND(5)
ND(5)
ND(5)
ND(80)
ND(5)
ND(5)
ND(5)
ND(5)
ND(250)
ND(0.050)
ND(0.094)

MW-7
55.74
ND(5)
ND(5)
ND(5)
ND(5)
ND(5)
ND(80)
ND(5)
ND(5)
ND(5)
ND(5)
ND(250)
ND(0.050)
ND(0.096)

MW-1
56.06
ND(5)
ND(5)
ND(5)
ND(5)
ND(5)
ND(80)
ND(5)
ND(5)
ND(5)
ND(5)
ND(250)
ND(0.050)
ND(0.10)

MW-8
57.64
ND(5)
ND(5)
ND(5)
ND(5)
ND(5)
ND(80)
ND(5)
ND(5)
ND(5)
ND(5)
ND(250)
ND(0.050)
0.13

MW-2
59.81
ND(5)
ND(5)
ND(5)
ND(5)
15
ND(80)
ND(5)
ND(5)
ND(5)
ND(5)
ND(250)
ND(0.050)
0.79

MW-4
61.73
13
ND(5)
ND(5)
5
270
800
12
ND(5)
6
ND(5)
ND(250)
0.35
0.45

MW-13
48.09
ND(5)
ND(5)
ND(5)
ND(5)
ND(5)
ND(80)
ND(5)
ND(5)
ND(5)
ND(5)
ND(250)
NA
NA

BR-1

MW-3
56.80
ND(5)
ND(5)
ND(5)
ND(5)
ND(5)
ND(80)
ND(5)
ND(5)
ND(5)
ND(5)
ND(250)
ND(0.050)
0.26

TF-3
NSVD
ND(5)
ND(5)
ND(5)
30
ND(5)
ND(80)
ND(5)
ND(5)
ND(5)
ND(5)
650
0.32
18

MW-5
61.29
ND(5)
ND(5)
ND(5)
ND(5)
10
ND(80)
ND(5)
ND(5)
ND(5)
ND(5)
ND(250)
ND(0.050)
ND(0.095)

MW-10D
51.81
ND(5)
ND(5)
ND(5)
ND(5)
93
240
ND(5)
ND(5)
ND(5)
ND(5)
ND(250)
0.19
0.23

MW-6
60.68
ND(5)
ND(5)
ND(5)
ND(5)
230
630
11
ND(5)
ND(5)
ND(5)
ND(250)
0.25
ND(0.095)

TF-2
NSVD
6
ND(5)
ND(5)
ND(5)
ND(5)
ND(80)
ND(5)
ND(5)
ND(5)
ND(5)
ND(250)
0.31
1.2

TF-1
NSVD
ND(5)
ND(5)
ND(5)
ND(5)
ND(5)
ND(80)
ND(5)
ND(5)
ND(5)
ND(5)
ND(250)
ND(0.050)
0.65

MW-12
37.55
ND(5)
ND(5)
ND(5)
ND(5)
7
ND(80)
ND(5)
ND(5)
ND(5)
ND(5)
ND(250)
ND(0.050)
0.40

MW-14
34.06
ND(5)
ND(5)
ND(5)
ND(5)
15
ND(80)
ND(5)
ND(5)
ND(5)
ND(5)
ND(250)
ND(0.050)
ND(0.099)

PW 1825
PW 1836

60 58 58 56 54 52 60 58 60 48 46 44 42 40 38

0 40 80 Feet

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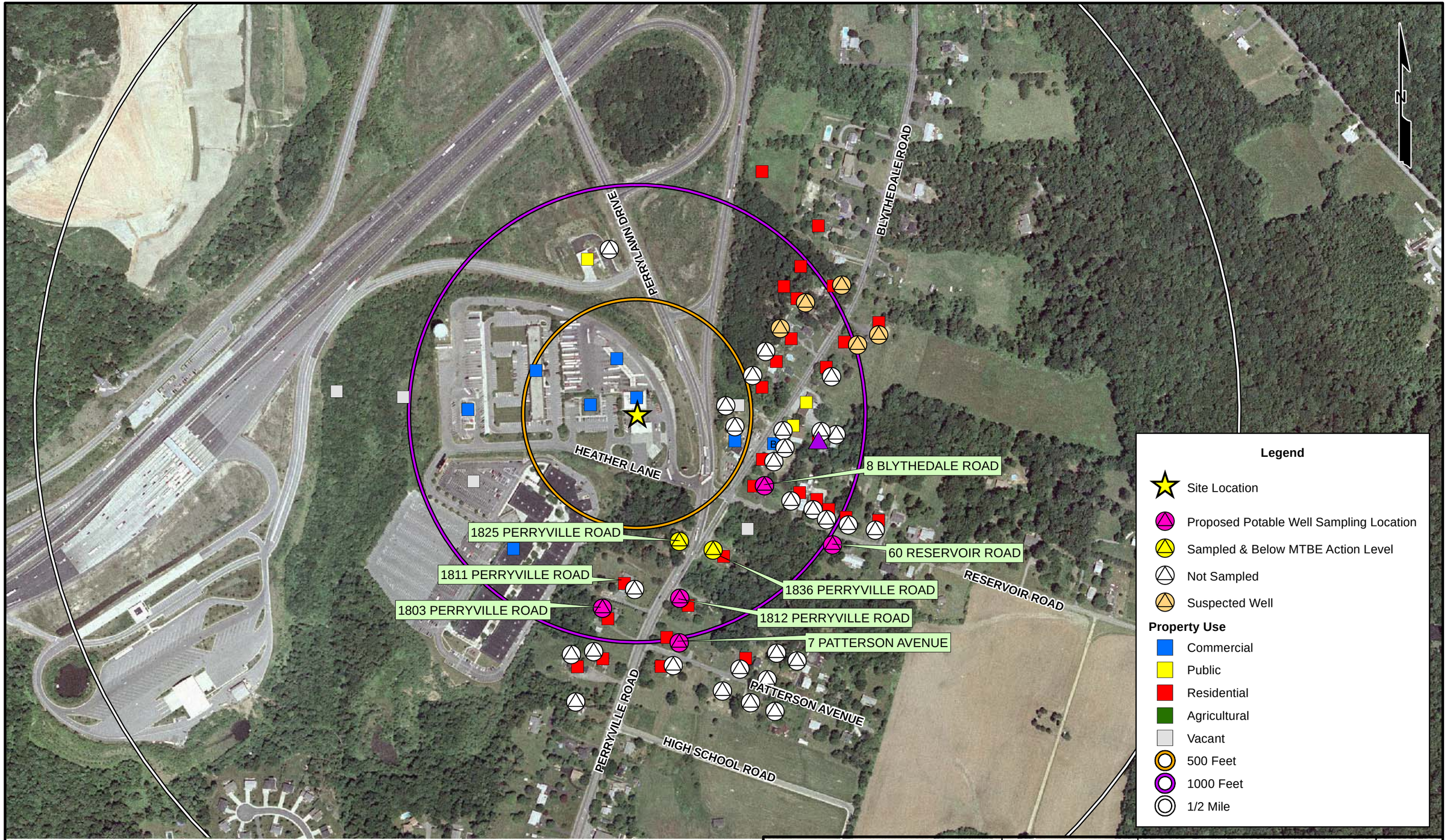
FILE NAME:	20025 HD MAPS.mxd

HYDROCARBON DISTRIBUTION/
GROUNDWATER CONTOUR MAP
APRIL 5, 2013

SOUTHSIDE FACILITY # 20025
31 HEATHER LANE
PERRYVILLE, CECIL COUNTY, MARYLAND

FIGURE
8



400 200 0 400 Feet

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PROJECT NO.	113847
DRAWN:	6/12/13
DRAWN BY:	JR
CHECKED BY:	PW
FILE NAME:	20025 PW Sample Loc Map.mxd

POTABLE WELL SAMPLING LOCATION MAP

SOUTHSIDE FACILITY # 20025
31 HEATHER LANE
PERRYVILLE, MARYLAND
CECIL COUNTY

FIGURE
9

Tables

Table 1

Potable Well Construction Summary (1,000 feet)
Southside Facility #20025
31 Heather Lane
Perryville, Cecil County, Maryland

Permit #	Owner	Address	Year Built (property)	Potable Well Installation Date	Well Construction Material	Total Depth (feet)	Screened Interval (feet)
CE-94-4328	Feazell Proprty Management II, LLC	1825 Perryville Road	-	2/2/2001	Plastic	160	55-160
CE-72-0157	Clayton, James L. & Judith	1811 Perryville Road	1973	9/7/1972	Steel	84	25-84 (HO)
No Permit	Dever, George E. Jr & Ruth	1803 Perryville Road	1900	-	-	-	-
No Permit	Anderson, Shiela B.	1836 Perryville Road	1973	-	-	-	-
No Permit	Piazza, Joseph M.	1812 Perryville Road	1900	-	-	-	-
CE-95-0669	Patterson, Ross J. & Hazel M.	2 Patterson Avenue	1932	11/3/2007	Plastic	250	47-250 (HO)
No Permit	Patterson, Wayne E. & Carolyn J.	7 Patterson Avenue	1943	-	-	-	-
No Permit	Lancelotta, Victor J.	1783 Perryville Road	1945	-	-	-	-
No Permit	Owens, Malcolm C. & Mary L.	1759 Perryville Road	1945	-	-	-	-
No Permit	Barrow, Diane L.	72 Patterson Avenue	Yes	1/16/1987	Steel	223	40-223 (HO)
CE-96-0197	Raser Realty, LLC	33 Patterson Avenue	1930	11/22/1993	Plastic	300	35-300 (HO)
No Permit	White, William H. & Catherine	45 Patterson Avenue	1942	-	-	-	-
No Permit	Herpick, Cordelia C & Walter L.	51 Patterson Avenue	1943	-	-	-	-
CE-81-1069	Squires, James L. & Beverly L.	28 Patterson Avenue	1984	6/14/1984	Steel	300	44-300 (HO)
CE-94-1573	Squires, James L. & Beverly L.	28 Patterson Avenue	1984	11/26/1996	Steel	300	41-300 (HO)
CE-95-2731	Streaker, Rebecca A. & Lowder, Matthew Hughston	34 Patterson Avenue	1941	3/24/2009	Plastic	250	40-250 (HO)
No Permit	Logan, George C., IV & Gibson, Donna K.	46 Patterson Avenue	1940	-	-	-	-
No Permit	Triutt, Merle D.	23 Reservoir Road	1940	-	-	-	-
No Permit	Dillon, Douglas M. & Dillon, Florence E.	33 Reservoir Road	1958	-	-	-	-
No Permit	Barr, William E. & Betty A.	8 Blythedale Road	1900	-	-	-	-
No Permit	*No Info Available*	16 Blythedale Road	-	-	-	-	-
No Permit	GWP, LLC	24 Blythedale Road	1930	-	-	-	-
No Permit	Chesapeake Conference Association of Seventh-Day Adv	38A Blythedale Road	1942	-	-	-	-
CE-81-2695	Chesapeake Conference Association of Seventh-Day Adv	38B Blythedale Road	1940	1/7/1987	Steel	246	42-246 (HO)
CE-72-0019	(Harbold Motor Company, Inc.)	9 Blythedale Road	-	-	Steel	120	45-120 (HO)
CE-94-4455	Smith, Susan E.	49 Blythedale Road	1923	5/1/2001	Plastic	300	61-300 (HO)
No Permit	Bossoli, Candice A. & Robert B.	69 Blythedale Road	1927	-	-	-	-

Notes:
HO - Open Hole
Shading indicates potable well was sampled under current MDE OCP Case.
- Unknown

TABLE 2

Groundwater Monitoring & Analytical Data
Southside Facility #20025
31 Heather Lane
Perryville, Maryland

March 17, 2006 through April 5, 2013

		Gauging Data					Analytical Data														
Sample ID	Date	Top of Casing Elevation	Depth to Water (feet)	Depth to Hydro-carbon (feet)	Hydro-carbon Thickness (feet)	Corrected GW Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Naph-thalene (µg/L)	TPH-DRO (mg/L)	TPH-GRO (mg/L)	Ethanol (µg/L)	Comments
MW-1	3/17/2006	89.87	32.55	ND	ND	57.32	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	8/16/2006	89.87	33.13	ND	ND	56.74	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	NA	ND(0.20)	NA	
	2/28/2007	89.87	32.20	ND	ND	57.67	2.9	0.62	29.2	59.4	92.1	0.38	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	4.8	0.231	0.424	NA	
	6/7/2007	89.87	31.95	ND	ND	57.92	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	0.86 J	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	10/2/2007	89.87	33.18	ND	ND	56.69	2.8	0.39 J	18.8	19.8	41.8 J	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	6.7	ND(0.10)	ND(0.20)	NA	
	3/27/2008	89.87	33.16	ND	ND	56.71	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	NA	ND(0.20)	NA	
	9/24/2008	89.87	33.22	ND	ND	56.65	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(1.0)	ND(0.20)	NA	
	3/23/2009	89.87	33.92	ND	ND	55.95	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	NA	ND(0.20)	NA	
	9/5/2009	89.87	33.19	ND	ND	56.68	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	0.220	ND(0.20)	NA	
	1/26/2010	89.87	32.04	ND	ND	57.83	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	10/7/2010	89.87	32.11	ND	ND	57.76	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.11	ND(0.05)	NA	
	4/14/2011	89.87	32.46	ND	ND	57.41	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.096)	ND(0.050)	NA	
	9/10/2011	89.87	32.87	ND	ND	57.00	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.36	ND(0.050)	NA	
	12/8/2011	89.87	32.12	ND	ND	57.75	ND(25)	ND(25)	ND(25)	ND(25)	BRL	ND(25)	ND(400)	ND(25)	ND(25)	ND(25)	ND(25)	2.4	ND(0.25)	NA	
	3/27/2012	89.87	32.33	ND	ND	57.54	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.30	ND(0.050)	NA	
	6/11/2012	89.87	33.02	ND	ND	56.85	ND(5)	ND(5)	6	38	44	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	55	NA	0.48	NA	
	8/29/2012	89.87	33.47	ND	ND	56.40	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.096)	ND(0.050)	NA	
	11/17/2012	89.87	33.62	ND	ND	56.25	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.10)	ND(0.050)	ND(250)	
	4/5/2013	89.87	33.81	ND	ND	56.06	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.10)	ND(0.050)	ND(250)	
MW-2	3/17/2006	86.17	26.45	ND	ND	59.72	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	528	ND(25)	27.6	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	0.560	NA	
	8/16/2006	86.17	27.12	ND	ND	59.05	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	12.0	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	2/28/2007	86.17	26.82	ND	ND	59.35	6.7	1.2	54.1	120	182	33.0	ND(25)	1.3	ND(5.0)	ND(5.0)	8.8	0.320	0.878	NA	
	6/7/2007	86.17	28.91	ND	ND	57.26	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	14.0	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	0.219	ND(0.20)	NA	
	10/2/2007	86.17	27.23	ND	ND	58.94	1.2	0.22 J	8.4	9.3	19.1 J	13.1	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	3.1 J	ND(0.10)	ND(0.20)	NA	
	3/27/2008	86.17	26.59	ND	ND	59.58	ND(1.0)	ND(1.0)	ND(1.0)	0.46	0.46	40.0	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	0.213	ND(0.20)	NA	
	9/24/2008	86.17	27.12	ND	ND	59.05	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	7.5	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	3/23/2009	86.17	26.84	ND	ND	59.33	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	9.4	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	0.294	ND(0.20)	NA	
	9/5/2009	86.17	26.91	ND	ND	59.26	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	4.9	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	1/26/2010	86.17	26.73	ND	ND	59.44	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	7.4	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	10/7/2010	86.17	26.80	ND	ND	59.37	ND(5)	ND(5)	ND(5)	ND(5)	BRL	20	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.23	ND(0.05)	NA	
	4/14/2011	86.17	26.66	ND	ND	59.51	ND(5)	ND(5)	ND(5)	ND(5)	BRL	110	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.28	0.10	NA	
	9/10/2011	86.17	26.86	ND	ND	59.31	ND(5)	ND(5)	ND(5)	ND(5)	BRL	39	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.13	ND(0.050)	NA	
	12/8/2011	86.17	26.74	ND	ND	59.43	ND(5)	ND(5)	ND(5)	ND(5)	BRL	59	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(1.0)	0.062	NA	
	3/27/2012	86.17	26.71	ND	ND	59.46	ND(5)	ND(5)	ND(5)	ND(5)	BRL	26	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.68	ND(0.050)	NA	
	6/11/2012	86.17	26.81	ND	ND	59.36	ND(5)	ND(5)	ND(5)	ND(5)	BRL	17	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.53	ND(0.050)	NA	
	8/29/2012	86.17	27.03	ND	ND	59.14	ND(5)	ND(5)	ND(5)	ND(5)	BRL	11	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	2.0	ND(0.050)	NA	
	11/17/2012	86.17	27.01	ND	ND	59.16	ND(5)	ND(5)	ND(5)	ND(5)	BRL	17	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.33	ND(0.050)	ND(250)	
	4/5/2013	86.17	26.36	ND	ND	59.81	ND(5)	ND(5)	ND(5)	ND(5)	BRL	15	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.79	ND(0.050)	ND(250)	

Kleinfelder
1340 Charwood Road, Suite I, Hanover, MD

TABLE 2

Groundwater Monitoring & Analytical Data
Southside Facility #20025
31 Heather Lane
Perryville, Maryland

March 17, 2006 through April 5, 2013

		Gauging Data					Analytical Data														
Sample ID	Date	Top of Casing Elevation	Depth to Water (feet)	Depth to Hydro-carbon (feet)	Hydro-carbon Thickness (feet)	Corrected GW Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Naph-thalene (µg/L)	TPH-DRO (mg/L)	TPH-GRO (mg/L)	Ethanol (µg/L)	Comments
MW-3	3/17/2006	84.83	27.15	ND	ND	57.68	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	8/16/2006	84.83	26.75	ND	ND	58.08	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.18)	ND(0.20)	NA	
	2/28/2007	84.83	25.65	ND	ND	59.18	6.8	1.1	43.1	94.9	145.9	0.91 J	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	6.6	0.395	0.765	NA	
	6/7/2007	84.83	25.49	ND	ND	59.34	0.87 J	ND(1.0)	9.3	13.7	23.9 J	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	1.5 J	ND(0.10)	ND(0.20)	NA	
	10/2/2007	84.83	27.44	ND	ND	57.39	5.7	0.65	36.7	40.5	83.6	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	14.4	2.22	ND(0.20)	NA	
	3/27/2008	84.83	27.69	ND	ND	57.14	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	0.219	ND(0.20)	NA	
	9/24/2008	84.83	27.37	ND	ND	57.46	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	3/23/2009	84.83	29.06	ND	ND	55.77	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	9/5/2009	84.83	27.50	ND	ND	57.33	2.4	0.50	ND(1.0)	0.62	3.5	0.60	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	1.5	ND(0.10)	ND(0.20)	NA	
	1/26/2010	84.83	24.26	ND	ND	60.57	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	10/7/2010	84.83	24.36	ND	ND	60.47	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.05)	NA	
	4/14/2011	84.83	25.43	ND	ND	59.40	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.096)	ND(0.050)	NA	
	9/10/2011	84.83	24.25	ND	ND	60.58	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	1.1	ND(0.050)	NA	
	12/8/2011	84.83	20.16	ND	ND	64.67	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(1.0)	ND(0.050)	NA	
	3/27/2012	84.83	26.44	ND	ND	58.39	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.18	ND(0.050)	NA	
	6/11/2012	84.83	22.05	ND	ND	62.78	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.21	ND(0.050)	NA	
	8/29/2012	84.83	27.18	ND	ND	57.65	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.17	ND(0.050)	NA	
	11/17/2012	84.83	27.99	ND	ND	56.84	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.096)	ND(0.050)	ND(250)	
	4/5/2013	84.83	28.03	ND	ND	56.80	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.26	ND(0.050)	ND(250)	
MW-4	6/7/2007	84.65	23.11	ND	ND	61.54	16.9	10.7	ND(20)	ND(20)	27.6	2640	7300	90.0	ND(100)	14.3	ND(100)	ND(0.10)	2.14	NA	
	10/2/2007	84.65	23.89	ND	ND	60.76	27.3	9.1	3.2	9.0	48.6	3500	8570	117	3.8	17.5	ND(25)	ND(0.10)	4.51	NA	
	3/27/2008	84.65	24.47	ND	ND	60.18	36.3	8.8	2.0	5.0	52.1	2760	6560	103	2.8	19.0	ND(5.0)	ND(0.10)	2.89	NA	
	9/24/2008	84.65	23.71	ND	ND	60.94	30.1	4.9	3.1	10.8	48.9	2020	7520	74.0	4.6	16.8	ND(25)	ND(0.10)	3.53	NA	
	3/23/2009	84.65	24.16	ND	ND	60.49	24.6	2.0	3.4	7.2	37.2	1870	6940	62.7	5.3	16.4	ND(13)	ND(0.10)	2.48	NA	
	9/5/2009	84.65	24.07	ND	ND	60.58	31.2	0.99	5.0	9.6	46.8	1240	4920	44.6	5.0	16.8	ND(5.0)	ND(0.10)	1.73	NA	
	1/26/2010	84.65	23.40	ND	ND	61.25	29.6	1.2	8.8	13.1	52.7	826	3890	32.9	5.2	17.8	ND(5.0)	ND(0.10)	1.20	NA	
	10/7/2010	84.65	23.80	ND	ND	60.85	27	ND(5)	12	30	69	510	2300	25	ND(5)	14	ND(5)	0.31	0.68	NA	
	4/14/2011	84.65	22.93	ND	ND	61.72	19	ND(5)	8	23	50	360	1500	17	ND(5)	10	ND(5)	0.25	0.60	NA	
	9/10/2011	84.65	23.16	ND	ND	61.49	20	ND(5)	9	24	53	310	1200	16	ND(5)	11	ND(5)	ND(0.095)	0.55	NA	
	12/8/2011	84.65	23.26	ND	ND	61.39	20	ND(5)	7	18	45	470	1700	23	ND(5)	10	ND(5)	ND(1.0)	0.70	NA	
	3/27/2012	84.65	22.40	ND	ND	62.25	16	ND(5)	7	17	40	320	1000	17	ND(5)	9	ND(5)	0.37	0.51	NA	
	6/11/2012	84.65	22.00	ND	ND	62.65	17	ND(5)	7	21	45	370	1300	17	ND(5)	8	ND(5)	0.24	0.48	NA	
	8/29/2012	84.65	22.72	ND	ND	61.93	18	ND(5)	7	19	44	410	1500	19	ND(5)	8	ND(5)	0.21	0.71	NA	
	11/17/2012	84.65	22.61	ND	ND	62.04	19	ND(5)	7	20	46	290	1100	16	ND(5)	8	ND(5)	0.20	0.42	ND(250)	
	4/5/2013	84.65	22.92	ND	ND	61.73	13	ND(5)	ND(5)	5	18	270	800	12	ND(5)	6	ND(5)	0.45	0.35	ND(250)	

Kleinfelder
1340 Charwood Road, Suite I, Hanover, MD

TABLE 2

Groundwater Monitoring & Analytical Data
Southside Facility #20025
31 Heather Lane
Perryville, Maryland

March 17, 2006 through April 5, 2013

		Gauging Data					Analytical Data													
Sample ID	Date	Top of Casing Elevation	Depth to Water (feet)	Depth to Hydro-carbon (feet)	Hydro-carbon Thickness (feet)	Corrected GW Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Naph-thalene (µg/L)	TPH-DRO (mg/L)	TPH-GRO (mg/L)	Ethanol (µg/L)	Comments
MW-5	6/7/2007	80.81	18.50	ND	ND	62.31	0.52 J	ND(1.0)	9.0	12.5	22.0 J	86.3	ND(25)	1.3 J	ND(5.0)	ND(5.0)	1.6 J	ND(0.10)	ND(0.20)	NA	
	10/2/2007	80.81	19.24	ND	ND	61.57	1.2	ND(1.0)	10.3	11.2	22.7	3.0	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	6.2	ND(0.10)	ND(0.20)	NA	
	3/27/2008	80.81	19.62	ND	ND	61.19	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	5.5	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	9/24/2008	80.81	19.10	ND	ND	61.71	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	24.6	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	3/23/2009	80.81	20.02	ND	ND	60.79	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	3.5	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	9/5/2009	80.81	19.01	ND	ND	61.80	0.81	ND(1.0)	ND(1.0)	0.36	1.17	1.7	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	1.7	ND(0.10)	ND(0.20)	NA	
	1/26/2010	80.81	19.03	ND	ND	61.78	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	2.2	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	10/7/2010	80.81	19.09	ND	ND	61.72	ND(5)	ND(5)	ND(5)	ND(5)	BRL	59	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	0.063	NA	
	4/14/2011	80.81	18.80	ND	ND	62.01	ND(5)	ND(5)	ND(5)	ND(5)	BRL	8	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.15	ND(0.050)	NA	
	9/10/2011	80.81	18.79	ND	ND	62.02	ND(5)	ND(5)	ND(5)	ND(5)	BRL	110	290	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	0.11	NA	
	12/8/2011	80.81	18.91	ND	ND	61.90	ND(5)	ND(5)	ND(5)	ND(5)	BRL	51	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(1.0)	0.056	NA	
	3/27/2012	80.81	18.62	ND	ND	62.19	ND(5)	ND(5)	ND(5)	ND(5)	BRL	49	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	0.054	NA	
	6/11/2012	80.81	18.35	ND	ND	62.46	ND(5)	ND(5)	ND(5)	ND(5)	BRL	270	190	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.096)	0.15	NA	
	8/29/2012	80.81	18.32	ND	ND	62.49	ND(5)	ND(5)	ND(5)	ND(5)	BRL	38	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.096)	ND(0.050)	NA	
	11/17/2012	80.81	19.31	ND	ND	61.50	ND(5)	ND(5)	ND(5)	ND(5)	BRL	38	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.096)	ND(0.050)	ND(250)	
	4/5/2013	80.81	19.52	ND	ND	61.29	ND(5)	ND(5)	ND(5)	ND(5)	BRL	10	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	ND(250)	
MW-6	9/5/2009	83.74	22.05	ND	ND	61.69	2.7	0.39	ND(1.0)	0.35	3.4	560	1220	13.7	ND(5.0)	1.1	ND(5.0)	ND(0.10)	0.730	NA	
	1/26/2010	83.74	23.93	ND	ND	59.81	1.1	ND(1.0)	ND(1.0)	ND(1.0)	1.1	894	1930	29.3	ND(5.0)	2.7	ND(5.0)	ND(0.10)	0.888	NA	
	10/7/2010	83.74	23.30	ND	ND	60.44	ND(5)	ND(5)	ND(5)	ND(5)	BRL	970	2400	32	ND(5)	ND(5)	ND(5)	ND(0.095)	0.73	NA	
	4/14/2011	83.74	23.14	ND	ND	60.60	ND(10)	ND(10)	ND(10)	ND(10)	BRL	950	2600	45	ND(10)	ND(10)	ND(10)	ND(0.095)	1.0	NA	
	9/10/2011	83.74	22.25	ND	ND	61.49	ND(5)	ND(5)	ND(5)	ND(5)	BRL	240	670	11	ND(5)	ND(5)	ND(5)	ND(1.0)	0.24	NA	
	12/8/2011	83.74	22.15	ND	ND	61.59	ND(5)	ND(5)	ND(5)	ND(5)	BRL	340	1100	16	ND(5)	ND(5)	ND(5)	ND(1.0)	0.40	NA	
	3/27/2012	83.74	21.84	ND	ND	61.90	ND(5)	ND(5)	ND(5)	ND(5)	BRL	360	990	18	ND(5)	ND(5)	ND(5)	ND(0.096)	0.35	NA	
	6/11/2012	83.74	21.87	ND	ND	61.87	ND(5)	ND(5)	ND(5)	ND(5)	BRL	410	1300	22	ND(5)	ND(5)	ND(5)	ND(0.096)	0.34	NA	
	8/29/2012	83.74	21.93	ND	ND	61.81	ND(5)	ND(5)	ND(5)	ND(5)	BRL	190	510	9	ND(5)	ND(5)	ND(5)	ND(0.095)	0.22	NA	
	11/17/2012	83.74	22.55	ND	ND	61.19	ND(5)	ND(5)	ND(5)	ND(5)	BRL	190	550	9	ND(5)	ND(5)	ND(5)	ND(0.096)	0.16	ND(250)	
	4/5/2013	83.74	23.06	ND	ND	60.68	ND(5)	ND(5)	ND(5)	ND(5)	BRL	230	630	11	ND(5)	ND(5)	ND(5)	ND(0.095)	0.25	ND(250)	
MW-7	9/5/2009	87.56	38.47	ND	ND	49.09	2.1	0.42	ND(1.0)	0.44	3.0	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	1.5	0.246	ND(0.20)	NA	
	1/26/2010	87.56	29.79	ND	ND	57.77	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	10/7/2010	87.56	28.33	ND	ND	59.23	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.14	ND(0.05)	NA	
	4/14/2011	87.56	29.42	ND	ND	58.14	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	NA	
	9/10/2011	87.56	30.35	ND	ND	57.21	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.16	ND(0.050)	NA	
	12/8/2011	87.56	29.75	ND	ND	57.81	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	NA	
	3/27/2012	87.56	30.07	ND	ND	57.49	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.097)	ND(0.050)	NA	
	6/11/2012	87.56	30.91	ND	ND	56.65	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.098)	ND(0.050)	NA	
	8/29/2012	87.56	31.48	ND	ND	56.08	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	NA	
	11/17/2012	87.56	31.71	ND	ND	55.85	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	ND(250)	
	4/5/2013	87.56	31.82	ND	ND	55.74	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.096)	ND(0.050)	ND(250)	

Kleinfelder
1340 Charwood Road, Suite I, Hanover, MD

TABLE 2

Groundwater Monitoring & Analytical Data
Southside Facility #20025
31 Heather Lane
Perryville, Maryland

March 17, 2006 through April 5, 2013

		Gauging Data					Analytical Data													
Sample ID	Date	Top of Casing Elevation	Depth to Water (feet)	Depth to Hydro-carbon (feet)	Hydro-carbon Thickness (feet)	Corrected GW Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Naph-thalene (µg/L)	TPH-DRO (mg/L)	TPH-GRO (mg/L)	Ethanol (µg/L)	Comments
MW-8	9/5/2009	87.77	30.00	ND	ND	57.77	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	1.8	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	1/26/2010	87.77	29.39	ND	ND	58.38	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	1.7	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	10/7/2010	87.77	28.56	ND	ND	59.21	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.05)	NA	
	4/14/2011	87.77	29.40	ND	ND	58.37	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.096)	ND(0.050)	NA	
	9/10/2011	87.77	29.58	ND	ND	58.19	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.096)	ND(0.050)	NA	
	12/8/2011	87.77	29.44	ND	ND	58.33	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	NA	
	3/27/2012	87.77	29.61	ND	ND	58.16	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	NA	
	6/11/2012	87.77	29.70	ND	ND	58.07	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.096)	ND(0.050)	NA	
	8/29/2012	87.77	29.77	ND	ND	58.00	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	NA	
	11/17/2012	87.77	29.81	ND	ND	57.96	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	ND(250)	
	4/5/2013	87.77	30.13	ND	ND	57.64	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.13	ND(0.050)	ND(250)	
MW-9	9/5/2009	89.05	30.63	ND	ND	58.42	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	ND(1.0)	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	1/26/2010	89.05	27.48	ND	ND	61.57	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	BRL	0.66	ND(25)	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(0.10)	ND(0.20)	NA	
	10/7/2010	89.05	27.56	ND	ND	61.49	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.094)	ND(0.05)	NA	
	4/14/2011	89.05	26.93	ND	ND	62.12	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	NA	
	9/10/2011	89.05	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/29/2011	89.05	28.91	ND	ND	60.14	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	NA	
	12/8/2011	89.05	27.05	ND	ND	62.00	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	NA	
	3/27/2012	89.05	27.39	ND	ND	61.66	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	NA	
	6/11/2012	89.05	27.55	ND	ND	61.50	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.097)	ND(0.050)	NA	
	8/29/2012	89.05	27.55	ND	ND	61.50	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.096)	ND(0.050)	NA	
	11/17/2012	89.05	27.72	ND	ND	61.33	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	ND(250)	
	4/5/2013	89.05	27.93	ND	ND	61.12	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.094)	ND(0.050)	ND(250)	
MW-10D	9/10/2011	82.61	28.18	ND	ND	54.43	ND(5)	ND(5)	ND(5)	ND(5)	BRL	26	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	2.0	0.077	NA	
	12/8/2011	82.61	26.77	ND	ND	55.84	ND(5)	ND(5)	ND(5)	ND(5)	BRL	75	230	ND(5)	ND(5)	ND(5)	ND(5)	2.1	0.084	NA	
	3/27/2012	82.61	28.15	ND	ND	54.46	ND(5)	ND(5)	ND(5)	ND(5)	BRL	400	980	20	ND(5)	ND(5)	ND(5)	0.97	0.38	NA	
	6/11/2012	82.61	28.69	ND	ND	53.92	ND(5)	ND(5)	ND(5)	ND(5)	BRL	140	350	6	ND(5)	ND(5)	ND(5)	0.13	0.080	NA	
	8/29/2012	82.61	29.31	ND	ND	53.30	ND(5)	ND(5)	ND(5)	ND(5)	BRL	420	1300	21	ND(5)	ND(5)	ND(5)	0.26	0.57	NA	
	11/17/2012	82.61	29.00	ND	ND	53.61	ND(5)	ND(5)	ND(5)	ND(5)	BRL	350	1300	18	ND(5)	ND(5)	ND(5)	ND(0.095)	0.33	ND(250)	
	4/5/2013	82.61	30.80	ND	ND	51.81	ND(5)	ND(5)	ND(5)	ND(5)	BRL	93	240	ND(5)	ND(5)	ND(5)	ND(5)	0.23	0.19	ND(250)	
MW-12	9/10/2011	70.57	30.52	ND	ND	40.05	ND(5)	ND(5)	ND(5)	ND(5)	BRL	6	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(1.0)	ND(0.050)	NA	
	12/16/2011	70.57	30.77	ND	ND	39.80	ND(5)	ND(5)	ND(5)	ND(5)	BRL	6	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	NA	
	3/27/2012	70.57	30.76	ND	ND	39.81	ND(5)	ND(5)	ND(5)	ND(5)	BRL	5	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	NA	
	6/11/2012	70.57	30.97	ND	ND	39.60	ND(5)	ND(5)	ND(5)	ND(5)	BRL	6	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.096)	ND(0.050)	NA	
	8/29/2012	70.57	31.75	ND	ND	38.82	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	NA	
	11/17/2012	70.57	32.56	ND	ND	38.01	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.095)	ND(0.050)	ND(250)	
	4/5/2013	70.57	33.02	ND	ND	37.55	ND(5)	ND(5)	ND(5)	ND(5)	BRL	7	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.40	ND(0.050)	ND(250)	
MW-13	4/5/2013	85.54	37.45	ND	ND	48.09	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	NA	NA	ND(250)	
MW-14	4/5/2013	65.09	31.03	ND	ND	34.06	ND(5)	ND(5)	ND(5)	ND(5)	BRL	15	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	ND(0.099)	ND(0.050)	ND(250)	

Kleinfelder
1340 Charwood Road, Suite I, Hanover, MD

TABLE 2

Groundwater Monitoring & Analytical Data
Southside Facility #20025
31 Heather Lane
Perryville, Maryland

March 17, 2006 through April 5, 2013

		Gauging Data					Analytical Data														
Sample ID	Date	Top of Casing Elevation	Depth to Water (feet)	Depth to Hydro-carbon (feet)	Hydro-carbon Thickness (feet)	Corrected GW Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Naph-thalene (µg/L)	TPH-DRO (mg/L)	TPH-GRO (mg/L)	Ethanol (µg/L)	Comments
TF-1	3/30/2006	NSVD	4.77	ND	ND	NSVD	106	121	ND(10)	ND(10)	227	6900	1120	150	58.1	41.6 J	ND(50)	0.304	6.92	NA	
	8/16/2006	NSVD	1.75	ND	ND	NSVD	323	222	10.8	33.8	590	10400	30300	66.3	64.7	26.6	ND(50)	3.09	8.98	NA	
	2/28/2007	NSVD	2.28	ND	ND	NSVD	149	20.0	845	990	2004	3240	18400	ND(25)	ND(25)	34.8	191	6.82	19.8	NA	
	6/7/2007	NSVD	2.71	ND	ND	NSVD	92.2	3.6	65.9	3.6	165.3	151	1410	9.0	ND(5.0)	27.2	ND(5.0)	1.84	2.04	NA	
	10/2/2007	NSVD	3.16	ND	ND	NSVD	137	1.8	92.4	4.3	236	145	8080	ND(5.0)	12.6	29.2	7.2	1.03	1.80	NA	
	3/27/2008	NSVD	2.47	ND	ND	NSVD	10.3	ND(1.0)	1.6	0.56	12.5	10.1	688	ND(5.0)	1.2	1.4	ND(5.0)	0.545	0.619	NA	
	9/24/2008	NSVD	2.91	ND	ND	NSVD	14.5	0.65	4.1	9.3	28.6	8.9	294	ND(5.0)	0.54	1.3	10.1	1.06	2.17	NA	
	3/23/2009	NSVD	2.85	ND	ND	NSVD	45.7	140	62.8	197	446	11.5	292	3.9	3.3	9.9	5.4	0.895	2.15	NA	
	9/5/2009	NSVD	2.65	ND	ND	NSVD	0.73	ND(1.0)	ND(1.0)	0.34	1.07	12.1	181	2.0	2.2	10.2	ND(5.0)	0.474	0.298	NA	
	1/26/2010	NSVD	2.52	ND	ND	NSVD	1.1	ND(1.0)	ND(1.0)	0.35	1.5	1.9	9.7	ND(5.0)	ND(5.0)	0.53	ND(5.0)	0.220	0.393	NA	
	10/7/2010	NSVD	2.88	ND	ND	NSVD	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.69	ND(0.05)	NA	
	4/14/2011	NSVD	2.07	ND	ND	NSVD	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	1.3	0.53	NA	
	9/10/2011	NSVD	1.86	ND	ND	NSVD	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	1.2	0.081	NA	
	12/8/2011	NSVD	2.01	ND	ND	NSVD	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.85	0.13	NA	
	3/27/2012	NSVD	2.81	ND	ND	NSVD	18	22	9	11	60	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.76	0.15	NA	
	6/11/2012	NSVD	2.55	ND	ND	NSVD	9	ND(5)	ND(5)	ND(5)	9	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	8.6	0.41	NA	
	8/29/2012	NSVD	2.65	ND	ND	NSVD	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.50	0.051	NA	
	11/17/2012	NSVD	2.55	ND	ND	NSVD	6	6	ND(5)	ND(5)	12	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.28	0.16	ND(250)	
	4/5/2013	NSVD	2.25	ND	ND	NSVD	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.65	ND(0.050)	ND(250)	
TF-2	3/30/2006	NSVD	3.63	ND	ND	NSVD	46.2	ND(1.0)	ND(1.0)	ND(1.0)	46.2	10.1	3120	2.5 J	1.0 J	41.3	ND(5.0)	1.18	0.392	NA	
	8/16/2006	NSVD	2.40	ND	ND	NSVD	207	909	708	3210	5034	28900	5660	146	44.1	ND(130)	168	3.15	28.6	NA	
	2/28/2007	NSVD	1.14	ND	ND	NSVD	220	12.0	619	2120	2971	753	29000	10.7	51.5	20.7	135	3.43	16.7	NA	
	6/7/2007	NSVD	1.55	ND	ND	NSVD	194	ND(10)	717	1130	2041	249	21600	ND(50)	37.4	50.9	175	4.49	13.5	NA	
	10/2/2007	NSVD	1.99	ND	ND	NSVD	165	2.6	641	655	1464	29.1	21900	ND(25)	29.0	25.6	192	2.69	8.67	NA	
	3/27/2008	NSVD	0.31	ND	ND	NSVD	75.5	1.8	218	334	629	40.4	4720	ND(5.0)	9.1	14.0	100	2.66	6.48	NA	
	9/24/2008	NSVD	1.57	ND	ND	NSVD	48.9	7.4	73.1	222	351	18.1	541	ND(5.0)	1.6	8.0	87.6	1.34	4.89	NA	
	3/23/2009	NSVD	1.45	ND	ND	NSVD	144	169	27.8	113	454	22.2	417	ND(5.0)	6.2	18.6	59.4	1.37	3.90	NA	
	9/5/2009	NSVD	1.37	ND	ND	NSVD	173	12.2	3.5	13.0	202	19.2	594	ND(5.0)	6.3	20.1	60.5	1.21	2.35	NA	
	1/26/2010	NSVD	1.16	ND	ND	NSVD	28.2	0.59	0.63	2.7	32.1	9.1	135	1.5	1.1	4.1	21.0	0.880	2.01	NA	
	10/7/2010	NSVD	1.70	ND	ND	NSVD	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.95	ND(0.05)	NA	
	4/14/2011	NSVD	0.88	ND	ND	NSVD	6	ND(5)	ND(5)	ND(5)	6	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	2.3	0.47	NA	
	9/10/2011	NSVD	0.32	ND	ND	NSVD	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	2.3	0.56	NA	
	12/8/2011	NSVD	0.70	ND	ND	NSVD	5	ND(5)	ND(5)	ND(5)	5	5	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	1.5	0.59	NA	
	3/27/2012	NSVD	1.54	ND	ND	NSVD	8	ND(5)	ND(5)	ND(5)	8	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	1.5	0.58	NA	
	6/11/2012	NSVD	1.33	ND	ND	NSVD	15	ND(5)	ND(5)	ND(5)	15	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	1.2	0.57	NA	
	8/29/2012	NSVD	1.40	ND	ND	NSVD	16	ND(5)	ND(5)	ND(5)	16	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	1.8	0.56	NA	
	11/17/2012	NSVD	1.30	ND	ND	NSVD	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.52	0.36	ND(250)	
	4/5/2013	NSVD	1.00	ND	ND	NSVD	6	ND(5)	ND(5)	ND(5)	6	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	1.2	0.31	ND(250)	

Kleinfelder
1340 Charwood Road, Suite I, Hanover, MD

TABLE 2

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Southside Facility #20025
31 Heather Lane
Perryville, Maryland

March 17, 2006 through April 5, 2013

		Gauging Data					Analytical Data														
Sample ID	Date	Top of Casing Elevation	Depth to Water (feet)	Depth to Hydro-carbon (feet)	Hydro-carbon Thickness (feet)	Corrected GW Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	TAME (µg/L)	ETBE (µg/L)	DIPE (µg/L)	Naph-thalene (µg/L)	TPH-DRO (mg/L)	TPH-GRO (mg/L)	Ethanol (µg/L)	Comments
TF-3	3/30/2006	NSVD	4.84	ND	ND	NSVD	14.3	0.81 J	0.61 J	8.9	24.6 J	173	2110	9.5	2.6 J	14.6	ND(5.0)	2.44	0.652	NA	
	8/16/2006	NSVD	NM	NM	NM	NM	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	2/28/2007	NSVD	0.92	ND	ND	NSVD	257	19.8	568	1820	2665	778	27700	ND(25)	ND(25)	8.4 J	98.8	9.42	11.8	NA	
	6/7/2007	NSVD	0.42	ND	ND	NSVD	173	13.8	444	794	1425	423	23600	ND(13)	34.1	7.5	110	4.82	6.15	NA	
	10/2/2007	NSVD	1.51	ND	ND	NSVD	97.9	3.6	48.0	157	307	17.5	12400	ND(5.0)	14.0	4.9 J	157	2.71	2.77	NA	
	3/27/2008	NSVD	0.27	ND	ND	NSVD	41.1	6.7	9.3	254	311	60.1	3270	ND(5.0)	5.4	3.6	89.2	30.7	1.65	NA	
	9/24/2008	NSVD	0.96	ND	ND	NSVD	23.4	2.0	1.2	17.7	44.3	12.2	1040	ND(5.0)	1.7	4.0	88.6	1.56	0.727	NA	
	3/23/2009	NSVD	0.77	ND	ND	NSVD	48.7	25.5	7.2	42.1	123.5	21.7	547	3.2 J	2.8 J	7.4	53.7	21.3	0.994	NA	
	9/5/2009	NSVD	1.00	ND	ND	NSVD	106	16.3	1.5	24.9	149	33.0	647	3.3	5.1	16.7	62.5	3.11	1.25	NA	
	1/26/2010	NSVD	0.40	ND	ND	NSVD	23.5	2.7	2.3	9.0	37.5	12.4	161	1.1 J	0.62 J	2.1 J	22.3	0.869	1.55	NA	
	10/7/2010	NSVD	1.04	ND	ND	NSVD	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	2.1	ND(0.05)	NA	
	4/14/2011	NSVD	0.67	ND	ND	NSVD	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	1.7	0.46	NA	
	9/10/2011	NSVD	0.02	ND	ND	NSVD	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	14	0.059	NA	
	12/8/2011	NSVD	0.80	ND	ND	NSVD	21	ND(5)	ND(5)	ND(5)	21	7	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	4.6	0.20	NA	
	3/27/2012	NSVD	0.98	ND	ND	NSVD	ND(50)	ND(50)	ND(50)	86	86	ND(50)	ND(800)	ND(50)	ND(50)	ND(50)	ND(50)	12	1.3	NA	
	6/11/2012	NSVD	1.17	ND	ND	NSVD	ND(5)	ND(5)	ND(5)	ND(5)	BRL	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	0.59	ND(0.050)	NA	
	8/29/2012	NSVD	0.95	ND	ND	NSVD	16	6	ND(5)	ND(5)	22	5	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	3.0	0.23	NA	
	11/17/2012	NSVD	0.63	ND	ND	NSVD	11	ND(5)	ND(5)	7	18	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	29	0.29	ND(250)	
	4/5/2013	NSVD	0.90	ND	ND	NSVD	ND(5)	ND(5)	ND(5)	30	30	ND(5)	ND(80)	ND(5)	ND(5)	ND(5)	ND(5)	18	0.32	650	

Notes:
µg/L - micrograms per liter (µg/L)
BRL - Below laboratory reporting limits
BTEX - Benzene, toluene, ethylbenzene, and total xylenes
DIPE - Di-Isopropyl Ether
DRO - Diesel Range Organics
ETBE - Ethyl Tertiary Butyl Ether
GRO - Gasoline Range Organics
GW - Groundwater
J - Indicates an estimated value
mg/L - milligram per liter (mg/L)
MTBE - Methyl Tert Butyl Ether
NA - Not analyzed
ND - Not detected
ND(5.0) - Not detected at or above the laboratory reporting limit, laboratory reporting limit included.
NM - Not monitored
NS - Not sampled
NSVD - Not surveyed to vertical datum
TAME - Tertiary Amyl Methyl Ether
TBA - Tertiary Butyl Alcohol
TPH - Total Petroleum Hydrocarbons

Kleinfelder
1340 Charwood Road, Suite I, Hanover, MD

TABLE 3

Potable Well Sampling Analytical Data
Southside Facility #20025
31 Heather Lane
Perryville, Maryland

October 5, 2010 through December 14, 2012

Sample ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Naph-thalene (µg/L)	Comments
7 Patterson Ave	4/14/2011	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	ND(1.0)	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
1803 Perryville Rd	4/8/2011	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	ND(1.0)	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
1812 Perryville Rd	4/8/2011	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	ND(1.0)	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
1825 Perryville Rd	10/5/2010	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	**24**	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	10/21/2010	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	**21**	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
1825 Perryville PI	7/7/2011	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	**24**	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	12/16/2011	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	**24**	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	3/27/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	18	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	6/5/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	18	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	9/10/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	18	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	12/14/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	16	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	3/20/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	Access Expired
1825 Perryville PM	7/7/2011	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	ND(1.0)	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	12/16/2011	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	ND(0.5)	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	3/27/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	ND(0.5)	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	6/5/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	ND(1.0)	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	9/10/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	ND(0.5)	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	12/14/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	ND(0.5)	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	3/20/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	Access Expired
1825 Perryville PE	7/7/2011	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	ND(1.0)	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	12/16/2011	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	ND(0.5)	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	3/27/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	ND(0.5)	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	6/5/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	ND(0.5)	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	9/10/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	ND(0.5)	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	12/14/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	ND(0.5)	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	3/20/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	Access Expired
1836 Perryville Rd	4/14/2011	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	6.8	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	7/7/2011	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	6.1	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	12/16/2011	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	6.3	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	3/28/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	6.2	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	6/5/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	5.4	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	9/10/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	5.8	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	12/14/2012	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	5.0	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
	3/20/2013	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	BRL	5.6	ND(25)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	
MDE Maximum Contaminant Level (MCL)		5	1000	700	10000	-	20*	-	-	-	-	0.65	

Notes:
* - MDE Action Level
Bold values indicate exceedance of MCL
µg/L - micrograms per liter (µg/L)
BRL - Below laboratory reporting limits
BTEX - Benzene, toluene, ethylbenzene, and total xylenes
DIPE - Di-Isopropyl Ether
ETBE - Ethyl Tertiary Butyl Ether
MTBE - Methyl Tert Butyl Ether
NA - Not analyzed
ND(5.0) - Not detected at or above the laboratory reporting limit, laboratory reporting limit included.
NS - Not sampled
TAME - Tertiary Amyl Methyl Ether
TBA - Tertiary Butyl Alcohol
PI - point of entry treatment influent
PM - point of entry treatment middle
PE - point of entry treatment effluent

Kleinfelder
1340 Charwood Road, Suite I, Hanover, MD

Table 4

Soil Analytical Data
Southside Facility #20025
31 Heather Lane
Perryville, Cecil County, Maryland

Sample ID	Sample Date	Depth (feet)	PID (ppmv)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	Naphthalene (mg/kg)	Di-Isopropyl ether (mg/kg)	ETBE (mg/kg)	tert-Amyl Methyl Ether (mg/kg)	Tert-butyl Alcohol (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)
MW-1	8/2/05	15-17	0	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	NA	NA	NA	NA	NA	ND(0.004)	ND(0.005)
MW-2	8/2/05	15-17	0	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	ND(0.002)	NA	NA	NA	NA	NA	ND(0.004)	ND(0.005)
MW-4	3/29/2007	25-27	0	ND(0.0015)	ND(0.0015)	ND(0.0015)	ND (0.003)	0.0107	NA	NA	ND(0.0075)	ND(0.0075)	ND(0.038)	ND(0.0077)	ND(0.012)
MW-5	3/29/2007	20-22	0	ND(0.0013)	ND(0.0013)	ND(0.0013)	ND(0.0026)	ND(0.0013)	NA	NA	ND(0.0065)	ND(0.0065)	ND(0.033)	ND(0.0077)	ND(0.013)
SB01	8/28/2009	10-12	32.9	0.00066 J	0.0017	0.00080 J	0.0046	**0.102**	NA	NA	NA	NA	NA	NA	NA
SB01	8/28/2009	24-26	22.4	ND(0.0013)	0.0022	ND(0.0013)	ND(0.0027)	**0.0158**	NA	NA	NA	NA	NA	NA	NA
SB02/MW06	9/1/2009	26	5.2	ND(0.0013)	ND(0.0013)	ND(0.0013)	ND(0.0026)	0.00063 J	NA	NA	NA	NA	NA	NA	NA
SB02/MW06	9/1/2009	35	4.7	ND(0.0014)	ND(0.0014)	ND(0.0014)	ND(0.0029)	ND(0.0014)	NA	NA	NA	NA	NA	NA	NA
SB03	8/28/2009	12-14	18.8	0.00083 J	0.0015	ND(0.0013)	0.0014 J	**0.763**	NA	NA	NA	NA	NA	NA	NA
SB03	8/28/2009	22-24	5.2	ND(0.0013)	0.00039 J	ND(0.0013)	ND(0.0025)	0.00054 J	NA	NA	NA	NA	NA	NA	NA
SB04/MW07	8/31/2009	30	6.8	ND(0.0014)	ND(0.0014)	ND(0.0014)	ND(0.0027)	ND(0.0014)	NA	NA	NA	NA	NA	NA	NA
SB04/MW07	8/31/2009	40	2.0	ND(0.0013)	ND(0.0013)	ND(0.0013)	ND(0.0026)	ND(0.0013)	NA	NA	NA	NA	NA	NA	NA
SB05/MW08	8/31/2009	32	4.8	ND(0.0013)	ND(0.0013)	ND(0.0013)	ND(0.0026)	ND(0.0013)	NA	NA	NA	NA	NA	NA	NA
SB05/MW08	8/31/2009	40	4.2	ND(0.0013)	ND(0.0013)	ND(0.0013)	ND(0.0026)	ND(0.0013)	NA	NA	NA	NA	NA	NA	NA
SB6/MW09	8/27/2009	29	6.0	ND(0.0012)	ND(0.0012)	ND(0.0012)	ND(0.0023)	ND(0.0012)	NA	NA	NA	NA	NA	NA	NA
SB6/MW09	8/27/2009	41	5.8	ND(0.0013)	ND(0.0013)	ND(0.0013)	ND(0.0025)	ND(0.0013)	NA	NA	NA	NA	NA	NA	NA
MW-10D	8/31/2011	16-17	4.3	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	0.018	1.2	ND(14)	ND(0.9)
SB-7/MW-11	8/31/2011	22-23	0.4	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.11)	ND(15)	ND(1.1)
MW-12	9/2/2011	19-21	13.1	ND(0.006)	ND(0.006)	ND(0.006)	ND(0.006)	ND(0.006)	ND(0.006)	ND(0.006)	ND(0.006)	ND(0.006)	ND(0.11)	ND(13)	ND(1.2)
*MDE Non Residential Cleanup Standard -Soil				52	8200	10000	20000	720	2000	--	--	--	--	620	620
*MDE Protection of Groundwater Standard -Soil				0.0019	27	15	3	0.012	0.15	--	--	--	--	--	--

Notes:
BRL - Below laboratory reporting limits
BTEX - Benzene, toluene, ethylbenzene, and total xylenes
mg/kg - milligrams per kilogram (parts per million)
NA - Not analyzed
ND(0.0011) - Not detected at or above the laboratory reporting limit, laboratory reporting limit included.
ETBE - Ethyl Tertiary Butyl Ether
ppmv - parts per million by volume
TPH - Total Petroleum Hydrocarbons
GRO - Gasoline Range Organics
DRO - Diesel Range Organics

* MDE Table 1 Generic Numeric Cleanup Standards for Groundwater and Soil, June 2008 (Interim Final Guidance)

Bold values indicate exceedance of cleanup standard

-- No applicable cleanup standard

Appendix A
MDE Correspondence

MDE

MARYLAND DEPARTMENT OF THE ENVIRONMENT

Oil Control Program, Suite 620, 1800 Washington Blvd., Baltimore MD 21230-1719
410-537-3442 410-537-3092 (fax) 1-800-633-6101, ext. 3442

December 14, 2012

Ms. Jewel Cox
ExxonMobil Environmental Services
Suite 106 #232
1016 West Poplar Avenue
Collierville TN 38017

Mr. Marshal Hare
Director of Facilities
Mid-Atlantic Convenience Stores, LLC
1011 Boulder Springs Drive, Suite 100
Richmond VA 23225

RE: WORK PLAN APPROVAL
Case No. 2006-0489-CE
Former Exxon #20025
31 Heather Lane, Perryville
Cecil County, Maryland
Facility I.D. No. 1190

Dear Ms. Cox and Mr. Hare:

The Oil Control Program recently completed a review of the *Subsurface Investigation Work Plan - September 14, 2012*, the *Third Quarter 2012 Groundwater Monitoring Report - October 24, 2012*, and the *Supplemental Information for Subsurface Investigation Work Plan - November 30, 2012* for the above-referenced property. In 2005, three monitoring wells were installed in accordance with Code of Maryland Regulations (COMAR) 26.10.02.03-4. Additional delineation completed for due diligence in 2009 identified the presence of additional petroleum contamination to the south of the underground storage tank (UST) field and refined groundwater flow to the south, as well as to the previously projected northerly direction.

Sampling of select off-site drinking water supply wells in 2010 identified the presence of methyl tertiary-butyl ether (MTBE) in the supply well located at 1825 Perryville Road above the State's action level of 20 parts per billion (ppb). A granular activated carbon (GAC) filtration system was subsequently retrofitted on that supply well. Sampling of the supply well at 1836 Perryville Road in September 2012 continued to detect MTBE at 18 ppb in the pre-filtration sample. All post-filtration analyses were non-detect for volatile organic compounds (VOCs). Additional off-site drinking water sampling results were non-detect or below regulatory levels for petroleum constituents.

Currently, there are eleven monitoring wells (ten on-site and one off-site) and three tank field monitoring pipes within the monitoring network. Sampling of the monitoring network in September 2012 detected benzene at 18 ppb and MTBE at 420 ppb.

The *Subsurface Investigation Work Plan* proposes the installation of two additional 2-inch overburden monitoring wells (one on-site and one off-site); the installation of two bedrock monitoring wells (one on-site and one off-site); borehole geophysical surveys, packer testing on the bedrock monitoring wells; and evaluation of the bedrock testing data to determine whether or not the bedrock monitoring wells will be retained for future monitoring events. At this time, the Department approves the proposed *Work Plans* contingent upon the following modifications:

1) Please note that it is your responsibility to secure off-site access for remedial activities. If access cannot be secured, the Department must be notified within thirty (30) days of this *Work Plan* approval.

2) The Department understands that the overburden monitoring wells are to be installed to the top of competent bedrock, which is estimated to be approximately 45 feet below grade. The Department requires that the monitoring wells be appropriately installed, which means additional screen may be required to complete these wells. During installation, the diameter of the boring must exceed the diameter of the well by at least 4 inches and the screen must be installed to a depth of at least 10 feet below the groundwater table, in accordance with the Department's *Maryland Environmental Assessment Technology (MEAT) for Leaking Underground Storage Tanks* guidance document (http://www.mde.state.md.us/assets/document/MEAT_Guidance.pdf).

3) The Department concurs with the proposed reporting of bedrock well testing activities. **Within sixty (60) days of completion**, submit a *Supplemental Investigation Report* detailing the results of slug testing, bedrock well installation, borehole geophysical survey, and packer testing activities. This report must include a recommendation for either retaining or abandoning the bedrock monitoring wells. In the event that the bedrock monitoring wells are to be retained for future monitoring at the property, the Department must be provided any proposals for completion into monitoring wells (e.g., screen intervals, construction details) in writing prior to well conversion.

4) The requirements of the June 27, 2012 directive letter (copy enclosed) are still in effect.

5) Notify the Oil Control Program at least five (5) working days prior to beginning any work on-site or off-site.

If you have any questions, please contact the case manager, Ms. Jeannette DeBartolomeo, at 410-537-3427 (email: jdebartolomeo@mde.state.md.us) or me at 410-537-3499 (email: sbull@mde.state.md.us).

Sincerely,

Susan R. Bull, Western Region Section Head
Remediation and State Lead Division
Oil Control Program

JD/nln
Enclosure
cc: Mr. Mark Steele (Kleinfelder)
Feazell Property Management II, LLC (1825 Perryville Road)
Ms. Sheila B. Anderson (1836 Perryville Road)
Ms. Denise Breder (Town of Perryville)
Mr. Fred von Staden (Cecil County Health Dept.)
Mr. Andrew B. Miller
Mr. Christopher H. Ralston
Mr. Horacio Tablada

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D.
Secretary

June 27, 2012

Ms. Jewel Cox
ExxonMobil Environmental Services
Suite 106, #232
1016 West Poplar Avenue
Collierville TN 38017

Mr. Marshal Hare
Director of Facilities
Mid-Atlantic Convenience Stores, LLC
1011 Boulder Springs Drive, Suite 100
Richmond VA 23225

RE: REQUEST FOR WORK PLAN
Case No. 2006-0489-CE
Former Exxon #20025
31 Heather Lane, Perryville
Cecil County, Maryland
Facility I.D. No. 1190

Dear Ms. Cox and Mr. Hare:

The Oil Control Program recently completed a review of the case file for the above-referenced property, including the *Site Assessment Report and Site Conceptual Model - December 21, 2011*, the *Potable Well Sampling Information - April 4 & 16, 2012*, and the *First Quarter 2012 Groundwater Monitoring Report - April 30, 2012*. This case was opened in 2005 when petroleum constituents were detected during high-risk groundwater use area (HRGUA) sampling. Additional delineation completed for due diligence in 2009 identified the presence of additional petroleum contamination to the south of the underground storage tank (UST) field and refined the groundwater flow to the south, as well as to the previously projected northerly direction. Sampling of select off-site drinking water supply wells in November 2011 identified the presence of methyl tertiary-butyl ether (MTBE) in the supply well located at 1825 Perryville Road, above the State's action level of 20 parts per billion (ppb). A granular activated carbon (GAC) filtration system was retrofitted to that drinking water supply well.

The *Supplemental Site Assessment* and *Site Conceptual Model (SCM)* concluded that there are multiple potential groundwater flow directions at this site due to unconsolidated overburden. The SCM also confirmed groundwater contamination in the vicinity of the active UST system and off-site migration of MTBE. The Department acknowledges that additional private supply wells in the area present a potential risk.

The most recent off-site sampling results for 1825 Perryville Road, collected in March 2012, continued to detect MTBE at 18 ppb in the pre-filtration sample. All post-filtration analyses were non-detect for volatile organic compounds (VOCs). Additional off-site supply well VOC sampling results were non-detect or below the State's action level for MTBE. The current monitoring well network at the subject facility includes a total of eleven monitoring wells (ten on-site and one off-site). The most recent sampling event conducted in March 2012 detected MTBE at 360 ppb. Groundwater flow for this sampling event was projected to the northeast, southeast, and west.

Based on our review of the provided *SCM*, the Department concurs that MTBE contamination persists on-site and that migration has occurred off-site. In addition, full delineation of petroleum contamination has not been completed. Based on the identified potential receptors, the Department requires the following activities be completed:

SUBSURFACE INVESTIGATION WORK PLAN:

1) Submit a detailed *Subsurface Investigation Work Plan* designed to fully assess the vertical and lateral extent of petroleum contamination in the soil and groundwater to the east of the UST field where elevated petroleum contamination continues to be identified. Off-site access may be required to identify the extent of the petroleum plume. The Department will require written access agreements with off-site property owners prior to approving off-site work activities. Consideration must be given to the migration of petroleum contamination via groundwater and other preferential subsurface pathways. The *Work Plan* must outline a detailed schedule of all the work necessary to implement and complete the subsurface investigation. The schedule must specify the dates and time frames for implementing and completing each phase of the proposed *Work Plan*. The Department expects to receive this *Work Plan* **no later than August 15, 2012**.

2) Any soil and groundwater samples collected must be analyzed for full-suite VOCs, including fuel oxygenates, using EPA Method 8260 and for total petroleum hydrocarbons/diesel-range and gasoline-range organics (TPH/DRO and TPH/GRO) using EPA Method 8015B.

3) Submit a final report that includes a description of local aquifers of concern and a full definition of subsurface preferential flow across the property to off-site receptors. Boring log(s) must be annotated with field screening results, soil sampling locations, and lithologic descriptions. Also include illustrative maps showing groundwater interpretations (e.g., groundwater contoured maps with water table elevations; groundwater flow direction) and any other pertinent qualitative and/or qualitative discussions. Permanent monitoring wells must be surveyed to a known elevation point (specify point in report) that can be used to incorporate future monitoring wells into the network, used for elevation adjustments and groundwater flow calculations.

4) The Department expects that the information collected as part of this subsurface investigation will result in the final selection of a *Corrective Action Plan* (*CAP*) to capture, contain, and reduce the migration of the dissolved phase hydrocarbon (MTBE) groundwater contamination plume. The proposed *CAP* must aggressively remediate contaminated soil and groundwater on the subject property and mitigate any potential current and future risks to on-site and/or off-site receptors.

5) Upon receipt and compilation of additional data, including groundwater delineation to the east and groundwater and drinking water supply well sampling results, the Department requires an update of the *SCM* to reflect newly acquired information. The *SCM* must be continually refined as new information is received.

SAMPLING REQUIREMENTS:

6) Continue **quarterly (every three months)** sampling of the GAC filtration system (pre-, mid- and post-filtration) at 1825 Perryville Road and continued **quarterly** monitoring of the drinking water supply well at 1836 Perryville Road. All samples collected must be analyzed for full-suite VOCs, including fuel oxygenates, using EPA Method 524.2.

7) Continue **quarterly (every three months)** sampling of all existing monitoring wells and tank field monitoring pipes. All samples collected must be analyzed for full-suite VOCs, including fuel oxygenates, using EPA Method 8260 and for TPH/DRO and TPH/GRO using EPA Method 8015B.

If you have any questions, please contact the case manager, Mr. Chad Widney, at 410-537-3386 (email: cwidney@mde.state.md.us) or me at 410-537-3499 (email: sbull@mde.state.md.us).

Sincerely,

Andrew B. Miller for

Susan R. Bull, Western Region Section Head
Remediation and State Lead Division
Oil Control Program

CW/nln

cc: Feazell Property Management II, LLC (1825 Perryville Road)
Ms. Sheila B. Anderson (1836 Perryville Road)
Ms. Denise Breder (Town of Perryville)
Ms. Natalie Morales Hendricks (Kleinfelder East, Inc.)
Mr. Charles Smyser (Cecil County Health Dept.)
Mr. Andrew B. Miller
Mr. Christopher H. Ralston
Mr. Horacio Tablada

Appendix B
Boring and Well Construction Logs

LOG OF MONITORING WELL NO. MW-01

Project Description: **Exxon RAS # 2-0025**
Location: 31 Heather Lane - Perryville, MD
Permit Number: CE-95-1061
T.O.C.: 89.9 ft Static Water Level: Dry ft

Depth	Material Description		PID, ppm	Penetration Blows / Foot	Core Drilled, ft.	Core Recovered, ft.
0	ASPHALT					
	SILTY CLAY, brown, some fine gravel, damp	1.0				
	CLAY, gray, with some silt, dry	3.0				
5	CLAY, gray, dry	4.0				
	CLAY, brown, dry	6.0	0			
10	CLAY, brown tan, dry	10.0		18		
	CLAY, red, dry	11.0				
	CLAY, red, with interbedded gray clay, dry	12.0	0			
15				60		
	- refusal of core barrel					
20				27		
	CLAY, red	22.0				
25				66		
30				45		
35				40		
40		40.0				

Well Construction:
- grout (0-6)
- bentonite seal (6-8)
- sand (8-40)
- 2" diameter PVC 0.020 slotted wall screen (10-40)
- 2" pointed end cap

Completion Depth: 40 ft
Date Boring Started: 8/2/05
Date Boring Completed: 8/2/05
Engineer / Geologist: CAS
Project No.: 60507603

Remarks: Bottom of well at 40 feet
Driller: BL Myers
Drill Method: Air Rotary
Sample Method: Core Barrel

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The stratification lines represent approximate strata boundaries
In situ, the transition may be gradual

LOG OF MONITORING WELL NO. MW-02

Project Description: **Exxon RAS # 2-0025**
Location: 31 Heather Lane - Perryville, MD
Permit Number: CE-95-1062
T.O.C.: 86.2 ft Static Water Level: 22.1 ft

Depth	Material Description	PID, ppm	Penetration Blows / Foot	Core Drilled, ft.	Core Recovered, ft.	Well Construction
0	ASPHALT					
	SILTY CLAY, brown, saturated — 1.0					
	CLAY, gray, damp — 2.0					grout (0-6)
5	SILT and CLAY, gray brown, damp — 4.0					
	SAND and SILT, tan, fine, dry — 6.0					bentonite seal (6-8)
						sand (8-30)
10		0				
	CLAY, brown, with fine sand, dry — 12.0					
15		0				
	CLAY, brown red, some thin strata of gray sand, dry — 18.0					2" diameter PVC 0.020 slotted wall screen (10-30)
20		0				
	▼					
	- refusal of core barrel					
25						
30	— 30.0					2" pointed end cap

Completion Depth:	30.6 ft
Date Boring Started:	8/2/05
Date Boring Completed:	8/2/05
Engineer / Geologist:	CAS
Project No.:	60507603

Remarks: Bottom of well at 30.65 feet
Driller: B.I. Myers
Drill Method: Air Rotary
Sample Method: Core Barrel

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The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

LOG OF MONITORING WELL NO. MW-03

Project Description: **Exxon RAS # 2-0025**
Location: 31 Heather Lane - Perryville, MD
Permit Number: CE-95-1063
T.O.C.: 84.8 ft Static Water Level: 25.9 ft

Depth	Material Description		PID, ppm	Penetration Blows / Foot	Core Drilled, ft.	Core Recovered, ft.
0	ASPHALT					
	CLAY, gray, dry	1.0				
	SILTY CLAY, gray, dry	2.0				
	CLAY, gray, dry	4.0				
10	SILTY CLAY, brown, dry	10.0	0	20		
15	SILTY CLAY, gray, dry	15.0	0	60		
20			0	27		
25	SILTY CLAY, brown, dry - refusal of core barrel	25.0	NR	62		
30	CLAY, gray, with fine gravel, damp	30.0	3	45		
35		35.0	0	40		

Well Construction: grout (0-6); bentonite seal (6-8); sand (8-35.26); 2" diameter PVC 0.020 slotted wall screen (10-35.26); 2" pointed end cap

Completion Depth: 35.3 ft
Date Boring Started: 8/2/05
Date Boring Completed: 8/2/05
Engineer / Geologist: CAS
Project No.: 60507603

Remarks: Bottom of well at 35.26 feet
Driller: BL Myers
Drill Method: Air Rotary / Hollow Stem Auger
Sample Method: Split Spoon

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The stratification lines represent approximate strata boundaries. In situ, the transition may be gradual.

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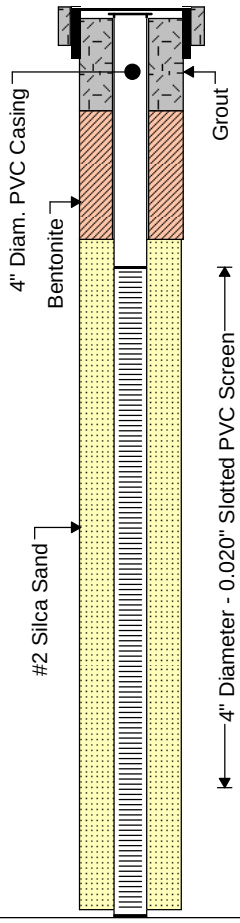
DRILLING LOG

Well No. MW-4

Project Name:	Exxon 2-0025	***Start Date:***	March 20, 2007	***Logged By:***	JTM and BPS
Site Location:	31 Heather Lane, Perryville MD	***End Date:***	March 29, 2007	***Permit No.:***	CE-95-1930
Project No:	79473	***Total Hole Depth:***	35'	***Checked By:***	MCS
Client:	Exxon Mobil Corporation	***Hole Diameter:***	10.5"	***Notes:***	Hole hand 8' using air knife vacuum
Drilling Company:	Soft Dig and B.L. Myers Brothers	***Depth to Bedrock:***	NA		
Driller:	Ray Chilcote	***Well Diameter:***	4"		Split spoon collected by hydraulic push
Drill Rig Type:	Air Vac and Schramm 450T	***Water Level (Initial):***	24'		
Drilling Method:	Air Knife and Air Rotary with HSA	***Screen Length:***	25'		
Sampling Method:	Grab and Split Spoon	***TOC Elevation:***	84.65		

Depth (feet)	Graphic Log	Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	PID Headspace (ppm)
0.0		GROUND SURFACE				
		Asphalt				
		(ML) CLAYEY SILT, yellow brown, moist, med soft, micaceous	HA 1 (3')			0
5.0			HA 2 (6')			0
			HA 3 (8')			0
10.0		**(MH)** SILT, with clay, grey, moist, micaceous	S (10'-12')		24"	0
15.0			S (16'-18')		24"	0
20.0		**(CL)** SILTY CLAY, dark brown, micaceous	S (20'-22')		24"	0
25.0			S (25'-27') *		24"	0
30.0		**(ML)** CLAYEY SILT, brown, with fine sands				
35.0		Total Depth 35'				
40.0						



PID - Photoionization Detector
ppm - Parts per million
NA - Not Applicable
* - Sample Submited for Lab Analysis

- Water Level Initial Measurement
- Water Level Subsequent Measurement

Sample ID:
HA - Hand Auger Sample
S - Split Spoon Sample
GS - Grab Sample

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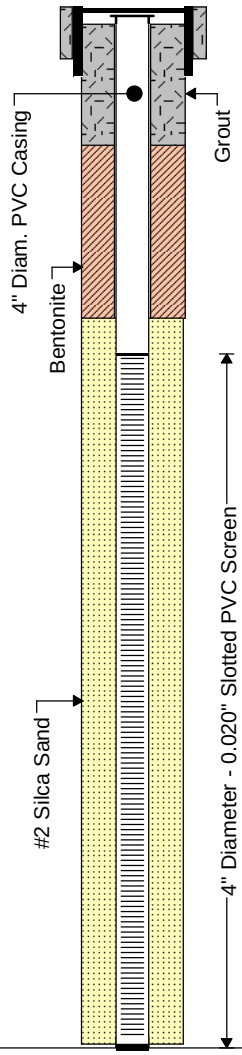
DRILLING LOG

Well No. MW-5

Project Name:	Exxon 2-0025	***Start Date:***	March 20, 2007	***Logged By:***	JTM and BPS
Site Location:	31 Heather Lane, Perryville MD	***End Date:***	March 29, 2007	***Permit No.:***	CE-95-1931
Project No:	79473	***Total Hole Depth:***	30'	***Checked By:***	MCS
Client:	Exxon Mobil Corporation	***Hole Diameter:***	8"	***Notes:***	Hole hand 8' using air knife vacuum
Drilling Company:	Soft Dig and B.L. Myers Brothers	***Depth to Bedrock:***	NA		
Driller:	Ray Chilcote	***Well Diameter:***	4"		Split spoon collected by hydraulic push
Drill Rig Type:	Air Vac and Schramm 450T	***Water Level (Initial):***	18'		
Drilling Method:	Air Knife and Air Rotary with HSA	***Screen Length:***	20'		
Sampling Method:	Grab and Split Spoon	***TOC Elevation:***	80.81		

Depth (feet)	Graphic Log	Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	PID Headspace (ppm)
0.0		GROUND SURFACE				
		Asphalt				
		(ML) CLAYEY SILT, light brown, moist,stiff, moist	HA 1 (3')			0
5.0			HA 2 (6')			0
			HA 3 (8')			0
10.0		**(CL)** SILTY CLAY, grey, moist, micaceous	S (10'-12')		24"	0
15.0		**(OL)** Organic material, black, hard	S (15'-16')		24"	0
			S (16'-17')			0
		(ML) CLAYEY SILT, light brown, with fine sands				
20.0		**(SC)** SILTY SAND fine, orange-brown,and grey, wet	S (20'-22) *		24"	0
25.0		**(CL)** SILTY CLAY, dark brown, micaceous				
30.0		Total Depth 30'				



PID - Photoionization Detector
ppm - Parts per million
NA - Not Applicable
* - Sample Submited for Lab Analysis

- Water Level Initial Measurement
- Water Level Subsequent Measurement

Sample ID:
HA - Hand Auger Sample
S - Split Spoon Sample
GS - Grab Sample

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DRILLING LOG
Boring No. SB-1

Project Name: ExxonMobil Station # 2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 2-0025
Client: ExxonMobil Corporation
Drilling Company: Connelly Associates
Driller: NR
Drill Rig Type: CME-55
Drilling Method: Hollow-stem auger
Sampling Method: Split Spoon

Start Date: 08/04/09
End Date: 08/04/09
Total Hole Depth: 28'
Hole Diameter: 6"
Depth to Bedrock: Unknown
Surface Elevation: NA
Water Level (Initial): 27.5'
Water Level (Static): NA
Logged By (Geol.): SE/MW

Permit No.: NA
License No.: JGD 034
Checked By: GYR
Notes: Pre-cleared boring to 8' bgs

SUBSURFACE PROFILE			SAMPLE				
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	VOC (ppm) 0 – 2000	Blows/6"	Penetration/ Recovery	Depth (feet)
0		Ground Surface		0.1			0
1		***SP*** Greenish gray, poorly graded GRAVEL/SILT		0.0			1
2		***CL*** Reddish brown, gravelly CLAY with sand		0.0			2
3		***CL*** Reddish brown, some water, gravelly CLAY with sand		0.0			3
4		***CL*** Reddish brown, wet, gravelly CLAY with sand		0.0			4
5				0.0			5
6				0.0			6
7				0.0			7
8				18.8			8
9		***CL*** Yellow-beige, moist, silty CLAY					9
10		Decreasing silt color change to light reddish brown Increasing moisture		37.9			10
11			SB-1 (10-12)				11
12				32.9			12
13							13
14				31.6			14
15		Increasing fine sand @ 15.5' bgs		31.6			15
16		***SP-SC*** moist to wet, clayey SAND, increased moisture likely fall-back from above		33.8			16
17							17
18		***CL*** Light reddish brown, wet, CLAY		33.1			18
19							19
20				28.6			20

VOC - Volatile Organic Compound
NA - Not Applicable
NS - Not Sampled
NR - Not Recorded
NM - Not Measured
ppm - parts per million

USCS - Unified Soil Classification System
bgs - below ground surface

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DRILLING LOG
Boring No. SB-1

Project Name: ExxonMobil Station # 2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 2-0025
Client: ExxonMobil Corporation
Drilling Company: Connelly Associates
Driller: NR
Drill Rig Type: CME-55
Drilling Method: Hollow-stem auger
Sampling Method: Split Spoon

Start Date: 08/04/09
End Date: 08/04/09
Total Hole Depth: 28'
Hole Diameter: 6"
Depth to Bedrock: Unknown
Surface Elevation: NA
Water Level (Initial): 27.5'
Water Level (Static): NA
Logged By (Geol.): SE/MW

Permit No.: NA
License No.: JGD 034
Checked By: GYR
Notes: Pre-cleared boring to 8' bgs

SUBSURFACE PROFILE			SAMPLE				
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	VOC (ppm) 0 – 2000	Blows/6"	Penetration/ Recovery	Depth (feet)
21		***CL*** Weak red, wet, CLAY		28.6			21
22				25.2			22
23							23
24				22.4			24
25			SB-1 (24-26)				25
26		Siltly sand lenses, wet		18.5			26
27							27
28		***SP-SM*** Yellow, saturated, fine silty SAND					28
29		End of Borehole					29
30							30
31							31
32							32
33							33
34							34
35							35
36							36
37							37
38							38
39							39
40							40

VOC - Volatile Organic Compound
NA - Not Applicable
NS - Not Sampled
NR - Not Recorded
NM - Not Measured
ppm - parts per million

USCS - Unified Soil Classification System
bgs - below ground surface

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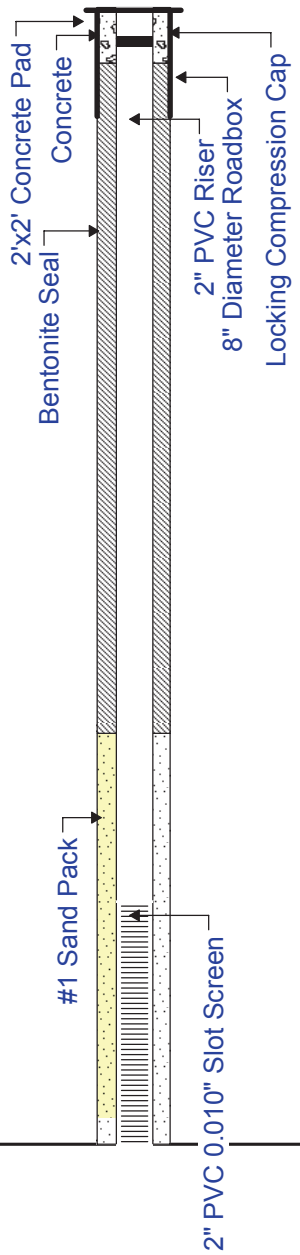
DRILLING LOG
Well No. SB-2/MW-6

Project Name: ExxonMobil Station # 2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 2-0036
Client: ExxonMobil Corporation
Drilling Company: Connelly Associates
Driller: HH
Drill Rig Type: CME-55
Drilling Method: Hollow-stem auger
Sampling Method: Split Spoon

Start Date: 08/04/09
End Date: 09/01/09
Total Hole Depth: 36'
Hole Diameter: 4.25"
Depth to Bedrock: Unknown
Top-Of-Casing Elevation: TBD
Water Level (Initial): 22.12'
Water Level (Static): NA
Logged By (Geol.): SE/VD

Permit No.: CE-95-2695
License No.: JGD 034
Checked By: GYR
Notes: Pre-cleared boring to 8' bgs

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000	Well Completion Details	Depth (feet)
0		Ground Surface				0.0		0
1		**CL** Yellowish brown, GRAVEL with lean clay				0.0		1
2						0.5		2
3		**CL** Pink, CLAY with some gravel, odor				1.5		3
4						1.9		4
5		**CL** Pinkish brown, CLAY with some gravel				3.7		5
6						3.2		6
7						3.1		7
8						9.4		8
9		**CL** Gray brown, moist to very moist, firm to soft, silty CLAY				14.1		9
10						13.7		10
11						10.4		11
12		**CL** Gray brown, moist silty CLAY, trace sand				9.6		12
13						8.7		13
14						13.7		14
15		**CL** Gray, moist, firm, sandy CLAY				12.0		15
16						7.6		16
17						9.1		17
18						9.9		18
19		**CL** Gray brown, moist, firm, CLAY, trace sand				7.8		19
20						6.0		20



VOC - Volatile Organic Compound
USCS - Unified Soil Classification System
NA - Not Applicable
NS - Not Sampled
NR - Not recorded
NM - Not measured
bgs - below ground surface
ppm - parts per million

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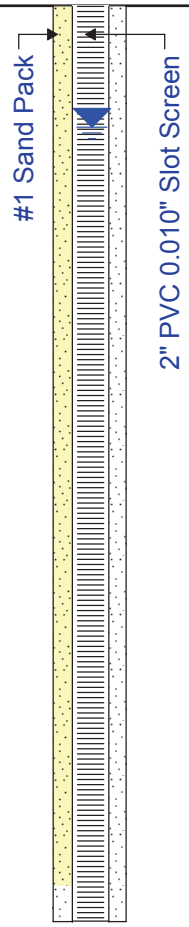
DRILLING LOG
Well No. SB-2/MW-6

Project Name: ExxonMobil Station # 2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 2-0036
Client: ExxonMobil Corporation
Drilling Company: Connelly Associates
Driller: HH
Drill Rig Type: CME-55
Drilling Method: Hollow-stem auger
Sampling Method: Split Spoon

Start Date: 08/04/09
End Date: 09/01/09
Total Hole Depth: 36'
Hole Diameter: 4.25"
Depth to Bedrock: Unknown
Top-Of-Casing Elevation: TBD
Water Level (Initial): 22.12'
Water Level (Static): NA
Logged By (Geol.): SE/VD

Permit No.: CE-95-2695
License No.: JGD 034
Checked By: GYR
Notes: Pre-cleared boring to 8' bgs

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000	Well Completion Details	Depth (feet)
21						6.0		21
22						4.9		22
23						5.5		23
24						5.0		24
25						4.1		25
26		***CL*** Yellow brown, firm to hard, silty CLAY, trace sand	MW-6 (26)			3.8		26
27						5.2		27
28		***SC*** Reddish yellow, wet, clayey SAND				6.8		28
29						7.1		29
30		***SP*** Light gray brown, wet, SAND, trace clay				4.0		30
31						2.8		31
32						3.1		32
33		***CL*** Blue gray, moist, firm, CLAY				3.3		33
34						4.1		34
35			MW-6 (35)			3.8		35
36		End of Borehole				4.7		36
37								37
38								38
39								39
40								40



VOC - Volatile Organic Compound
USCS - Unified Soil Classification System
NA - Not Applicable
NS - Not Sampled
NR - Not recorded
NM - Not measured
bgs - below ground surface
ppm - parts per million

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Hanover, MD 21076

DRILLING LOG
Boring No. SB-3

Project Name: ExxonMobil Station # 2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 2-0025
Client: ExxonMobil Corporation
Drilling Company: Connelly Associates
Driller: NR
Drill Rig Type: CME-55
Drilling Method: Hollow-stem auger
Sampling Method: Split Spoon

Start Date: 08/04/09
End Date: 08/04/09
Total Hole Depth: 28'
Hole Diameter: 6"
Depth to Bedrock: Unknown
Surface Elevation: NA
Water Level (Initial): 25'
Water Level (Static): NA
Logged By (Geol.): SE/MW

Permit No.: NA
License No.: JGD 034
Checked By: GYR
Notes: Pre-cleared boring to 8' bgs

SUBSURFACE PROFILE			SAMPLE				
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	VOC (ppm) 0 – 2000	Blows/6"	Penetration/ Recovery	Depth (feet)
0		Ground Surface					0
0–1		***SP*** Greenish gray, poorly graded GRAVEL		1.8			1
1–4		***CL*** Olive yellow, some water, lean CLAY		0.0, 0.3, 0.0			2–4
4–8		***CL*** Olive yellow some pink, some water, lean CLAY		0.0, 0.0, 0.0, 0.0, 3.0			5–8
8–10		***CL*** Yellow-beige, CLAY		14.4, 17.7			9–10
10–20		***CL*** Dark greenish gray, wet to saturated, (most likely from surface water) Increasing silt	SB-3 (12-14)	18.8, 11.3, 11.3, 5.4, 7.9, 7.6			11–20

VOC - Volatile Organic Compound
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NS - Not Sampled
NR - Not Recorded
NM - Not Measured
ppm - parts per million

USCS - Unified Soil Classification System
bgs - below ground surface

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DRILLING LOG
Boring No. SB-3

Project Name: ExxonMobil Station # 2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 2-0025
Client: ExxonMobil Corporation
Drilling Company: Connelly Associates
Driller: NR
Drill Rig Type: CME-55
Drilling Method: Hollow-stem auger
Sampling Method: Split Spoon

Start Date: 08/04/09
End Date: 08/04/09
Total Hole Depth: 28'
Hole Diameter: 6"
Depth to Bedrock: Unknown
Surface Elevation: NA
Water Level (Initial): 25'
Water Level (Static): NA
Logged By (Geol.): SE/MW

Permit No.: NA
License No.: JGD 034
Checked By: GYR
Notes: Pre-cleared boring to 8' bgs

SUBSURFACE PROFILE			SAMPLE				
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	VOC (ppm) 0 – 2000	Blows/6"	Penetration/ Recovery	Depth (feet)
21		***CL*** Increasing silt and very fine sand, color change brownish yellow, moist @ 22' bgs		7.6			21
22				4.5			22
23			SB-3 (22-24)				23
24				5.2			24
25		***SP-SC*** Brownish yellow, fine clayey SAND					25
26				4.2			26
27		***SW-SM*** Silty SAND					27
28		***CL*** Dark greenish gray, CLAY					28
29		End of Borehole					29
30							30
31							31
32							32
33							33
34							34
35							35
36							36
37							37
38							38
39							39
40							40

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DRILLING LOG
Well No. SB-4/MW-7

Project Name: ExxonMobil Station # 2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 2-0036
Client: ExxonMobil Corporation
Drilling Company: Connelly Associates
Driller: HH
Drill Rig Type: CME-55
Drilling Method: Hollow-stem auger
Sampling Method: Split Spoon

Start Date: 08/17/09
End Date: 08/31/09
Total Hole Depth: 42'
Hole Diameter: 4.25"
Depth to Bedrock: Unknown
Top-Of-Casing Elevation: TBD
Water Level (Initial): Dry
Water Level (Static): NA
Logged By (Geol.): GM/VD

Permit No.: CE-95-2696
License No.: JGD 034
Checked By: GYR
Notes: Pre-cleared boring to 5' bgs

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000	Well Completion Details	Depth (feet)
0		Ground Surface				0.8	2'x2' Concrete Pad Concrete Bentonite Seal 2" PVC Riser 8" Diameter Roadbox Locking Compression Cap #1 Sand Pack	0
0–6		**CL** Pink with gray streaks, dry, CLAY with gravel and silt				0.6 0.5 0.3 0.2 1.3		
6–10		**CL** Gray with red brown, moist, firm, CLAY				1.0 2.2 3.1 2.5 1.8		
10–15		**CL** Red brown with gray, moist, firm, silty CLAY				2.7 3.4 2.6 1.9 1.5		
15–20		**CL** Red brown with yellow brown and gray, moist, firm, silty CLAY				3.9 4.8 3.8 4.5 6.1		20

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DRILLING LOG
Well No. SB-4/MW-7

Project Name: ExxonMobil Station # 2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 2-0036
Client: ExxonMobil Corporation
Drilling Company: Connelly Associates
Driller: HH
Drill Rig Type: CME-55
Drilling Method: Hollow-stem auger
Sampling Method: Split Spoon

Start Date: 08/17/09
End Date: 08/31/09
Total Hole Depth: 42'
Hole Diameter: 4.25"
Depth to Bedrock: Unknown
Top-Of-Casing Elevation: TBD
Water Level (Initial): Dry
Water Level (Static): NA
Logged By (Geol.): GM/VD

Permit No.: CE-95-2696
License No.: JGD 034
Checked By: GYR
Notes: Pre-cleared boring to 5' bgs

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000	Well Completion Details	Depth (feet)
21		***CL*** Gray, trace yellow brown, moist, firm, sandy CLAY				6.1		21
22		***SP*** Yellow brown with gray, moist, SAND with clay				7.0		22
23		***SP*** Yellow brown to red brown, moist, SAND, trace clay				4.4		23
24		***CL*** Yellow brown, moist, firm, silty CLAY with sand				5.2		24
25						6.6		25
26						7.1		26
27		***CL*** Yellow brown, dry, firm, silty CLAY, trace sand				6.0		27
28						6.9		28
29		***CL*** Yellow brown with gray mottles, moist, firm, silty CLAY, trace sand				4.6		29
30			MW-7 (30)			4.2		30
31		***CL*** Pink with gray, moist, firm, CLAY				6.8		31
32						7.1		32
33						6.5		33
34						6.1		34
35						4.8		35
36		***CL*** Gray with red brown, moist, firm, silty CLAY				3.4		36
37						3.3		37
38						3.1		38
39		***CL*** Moist, firm, CLAY, trace weathered mica				1.3		39
40			MW-7 (40)			2.1		40
						2.0	#1 Sand Pack; 2" PVC 0.010" Slot Screen	

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DRILLING LOG
Well No. SB-4/MW-7

Project Name: ExxonMobil Station # 2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 2-0036
Client: ExxonMobil Corporation
Drilling Company: Connelly Associates
Driller: HH
Drill Rig Type: CME-55
Drilling Method: Hollow-stem auger
Sampling Method: Split Spoon

Start Date: 08/17/09
End Date: 08/31/09
Total Hole Depth: 42'
Hole Diameter: 4.25"
Depth to Bedrock: Unknown
Top-Of-Casing Elevation: TBD
Water Level (Initial): Dry
Water Level (Static): NA
Logged By (Geol.): GM/VD

Permit No.: CE-95-2696
License No.: JGD 034
Checked By: GYR
Notes: Pre-cleared boring to 5' bgs

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm)	Well Completion Details	Depth (feet)
41						0 2.0 2000 1.6	#1 Sand Pack 2" PVC 0.010" Slot Screen	41
42		End of Borehole						42
43								43
44								44
45								45
46								46
47								47
48								48
49								49
50								50
51								51
52								52
53								53
54								54
55								55
56								56
57								57
58								58
59								59
60								60

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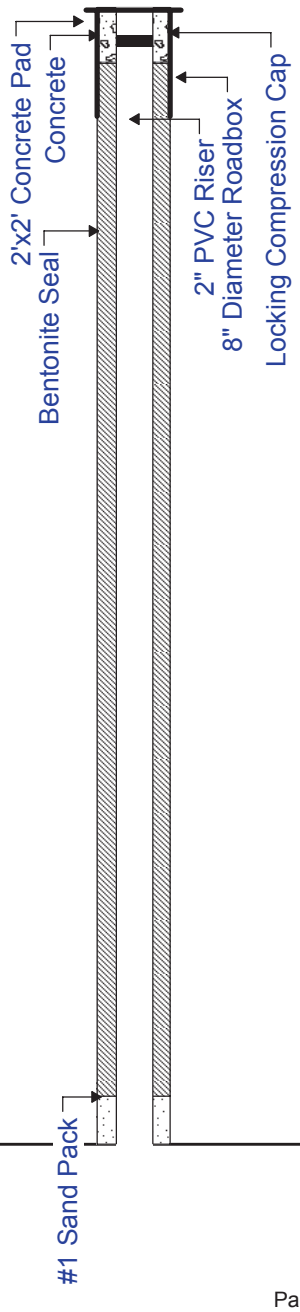
DRILLING LOG
Well No. SB-5/MW-8

Project Name: ExxonMobil Station # 2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 2-0036
Client: ExxonMobil Corporation
Drilling Company: Connelly Associates
Driller: HH
Drill Rig Type: CME-55
Drilling Method: Hollow-stem auger
Sampling Method: Split Spoon

Start Date: 08/17/09
End Date: 08/31/09
Total Hole Depth: 42'
Hole Diameter: 4.25"
Depth to Bedrock: Unknown
Top-Of-Casing Elevation: TBD
Water Level (Initial): 35.9'
Water Level (Static): 30.26'
Logged By (Geol.): GM/VD

Permit No.: CE-95-2697
License No.: JGD 034
Checked By: GYR
Notes: Pre-cleared boring to 5' bgs

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000	Well Completion Details	Depth (feet)
0		Ground Surface						0
1		***ASPHALT*** Asphalt				1.1		1
2		***SP*** Reddish brown, dry, poorly graded gravelly SAND with clay				0.5		2
3		***CL*** Grayish brown, dry, gravelly CLAY with sand				0.4		3
4						0.2		4
5		***SP*** Reddish brown, dry, gravelly SAND with clay				0.3		5
6		***CL*** Light brownish gray, moist, sandy CLAY with gravel				6.1		6
7						7.5		7
8		***CL*** Reddish brown, moist, gravelly SAND with clay				7.8		8
9		***CL*** Gray with red brown, moist, firm, silty CLAY				8.1		9
10						4.5		10
11		***CL*** Red brown with gray, moist, firm, silty CLAY				5.4		11
12						4.7		12
13		***CL*** Red brown with gray, trace brown/yellow, moist, firm, silty CLAY, trace sand				3.9		13
14						3.8		14
15						4.0		15
16		***CL*** Yellow brown and gray with red brown, moist, firm, silty CLAY, trace sand				5.5		16
17						6.7		17
18						4.9		18
19						6.0		19
20						3.9		20



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DRILLING LOG
Well No. SB-5/MW-8

Project Name: ExxonMobil Station # 2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 2-0036
Client: ExxonMobil Corporation
Drilling Company: Connelly Associates
Driller: HH
Drill Rig Type: CME-55
Drilling Method: Hollow-stem auger
Sampling Method: Split Spoon

Start Date: 08/17/09
End Date: 08/31/09
Total Hole Depth: 42'
Hole Diameter: 4.25"
Depth to Bedrock: Unknown
Top-Of-Casing Elevation: TBD
Water Level (Initial): 35.9'
Water Level (Static): 30.26'
Logged By (Geol.): GM/VD

Permit No.: CE-95-2697
License No.: JGD 034
Checked By: GYR
Notes: Pre-cleared boring to 5' bgs

SUBSURFACE PROFILE | **SAMPLE**

Depth (feet)	USCS Code / Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0–2000	Well Completion Details	Depth (feet)
21	***CL*** Yellow brown with red, moist, firm, sandy CLAY				3.9		21
22	***SP*** Gray with yellow brown, moist, clayey SAND				5.2		22
23					7.2		23
24	***SP*** Yellow brown with gray, moist, poorly sorted SAND, trace clay				8.1		24
25					4.8		25
26	No recovery				5.9		26
27	***SP*** Gray, trace yellow brown, moist, hard, poorly sorted SAND, trace clay				4.6		27
28	***SP*** Red brown, dry, SAND with clay				3.9		28
29	***CL*** Yellow brown and gray, moist firm, CLAY with sand				7.0		29
30					7.8		30
31	***CL*** Yellow brown with gray, moist to very moist, firm to soft, sandy CLAY				4.6		31
32		MW-8 (32)			5.5		32
33					4.8		33
34					3.3		34
35					5.1		35
36	***CL*** Yellow brown, moist, firm, CLAY, trace sand				6.6		36
37					8.1		37
38	***CL*** Gray, moist, firm, silty CLAY, trace sand				10.0		38
39					6.9		39
40		MW-8 (40)			6.0		40
					4.2	#1 Sand Pack; 2" PVC 0.010" Slot Screen	

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DRILLING LOG
Well No. SB-5/MW-8

Project Name: ExxonMobil Station # 2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 2-0036
Client: ExxonMobil Corporation
Drilling Company: Connelly Associates
Driller: HH
Drill Rig Type: CME-55
Drilling Method: Hollow-stem auger
Sampling Method: Split Spoon

Start Date: 08/17/09
End Date: 08/31/09
Total Hole Depth: 42'
Hole Diameter: 4.25"
Depth to Bedrock: Unknown
Top-Of-Casing Elevation: TBD
Water Level (Initial): 35.9'
Water Level (Static): 30.26'
Logged By (Geol.): GM/VD

Permit No.: CE-95-2697
License No.: JGD 034
Checked By: GYR
Notes: Pre-cleared boring to 5' bgs

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000	Well Completion Details	Depth (feet)
41		***CL*** Moist, hard, silty CLAY, trace weathered mica				4.2		41
42		End of Borehole				3.0	#1 Sand Pack; 2" PVC 0.010" Slot Screen	42
43								43
44								44
45								45
46								46
47								47
48								48
49								49
50								50
51								51
52								52
53								53
54								54
55								55
56								56
57								57
58								58
59								59
60								60

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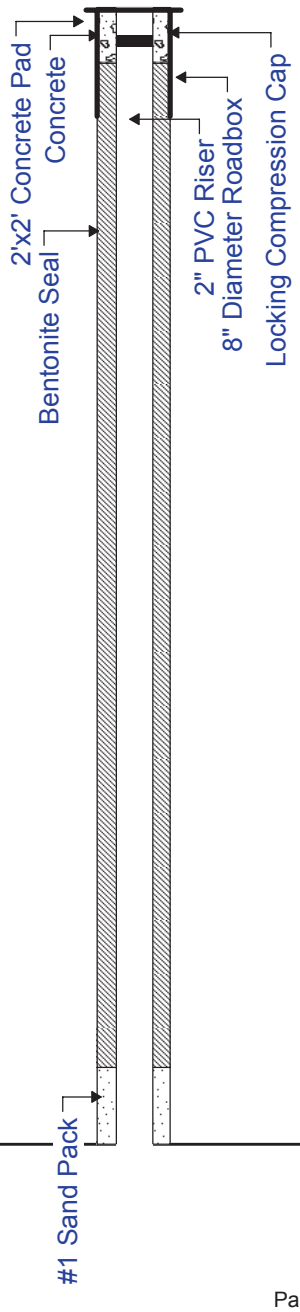
DRILLING LOG
Well No. SB-6/MW-9

Project Name: ExxonMobil Station # 2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 2-0036
Client: ExxonMobil Corporation
Drilling Company: Connelly Associates
Driller: HH
Drill Rig Type: CME-55
Drilling Method: Hollow-stem auger
Sampling Method: Split Spoon

Start Date: 08/17/09
End Date: 08/27/09
Total Hole Depth: 42.5'
Hole Diameter: 4.25"
Depth to Bedrock: Unknown
Top-Of-Casing Elevation: TBD
Water Level (Initial): 32.42'
Water Level (Static): NA
Logged By (Geol.): GM/VD

Permit No.: CE-95-2698
License No.: JGD 034
Checked By: GYR
Notes: Pre-cleared boring to 8' bgs

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000	Well Completion Details	Depth (feet)
0		Ground Surface						0
0		***ASPHALT*** Asphalt				0.8		0
1		***CL*** Yellowish brown, dry, CLAY with gravel and sand				1.2		1
2						2.4		2
3		***SP-SC*** Brown, dry, clayey SAND with gravel				1.2		3
4		***CL*** Gray with yellowish brown, CLAY with sand				1.7		4
5						1.5		5
6		***CL*** Pink and gray, dry, CLAY with little sand				0.7		6
7		***CL*** Pink with brown and gray streaks, dry, CLAY with sand				0.4		7
8						5.4		8
9		***CL*** Yellow brown with red brown, moist, CLAY, trace sand				8.2		9
10		***CL*** Red brown with yellow brown and gray, moist, CLAY, trace sand				3.6		10
11						8.5		11
12						7.5		12
13						9.1		13
13		***CL*** Yellow brown, trace red brown, dry, firm, CLAY with sand				5.0		13
14						7.4		14
15						4.3		15
16		***SP*** Gray, trace yellow brown, moist, poorly sorted SAND with clay				5.1		16
17						10.7		17
18						7.1		18
19						6.7		19
20								20



VOC - Volatile Organic Compound
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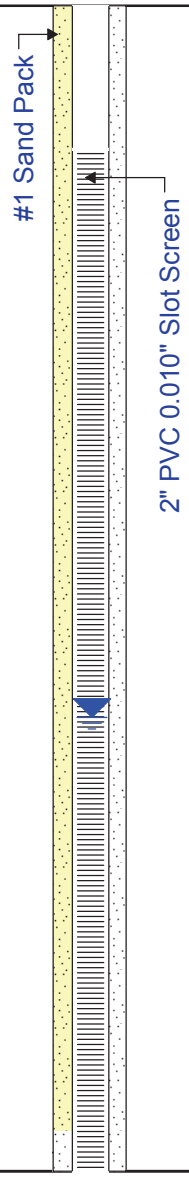
DRILLING LOG
Well No. SB-6/MW-9

Project Name: ExxonMobil Station # 2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 2-0036
Client: ExxonMobil Corporation
Drilling Company: Connelly Associates
Driller: HH
Drill Rig Type: CME-55
Drilling Method: Hollow-stem auger
Sampling Method: Split Spoon

Start Date: 08/17/09
End Date: 08/27/09
Total Hole Depth: 42.5'
Hole Diameter: 4.25"
Depth to Bedrock: Unknown
Top-Of-Casing Elevation: TBD
Water Level (Initial): 32.42'
Water Level (Static): NA
Logged By (Geol.): GM/VD

Permit No.: CE-95-2698
License No.: JGD 034
Checked By: GYR
Notes: Pre-cleared boring to 8' bgs

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000	Well Completion Details	Depth (feet)
21		***CL*** Light gray, trace yellow brown, moist, firm, CLAY with sand				6.7		21
22						6.1		22
23		***CL*** Yellow brown with light gray and red, moist, firm, CLAY, trace sand				7.0		23
24						5.2		24
25						10.1		25
26		***CL*** Red brown, trace yellow brown, moist, firm, CLAY, trace sand				12.4		26
27						8.1		27
28		***SP*** Yellow brown with light gray and red brown, moist, poorly sorted SAND with clay				7.0		28
29			MW-9 (29)			3.9		29
30		***SP*** Light gray, very moist, soft, poorly sorted SAND, trace clay				6.0		30
31		***CL*** Red brown with gray, moist, firm, CLAY with sand				3.8		31
32						4.6		32
33						10.7		33
34						11.1		34
35		***CL*** Gray, moist, firm, CLAY, trace sand				4.9		35
36						5.7		36
37						6.4		37
38		***CL*** Gray brown, moist, firm, CLAY, trace sand				7.8		38
39						8.3		39
40						9.1		40
						6.3		



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bgs - below ground surface
ppm - parts per million

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DRILLING LOG
Well No. SB-6/MW-9

Project Name: ExxonMobil Station # 2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 2-0036
Client: ExxonMobil Corporation
Drilling Company: Connelly Associates
Driller: HH
Drill Rig Type: CME-55
Drilling Method: Hollow-stem auger
Sampling Method: Split Spoon

Start Date: 08/17/09
End Date: 08/27/09
Total Hole Depth: 42.5'
Hole Diameter: 4.25"
Depth to Bedrock: Unknown
Top-Of-Casing Elevation: TBD
Water Level (Initial): 32.42'
Water Level (Static): NA
Logged By (Geol.): GM/VD

Permit No.: CE-95-2698
License No.: JGD 034
Checked By: GYR
Notes: Pre-cleared boring to 8' bgs

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000	Well Completion Details	Depth (feet)
41			MW-9 (41)			6.3 5.8	#1 Sand Pack 2" PVC 0.010" Slot Screen	41
42		End of Borehole						42
43								43
44								44
45								45
46								46
47								47
48								48
49								49
50								50
51								51
52								52
53								53
54								54
55								55
56								56
57								57
58								58
59								59
60								60

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NA - Not Applicable
NS - Not Sampled
NR - Not recorded
NM - Not measured
bgs - below ground surface
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BORING LOG

Boring No. SB-7

Project Name: Southside Facility #20025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 113847
Client: Southside Oil LLC
Drilling Company: Odyssey Environmental Services, Inc.
Driller: Z. Hoppes
Drill Rig Type: Geoprobe 7730DT
Drilling Method: Direct Push
Sampling Method: 2.25 inch Macrocore

Start Date: 8-31-11
End Date: 8-31-11
Total Hole Depth: 23 feet
Hole Diameter: 2.25 inches
Depth to Bedrock: Not encountered
Surface Elevation: 0
Water Level (Initial): Not encountered
Water Level (Static): NA
Logged By (Geol.): CL

Permit No.: CE-10-0090
License No.: JGD095
Checked By: NMH
Notes: Airknife to 5 feet

SUBSURFACE PROFILE			SAMPLE		
Depth (feet)	Graphic Log	Soil/Geologic Description (Unified Soil Classification System)	Sample ID	PID (ppm)	Depth (feet)
0		Ground Surface			0
		Grass /Topsoil			
1		***GW*** Fine to coarse GRAVEL with fine sand, light brown, dry, with some fill materials and concrete pieces		0.1	1
2					2
3		***SC*** Medium SAND with clay and fine gravel, brown to light gray, dry		1.1	3
4				0.0	4
5		***SC*** Medium SAND with clay and fine gravel, light gray, dry, very firm		0.0	5
6		***CL*** CLAY, light brown, dry, hard		0.0	6
7				0.0	7
8				0.0	8
9				0.0	9
10				0.0	10
11				0.0	11
12		***CL*** CLAY, red-brown, dry, hard		0.0	12
13		***CL*** CLAY, light brown, dry, hard		0.0	13
14				0.0	14
15		***CL*** CLAY, red-brown, dry, hard		0.0	15
16		***SM*** Medium SAND with silt, yellow-brown, moist, medium dense		0.0	16
17				0.0	17
18				0.0	18
19		***CL*** CLAY, red-brown, dry, hard		0.0	19
20		***CL*** CLAY, red-brown, dry, very hard Probe refusal at 23 feet		0.3	20
21				0.2	21
22			MW-11 (22-23)	0.4	22
23		End of Borehole			23
24					24
25					25

PID - Photoionization Detector
NA - Not Applicable
NS - Not Sampled
NM - Not Measured
MU - Meter Units
PP - Pocket Penetrometer Reading (tons/sq. foot)

SHA Permit # SHA-2-CE-4709-UT-11

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Hanover, MD 21076
(410) 850-0404

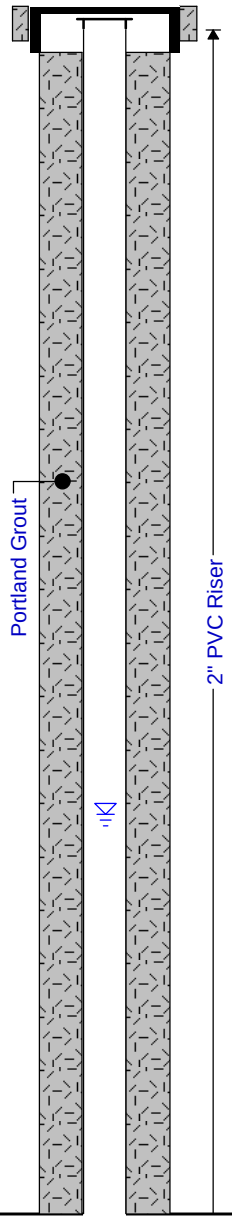
BORING LOG
Boring No. MW-10D

Project Name: Southside Facility #20025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 113847
Client: Southside Oil LLC
Drilling Company: Odyssey Environmental Services, Inc.
Driller: F. Bahrenburg
Drill Rig Type: CME-75
Drilling Method: 4.25" Hollow Stem Augers
Sampling Method: 2 Foot Split Spoon

Start Date: 8-31-11
End Date: 9-1-11
Total Hole Depth: 43 feet
Hole Diameter: 8 inches
Depth to Bedrock: Not encountered
TOC Elevation: 82.61 feet
Water Level (Initial): 17 feet
Water Level (Static): 28.18 feet
Logged By (Geol.): CL

Permit No.: CE-10-0089
License No.: JGD095
Checked By: NMH
Notes: Airknife to 5 feet

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	Soil/Geologic Description (Unified Soil Classification System)	Sample ID	Blows/6 in	PID (ppm)	Recovery (in)	Well Construction	Depth (feet)
0		Ground Surface						0
0		Grass /Topsoil						0
1		***SC*** Medium SAND with clay, brown, moist			0.0			1
2								2
3		***SC*** Medium SAND with clay, light gray, moist			0.2			3
4					0.0			4
5		***SC*** Medium SAND with clay, brown, moist		2 3 3 2	0.0	24"		5
6					0.3			6
7		***ML*** Clayey SILT, gray, soft		2 3 3 3	1.8	24"		7
8								8
9		***ML*** Clayey SILT, dark gray, moist, soft		2 2 2 3	1.8	24"		9
10					1.0			10
11		***ML*** Clayey SILT, dark gray, very moist, soft		3 3 3 3	3.5	24"		11
12					2.0			12
13		***CL*** Silty CLAY, dark gray, moist, firm		2 2 2 3	2.2	18"		13
14					0.5			14
15		***CL*** CLAY, dark gray, dry, firm		2 2 2 3	1.2	18"		15
16			MW-10D (16-17)		4.3			16
17		***CL*** Silty CLAY, dark gray, moist, firm		4 4 6 5	0.8	24"		17
18		***ML*** SILT, dark gray, wet, soft			0.5			18
19		***CL*** CLAY, dark gray, dry, hard		2 3 4 5	0.4	24"		19
20					0.0			20
21		***ML*** Clayey SILT, dark gray, moist, firm		5 5 5 5	0.0	24"		21
22					0.0			22
23		***CL*** CLAY, dark gray, moist, firm		6 8 13 13	0.0	24"		23
24		***CL*** CLAY, dark gray, moist, hard			0.0			24
25				2				25



PID - Photoionization Detector
NA - Not Applicable
NS - Not Sampled
NM - Not Measured
MU - Meter Units
PP - Pocket Penetrometer Reading (tons/sq. foot)

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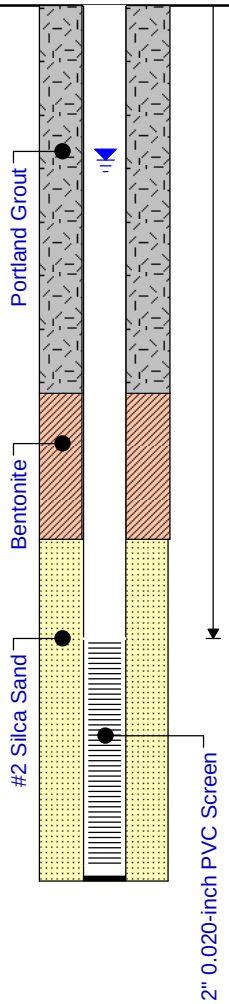
BORING LOG
Boring No. MW-10D

Project Name: Southside Facility #20025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 113847
Client: Southside Oil LLC
Drilling Company: Odyssey Environmental Services, Inc.
Driller: F. Bahrenburg
Drill Rig Type: CME-75
Drilling Method: 4.25" Hollow Stem Augers
Sampling Method: 2 Foot Split Spoon

Start Date: 8-31-11
End Date: 9-1-11
Total Hole Depth: 43 feet
Hole Diameter: 8 inches
Depth to Bedrock: Not encountered
TOC Elevation: 82.61 feet
Water Level (Initial): 17 feet
Water Level (Static): 28.18 feet
Logged By (Geol.): CL

Permit No.: CE-10-0089
License No.: JGD095
Checked By: NMH
Notes: Airknife to 5 feet

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	Soil/Geologic Description (Unified Soil Classification System)	Sample ID	Blows/6 in	PID (ppm)	Recovery (in)	Well Construction	Depth (feet)
26		***ML*** SILT, dark gray, wet, soft		2 7 7 7	0.0 0.0	18"		26
27		***SM*** Silty fine SAND, yellow-brown, wet, medium dense		6 8 10 10	0.0 0.0	18"		27
28								28
29		***SP*** Medium SAND, yellow-brown, wet, medium dense		7 12 15 15	0.0 0.0	12"		29
30								30
31		***SM*** Silty fine SAND, red-brown, moist, medium dense,		8 10 10 12	0.0 0.0	12"		31
32								32
33		***CL*** CLAY, gray, moist, very firm		8 10 6 6	0.0 0.0	12"		33
34		***CL*** CLAY, gray, moist, soft						34
35								35
36		***CL*** CLAY, olive-gray, moist, hard		4 4 5 7	0.0 0.0	24"		36
37								37
38		***CL*** CLAY, dark blue-gray, moist, hard		7 8 11 12	0.0 0.1	18"		38
39		***CL*** Silty CLAY, dark blue-gray, dry, very hard, saprolitic texture						39
40				7 8 11 12	0.0 0.0	24"		40
41		***ML*** Clayey SILT, dark blue-gray, dry, very hard						41
42				9 12 15 18	0.0 0.0	24"		42
43		***ML*** Clayey SILT, light gray, dry, very hard						43
44		***ML*** Clayey SILT, dark blue-gray, dry, very hard						44
45								45
46		***SM*** Silty medium SAND, green-gray, dry, dense Auger refusal at 43 feet						46
47								47
48		End of Borehole						48
49								49
50								50



PID - Photoionization Detector
NA - Not Applicable
NS - Not Sampled
NM - Not Measured
MU - Meter Units
PP - Pocket Penetrometer Reading (tons/sq. foot)

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BORING LOG
Boring No. MW-11

Project Name: Southside Facility #20025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 113847
Client: Southside Oil LLC
Drilling Company: Odyssey Environmental Services, Inc.
Driller: Z. Hoppes
Drill Rig Type: Geoprobe 7730DT
Drilling Method: Direct Push
Sampling Method: 2.25 inch Macrocore

Start Date: 8-31-11
End Date: 8-31-11
Total Hole Depth: 23 feet
Hole Diameter: 2.25 inches
Depth to Bedrock: Not encountered
Surface Elevation: 0
Water Level (Initial): Not encountered
Water Level (Static): NA
Logged By (Geol.): CL

Permit No.: NA
License No.: NA
Checked By: NMH
Notes: Airknife to 5 feet

SUBSURFACE PROFILE			SAMPLE		
Depth (feet)	Graphic Log	Soil/Geologic Description (Unified Soil Classification System)	Sample ID	PID (ppm)	Depth (feet)
0		Ground Surface			0
		Grass /Topsoil			
1		***GW*** Fine to coarse GRAVEL with fine sand, light brown, dry		0.1	1
2		Fill materials - concrete pieces			2
3		***SC*** Medium SAND with clay and fine gravel, brown to light gray, dry		1.1	3
4				0.0	4
5		***SC*** Medium SAND with clay and fine gravel, light gray, dry, very firm		0.0	5
6		***CL*** CLAY, light brown, dry, hard		0.0	6
7				0.0	7
8				0.0	8
9				0.0	9
10				0.0	10
11				0.0	11
12		***CL*** CLAY, red-brown, dry, hard		0.0	12
13		***CL*** CLAY, light brown, dry, hard		0.0	13
14				0.0	14
15		***CL*** CLAY, red-brown, dry, hard		0.0	15
16		***SM*** Medium SAND with silt, yellow-brown, moist, medium dense		0.0	16
17				0.0	17
18				0.0	18
19				0.0	19
20		***CL*** CLAY, red-brown, dry, hard		0.3	20
21		***CL*** CLAY, red-brown, dry, very hard		0.2	21
22		Probe refusal at 23 feet	MW-11 (22-23)	0.4	22
23		End of Borehole			23
24					24
25					25

PID - Photoionization Detector
NA - Not Applicable
NS - Not Sampled
NM - Not Measured
MU - Meter Units
PP - Pocket Penetrometer Reading (tons/sq. foot)

No well installed. Borehole backfilled 8-31-11

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BORING LOG
Boring No. MW-12

Project Name: Southside Facility #20025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 113847
Client: Southside Oil LLC
Drilling Company: Odyssey Environmental Services, Inc.
Driller: F. Bahrenburg
Drill Rig Type: CME-75
Drilling Method: 4.25 inch Hollow Stem Augers
Sampling Method: 2 foot Split Spoon

Start Date: 8-31-11
End Date: 9-6-11
Total Hole Depth: 38.5 feet
Hole Diameter: 8 inches
Depth to Bedrock: 38 feet
TOC Elevation: 70.57 feet
Water Level (Initial): 37.5 feet
Water Level (Static): 30.52 feet
Logged By (Geol.): CL / NMH

Permit No.: CE-10-0091
License No.: JGD095
Checked By: NMH
Notes: Airknife to 5 feet

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	Soil/Geologic Description (Unified Soil Classification System)	Sample ID	Blows/6 in	PID (ppm)	Recovery (in)	Well Construction	Depth (feet)
0		Ground Surface						0
0		Grass /Topsoil						0
1		***SC*** Medium SAND with clay and fine gravel, brown, moist			0.0			1
2								2
3		***SC*** Medium SAND with clay, light gray-brown, dry			0.0			3
4					0.3			4
5		***CL*** CLAY with fine sand, red-brown, dry, very firm		4 6 8 8	0.0	23"		5
6								6
7		***CL*** CLAY with silt, red and light gray mottled, dry, very firm		7 8 8 9	4.4	18"	Portland Grout	7
8								8
9								9
10				4 4 6 9	10.1	24"		10
11								11
12				6 8 12 14	15.3	12"		12
13								13
14				8 8 12 13	10.9	12"		14
15							Bentonite	15
16		***SC*** Clayey fine SAND, light gray, dry, firm, dense		7 8 14 15	11.8	24"		16
17								17
18		Yellow-orange mottling at 18 feet		12 13 15 14	12.2	18"		18
19		***SC*** Clayey fine SAND, light gray and orange, dry, medium dense Auger refusal at 21 feet, Drove spoons to 25 feet	MW-12 (19-21)	7 10 14 18	13.1	24"		19
20								20
21							#2 Silca Sand	21
22		***CL*** Sandy CLAY, red, dry, hard		23 50 in 2"	7.4	8"		22
23								23

2" PVC Riser

PID - Photoionization Detector
NA - Not Applicable
NS - Not Sampled
NM - Not Measured
MU - Meter Units
PP - Pocket Penetrometer Reading (tons/sq. foot)

Roller bit engaged from 25' to terminus, no spoons collected

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BORING LOG
Boring No. MW-12

Project Name: Southside Facility #20025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 113847
Client: Southside Oil LLC
Drilling Company: Odyssey Environmental Services, Inc.
Driller: F. Bahrenburg
Drill Rig Type: CME-75
Drilling Method: 4.25 inch Hollow Stem Augers
Sampling Method: 2 foot Split Spoon

Start Date: 8-31-11
End Date: 9-6-11
Total Hole Depth: 38.5 feet
Hole Diameter: 8 inches
Depth to Bedrock: 38 feet
TOC Elevation: 70.57 feet
Water Level (Initial): 37.5 feet
Water Level (Static): 30.52 feet
Logged By (Geol.): CL / NMH

Permit No.: CE-10-0091
License No.: JGD095
Checked By: NMH
Notes: Airknife to 5 feet

SUBSURFACE PROFILE | **SAMPLE**

Depth (feet)	Graphic Log	Soil/Geologic Description (Unified Soil Classification System)	Sample ID	Blows/6 in	PID (ppm)	Recovery (in)	Well Construction	Depth (feet)
24–25		***SC*** Clayey fine SAND, light gray mottled, dry, hard			5.2			24–25
26		***ML*** SILT with fine sand, light brown, dry, hard						26
27–30		***ML*** SILT with fine sand, light brown, dry, soft					#2 Silca Sand	27–30
31–36		***ML*** SILT with fine sand, light brown, dry, hard					2" 0.020-inch PVC Screen	31–36
37–38		***ML*** SILT with fine sand, light brown, dry, soft Wet cuttings at 37.5 feet						37–38
39		***BK*** Bedrock, no recovery						39
40		End of Borehole						40
41–46								41–46

PID - Photoionization Detector
NA - Not Applicable
NS - Not Sampled
NM - Not Measured
MU - Meter Units
PP - Pocket Penetrometer Reading (tons/sq. foot)

Roller bit engaged from 25' to terminus, no spoons collected

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DRILLING LOG
Well No. MW-13

Project Name: Southside Facility #2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 113847
Client: Southside Oil, LLC
Drilling Company: Eichelbergers, Inc.
Driller: Ray Jackson
Drill Rig Type: Gill Rock Drill Co. Beetle
Drilling Method: Air Rotary
Sampling Method: Hand Auger/Cuttings

Start Date: 03/19/2013
End Date: 03/19/2013
Total Hole Depth: 41'
Hole Diameter: 6"
Depth to Bedrock: 41'
Top-Of-Casing Elevation: 85.54'
Water Level (Initial): ~28'
Water Level (Static): NR
Logged By (Geol.): PW

Permit No.: CE-11-0194
License No.: WRO075
Checked By: CL
Notes: Cleared boring to 6' bgs

SUBSURFACE PROFILE | **SAMPLE**

Depth (feet)	Graphic Log	USCS Code / Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 – 2000	Well Completion Details	Depth (feet)
0		Ground Surface						0
0		Top Soil/Grass				0.0	2'x2' Concrete Pad	0
1		**CL** Brown, moist, CLAY with sand, gravel, cobbles, soft				0.0	2" PVC Riser	1
2						0.0	8" Diameter Roadbox	2
3		**CL** Yellow with light gray mottles, dry, CLAY, medium plasticity				0.0	Locking Compression Cap	3
4						0.0		4
5						0.0		5
6						0.0	Grout	6
7						0.0		7
8						0.0		8
9						0.0		9
10						0.0		10
11						0.0		11
12						0.0		12
13						0.0		13
14						0.0	Bentonite Seal	14
15						0.0		15
16						0.0		16
17						0.0		17
18		**CL** Reddish yellow, moist, CLAY with silt, fine sand, low plasticity, soft				0.0	#2 Sand Pack	18
19						0.0		19
20						0.0		20

VOC - Volatile Organic Compound
NA - Not Applicable
NS - Not Sampled
NR - Not Recorded
NM - Not Measured
NE - Not Encountered
ppm - parts per million

USCS - Unified Soil Classification System
WOR - weight of rod
W - weight of hammer

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DRILLING LOG
Well No. MW-13

Project Name: Southside Facility #2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 113847
Client: Southside Oil, LLC
Drilling Company: Eichelbergers, Inc.
Driller: Ray Jackson
Drill Rig Type: Gill Rock Drill Co. Beetle
Drilling Method: Air Rotary
Sampling Method: Hand Auger/Cuttings

Start Date: 03/19/2013
End Date: 03/19/2013
Total Hole Depth: 41'
Hole Diameter: 6"
Depth to Bedrock: 41'
Top-Of-Casing Elevation: 85.54'
Water Level (Initial): ~28'
Water Level (Static): NR
Logged By (Geol.): PW

Permit No.: CE-11-0194
License No.: WRO075
Checked By: CL
Notes: Cleared boring to 6' bgs

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000	Well Completion Details	Depth (feet)
21						0.0		21
22						0.0		22
23						0.0		23
24		***CL*** Yellow with light gray mottles, moist, CLAY, medium plasticity, soft				0.0		24
25						0.0		25
26						0.0		26
27		***CL*** Gray, moist, CLAY, high plasticity, firm, dark brown lignite present				0.0		27
28						0.0		28
29						0.0	#2 Sand Pack	29
30						0.0		30
31						0.0		31
32						0.0		32
33						0.0		33
34						0.0		34
35						0.0		35
36						0.0		36
37						0.0		37
38		Light green, SAPROLITE				0.0	2" PVC 0.020" Slot Screen	38
39						0.0		39
40		Bedrock encountered at 41' bgs				0.0		40

VOC - Volatile Organic Compound
NA - Not Applicable
NS - Not Sampled
NR - Not Recorded
NM - Not Measured
NE - Not Encountered
ppm - parts per million

USCS - Unified Soil Classification System
WOR - weight of rod
W - weight of hammer

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DRILLING LOG
Well No. MW-13

Project Name: Southside Facility #2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 113847
Client: Southside Oil, LLC
Drilling Company: Eichelbergers, Inc.
Driller: Ray Jackson
Drill Rig Type: Gill Rock Drill Co. Beetle
Drilling Method: Air Rotary
Sampling Method: Hand Auger/Cuttings

Start Date: 03/19/2013
End Date: 03/19/2013
Total Hole Depth: 41'
Hole Diameter: 6"
Depth to Bedrock: 41'
Top-Of-Casing Elevation: 85.54'
Water Level (Initial): ~28'
Water Level (Static): NR
Logged By (Geol.): PW

Permit No.: CE-11-0194
License No.: WRO075
Checked By: CL
Notes: Cleared boring to 6' bgs

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000	Well Completion Details	Depth (feet)
41		End of Borehole				0.0	#2 Sand Pack	41
42								42
43								43
44								44
45								45
46								46
47								47
48								48
49								49
50								50
51								51
52								52
53								53
54								54
55								55
56								56
57								57
58								58
59								59
60								60

VOC - Volatile Organic Compound
NA - Not Applicable
NS - Not Sampled
NR - Not Recorded
NM - Not Measured
NE - Not Encountered
ppm - parts per million

USCS - Unified Soil Classification System
WOR - weight of rod
W - weight of hammer

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DRILLING LOG
Well No. MW-14

Project Name: Southside Facility #2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 113847
Client: Southside Oil, LLC
Drilling Company: Eichelbergers, Inc.
Driller: Ray Jackson
Drill Rig Type: Gill Rock Drill Co. Beetle
Drilling Method: Air Rotary
Sampling Method: Hand Auger/Cuttings

Start Date: 03/21/2013
End Date: 03/21/2013
Total Hole Depth: 38'
Hole Diameter: 6"
Depth to Bedrock: 38'
Top-Of-Casing Elevation: 65.09'
Water Level (Initial): NE
Water Level (Static): 31.03'
Logged By (Geol.): PW

Permit No.: CE-11-0195
License No.: WRO075
Checked By: CL
Notes: Cleared boring to 5' bgs

SUBSURFACE PROFILE | **SAMPLE**

Depth (feet)	Graphic Log	USCS Code / Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 – 2000	Well Completion Details	Depth (feet)
0		Ground Surface				0.0	2'x2' Concrete Pad; 2" PVC Riser; 8" Diameter Roadbox; Locking Compression Cap	0
0		Top Soil/Grass				0.0		0
1		***CL*** Yellowish brown, CLAY with subangular cobbles				0.0		1
2						0.0		2
3						0.0		3
4						0.0		4
5						0.0		5
6						0.0	Grout	6
7		***CL*** Reddish yellow, moist, CLAY, medium plasticity, soft				0.0		7
8						0.0		8
9						0.0		9
10		***CL*** Red, moist, CLAY, medium plasticity, soft				0.0		10
11						0.0		11
12						0.0		12
13		***CL*** Reddish yellow, dry, CLAY, medium plasticity, soft				0.0		13
14						0.0		14
15		***SP*** Tan, moist, fine SAND				0.0	Bentonite Seal	15
16						0.0		16
17						0.0		17
18						0.0	#2 Sand Pack	18
19						0.0		19
20						0.0		20

VOC - Volatile Organic Compound
NA - Not Applicable
NS - Not Sampled
NR - Not Recorded
NM - Not Measured
NE - Not Encountered
ppm - parts per million

USCS - Unified Soil Classification System
WOR - weight of rod
W - weight of hammer

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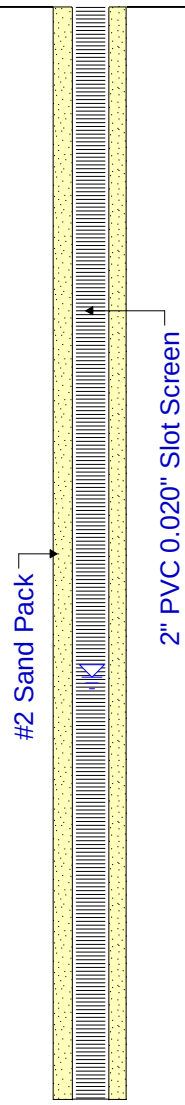
DRILLING LOG
Well No. MW-14

Project Name: Southside Facility #2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 113847
Client: Southside Oil, LLC
Drilling Company: Eichelbergers, Inc.
Driller: Ray Jackson
Drill Rig Type: Gill Rock Drill Co. Beetle
Drilling Method: Air Rotary
Sampling Method: Hand Auger/Cuttings

Start Date: 03/21/2013
End Date: 03/21/2013
Total Hole Depth: 38'
Hole Diameter: 6"
Depth to Bedrock: 38'
Top-Of-Casing Elevation: 65.09'
Water Level (Initial): NE
Water Level (Static): 31.03'
Logged By (Geol.): PW

Permit No.: CE-11-0195
License No.: WRO075
Checked By: CL
Notes: Cleared boring to 5' bgs

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000	Well Completion Details	Depth (feet)
21						0.0		21
22						0.0		22
23						0.0		23
24		**SP** Dark brown, moist, SAND				0.0		24
25						0.0		25
26		**SP** Brown, SAND with clay				0.0		26
27		**CL** Gray with light gray mottles, moist, CLAY, high plasticity, firm				0.0		27
28						0.0		28
29						0.0		29
30		**CL** Reddish yellow, moist, CLAY, medium plasticity				0.0		30
31						0.0		31
32						0.0		32
33						0.0		33
34						0.0		34
35		**CL** Light gray, moist, CLAY, high plasticity, firm, saprolite				0.0		35
36						0.0		36
37		Bedrock - greenstone encountered at 38' bgs				0.0		37
38		End of Borehole				0.0		38
39								39
40								40



VOC - Volatile Organic Compound
NA - Not Applicable
NS - Not Sampled
NR - Not Recorded
NM - Not Measured
NE - Not Encountered
ppm - parts per million

USCS - Unified Soil Classification System
WOR - weight of rod
W - weight of hammer

KLEINFELDER
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1340 Charwood Road
Suite I
Hanover, MD 21076

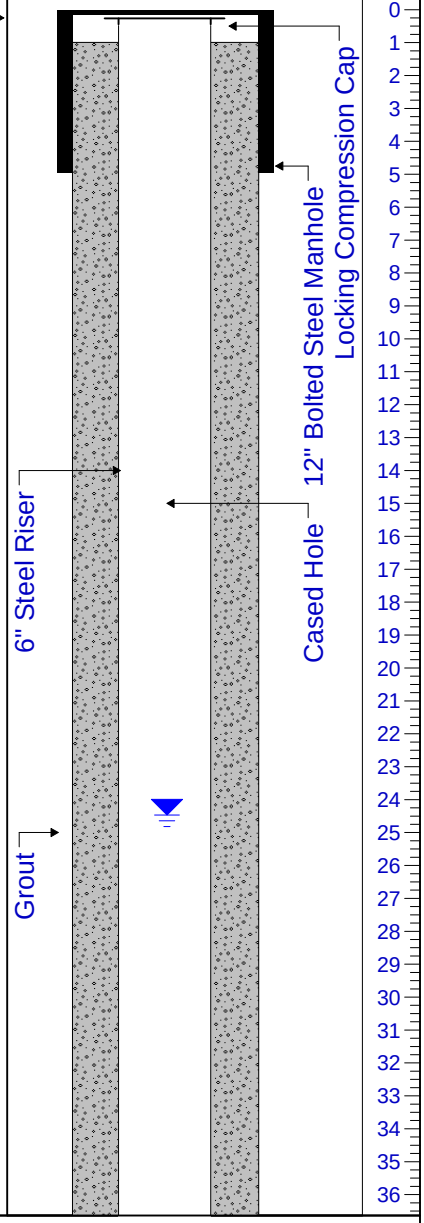
DRILLING LOG
Well No. BR-1

Project Name: Southside Facility #2-0025
Site Location: 31 Heather Lane, Perryville, MD
Kleinfelder Project No: 113847
Client: Southside Oil, LLC
Drilling Company: Eichelbergers, Inc.
Driller: Ray Jackson
Drill Rig Type: Gill Rock Drill Co. Beetle
Drilling Method: Air Rotary
Sampling Method: Hand Auger/Cuttings

Start Date: 03/19/2013
End Date: 03/20/2013
Total Hole Depth: 150'
Hole Diameter: 10"/6"
Depth to Bedrock: 44'
Top-Of-Casing Elevation: 83.23'
Water Level (Initial): ~28'
Water Level (Static): NR
Logged By (Geol.): PW

Permit No.: CE-11-0193
License No.: WRO075
Checked By: CL
Notes: Cleared boring to 5' bgs

SUBSURFACE PROFILE			SAMPLE				Well Completion Details	
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000		Depth (feet)
0		Ground Surface				0.0	2'x2' Concrete Pad	0
1		Top Soil/Grass						1
2		**CL** Brown, moist, CLAY with sand, gravel, cobbles, soft						2
3								3
4		**CL** Yellow with light gray, mottled, dry, CLAY, medium plasticity, hard				0.0		4
5								5
6								6
7								7
8								8
9								9
10						0.0		10
11								11
12								12
13		**CL** Red with light gray mottles, dry, CLAY, medium plasticity, firm						13
14								14
15						0.0		15
16								16
17		**CL** Reddish yellow, moist, CLAY with silt, fine sand, low plasticity, soft						17
18								18
19								19
20								20
21								21
22								22
23								23
24						0.0		24
25		**CL** Olive yellow with light gray mottled, moist, CLAY, medium plasticity, soft						25
26								26
27								27
28								28
29		**CL** Gray with light gray mottles, moist, CLAY, medium plasticity, firm, dark brown lignite present						29
30						0.0		30
31								31
32								32
33								33
34								34
35								35
36						0.0		36



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Hole Diameter: 10"/6"
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Top-Of-Casing Elevation: 83.23'
Water Level (Initial): ~28'
Water Level (Static): NR
Logged By (Geol.): PW

Permit No.: CE-11-0193
License No.: WRO075
Checked By: CL
Notes: Cleared boring to 5' bgs

SUBSURFACE PROFILE | **SAMPLE**

Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000	Well Completion Details	Depth (feet)
37–72		***CL*** Bluish gray, moist, CLAY, medium plasticity, firm				0.0	Grout; 6" Steel Riser; Cased Hole	37–72
39–40		Bluish green, SAPROLITE						
44–72		Light green, BEDROCK, greenstone, aphanitic texture				0.0	Bentonite Seal; Open Hole; Bedrock	

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SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000	Well Completion Details	Depth (feet)
109						0.0	Bedrock	109
110								110
111								111
112								112
113								113
114						0.0		114
115							Open Hole	115
116								116
117								117
118								118
119						0.0		119
120								120
121								121
122								122
123								123
124						0.0		124
125								125
126								126
127								127
128								128
129						0.0		129
130								130
131								131
132								132
133								133
134						0.0		134
135								135
136								136
137								137
138								138
139						0.0		139
140								140
141								141
142								142
143								143
144								144

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Water Level (Static): NR
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License No.: WRO075
Checked By: CL
Notes: Cleared boring to 5' bgs

SUBSURFACE PROFILE			SAMPLE					
Depth (feet)	Graphic Log	USCS Code Soil/Geologic Description	Sample ID	Blows/6"	Penetration / Recovery	VOC (ppm) 0 2000	Well Completion Details	Depth (feet)
145						0.0		145
146								146
147								147
148								148
149								149
150		End of Borehole				0.0	Bedrock / Open Hole	150
151								151
152								152
153								153
154								154
155								155
156								156
157								157
158								158
159								159
160								160
161								161
162								162
163								163
164								164
165								165
166								166
167								167
168								168
169								169
170								170
171								171
172								172
173								173
174								174
175								175
176								176
177								177
178								178
179								179
180								180

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Appendix C
Geophysical Borehole Survey Report

April 3, 2013

Mr. Paxton Wertz
Kleinfelder
1340 Charwood Road
Suite I
Hanover, MD 21076

Subject: Results of Geophysical Well Logging
BR1
Perryville, MD
ARM Project: 13171

Dear Mr. Wertz,

ARM Geophysics is pleased to present this letter report that summarizes the results of borehole geophysical logging performed at the above referenced site on March 29, 2013. Logging was performed in BR1. The objective of the logging was to determine the depth and orientation of fractures and bedding planes and to locate and characterize water-producing zones. To achieve these objectives, standard well logs and borehole images were acquired.

LOGGING METHODS

The logs that were run for this investigation include:

- Natural Gamma
- Fluid Temperature
- Fluid Resistivity
- 3-Arm Caliper
- Short & Long Normal Resistivity
- Single Point Resistance
- Spontaneous Potential (SP)
- Heat Pulse Flowmeter (HPFM)
- Acoustic Televiewer (ATV)
- Optical Televiewer (OTV)

A summary of these logging methods is provided in Attachment A. The data were acquired using a MGX II and Matrix acquisition systems manufactured by Mount Sopris Instrument Company. The optical televiewer data were acquired using a Robertson Geologging Digital Optical Televiewer probe and Micrologger 2 acquisition system.

BASIC LOG DESCRIPTIONS

The geophysical well logs acquired during this investigation are presented in Attachment B. All log depths are referenced to ground surface as indicated in the header of each log. The majority of the acquired data are presented as standard curves that represent the change in measured parameter with depth. The format of the heat pulse flowmeter and televiewer logs are discussed in the following paragraphs.

The Vertical Flow track in the HydroLog provides a record of the rate of vertical fluid movement derived from the heat pulse flowmeter tool under both ambient and pumping conditions. The X-axis represents the magnitude of flow in gallons/min that was recorded at depths indicated by the posted value. It is calculated during acquisition by dividing the distance between the grid and thermistors by the travel time. Negative and positive values indicate downward and upward flow, respectively.

The televiewer logs contain borehole images and structural information obtained from the OTV and ATV tool. ATV was used when and if the water in the borehole was too cloudy to allow good OTV data collection. The *Optical View* track is an "unwrapped" photographic image of the borehole wall (Figure 1). In this case, the cylindrical borehole surface is unzipped along the north azimuth and unrolled to a flat strip. The compass orientation (with respect to true north) is presented at the top of the log. The unwrapped format is distorted like any projection of a curved surface on a flat one. Horizontal and vertical planes will be undistorted. However, dipping planes will be represented as a sine wave: the greater the dip, the greater the wave amplitude.

The *Acoustic Amplitude* and *Travel Time* tracks are presented in a similar fashion. The *Acoustic Amplitude* log is a 360° image of the strength or amplitude of the reflected pulse. Lighter colors indicate harder or more competent rock, while darker colors represent fractures and less competent rock. The *Travel Time* data is similar to sonar and represent the travel time of the acoustic pulse as is travels from the tool to the borehole wall and back. This information serves a high resolution and 360° caliper that can indicate the relative lateral depth or openness of fractures.

The Plane Projection track presents the fracture signatures that are digitized from the unwrapped *Optical View* and *Acoustic Amplitude* tracks. The *Dip & Dip Direction* log is a presentation in which the vertical axis is depth and the horizontal is dip angle from 0° to 90°. As shown in Figure 2, the dip direction is indicated by the orientation of the tadpole tail, measured in a clockwise direction from north.

INTERPRETATION OF STRUCTURAL DIAGRAMS

The structural data are presented on polar and rose diagrams for statistical analysis and pattern visualization. Polar diagrams are used in this report to plot the dip and dip direction of planar features. Zero degree dip is represented at the center of the diagram and 90° at the circumference. The dip direction is indicated by the compass azimuth, measured clockwise from north (0°), as shown in Figure 3. This format is sometimes referred to as a dip vector plot but it is essentially the same as a stereonet with an upper hemisphere projection.

The rose diagram graphically illustrates the strike distribution of a set of planes. Radiating rays are drawn with lengths proportional to number of strike measurements within each 10° sector. It is important to recognize that in this report, the polar diagram represents dip and dip direction, whereas the rose diagram represents strike. Using the right-hand-rule convention, strike equals the dip direction minus 90°.

RESULTS AND DISCUSSION

ORIENTATION ANALYSIS OF PLANAR FEATURES

Optical and acoustic televiewer images were used to measure the depth and orientations of fractures. The measured fracture and bedding plane projections and orientations are shown on the televiewer logs and in the depth track of the HydroLogs. A tabulated listing of the fracture and bedding orientations is presented in Attachment C. Stereographic analysis was performed on the planar orientation data acquired from the image logs. A listing of the calculated mean orientations of all sets is presented in Table 1. The results from all wells are presented in the polar and rose diagrams shown in Figure 4 through 8. Predominant groups or "sets" are indicated by the clustering of data points in the polar diagrams.

Figure 4 presents a polar diagram showing the dip and dip direction of all planes measured during this investigation. The planes are classified by symbols corresponding to bedding and open fracture planes. The bedding group is clustered toward the outside of the lower right quadrant of the diagram indicating a relatively high dip angle.

Figure 5 presents a polar diagram with statistical contouring of bedding plane orientations. Statistical contouring was used to identify windows in which to calculate the mean orientation of all bedding and fracture planes. The mean bedding dip/dip direction of 68/122 is shown to the right of the diagram. Figure 6 presents a rose diagram showing the strike distribution of bedding planes. The results indicate a NE/SW predominance.

Figure 7 presents a polar diagram showing mean dip/dip direction of fracture planes. The mean fracture plane orientation is 71/222. The rose diagram in Figure 8 shows a predominant NW/SE direction.

The mean orientations for bedding and fracture sets are shown in Table 1.

Table 1: Mean orientations of planes.

Type	Dip	Dip Direction	Strike/Dip
Bedding	68	122	N32E/68SE
Fracture Set	71	222	N48W/71SW

INTERPRETATION OF WATER PRODUCING OR RECEIVING ZONES

Water producing or receiving zones are typically identified in the acquired logs by a combination of the following parameters:

A. Start or increase in upward or downward fluid flow identified by heat pulse flowmeter data suggests water-producing zone.
B. End or decrease in upward or downward fluid flow identified by heat pulse flowmeter data suggests water-receiving zone.
C. Open fractures observed in televiewer data.
D. Deflections in caliper curve (suggests fractures).
E. Deflections or change in slope in fluid temperature or fluid resistivity curve.
F. Decrease in formation resistivity.

The most convincing evidence of water producing or receiving zones are heat pulse flowmeter, fluid temperature, and fluid resistivity deflections since they can indicate flow in the borehole. Fractures observed in televiewer images or caliper curves can indicate water-bearing zones although the evidence is more indirect. A fracture may be observed in the borehole wall that may have been opened or enlarged during the drilling process but may be tight and contain little or no water a short distance into the formation. A decrease in formation resistivity may be caused by an increase in water content but may also be caused by lithologic changes such as an increase in clay mineral content. For this reason, resistivity deflections are compared to the gamma ray curve to identify lithologic changes. A combination of the above indicators provides the highest level of confidence for identifying water-bearing zones.

No flow was detected in BR1 under ambient conditions. Under pumping conditions, upward flow was detected. Water flowed up through the borehole and likely was going into the formation behind the casing. Table 2 shows water producing and receiving zones present under pumping conditions.

Table 2: Interpreted water producing or receiving zones and indicators under pumping conditions. Letters in Indicators column correspond to the selection parameters shown above.

Well	Depth (ft)	Indicators	Type
BR1	49-50	B	Water Receiving
BR1	53-54	A, C, D, E	Water Producing
BR1	86-87	A, C, D, F	Water Producing
BR1	135-136	A, C, D F	

CLOSING

The data collection and interpretation methodologies used in this investigation are consistent with standard practices applied to similar geophysical investigations. The correlation of geophysical responses with probable subsurface features is based on the past results of similar surveys although it is possible that some variation could exist at this site.

Please contact us if you have any questions regarding this survey. We appreciate your business and look forward to working with you again.

Kind regards,
ARM Geophysics

Suzanne Heskin
Senior Geophysicist

ARM GEOPHYSICS
Surface & Borehole Services

FIGURES

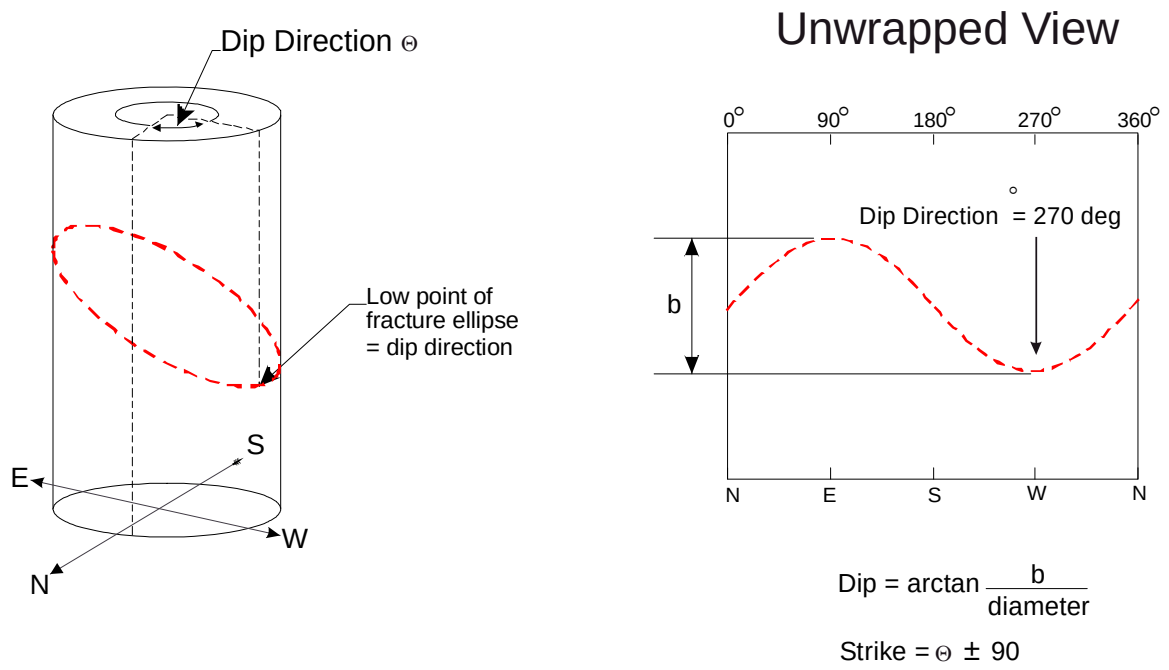


Figure 1: Diagram illustrating unwrapped view of fracture signature.

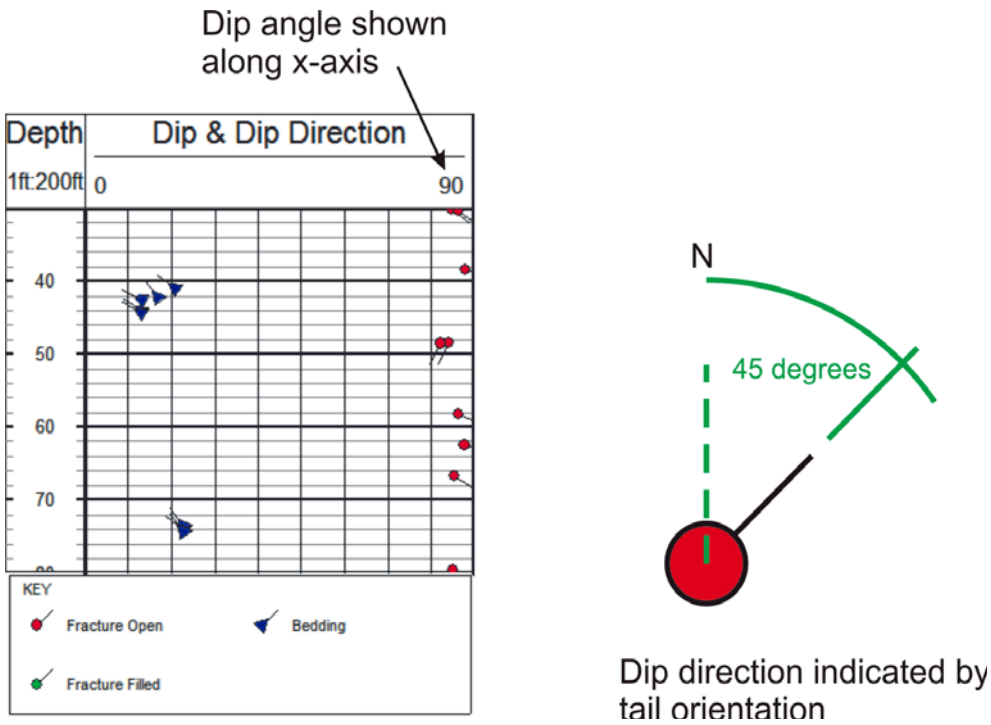


Figure 2: Dip & dip direction determination from the tadpole plot.

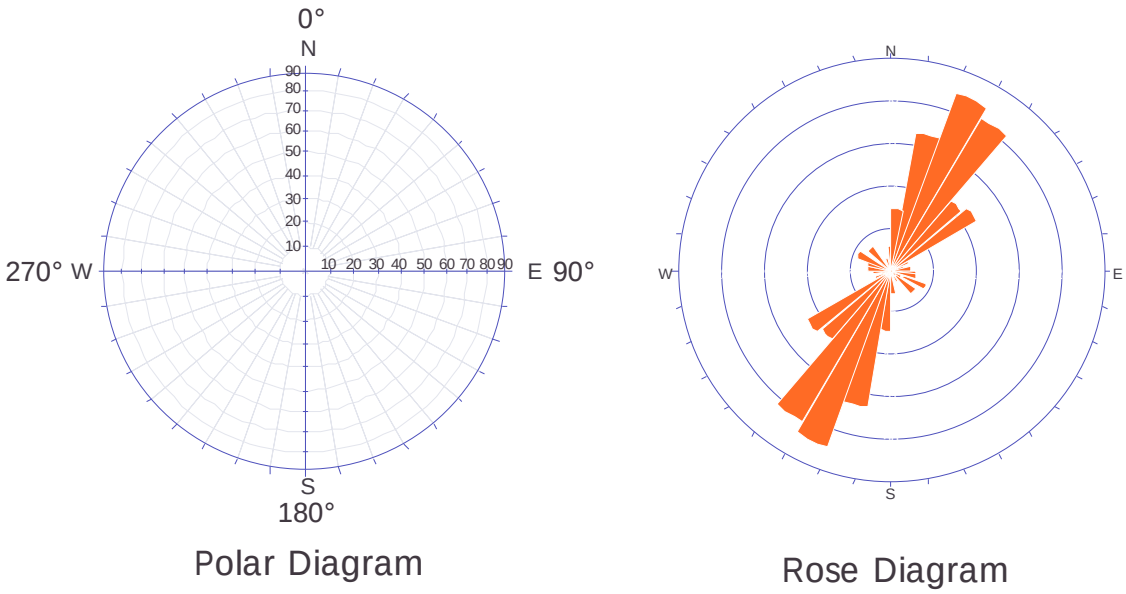


Figure 3: Example polar and rose diagrams. Polar diagram is used in this report for plotting dip and dip direction. Rose diagrams are used for plotting the frequency or number of strike measurements per sector.

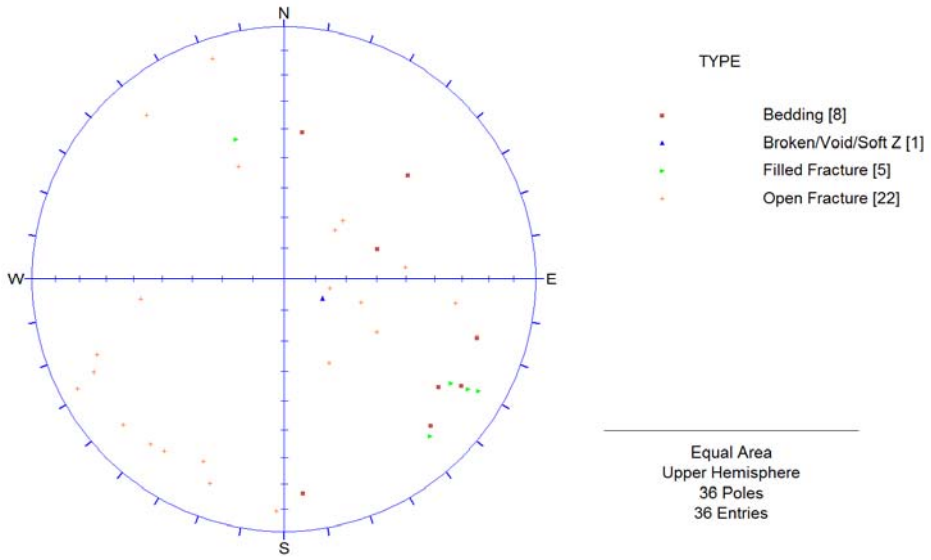


Figure 4: Polar diagram plotting dip and dip direction of all planes categorized by plane type.

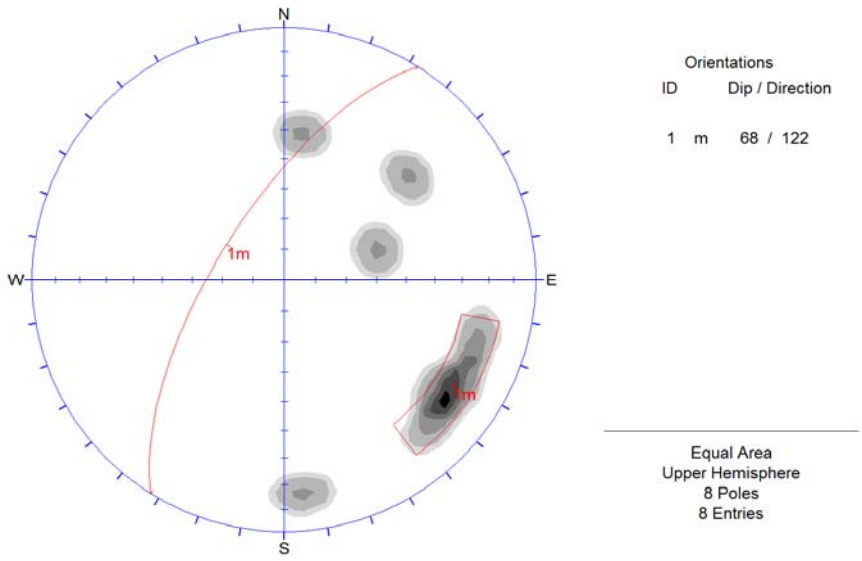


Figure 5: Polar diagram with statistical contouring of bedding planes set. Calculated mean dip angle and direction is shown at the right of the diagram.

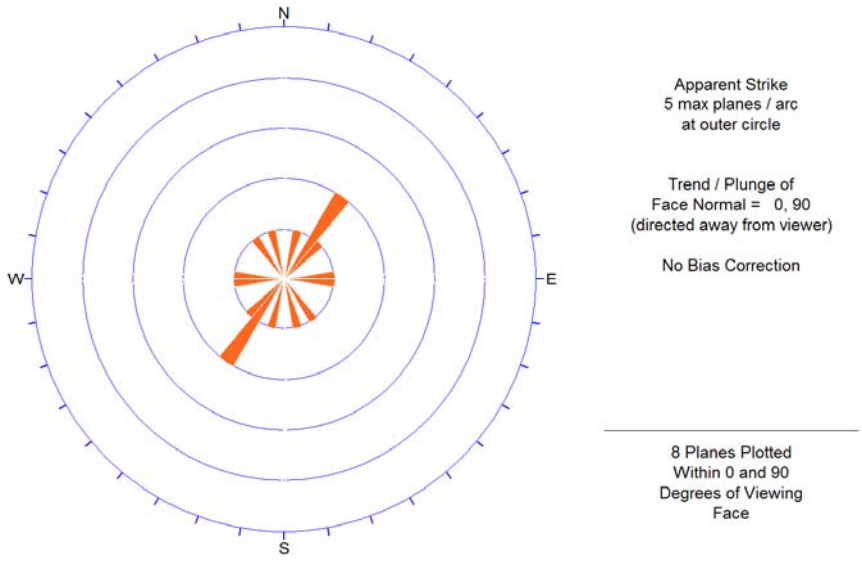


Figure 6: Rose diagram illustrating strike distribution of bedding planes.

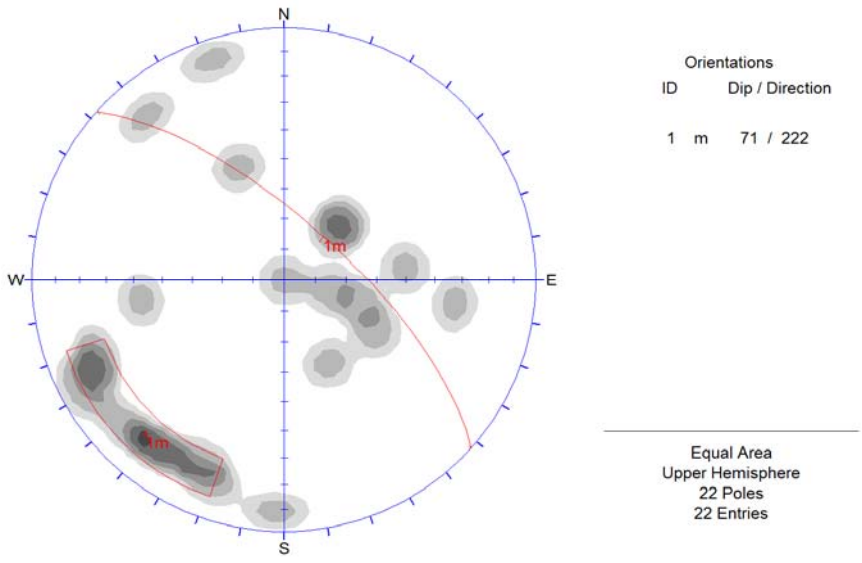


Figure 7: Polar diagram with statistical contouring showing mean orientations of fractures sets. The calculated mean of each set is shown at the right of the diagram.

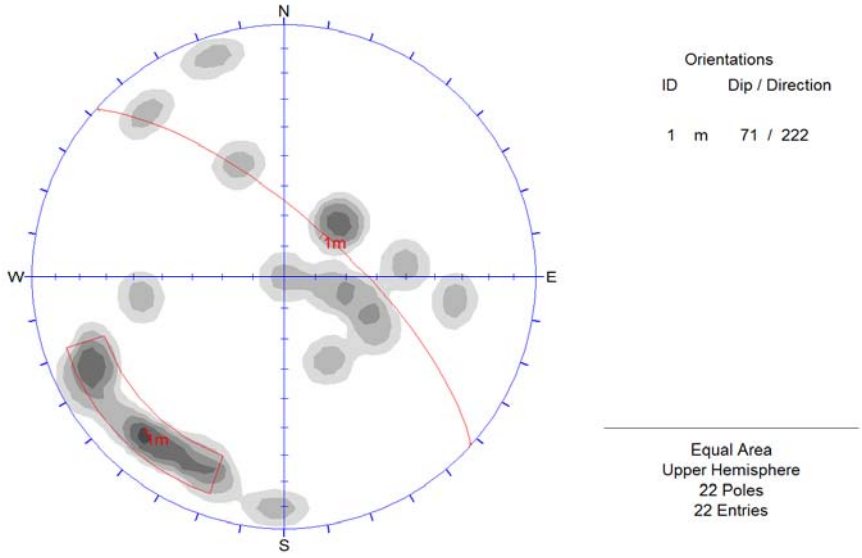


Figure 8: Rose diagram illustrating strike distribution of fractures.

ATTACHMENT A
LOGGING METHODS

1129 West Governor Road, PO Box 797
Hershey, PA 17033-0797
Voice: (717) 533 - 8600
Fax: (717) 533 - 8605

ATTACHMENT A: OVERVIEW OF LOGGING METHODS

CALIPER LOGS

The caliper log measures variations in borehole size as a function of depth in a well. Some example responses of in a caliper log is shown in Figure A- 1 (Rider, 2002[1].) The log data enables (a) the detection of competent or fractured geologic units, (b) the location of washouts or tight zones, (c) the optimal placement of well screen, sand, and bentonite, and (d) the establishment of appropriate borehole correction factors to be applied to other well log curves. Further, when run in combination with other logs, the caliper log may be an indicator of lithologic makeup and degree of consolidation. The typical caliper response in a fractured, weathered, or karstic unit is a relatively abrupt increase in borehole size.

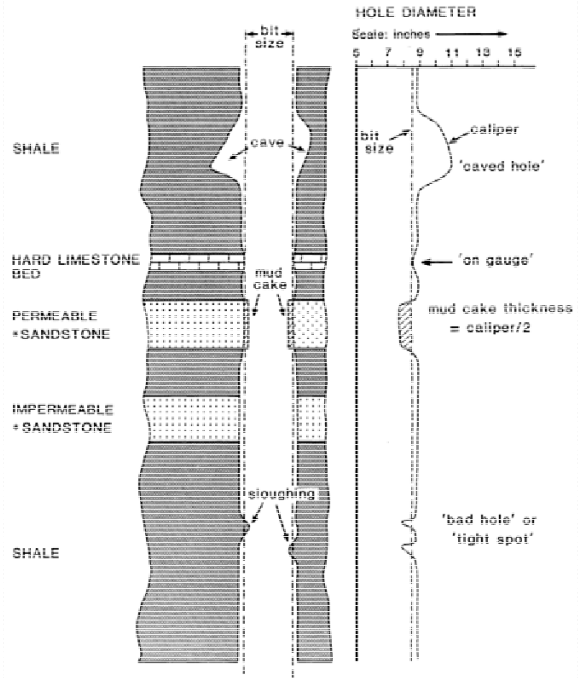


Figure A- 1: The caliper log showing some typical responses. (From Rider, 2002).

SPONTANEOUS POTENTIAL (SP) LOGS

The SP log measures the natural voltages that are created within the borehole due to the presence of borehole fluids, formation fluids, and formation matrix materials. It is recorded by measuring the difference in electrical potential in millivolts between an electrode in the borehole and a grounded electrode at the surface. The SP log is commonly used to 1) detect permeable beds, 2) detect boundaries of permeable beds, 3) determine formation water resistivity, and 4) determine the volume of shale in permeable beds. The constant SP readings observed in thicker shale units define the shale base line, a reference line from which further formation matrix and formation fluid property calculations may be completed. Although this log is consistently used in oil and gas applications, its effectiveness in water wells is limited since the method requires a contrast in salinity between borehole and formation fluids (Figure A- 2). This condition is often not met in ground water wells.

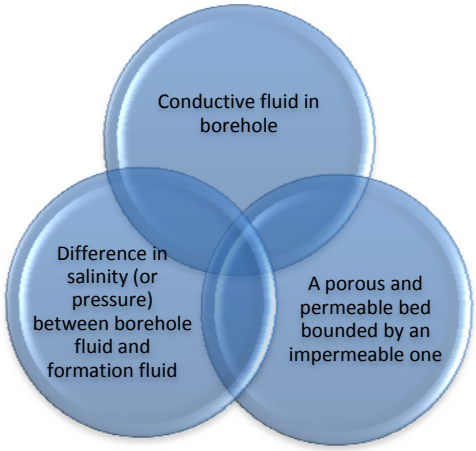


Figure A- 2: Conditions required to produce an SP response.

The SP log can be qualitatively used for permeability recognition. SP deflections from the shale base line commonly indicate the presence of a permeable bed. The magnitude and direction of the deflection is dependent upon the relative resistivity (or salinity) values of the

1 Rider, M. (2006) The Geological Interpretation of Well Logs, *Rider-French Consulting, Ltd*., 280pp.

borehole fluid and the formation fluid. If the formation fluid resistivity is less than the borehole fluid resistivity, then the relative SP values will decrease in a porous, coarse-grained unit. Alternately, if the formation fluid resistivity is greater than the borehole fluid resistivity, the relative SP values will increase in the same body, and the curve shape is referred to as a "reversed SP". If both fluid resistivities are equal, no SP deflection will occur.

GAMMA RAY LOGS

The gamma ray log is a passive instrument that measures the amount of naturally occurring radioactivity from geologic units within the borehole. Commonly occurring radioelements include potassium, thorium, and uranium; the two former elements are predominant within a common fine-grained rock sequence. The gamma ray log is also an excellent lithologic indicator because fine-grained clays and shales contain a higher radioelement concentration than limestones or sands. Gamma ray values are often used to assess the percentage of clay materials (indurated or non-indurated) that are present within a formation by utilizing empirically derived equations and sand-shale base line information.

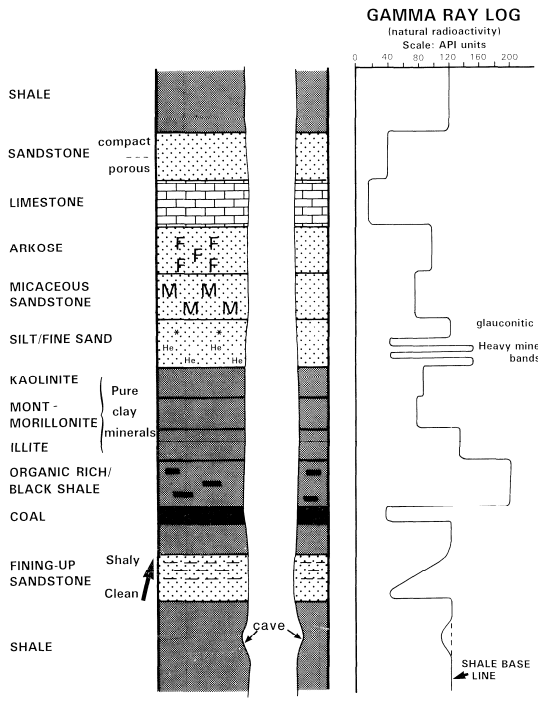


Figure A- 3: Characteristic gamma ray responses. (From Rider, 2002).

NORMAL RESISTIVITY LOGS

Resistivity is a measure of how well an electric current passes through a material. Formation resistivity is an intrinsic property of rocks and depends on the porosity and resistivity of the interstitial fluid and rock matrix.

In sedimentary rocks, the resistivity values of shales (5 - 30 ohm-m) is generally lower than the resistivity of sandstone (30 – 100 ohm-m), which is lower than the resistivity limestone (75 – 300 ohm-m). The resistivity log often shows a picture of the overall depositional sequence in sedimentary environment. Resistivity of igneous and metamorphic rocks is extremely high when compared to resistivity in sedimentary rocks, with values that are commonly thousands of ohm-meters. Example resistivity log responses are shown in Figure A- 4.

FLUID RESISTIVITY LOGS

of fluid resistivity, which is the reciprocal of fluid conductivity, provides data related to the concentration of dissolved solids in the fluid column. Although the quality of the fluid column may not reflect the quality of adjacent interstitial fluids, information can be quite useful when combined with other logs. For example, change in fluid resistivity associated with a water-producing zone that is corroborated by other logs may indicate the inflow of ground water.

SINGLE-POINT RESISTANCE LOGS

Single point resistance measurements are made by passing a constant current between two electrodes and recording the voltage fluctuations as the probe is moved up the borehole. The resistance variations measured in the borehole is primarily due to variations in the immediate vicinity of the downhole electrode.

The resistance log is strongly affected by the resistance of the drilling fluid and variations in borehole diameter. It is extremely useful for detecting fractures in boreholes with relatively constant diameter. In sedimentary environments, the resistance log generally follows the variations in resistivity of the formation. Shales in clay generally exhibit low values, sandstones have intermediate values, while coal and limestone beds have high resistance values.

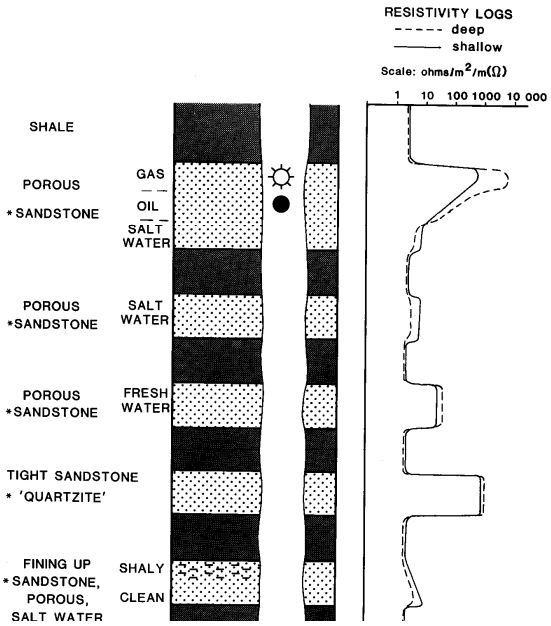


Figure A- 4: Characteristic resistivity responses. (From Rider, 2002)

TEMPERATURE LOGS

Temperature logs measure the change in fluid temperature within the borehole as a function of depth. This log can indicate the location of water- producing strata or fracture zones within the well. The inherent assumption of this technique is that the fluids entering the borehole from water producing zones are either cooler or warmer than the fluid in the borehole. In this case, it is possible to relate a temperature anomaly to a depth range in which waters of different temperature are emanating from a water-producing/receiving or fractured lithologic unit.

OPTICAL TELEVIEWER (OTV) LOGS

The optical televiewer probe combines the axial view of a downward looking digital imaging system with a precision ground hyperbolic mirror to obtain an undistorted 360° view of the borehole wall. The probe records one 360° line of pixels at 0.003-ft depth intervals. The sample circle can be divided into 720 or 360 radial samples to give 0.5° or 1° radial resolution. For this investigation, the highest radial resolution (0.5°) was used. The line of pixels is aligned with respect to True North and digitally stacked to construct a complete, undistorted, and oriented image of the borehole walls. The data are 24 -bit true color and may be used for lithologic determination as part of the interpretation. Since the acquired image is digitized and properly oriented with respect to borehole deviation and tool rotation, it allows data processing to provide accurate strike and dip information of structural features. The borehole image is often shown as an “unwrapped” 360° image in which the cylindrical borehole image is sliced down the northern axis and flattened out as shown in Figure A- 5.

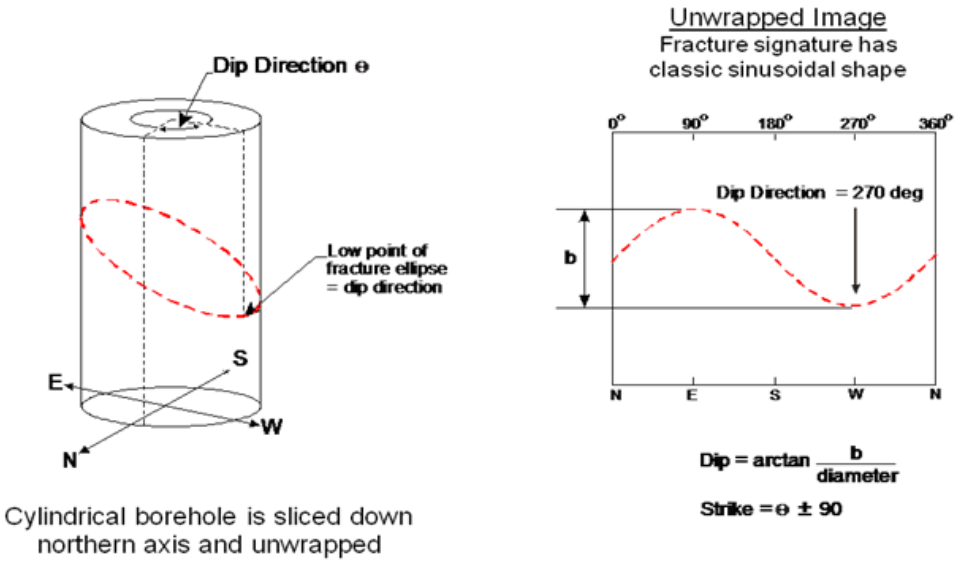


Figure A- 5: Schematic showing the sinusoidal fracture signature in the unwrapped borehole view.

ACOUSTIC TELEVIEWER (ATV) LOGS

Acoustic televiewer provides a 360° acoustic image of the borehole walls that can be used to identify and determine the orientation of planar features such as bedding and fractures. The data can also indicate the relative degree of hardness of formation materials. As shown in Figure A-7, Ultrasonic pulses are transmitted from a rotating transducer inside the tool. The transmitted pulses reflect off the borehole wall and return to the tool where the travel time and amplitude of the acoustic signal are measured. In order for the acoustic waves to travel to and from the borehole wall, the well must be fluid filled. Greater travel time can indicate openings in the rock. Strong amplitude suggests smooth, competent rock. Weaker amplitudes suggest rough or less competent rock.

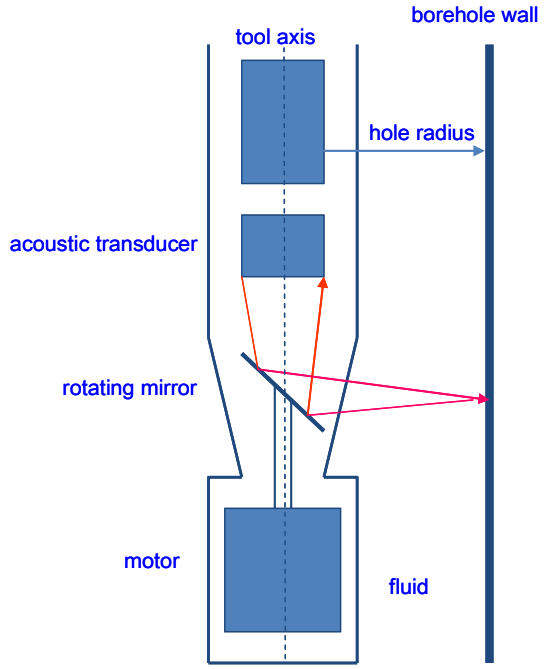


Figure A- 6: Schematic of the acoustic televiewer tool.

ATTACHMENT B
WELL LOGS

HydroLog

COMPANY: Kleinfelder
WELL ID: BR1 API NO.:
FIELD/SITE:Perryville
COUNTY: Cecil STATE: MD

LOCATION
LAT:
LONG:
SEC: TWP: QUAD:

OTHER SERVICES

COMP **Kleinfelder**
WELL **BR1**
FLD **Perryville**
CNTY **Cecil**
STAT **MD**
API **N/A**

PERMANENT DATUM: Top of Casing ELEVATION: K.B.
LOG MEASURED FROM: Top of Casing ABOVE PERM. DATUM: D.F.
DRILLING MEAS. FROM: STICK UP: -0.4 G.L.

LOGGING DATE	3/29/13	3/29/13	3/29/13	3/29/13	
RUN No	1	3	5	6	
TYPE LOG	Poly	Caliper	HPFM-Static	HPFM-Pumping	
DEPTH-DRILLER (ft)	150	150	150	150	
ARM DEPTH (ft)	150	150	150	150	
BTM LOGGED INTERVAL (ft)	150	150			
TOP LOGGED INTERVAL (ft)	10	47			
CASING SIZE/DEPTH (ft)	49	49	49	49	
CASING ARM (ft)	49.8	49.8	49.8	49.8	
BIT SIZE (inch)					
FLUID LEVEL IN HOLE (ft)	40	40	40	40	
MAG. DECLINATION (deg)					
RECORDED BY	R. Gecelosky	R. Gecelosky	R. Gecelosky	R. Gecelosky	
WITNESSED BY					

REMARKS:

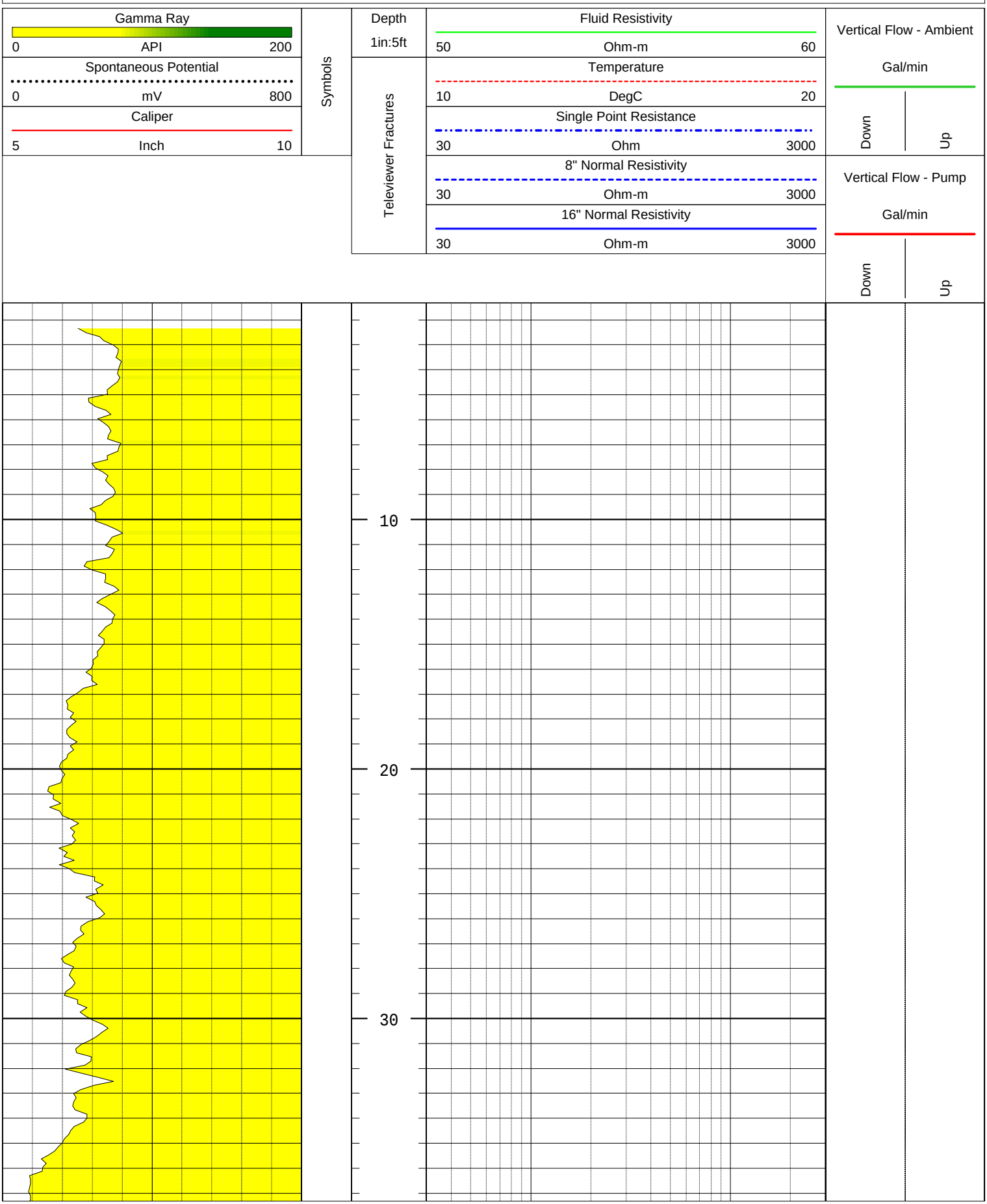
DYNAMIC HPFM TEST - PUMPING DATA

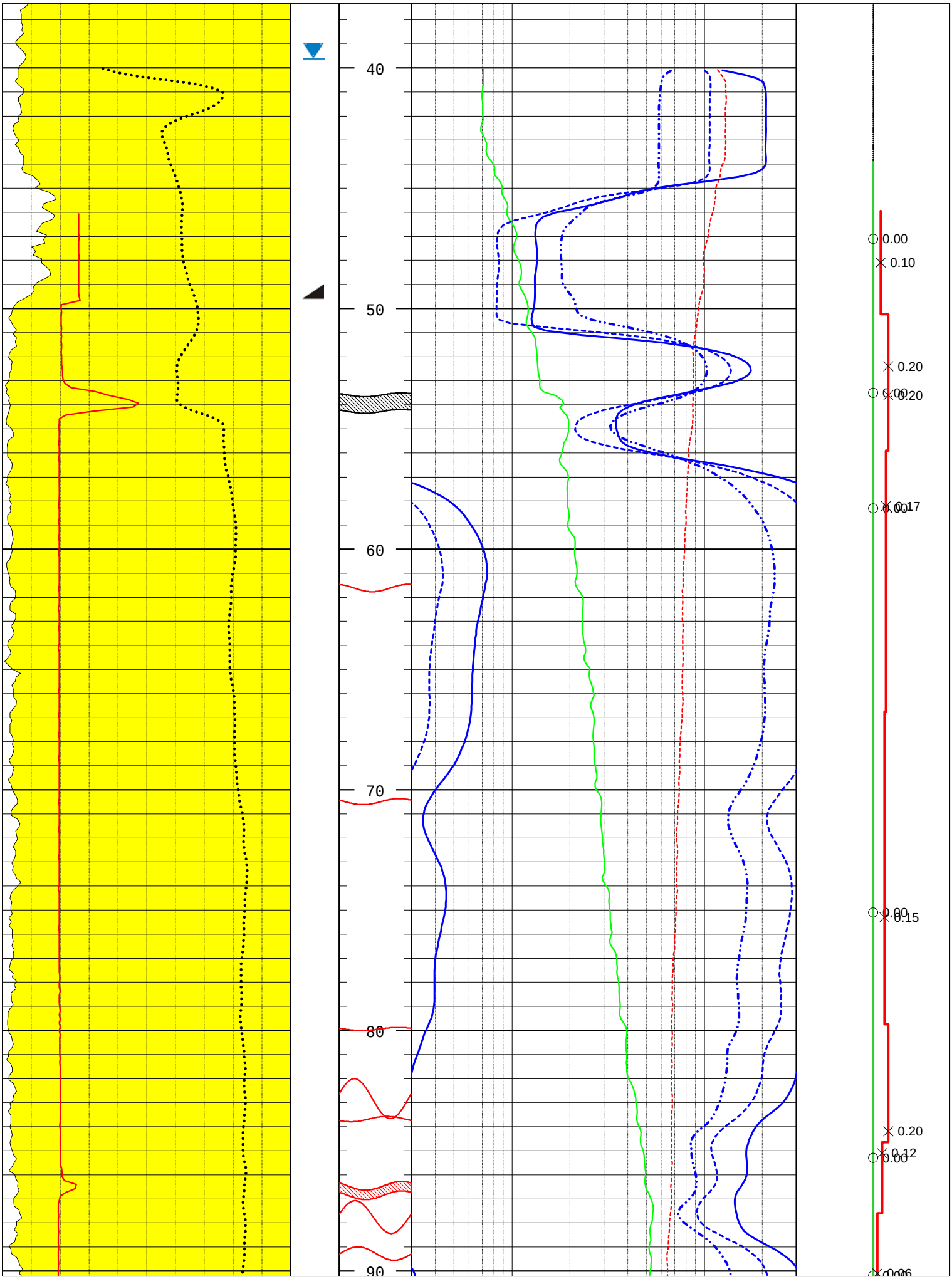
DATE	TIME	DEPTH TO WATER	PUMPING RATE	COMMENTS
3/29/13	12:31	38.7	0.625 GAL/MIN	
3/29/13	12:37	39	0.625 GAL/MIN	
3/29/13	12:40		0.625 GAL/MIN	
3/29/13	12:42	39.25	0.625 GAL/MIN	
3/29/13	12:45	39.42	0.625 GAL/MIN	
3/29/13	12:50	39.59	0.625 GAL/MIN	
3/29/13	12:53	39.8	0.625 GAL/MIN	
3/29/13	12:57	40.04	0.625 GAL/MIN	
3/29/13	1:01	40.2	0.625 GAL/MIN	
3/29/13	1:04	40.32	0.625 GAL/MIN	
3/29/13	1:07	40.45	0.625 GAL/MIN	
3/29/13	1:11	40.66	0.625 GAL/MIN	
3/29/13	1:14	40.75	0.625 GAL/MIN	End pumping

Symbols

Casing shoe

Fluid level


Gamma Ray
0
API
200
Spontaneous Potential
0
mV
800
Caliper
5
Inch
10
Symbols
Depth
1in:5ft
Televiewer Fractures
Fluid Resistivity
50
Ohm-m
60
Temperature
10
DegC
20
Single Point Resistance
30
Ohm
3000
8" Normal Resistivity
30
Ohm-m
3000
16" Normal Resistivity
30
Ohm-m
3000
Vertical Flow - Ambient
Gal/min
Down
Up
Vertical Flow - Pump
Gal/min
Down
Up
10
20
30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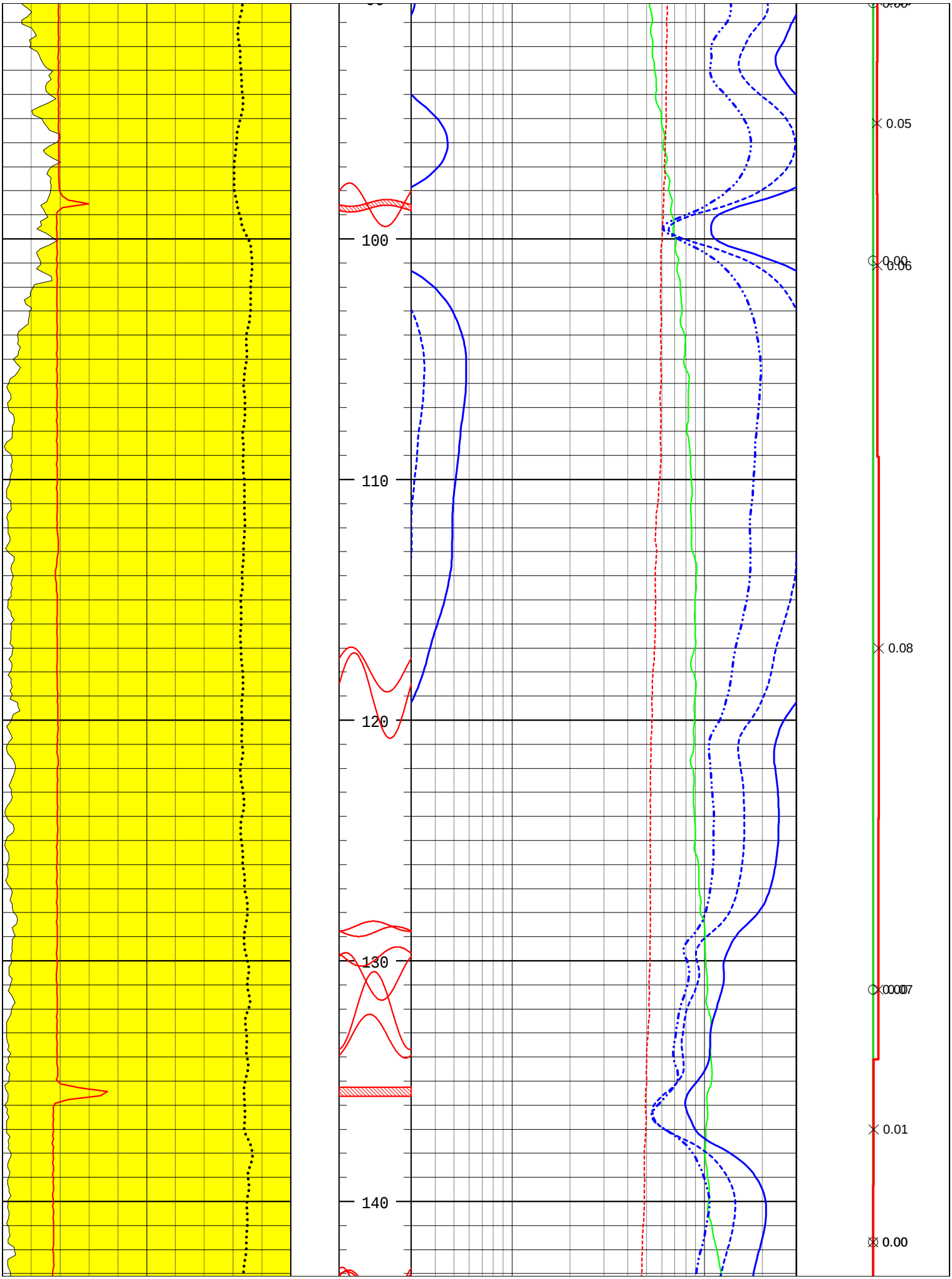
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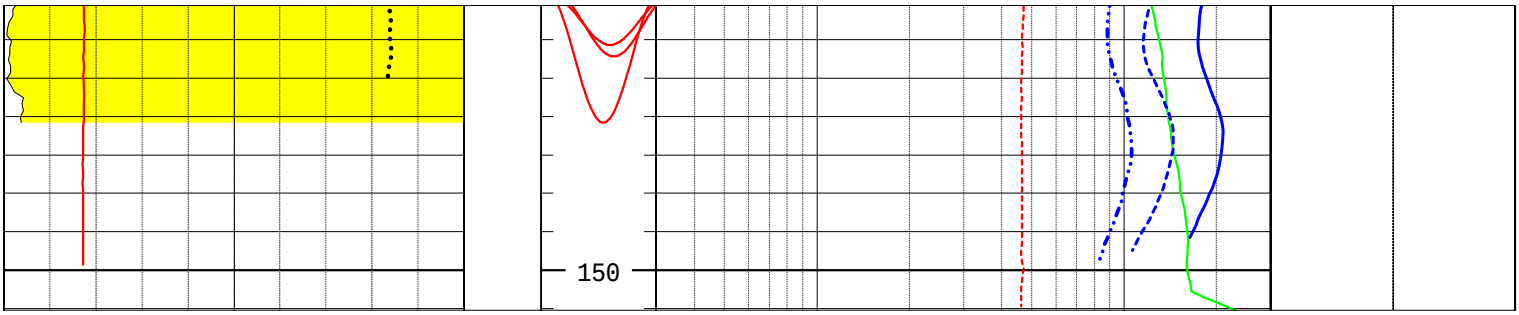

150

ARM GEOPHYSICS
Surface & Borehole Services

Optical Televiewer
Acoustic Televiewer

COMP Kleinfelder
WELL BR1
FLD Perryville
CNTY Cecil
STAT MD
API N/A

COMPANY: Kleinfelder
WELL ID: BR1 API NO.: N/A
FIELD/SITE: Perryville
COUNTY: Cecil STATE: MD

LOCATION
LAT:
LONG:
SEC: TWP: QUAD:

OTHER SERVICES

PERMANENT DATUM: Top of Casing ELEVATION: K.B.
LOG MEASURED FROM: Top of Casing ABOVE PERM. DATUM: D.F.
DRILLING MEAS. FROM: STICK UP: -0.4 G.L.

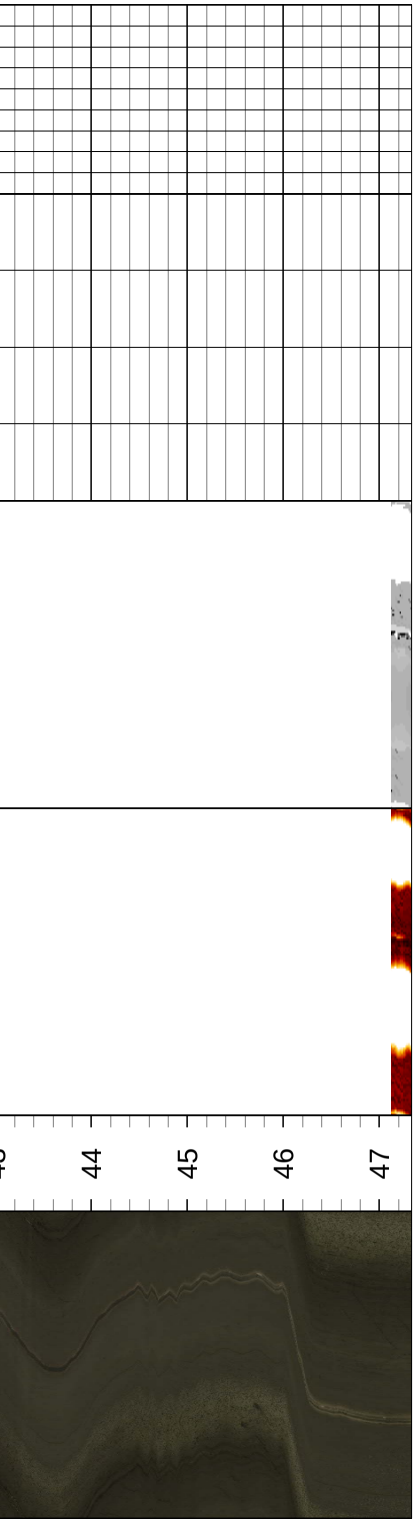
LOGGING DATE	3/29/13	3/29/13			
RUN No	2	4			
TYPE LOG	OTV	ATV			
DEPTH-DRILLER (ft)	150	150			
ARM DEPTH (ft)	150	150			
BTM LOGGED INTERVAL (ft)	150	149.6			
TOP LOGGED INTERVAL (ft)	43	47			
CASING SIZE/DEPTH (ft)	49	49			
CASING ARM (ft)	49.8	49.8			
BIT SIZE (inch)					
FLUID LEVEL IN HOLE (ft)	38.8	38.8			
MAG. DECLINATION (deg)	11.59 deg W	11.59 deg W			
RECORDED BY	R. Gecelosky	R. Gecelosky			
WITNESSED BY					

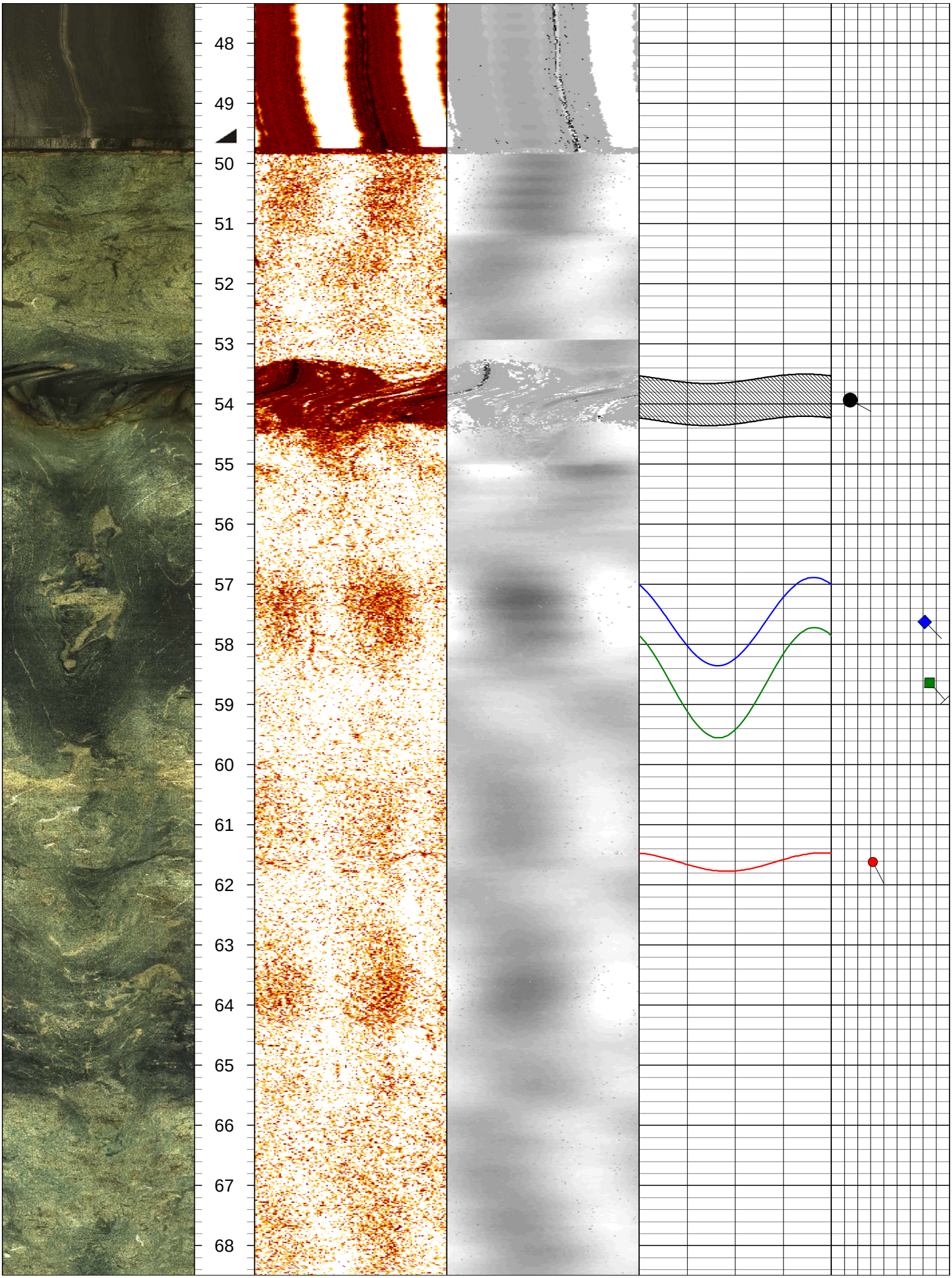
REMARKS:
Log measured from top of casing at client's request.

Void just below casing, at 54 feet may be water producing under pumping conditions. Orientation is undeterminable due to proximity to casing.

Structure
Bedding
Broken/Void/Soft Zone
Open Fracture
Filled Fracture

Symbols
Base of casing
Bit Mark/Keyseat

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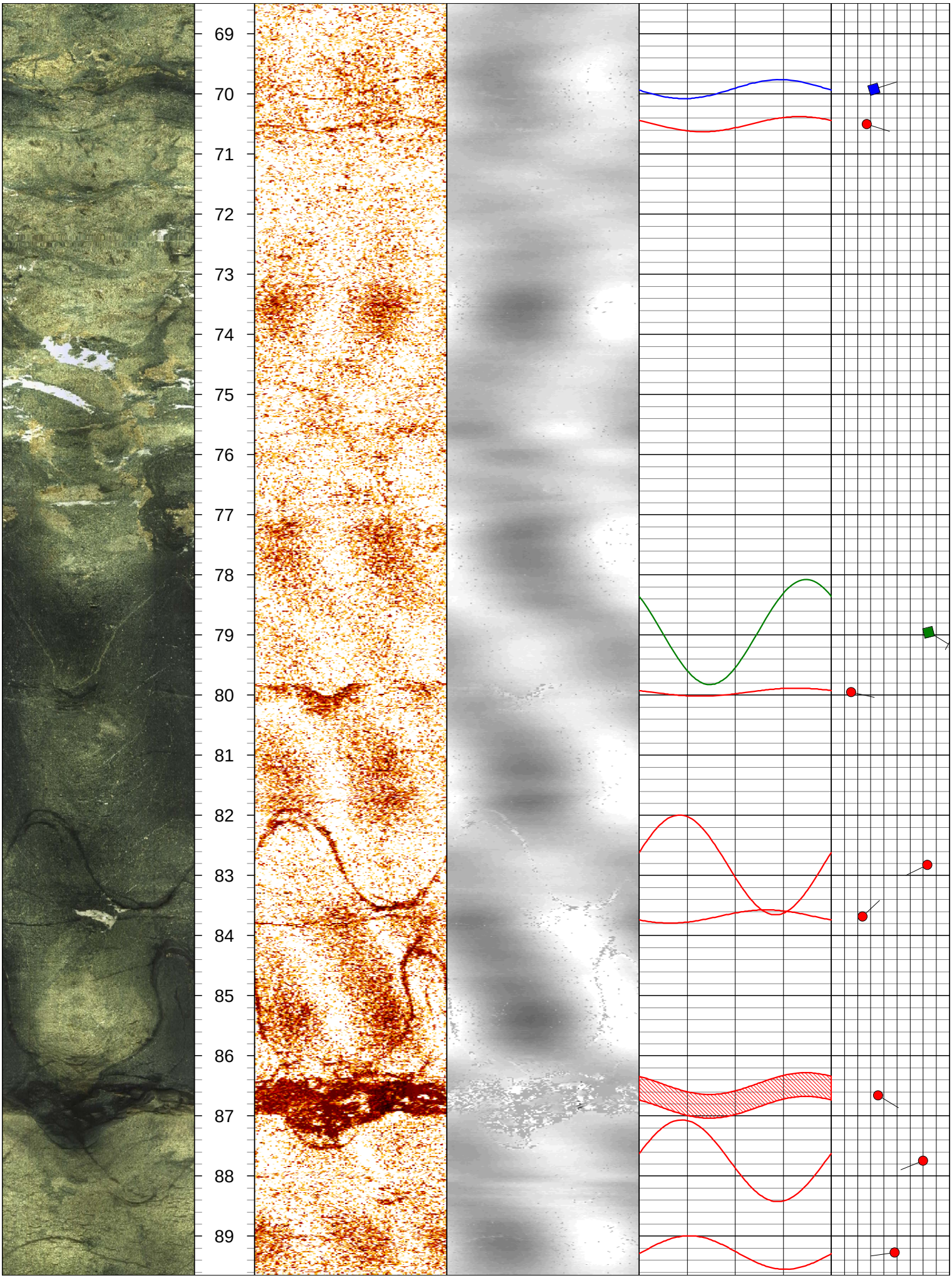
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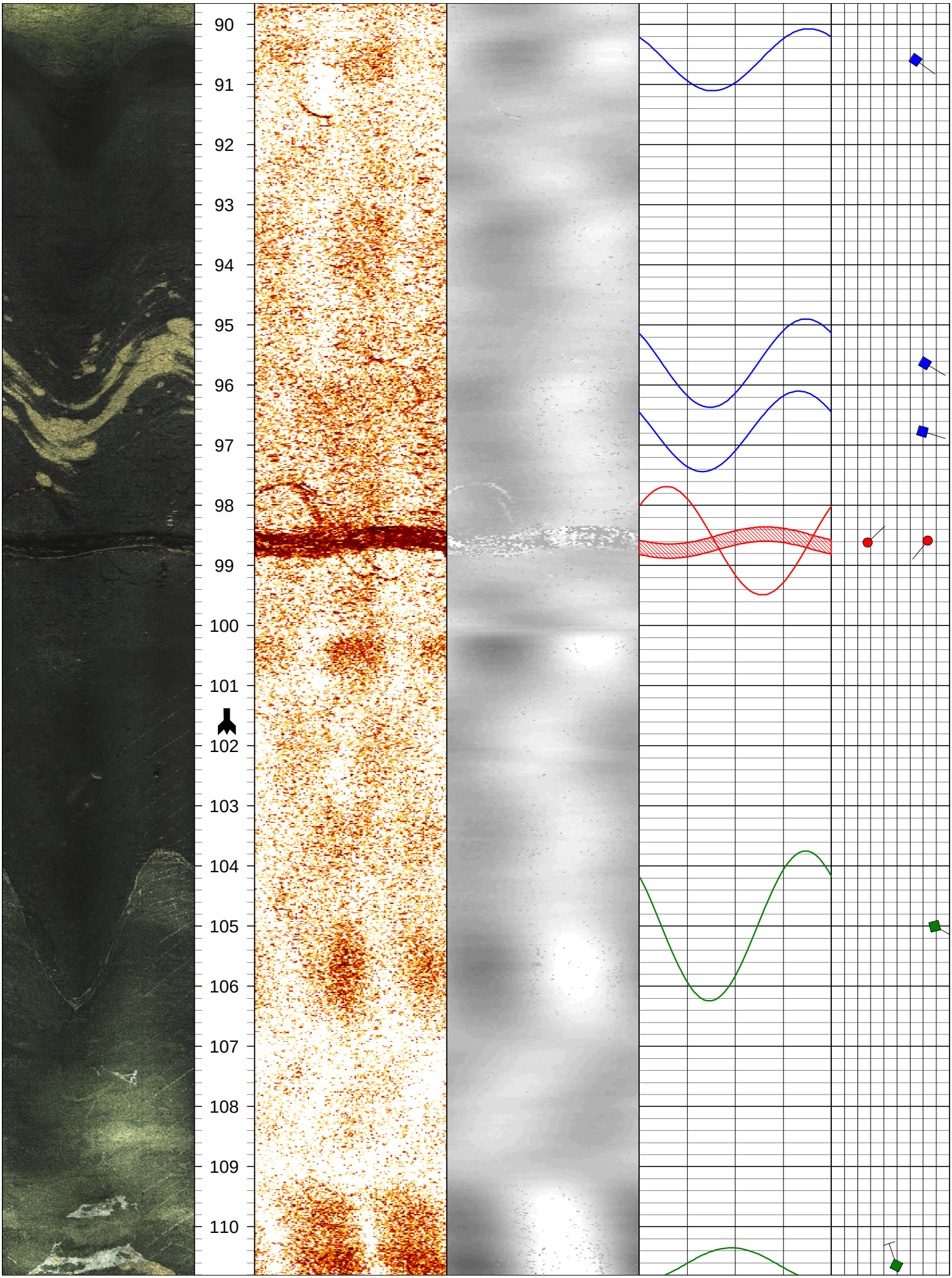
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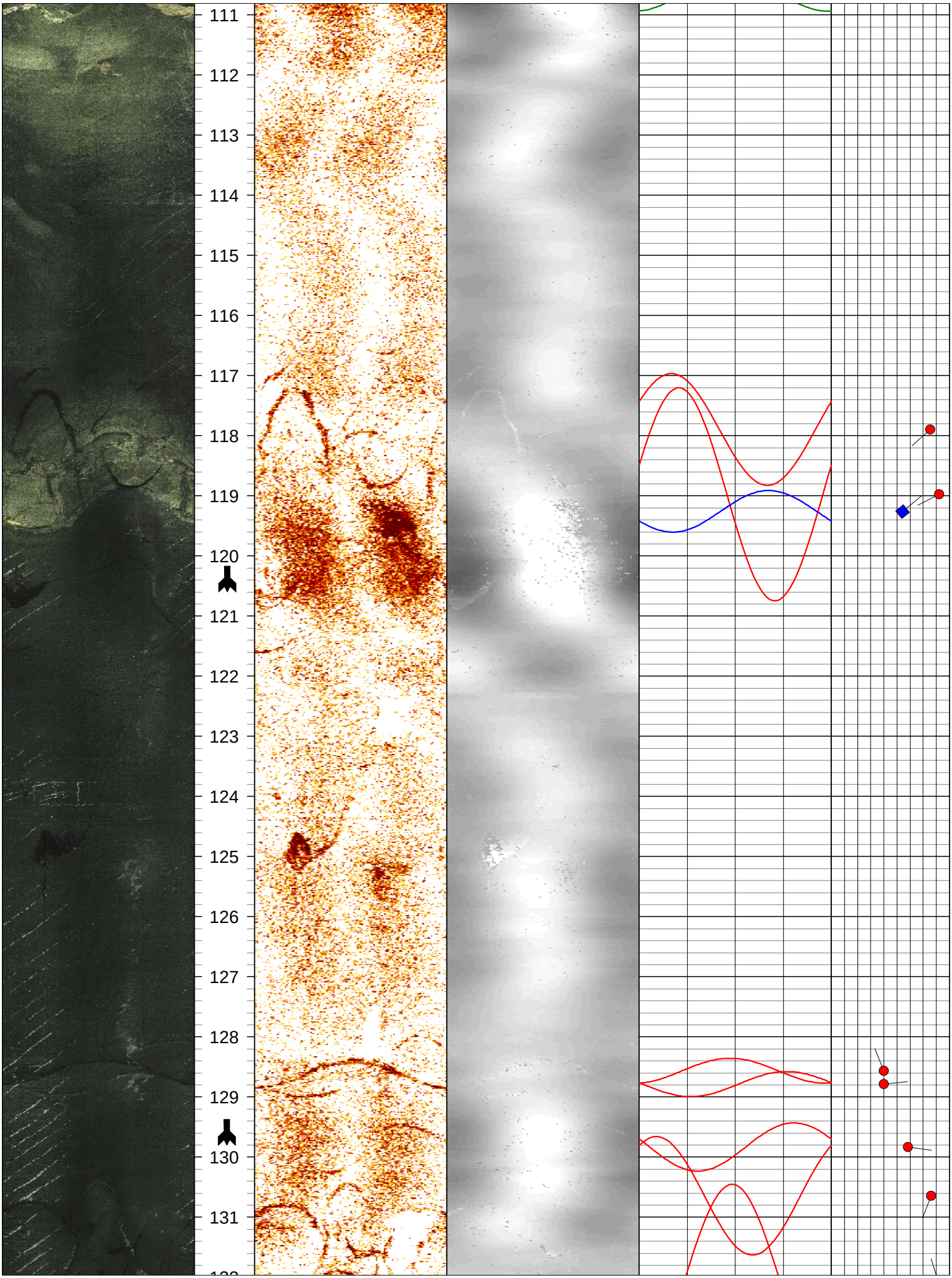
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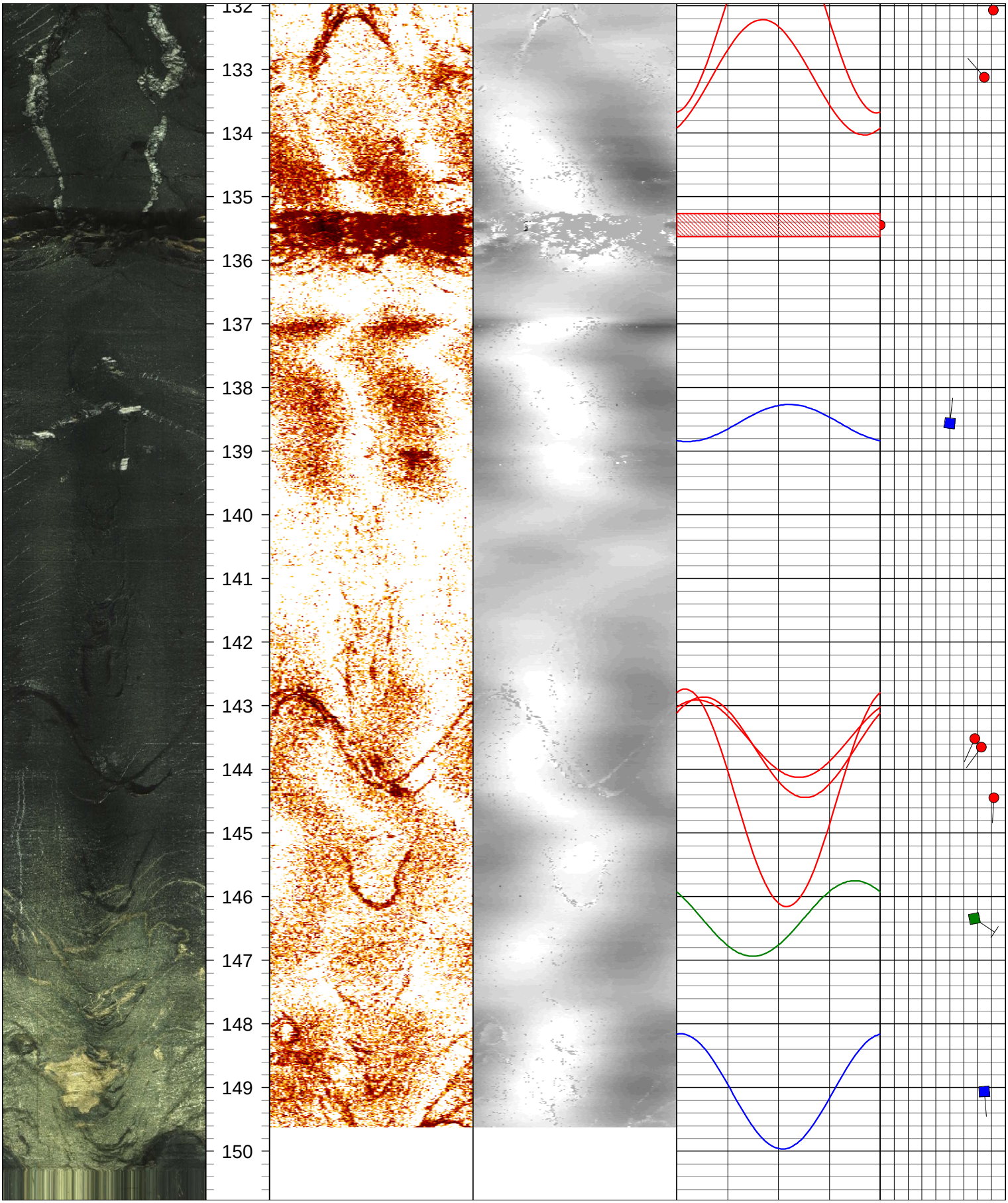
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ATTACHMENT C
TABULATED LISTING OF PLANE ORIENTATIONS

Planar Orientations
Kleinfelder BR1

Well ID	Depth (feet)	Dip Dir. (deg)	Dip (deg)	Aperture (mm)	Type	Strike/Dip (Quadrant)	Strike Azimuth (Right-hand-rule)
BR1	53.93	117.69	14.41	192.57	Broken/Void/Soft Zone		27.7
BR1	57.62	135.16	71.29	0	Bedding	N45E/71SE	45.2
BR1	58.63	137.02	74.78	0	Filled Fracture	N47E/75SE	47.0
BR1	61.62	152.91	31.64	0	Open Fracture	N63E/32SE	62.9
BR1	69.92	72.38	32.26	0	Bedding	N18W/32NE	342.4
BR1	70.5	107.09	26.82	0	Open Fracture	N17E/27SE	17.1
BR1	78.95	121.13	74.06	0	Filled Fracture	N31E/74SE	31.1
BR1	79.95	102.32	15.01	0	Open Fracture	N12E/15SE	12.3
BR1	82.83	244.04	73.25	0	Open Fracture	N26W/73SW	154.0
BR1	83.68	46.65	23.78	0	Open Fracture	N43W/24NE	316.7
BR1	86.66	120.23	35.46	82.14	Open Fracture	N30E/35SE	30.2
BR1	87.75	248.28	69.91	0	Open Fracture	N22W/70SW	158.3
BR1	89.27	262.32	48.33	0	Open Fracture	N8W/48SW	172.3
BR1	90.59	125.89	64.25	0	Bedding	N36E/64SE	35.9
BR1	95.64	121.13	71.31	0	Bedding	N31E/71SE	31.1
BR1	96.77	107.09	69.59	0	Bedding	N17E/70SE	17.1
BR1	98.58	219.14	73.3	0	Open Fracture	N51W/73SW	129.1
BR1	98.62	45.36	27.65	54.1	Open Fracture	N45W/28NE	315.4
BR1	104.99	120.07	78.77	0	Filled Fracture	N30E/79SE	30.1
BR1	110.64	341.52	49.6	0	Filled Fracture	N72E/50NW	251.5
BR1	117.89	228.68	75.07	0	Open Fracture	N41W/75SW	138.7
BR1	118.97	242.72	82.02	0	Open Fracture	N27W/82SW	152.7
BR1	119.26	50.93	54.4	0	Bedding	N39W/54NE	320.9
BR1	128.56	338.87	40.09	0	Open Fracture	N69E/40NW	248.9
BR1	128.78	84.76	40.09	0	Open Fracture	N5W/40NE	354.8
BR1	129.83	98	58.35	0	Open Fracture	N8E/58SE	8.0
BR1	130.65	200.6	75.9	0	Open Fracture	N69W/76SW	110.6
BR1	132.07	342.59	81.27	0	Open Fracture	N73E/81NW	252.6
BR1	133.12	320.07	74.72	0	Open Fracture	N50E/75NW	230.1
BR1	135.45	348.41	0	110.4	Open Fracture	N78E/0NW	258.4
BR1	138.56	7.22	49.93	0	Bedding	N83W/50NE	277.2
BR1	143.52	204.41	68.15	0	Open Fracture	N66W/68SW	114.4
BR1	143.65	215.7	72.81	0	Open Fracture	N54W/73SW	125.7
BR1	144.45	182.85	81.86	0	Open Fracture	N87W/82SW	92.9
BR1	146.34	122.98	67.66	0	Filled Fracture	N33E/68SE	33.0
BR1	149.06	175.43	74.9	0	Bedding	N85E/75SE	85.4

Appendix D
Packer Test Report

ARM Group Inc.
Earth Resource Engineers and Consultants

April 18, 2013

Mr. Paxton Wertz
Geologist
Kleinfelder
1340 Charwood Road, Suite I
Hanover, MD 21076

Re: Packer Testing Investigation Results
Southside Facility #20025
31 Heather Lane
Perryville, Maryland
ARM Project 13181

Dear Mr. Wertz:

ARM Group Inc. (ARM) performed a packer testing investigation at the Southside Facility #20025 located at 31 Heather Lane in Perryville, Cecil County, Maryland on April 10, 2013. This report describes the results of the packer testing that was conducted on the groundwater monitoring well located in the grassy area on the southeast corner of the site.

Purpose

The goal of the packer testing was to characterize the groundwater flow regime in the area of the above well, specifically, to evaluate and quantify the hydraulic characteristics of discrete potential water-bearing zones (WBZs) that were identified via geophysical borehole logging of the well and to permit collection of groundwater samples from each interval. The WBZs were divided into four 10-foot intervals based on the geophysical borehole logs. Packer tests were conducted by ARM at each interval and samples were taken by Kleinfelder personnel for the analysis of volatile organic compounds (VOCs) from the tested zones. Examination of the geophysical borehole logs revealed potential WBZs in the intervals indicated in Table 1 below:

Table 1: WBZ Intervals

WBZ Interval (feet bg)	Fracture Depth (feet bg)
52’ – 62’	54’
79.5’ - 89.5’	86.5’
95’ – 105’	98.5’
127’ – 137’	135.5’

1129 West Governor Road • P.O. Box 797 • Hershey, PA 17033-0797
voice: (717) 533-8600 • fax: (717) 533-8605 • e-mail: info@armgroup.net

Background Information

The Southside Facility #20025 is located at 31 Heather Lane in the town of Perryville, Cecil County, Maryland. The site currently consists of an Exxon Gasoline Station and Pilot Truck Stop. The subject well for this investigation is located in a grassy area in the southeast corner of the site between the facility entrance and Perrylawn Drive. The location of the well is adjoined by additional grass land to the north, Heather Lane to the south, the facility entrance to the west, and Perrylawn Drive to the east.

The site lies within the Eastern Piedmont Plateau Physiographic Province. According to the Maryland Geological Survey (MGS), the Piedmont Plateau Province is composed of hard, crystalline igneous and metamorphic rocks and extends from the inner edge of the Coastal Plain westward to Catoctin Mountain, the eastern boundary of the Blue Ridge Province. Bedrock in the eastern part of the Piedmont consists of schist, gneiss, gabbro, and other highly metamorphosed sedimentary and igneous rocks of probable volcanic origin.

Based on a review of the geologic map titled *Geologic Map of Maryland*, dated 1968, published by the MGS, the bedrock beneath the site reportedly consists of the Precambrian Age Volcanic Complex of Cecil County. This unit is described by the MGS as metamorphosed andesitic and dacitic volcanic rocks (greenstone, greenschist, quartz amphibolite, and schistose felsite) with amygdules and volcano-clastic textures locally preserved.

The United States Geological Survey (USGS) 7.5-Minute Topographic Quadrangle Map of Havre De Grace, Maryland indicates that the site has an approximate elevation of 340 feet above mean sea level (amsl). Based on the topography of the site and the surrounding area, groundwater flow and surface drainage is presumed to be generally to the south towards a tributary of the Susquehanna River.

Packer Testing Methodology

A pneumatically-operated straddle-packer assembly with an 11.3-foot separation between two inflatable packers (packer length =17.5 inches) was used for this project. Transducers were placed in the upper, middle, and lower zones of the packer assembly and a Grundfos Redi-flo pump was installed in middle zone between the two packers. Packers were inflated and packer tests were conducted starting at the deepest interval.

Discharged water flowed through an inline flow cell which was monitored continuously using a portable pH/conductivity/temperature meter then through a carbon bucket before being discharge to the ground surface. Groundwater samples were collected by Kleinfelder after the geochemical parameters (pH, conductivity, and temperature) monitored in each zone's discharge water had stabilized or had exhibited relative stability. Annotated linear hydrographs for each packer test are presented in Figures 1 through 4, attached.

Packer Testing Results

Well Construction Details
6-inch casing: 0-49 feet bg
Open hole (6-inch): 49-150 feet bg
Total Depth: 150 feet bg

The zones tested in the well, including the test durations and flow rates, are presented in the following table. The deepest zone was tested first (Figure 1) and the zones were tested from deepest to shallowest as the packer assembly was raised towards the upper intervals. See the annotated hydrographs (Figures 1 through 4) for detailed information of each tested zone in this well.

Table 2: Packer Test Specifications

Tested Zone (feet bg)	Duration of Test (minutes)	Average Flow Rates (gallons per minute)
52 - 62	55	0.25
79.5 - 89.5	48	0.25
95 - 105	41	0.25
127 - 137	35	0.25

Packer Test and Analysis: 127-137 feet (Figure 1)

This interval was tested to evaluate the open fracture identified at 135.5 feet below top of casing (btoc) located within this zone. Pumping of the interval began at 0.25 gpm and was maintained consistently for the duration of the packer test. Drawdown at the end of pumping and prior to sampling was 0.7 feet in the middle zone. A hydraulic connection between the pumped zone and the upper and lower zones was observed for the first 20 to 30 minutes of the test. The upper and lower transducers were not recording data during the last 10 to 15 minutes of the test. After the pump was turned off, the middle zone had an immediate 0.35 foot rise in water level followed by a relatively flat hydrograph. The pre- and post-pumping hydrograph data indicates a net loss of approximately 0.8 feet of hydraulic head due to the pumping of this interval, suggesting limited storage in this WBZ and limited connectivity to other sources of groundwater.

Packer Test and Analysis: 95-105 feet (Figure 2)

This interval was tested to evaluate the open fracture identified at 98.5 feet btoc located within this zone. Pumping of the interval began at 0.25 gpm and was maintained consistently for the duration of the packer test. Drawdown at the end of pumping and prior to sampling was 0.9 feet in the middle zone. Responses were observed in both the upper and lower zones to the pumping in the middle zone. A drawdown of 0.9 feet was observed in both zones indicating a direct hydraulic connection between the upper, middle, and lower zones. After the pump was turned

off, the upper and middle zones had an immediate ~0.1 foot rise in water level followed by relatively flat hydrographs. The pre- and post-pumping hydrograph data indicates a net loss of approximately 0.8 to 0.9 feet of hydraulic head in each zone due to the pumping of this interval, suggesting limited storage in this WBZ and limited connectivity to other sources of groundwater.

Packer Test and Analysis: 79.5-89.5 feet (Figure 3)

This interval was tested to evaluate the open fracture identified at 86.5 feet btoc located within this zone. Pumping of the interval began at 0.25 gpm and was maintained consistently for the duration of the packer test. Drawdown at the end of pumping and prior to sampling was 1.35 feet in the middle zone. Responses were observed in both the upper and lower zones to the pumping in the middle zone. A drawdown of 1.3 feet was observed in the lower zone, and a drawdown of 1.6 feet was observed in the upper zone indicating a direct hydraulic connection between the upper, middle, and lower zones. After the pump was turned off, the upper and middle zones had an immediate ~0.1 foot rise in water level with each zone experienced a slightly rising (~0.1 feet) hydrograph in the recovery phase. The pre- and post-pumping hydrograph data indicates a net loss of approximately 1.2 to 1.3 feet of hydraulic head due to the pumping of this interval, suggesting limited storage in this WBZ and limited connectivity to other sources of groundwater.

Packer Test and Analysis: 52-62 feet (Figure 4)

This interval was tested to evaluate the broken/void/soft zone identified at 54 feet btoc located within this zone. Pumping of the interval began at 0.25 gpm and was maintained consistently for the duration of the packer test. Drawdown at the end of pumping and prior to sampling was 2.03 feet in the middle zone. A drawdown of 2.0 feet was observed in the upper zone to the pumping in the middle zone indicating a direct hydraulic connection between the upper and middle zones. A slight loss of hydraulic head (0.1 feet) was observed in the lower zone over the course of this test; however it is not certain if this head loss was due to pumping of the 52’ – 62’ interval or an outside factor. After the pump was turned off, the upper and middle zones had an immediate ~0.1 foot rise in water level followed by slightly rising (0.25 to 0.3 feet) hydrographs. The hydrograph of the lower zone was not impacted by the pump-off event. The pre- and post-pumping hydrograph data indicates a net loss of approximately 0.8 feet of hydraulic head in the upper interval and the pumped interval, suggesting limited storage in this WBZ and limited connectivity to other sources of groundwater.

Conclusions

1) The middle zone pumped in the 52-62 foot interval exhibited the greatest drawdown of 2.0 feet with a direct impact to its upper zone and little to no impact to its lower zones. It is suspected that the drawdown observed in the upper zone is a result of hydraulic communication between the fracture at 54 feet and the shallower portions of the borehole. The lack of hydraulic communication between the pumped zone and the lower zone indicates low hydraulic conductivity between these intervals.

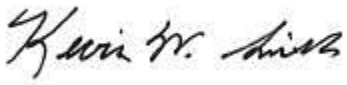
2) With the exception of the 52-62 foot interval, all of the other tested intervals appear to be hydraulically connected based on the observations in each packer test.

3) The recovery responses of each hydrograph suggest that the WBZs encountered in this well have very low storage and are poorly connected to other outside sources of water.

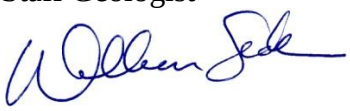
Closing

Thank you for the opportunity to provide our services for the site located 31 Heather Lane in Perryville, Maryland. ARM would be pleased to assist you with any additional subsurface studies at this or other sites under your jurisdiction. Should you have any questions or require additional information, please contact the undersigned at your convenience.

Respectfully submitted,
ARM Group Inc.



Kevin W. Smith.
Staff Geologist



William Seaton Ph.D., P.G.
Senior Hydrogeologist
Project Manager

Attachments: Figures 1-4 – Linear Hydrographs for Packer Tests

FIGURES

Figure 1
Kleinfelder Packer Test: 127 - 137 foot Interval
Perryville, Maryland
April 10, 2013 - ARM Project 13181

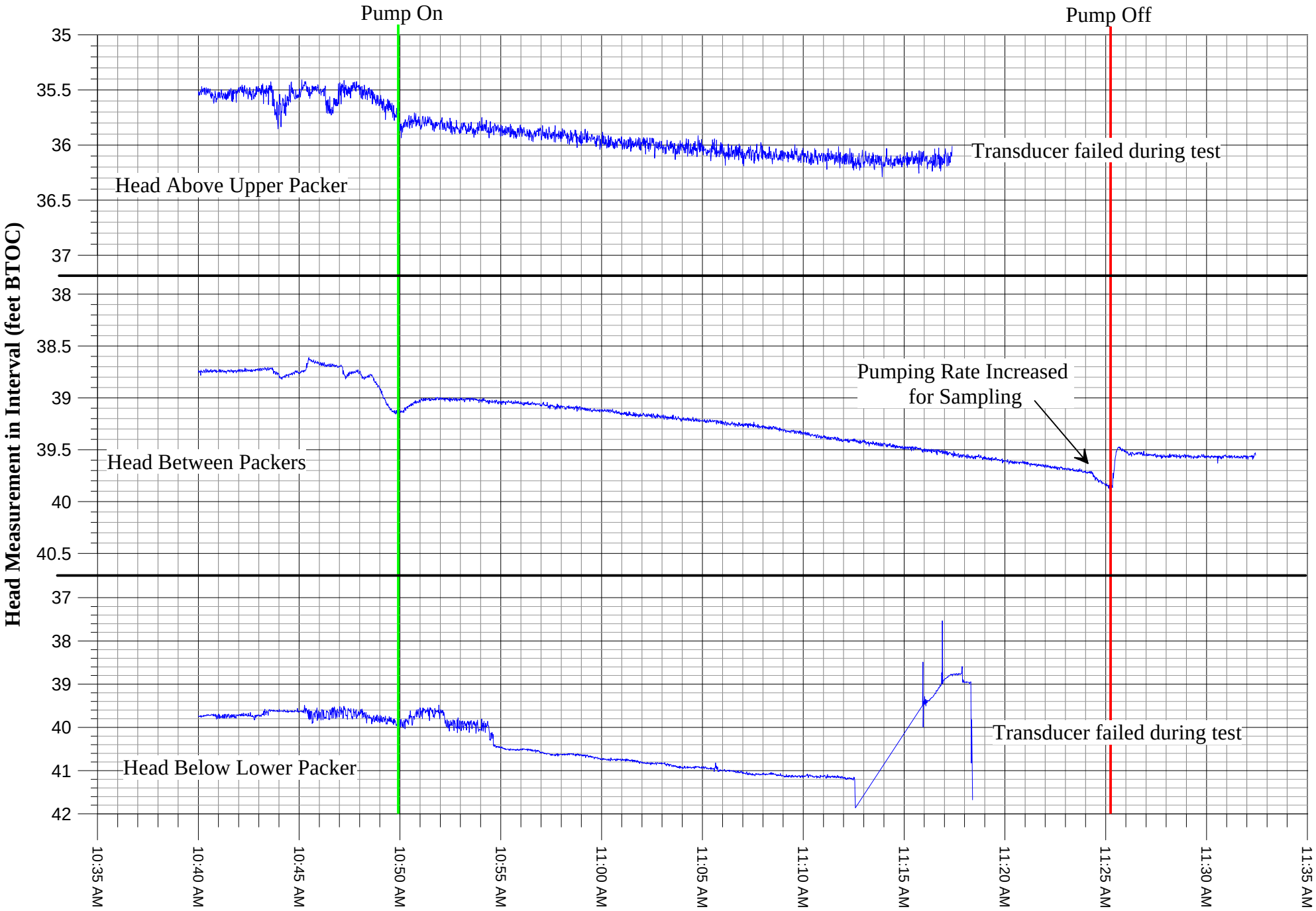


Figure 2
Kleinfelder Packer Test: 95 - 105 foot Interval
Perryville, Maryland
April 10, 2013 - ARM Project 13181

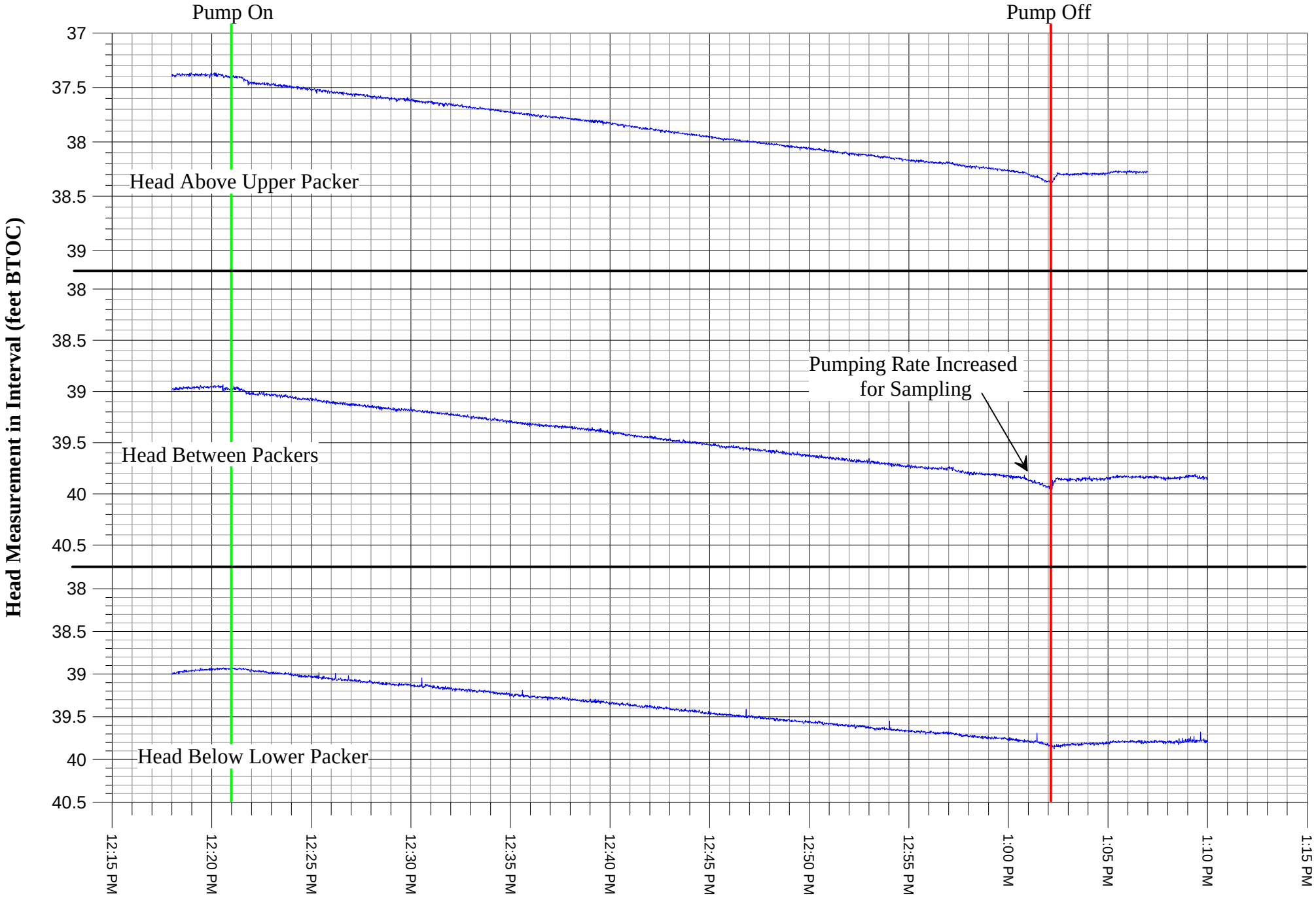


Figure 3
Kleinfelder Packer Test: 79.5 - 89.5 foot Interval
Perryville, Maryland
April 10, 2013 - ARM Project 13181

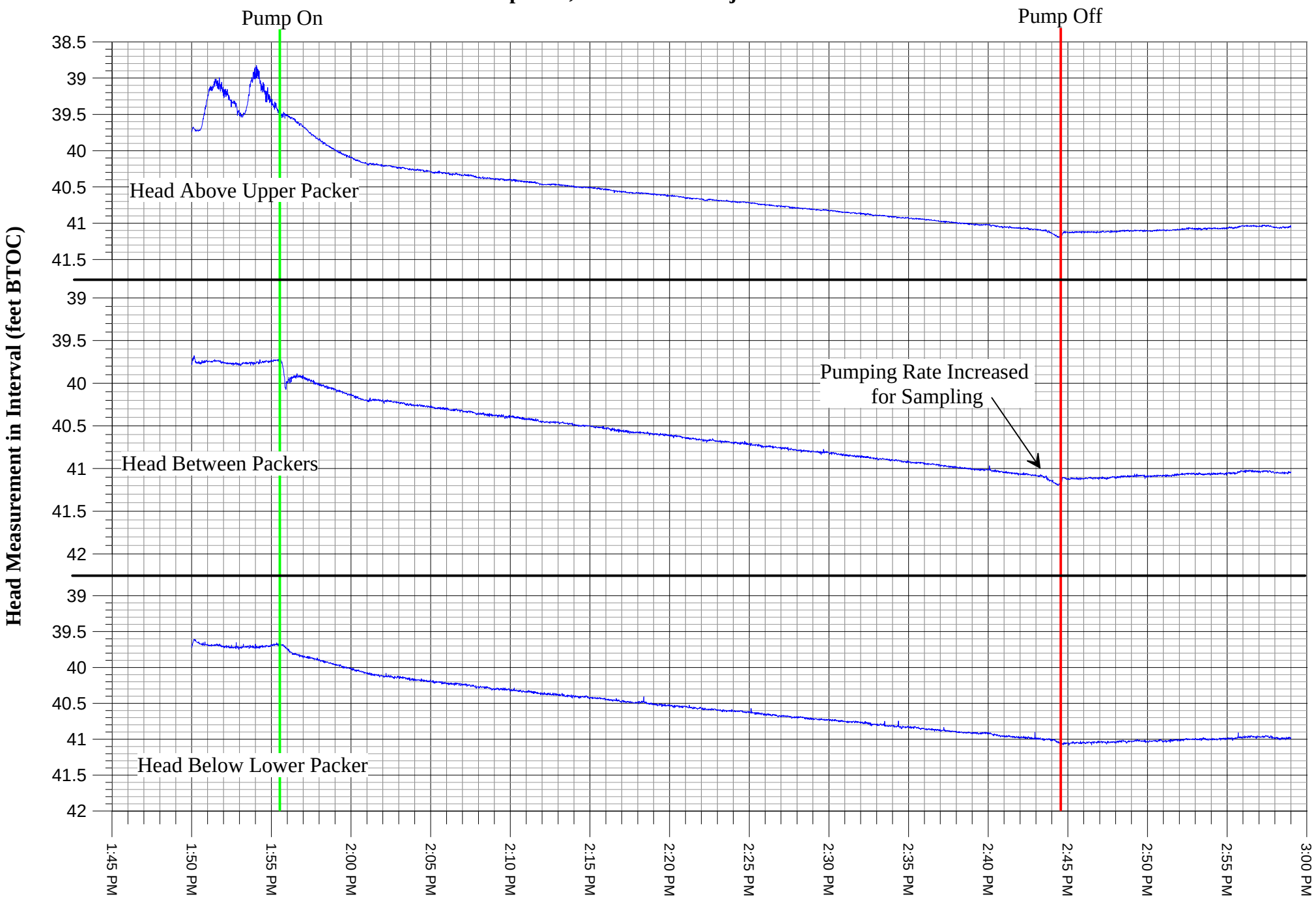
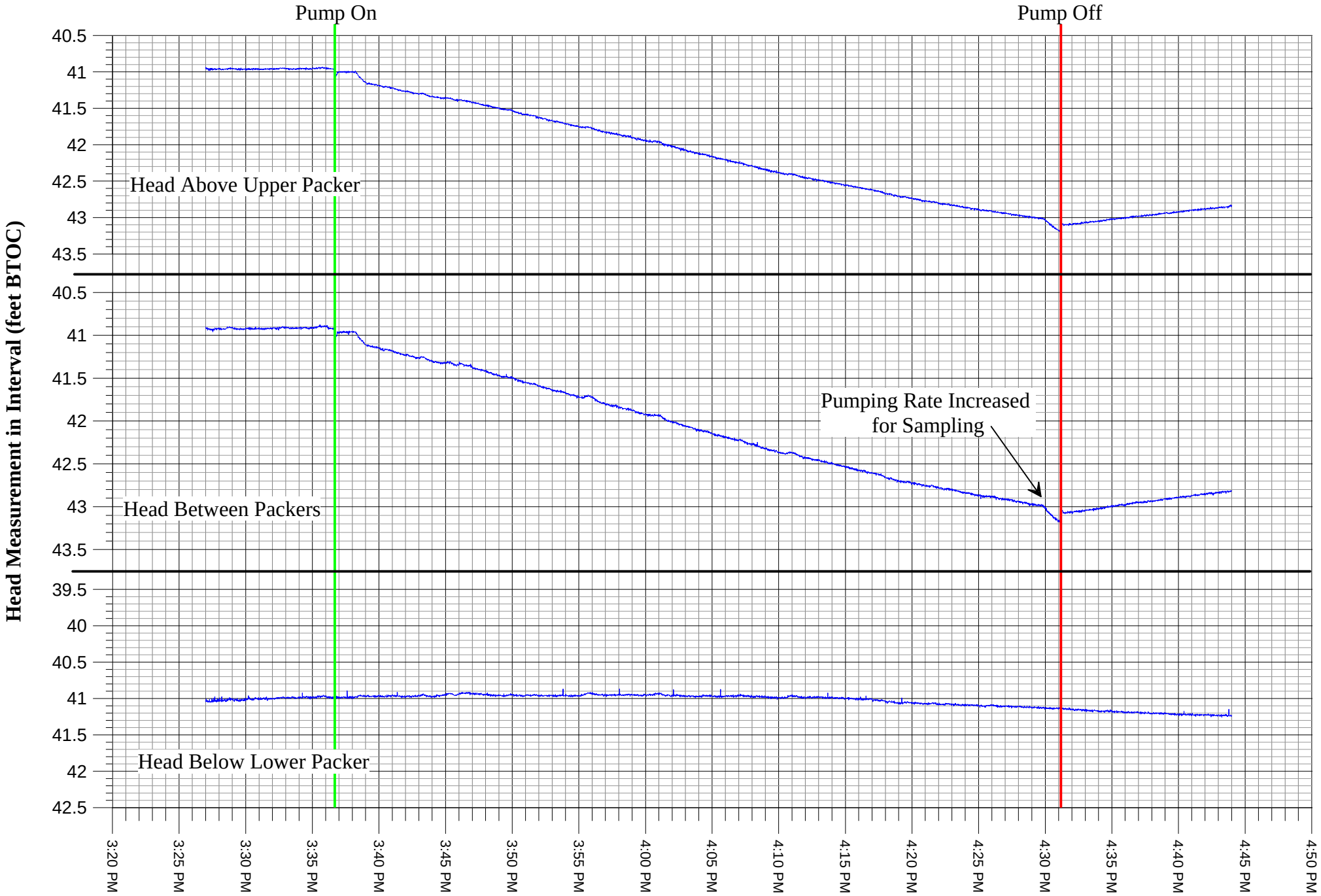


Figure 4
Kleinfelder Packer Test: 52 - 62 foot Interval
Perryville, Maryland
April 10, 2013 - ARM Project 13181



Appendix E
Lancaster Laboratory Analysis Reports – Bedrock Well BR-1

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Kleinfelder
1 Speen Street
Framingham MA 01701

April 18, 2013

Project: Southside Oil 20025

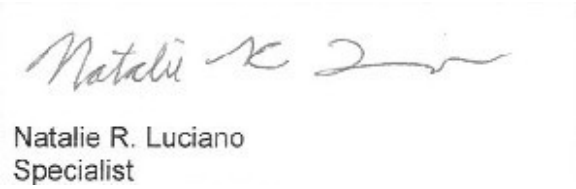
Submittal Date: 04/12/2013
Group Number: 1382618
PO Number: 51141-252550
State of Sample Origin: MD

Client Sample Description	Lancaster Labs (LLI) #
BR-1 (127-137) Grab Water	7020967
BR-1(95-105) Grab Water	7020968
BR-1 (79.5-89.5) Grab Water	7020969
BR-1 (52-62) Grab Water	7020970
Trip Blank Water	7020971

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

ELECTRONIC COPY TO	Kleinfelder	Attn: Mark Steele
ELECTRONIC COPY TO	Kleinfelder	Attn: Angela Vogt
ELECTRONIC COPY TO	Kleinfelder	Attn: Venelda Williams
ELECTRONIC COPY TO	Kleinfelder	Attn: Don Trego
ELECTRONIC COPY TO	Kleinfelder	Attn: Paxton Wertz

Respectfully Submitted,



Natalie R. Luciano
Specialist

(717) 556-7258

Sample Description: BR-1 (127-137) Grab Water
Southside Oil 20025

LLI Sample # WW 7020967
LLI Group # 1382618
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/10/2013 11:22 by PW

Submitted: 04/12/2013 17:50
Reported: 04/18/2013 10:22

Kleinfelder
1 Speen Street
Framingham MA 01701

BR101

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether 2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.	110-75-8	< 10	10	1
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**7**	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	**Toluene**	108-88-3	**25**	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1

Sample Description: BR-1 (127-137) Grab Water
Southside Oil 20025

LLI Sample # WW 7020967
LLI Group # 1382618
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/10/2013 11:22 by PW

Submitted: 04/12/2013 17:50
Reported: 04/18/2013 10:22

Kleinfelder
1 Speen Street
Framingham MA 01701

BR101

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	N131051AA	04/15/2013 09:51	Christopher G Torres	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N131051AA	04/15/2013 09:51	Christopher G Torres	1

Sample Description: BR-1(95-105) Grab Water
Southside Oil 20025

LLI Sample # WW 7020968
LLI Group # 1382618
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/10/2013 12:47 by PW

Submitted: 04/12/2013 17:50
Reported: 04/18/2013 10:22

Kleinfelder
1 Speen Street
Framingham MA 01701

BR102

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether 2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.	110-75-8	< 10	10	1
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**10**	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	**Toluene**	108-88-3	**100**	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1

Sample Description: BR-1(95-105) Grab Water
Southside Oil 20025

LLI Sample # WW 7020968
LLI Group # 1382618
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/10/2013 12:47 by PW

Submitted: 04/12/2013 17:50
Reported: 04/18/2013 10:22

Kleinfelder
1 Speen Street
Framingham MA 01701

BR102

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	N131051AA	04/15/2013 10:14	Christopher G Torres	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N131051AA	04/15/2013 10:14	Christopher G Torres	1

Sample Description: BR-1 (79.5-89.5) Grab Water
Southside Oil 20025

LLI Sample # WW 7020969
LLI Group # 1382618
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/10/2013 14:41 by PW

Submitted: 04/12/2013 17:50
Reported: 04/18/2013 10:22

Kleinfelder
1 Speen Street
Framingham MA 01701

BR103

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether 2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.	110-75-8	< 10	10	1
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**11**	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	**Toluene**	108-88-3	**120**	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1

Sample Description: BR-1 (79.5-89.5) Grab Water
Southside Oil 20025

LLI Sample # WW 7020969
LLI Group # 1382618
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/10/2013 14:41 by PW

Submitted: 04/12/2013 17:50
Reported: 04/18/2013 10:22

Kleinfelder
1 Speen Street
Framingham MA 01701

BR103

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	N131051AA	04/15/2013 10:38	Christopher G Torres	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N131051AA	04/15/2013 10:38	Christopher G Torres	1

Sample Description: BR-1 (52-62) Grab Water
Southside Oil 20025

LLI Sample # WW 7020970
LLI Group # 1382618
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/10/2013 16:26 by PW

Submitted: 04/12/2013 17:50
Reported: 04/18/2013 10:22

Kleinfelder
1 Speen Street
Framingham MA 01701

BR104

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether 2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.	110-75-8	< 10	10	1
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**33**	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	**Toluene**	108-88-3	**58**	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1

Sample Description: BR-1 (52-62) Grab Water
Southside Oil 20025

LLI Sample # WW 7020970
LLI Group # 1382618
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/10/2013 16:26 by PW

Submitted: 04/12/2013 17:50
Reported: 04/18/2013 10:22

Kleinfelder
1 Speen Street
Framingham MA 01701

BR104

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	N131051AA	04/15/2013 11:01	Christopher G Torres	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N131051AA	04/15/2013 11:01	Christopher G Torres	1

Sample Description: Trip Blank Water
Southside Oil 20025

LLI Sample # WW 7020971
LLI Group # 1382618
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/10/2013 08:00

Submitted: 04/12/2013 17:50
Reported: 04/18/2013 10:22

Kleinfelder
1 Speen Street
Framingham MA 01701

BR1TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1

Sample Description: Trip Blank Water
Southside Oil 20025

LLI Sample # WW 7020971
LLI Group # 1382618
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/10/2013 08:00

Submitted: 04/12/2013 17:50
Reported: 04/18/2013 10:22

Kleinfelder
1 Speen Street
Framingham MA 01701

BR1TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	N131051AA	04/15/2013 03:14	Christopher G Torres	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N131051AA	04/15/2013 03:14	Christopher G Torres	1

Quality Control Summary

Client Name: Kleinfelder Group Number: 1382618
Reported: 04/18/13 at 10:22 AM

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

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

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: N131051AA	Sample number(s): 7020967-7020971							
Acetone	< 20	20.	ug/l	86		49-234		
Acrolein	< 100	100.	ug/l	103		46-146		
Acrylonitrile	< 20	20.	ug/l	85		61-130		
t-Amyl methyl ether	< 5	5.	ug/l	95		66-120		
Benzene	< 5	5.	ug/l	99		77-121		
Bromodichloromethane	< 5	5.	ug/l	118		73-120		
Bromoform	< 5	5.	ug/l	100		61-120		
Bromomethane	< 5	5.	ug/l	83		51-120		
2-Butanone	< 10	10.	ug/l	80		57-141		
t-Butyl alcohol	< 80	80.	ug/l	97		75-120		
n-Butylbenzene	< 5	5.	ug/l	93		73-130		
sec-Butylbenzene	< 5	5.	ug/l	94		74-124		
Carbon Tetrachloride	< 5	5.	ug/l	100		65-137		
Chlorobenzene	< 5	5.	ug/l	106		80-120		
Chloroethane	< 5	5.	ug/l	84		60-120		
2-Chloroethyl Vinyl Ether	< 10	10.	ug/l	79		52-127		
Chloroform	< 5	5.	ug/l	102		77-122		
Chloromethane	< 5	5.	ug/l	81		54-123		
Dibromochloromethane	< 5	5.	ug/l	102		72-120		
1,2-Dichlorobenzene	< 5	5.	ug/l	98		80-120		
1,3-Dichlorobenzene	< 5	5.	ug/l	98		80-120		
1,4-Dichlorobenzene	< 5	5.	ug/l	96		80-120		
1,1-Dichloroethane	< 5	5.	ug/l	100		79-120		
1,2-Dichloroethane	< 5	5.	ug/l	100		64-130		
1,1-Dichloroethene	< 5	5.	ug/l	107		76-124		
cis-1,2-Dichloroethene	< 5	5.	ug/l	101		80-120		
trans-1,2-Dichloroethene	< 5	5.	ug/l	105		80-120		
1,2-Dichloropropane	< 5	5.	ug/l	97		80-120		
cis-1,3-Dichloropropene	< 5	5.	ug/l	101		78-120		
trans-1,3-Dichloropropene	< 5	5.	ug/l	95		66-124		
Ethanol	< 250	250.	ug/l	102		54-149		
Ethyl t-butyl ether	< 5	5.	ug/l	93		66-120		
Ethylbenzene	< 5	5.	ug/l	102		79-120		
di-Isopropyl ether	< 5	5.	ug/l	89		65-120		
Isopropylbenzene	< 5	5.	ug/l	102		77-120		
p-Isopropyltoluene	< 5	5.	ug/l	93		77-121		
Methyl Tertiary Butyl Ether	< 5	5.	ug/l	98		68-121		
Methylene Chloride	< 5	5.	ug/l	105		84-118		
Naphthalene	< 5	5.	ug/l	75		47-126		
n-Propylbenzene	< 5	5.	ug/l	93		77-130		
1,1,2,2-Tetrachloroethane	< 5	5.	ug/l	90		70-129		
Tetrachloroethene	< 5	5.	ug/l	106		79-120		
Toluene	< 5	5.	ug/l	104		79-120		

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Kleinfelder Group Number: 1382618
Reported: 04/18/13 at 10:22 AM

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,1,1-Trichloroethane	< 5	5.	ug/l	102		66-126		
1,1,2-Trichloroethane	< 5	5.	ug/l	101		80-120		
Trichloroethene	< 5	5.	ug/l	102		80-120		
Trichlorofluoromethane	< 5	5.	ug/l	95		65-130		
1,2,4-Trimethylbenzene	< 5	5.	ug/l	94		69-122		
1,3,5-Trimethylbenzene	< 5	5.	ug/l	95		68-124		
Vinyl Chloride	< 5	5.	ug/l	90		63-120		
Xylene (Total)	< 5	5.	ug/l	103		77-120		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: N131051AA	Sample number(s): 7020967-7020971 UNSPK: P019864								
Acetone	83	86	33-159	3	30				
Acrolein	99	100	33-147	2	30				
Acrylonitrile	80	86	43-146	7	30				
t-Amyl methyl ether	91	96	65-117	6	30				
Benzene	100	105	72-134	5	30				
Bromodichloromethane	134*	146*	78-125	9	30				
Bromoform	94	100	48-118	6	30				
Bromomethane	81	87	47-129	6	30				
2-Butanone	75	81	57-138	7	30				
t-Butyl alcohol	90	95	67-119	5	30				
n-Butylbenzene	98	108	59-156	10	30				
sec-Butylbenzene	98	104	79-125	6	30				
Carbon Tetrachloride	105	112	72-135	7	30				
Chlorobenzene	106	111	87-124	5	30				
Chloroethane	83	88	51-145	6	30				
2-Chloroethyl Vinyl Ether	78	83	10-151	7	30				
Chloroform	102	107	81-134	5	30				
Chloromethane	80	86	46-137	7	30				
Dibromochloromethane	98	105	74-116	7	30				
1,2-Dichlorobenzene	98	103	84-119	5	30				
1,3-Dichlorobenzene	98	105	86-121	7	30				
1,4-Dichlorobenzene	97	102	85-121	5	30				
1,1-Dichloroethane	99	106	84-129	7	30				
1,2-Dichloroethane	97	102	68-131	4	30				
1,1-Dichloroethene	114	121	75-155	7	30				
cis-1,2-Dichloroethene	101	108	80-141	6	30				
trans-1,2-Dichloroethene	105	113	81-142	8	30				
1,2-Dichloropropane	97	104	83-124	7	30				
cis-1,3-Dichloropropene	98	104	70-116	7	30				
trans-1,3-Dichloropropene	93	99	74-119	5	30				
Ethanol	95	99	53-146	3	30				
Ethyl t-butyl ether	89	96	74-122	8	30				
Ethylbenzene	102	108	71-134	6	30				
di-Isopropyl ether	86	92	70-129	7	30				
Isopropylbenzene	103	109	75-128	6	30				
p-Isopropyltoluene	97	104	76-123	7	30				

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Kleinfelder Group Number: 1382618
Reported: 04/18/13 at 10:22 AM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Methyl Tertiary Butyl Ether	92	99	72-126	7	30				
Methylene Chloride	104	110	78-133	5	30				
Naphthalene	72	77	52-125	8	30				
n-Propylbenzene	97	102	74-134	6	30				
1,1,2,2-Tetrachloroethane	88	92	72-128	5	30				
Tetrachloroethene	109	115	80-128	6	30				
Toluene	104	110	80-125	6	30				
1,1,1-Trichloroethane	104	109	69-140	5	30				
1,1,2-Trichloroethane	99	104	71-141	5	30				
Trichloroethene	103	110	88-133	6	30				
Trichlorofluoromethane	105	108	64-146	3	30				
1,2,4-Trimethylbenzene	95	102	72-130	6	30				
1,3,5-Trimethylbenzene	97	102	65-132	5	30				
Vinyl Chloride	95	100	66-133	5	30				
Xylene (Total)	104	111	79-125	6	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260 VOCs
Batch number: N131051AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7020967	101	102	99	95
7020968	100	102	99	97
7020969	101	101	100	98
7020970	101	99	100	96
7020971	99	102	100	98
Blank	99	100	101	98
LCS	99	102	103	104
MS	98	102	103	103
MSD	99	99	103	103
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Lancaster Laboratories

Analysis Request/Environmental Services Chain of Custody

For Lancaster Laboratories use only Acct. #: 12152
Group #: 1382618 Sample #: 7020967-71

Client: Southside Oil | Acct. #:
Project Name/#: 20025 | PWSID #:
Project Manager: Don Trego | P.O. #: 51141-252550
Sampler: Paxton Wentz | Quote #:
Name of State where samples were collected: Maryland

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water	Matrix: Other	Total # of Containers	Analyses Requested: Full List VOC+oxy 8260	Analyses Requested: Ethanol	Remarks
BR-1 (127-137)	4/10/2013	1122	X			X		3	X	X	
BR-1 (95-105)	4/10/2013	1247	X			X		3	X	X	
BR-1 (79.5-89.5)	4/10/2013	1441	X			X		3	X	X	
BR-1 (52-62)	4/10/2013	1626	X			X		3	X	X	
Trip Blank	4/10/2013	0800	X			X		2	X	X	

Matrix: Potable, NPDES

Preservation Codes: H=HCl T=Thiosulfate N=HNO3 B=NaOH S=H2SO4 O=Other

For Lab Use Only
FSC:
SCR#:

Temperature of samples upon receipt (if requested)

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed: 4/17/2013
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

Data Package Options (please circle if required)
Type I (validation/NJ reg) TX-TRRP-13
Type II (Tier II) MA MCP CT RCP
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)

SDG Complete? Yes No

State-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicated QC sample and submit triplicate volume)
Internal COC required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
	4/11/13	1030	Sample Holding	4/11/13	1030
Sample Holding	4/11/13	13:00		4/11/13	13:00
	4/11/13	1750			
				4/12/13	1150

Lancaster Laboratories, Inc. 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 717-656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client

eurofins | Lancaster Laboratories

Explanation of Symbols and Abbreviations

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

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

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

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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

Appendix F
Lancaster Laboratory Analysis Reports – Potable (March 20, 2013)

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2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Kleinfelder
1 Speen Street
Framingham MA 01701

March 29, 2013

Project: Southside Oil 20025

Submittal Date: 03/22/2013
Group Number: 1377442
PO Number: 51141-242033
State of Sample Origin: MD

Client Sample Description	Lancaster Labs (LLI) #
1836 Perryville Road Grab Potable Water	6993541

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

ELECTRONIC COPY TO	Kleinfelder	Attn: Mark Steele
ELECTRONIC COPY TO	Kleinfelder	Attn: Angela Vogt
ELECTRONIC COPY TO	Kleinfelder	Attn: Venelda Williams
ELECTRONIC COPY TO	Kleinfelder	Attn: Don Trego
ELECTRONIC COPY TO	Kleinfelder	Attn: Paxton Wertz

Respectfully Submitted,

Natalie R. Luciano
Specialist

(717) 556-7258

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Sample Description: 1836 Perryville Road Grab Potable Water
Southside Oil 20025

LLI Sample # PW 6993541
LLI Group # 1377442
Account # 12152

Project Name: Southside Oil 20025

Collected: 03/20/2013 09:15 by PW

Submitted: 03/22/2013 16:30
Reported: 03/29/2013 17:52

Kleinfelder
1 Speen Street
Framingham MA 01701

1836P

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**EPA 524.2**		**ug/l**	**ug/l**	
03648	Acetone	67-64-1	< 5.0	5.0	1
03648	Acrolein	107-02-8	< 50	50	1
03648	Acrylonitrile	107-13-1	< 10	10	1
03648	t-Amyl Methyl Ether	994-05-8	< 0.5	0.5	1
03648	Benzene	71-43-2	< 0.5	0.5	1
03648	Bromodichloromethane	75-27-4	< 0.5	0.5	1
03648	Bromoform	75-25-2	< 0.5	0.5	1
03648	Bromomethane	74-83-9	< 0.5	0.5	1
03648	2-Butanone	78-93-3	< 5.0	5.0	1
03648	t-Butyl Alcohol	75-65-0	< 25	25	1
03648	n-Butylbenzene	104-51-8	< 0.5	0.5	1
03648	sec-Butylbenzene	135-98-8	< 0.5	0.5	1
03648	tert-Butylbenzene	98-06-6	< 0.5	0.5	1
03648	Carbon Tetrachloride	56-23-5	< 0.5	0.5	1
03648	Chlorobenzene	108-90-7	< 0.5	0.5	1
03648	Chloroethane	75-00-3	< 0.5	0.5	1
03648	Chloroform	67-66-3	< 0.5	0.5	1
03648	Chloromethane	74-87-3	< 0.5	0.5	1
03648	Dibromochloromethane	124-48-1	< 0.5	0.5	1
03648	1,2-Dichlorobenzene	95-50-1	< 0.5	0.5	1
03648	1,3-Dichlorobenzene	541-73-1	< 0.5	0.5	1
03648	1,4-Dichlorobenzene	106-46-7	< 0.5	0.5	1
03648	1,1-Dichloroethane	75-34-3	< 0.5	0.5	1
03648	1,2-Dichloroethane	107-06-2	< 0.5	0.5	1
03648	1,1-Dichloroethene	75-35-4	< 0.5	0.5	1
03648	cis-1,2-Dichloroethene	156-59-2	< 0.5	0.5	1
03648	trans-1,2-Dichloroethene	156-60-5	< 0.5	0.5	1
03648	1,2-Dichloropropane	78-87-5	< 0.5	0.5	1
03648	cis-1,3-Dichloropropene	10061-01-5	< 0.5	0.5	1
03648	trans-1,3-Dichloropropene	10061-02-6	< 0.5	0.5	1
03648	Ethyl t-Butyl Ether	637-92-3	< 0.5	0.5	1
03648	Ethylbenzene	100-41-4	< 0.5	0.5	1
03648	di-Isopropyl Ether	108-20-3	< 0.5	0.5	1
03648	Isopropylbenzene	98-82-8	< 0.5	0.5	1
03648	p-Isopropyltoluene	99-87-6	< 0.5	0.5	1
03648	**Methyl Tertiary Butyl Ether**	1634-04-4	**5.6**	0.5	1
03648	Methylene Chloride	75-09-2	< 0.5	0.5	1
03648	Naphthalene	91-20-3	< 0.5	0.5	1
03648	n-Propylbenzene	103-65-1	< 0.5	0.5	1
03648	1,1,2,2-Tetrachloroethane	79-34-5	< 0.5	0.5	1
03648	Tetrachloroethene	127-18-4	< 0.5	0.5	1
03648	Toluene	108-88-3	< 0.5	0.5	1
03648	1,1,1-Trichloroethane	71-55-6	< 0.5	0.5	1
03648	1,1,2-Trichloroethane	79-00-5	< 0.5	0.5	1
03648	Trichloroethene	79-01-6	< 0.5	0.5	1
03648	Trichlorofluoromethane	75-69-4	< 0.5	0.5	1
03648	1,2,4-Trimethylbenzene	95-63-6	< 0.5	0.5	1
03648	1,3,5-Trimethylbenzene	108-67-8	< 0.5	0.5	1
03648	Vinyl Chloride	75-01-4	< 0.5	0.5	1
03648	Xylene (Total)	1330-20-7	< 0.5	0.5	1

Sample Description: 1836 Perryville Road Grab Potable Water
Southside Oil 20025

LLI Sample # PW 6993541
LLI Group # 1377442
Account # 12152

Project Name: Southside Oil 20025

Collected: 03/20/2013 09:15 by PW

Submitted: 03/22/2013 16:30
Reported: 03/29/2013 17:52

Kleinfelder
1 Speen Street
Framingham MA 01701

1836P

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
03648	EPA Method 524.2	EPA 524.2	1	G130871AA	03/28/2013 14:25	Jason M Long	1

Quality Control Summary

Client Name: Kleinfelder Group Number: 1377442
Reported: 03/29/13 at 05:52 PM

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

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

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: G130871AA	Sample number(s): 6993541							
Acetone	< 5.0	5.0	ug/l	108		70-130		
Acrolein	< 50	50.	ug/l	108		70-130		
Acrylonitrile	< 10	10.	ug/l	103		70-130		
t-Amyl Methyl Ether	< 0.5	0.5	ug/l	103		70-130		
Benzene	< 0.5	0.5	ug/l	104		70-130		
Bromodichloromethane	< 0.5	0.5	ug/l	99		70-130		
Bromoform	< 0.5	0.5	ug/l	100		70-130		
Bromomethane	< 0.5	0.5	ug/l	104		70-130		
2-Butanone	< 5.0	5.0	ug/l	105		70-130		
t-Butyl Alcohol	< 25	25.	ug/l	125		70-130		
n-Butylbenzene	< 0.5	0.5	ug/l	102		70-130		
sec-Butylbenzene	< 0.5	0.5	ug/l	101		70-130		
tert-Butylbenzene	< 0.5	0.5	ug/l	103		70-130		
Carbon Tetrachloride	< 0.5	0.5	ug/l	104		70-130		
Chlorobenzene	< 0.5	0.5	ug/l	102		70-130		
Chloroethane	< 0.5	0.5	ug/l	107		70-130		
Chloroform	< 0.5	0.5	ug/l	104		70-130		
Chloromethane	< 0.5	0.5	ug/l	108		70-130		
Dibromochloromethane	< 0.5	0.5	ug/l	102		70-130		
1,2-Dichlorobenzene	< 0.5	0.5	ug/l	100		70-130		
1,3-Dichlorobenzene	< 0.5	0.5	ug/l	104		70-130		
1,4-Dichlorobenzene	< 0.5	0.5	ug/l	101		70-130		
1,1-Dichloroethane	< 0.5	0.5	ug/l	107		70-130		
1,2-Dichloroethane	< 0.5	0.5	ug/l	105		70-130		
1,1-Dichloroethene	< 0.5	0.5	ug/l	107		70-130		
cis-1,2-Dichloroethene	< 0.5	0.5	ug/l	104		70-130		
trans-1,2-Dichloroethene	< 0.5	0.5	ug/l	105		70-130		
1,2-Dichloropropane	< 0.5	0.5	ug/l	104		70-130		
cis-1,3-Dichloropropene	< 0.5	0.5	ug/l	105		70-130		
trans-1,3-Dichloropropene	< 0.5	0.5	ug/l	101		70-130		
Ethyl t-Butyl Ether	< 0.5	0.5	ug/l	102		70-130		
Ethylbenzene	< 0.5	0.5	ug/l	103		70-130		
di-Isopropyl Ether	< 0.5	0.5	ug/l	102		70-130		
Isopropylbenzene	< 0.5	0.5	ug/l	101		70-130		
p-Isopropyltoluene	< 0.5	0.5	ug/l	108		70-130		
Methyl Tertiary Butyl Ether	< 0.5	0.5	ug/l	103		70-130		
Methylene Chloride	< 0.5	0.5	ug/l	109		70-130		
Naphthalene	< 0.5	0.5	ug/l	91		70-130		
n-Propylbenzene	< 0.5	0.5	ug/l	100		70-130		
1,1,2,2-Tetrachloroethane	< 0.5	0.5	ug/l	99		70-130		
Tetrachloroethene	< 0.5	0.5	ug/l	101		70-130		
Toluene	< 0.5	0.5	ug/l	102		70-130		
1,1,1-Trichloroethane	< 0.5	0.5	ug/l	103		70-130		

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Kleinfelder Group Number: 1377442
Reported: 03/29/13 at 05:52 PM

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,1,2-Trichloroethane	< 0.5	0.5	ug/l	103		70-130		
Trichloroethene	< 0.5	0.5	ug/l	104		70-130		
Trichlorofluoromethane	< 0.5	0.5	ug/l	107		70-130		
1,2,4-Trimethylbenzene	< 0.5	0.5	ug/l	104		70-130		
1,3,5-Trimethylbenzene	< 0.5	0.5	ug/l	104		70-130		
Vinyl Chloride	< 0.5	0.5	ug/l	107		70-130		
Xylene (Total)	< 0.5	0.5	ug/l	103		70-130		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: G130871AA	Sample number(s): 6993541 UNSPK: P991635								
Acetone	96	93	70-130	4	30				
Acrolein	57*	50*	70-130	13	30				
Acrylonitrile	96	92	70-130	4	30				
t-Amyl Methyl Ether	100	94	70-130	6	30				
Benzene	110	104	70-130	6	30				
Bromodichloromethane	99	94	70-130	5	30				
Bromoform	89	89	70-130	0	30				
Bromomethane	112	107	70-130	5	30				
2-Butanone	101	96	70-130	5	30				
t-Butyl Alcohol	100	97	70-130	3	30				
n-Butylbenzene	109	103	70-130	6	30				
sec-Butylbenzene	109	104	70-130	5	30				
tert-Butylbenzene	109	103	70-130	5	30				
Carbon Tetrachloride	110	108	70-130	1	30				
Chlorobenzene	105	101	70-130	4	30				
Chloroethane	114	109	70-130	5	30				
Chloroform	106	99	70-130	6	30				
Chloromethane	114	108	70-130	5	30				
Dibromochloromethane	97	92	70-130	5	30				
1,2-Dichlorobenzene	102	96	70-130	6	30				
1,3-Dichlorobenzene	107	101	70-130	6	30				
1,4-Dichlorobenzene	104	99	70-130	5	30				
1,1-Dichloroethane	114	107	70-130	6	30				
1,2-Dichloroethane	108	101	70-130	7	30				
1,1-Dichloroethene	118	112	70-130	6	30				
cis-1,2-Dichloroethene	108	102	70-130	6	30				
trans-1,2-Dichloroethene	114	106	70-130	7	30				
1,2-Dichloropropane	109	105	70-130	4	30				
cis-1,3-Dichloropropene	104	100	70-130	4	30				
trans-1,3-Dichloropropene	97	93	70-130	5	30				
Ethyl t-Butyl Ether	102	97	70-130	5	30				
Ethylbenzene	108	102	70-130	5	30				
di-Isopropyl Ether	103	100	70-130	3	30				
Isopropylbenzene	108	102	70-130	5	30				
p-Isopropyltoluene	114	107	70-130	6	30				
Methyl Tertiary Butyl Ether	101	98	70-130	4	30				
Methylene Chloride	111	104	70-130	6	30				

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Kleinfelder Group Number: 1377442
Reported: 03/29/13 at 05:52 PM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Naphthalene	89	87	70-130	2	30				
n-Propylbenzene	106	101	70-130	5	30				
1,1,2,2-Tetrachloroethane	97	92	70-130	6	30				
Tetrachloroethene	109	102	70-130	6	30				
Toluene	107	102	70-130	5	30				
1,1,1-Trichloroethane	112	108	70-130	3	30				
1,1,2-Trichloroethane	104	98	70-130	6	30				
Trichloroethene	111	105	70-130	5	30				
Trichlorofluoromethane	116	111	70-130	5	30				
1,2,4-Trimethylbenzene	108	103	70-130	5	30				
1,3,5-Trimethylbenzene	110	104	70-130	6	30				
Vinyl Chloride	119	111	70-130	7	30				
Xylene (Total)	108	102	70-130	6	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: EPA Method 524.2
Batch number: G130871AA

	4-Bromofluorobenzene	1,2-Dichlorobenzene-d4
6993541	94	97
Blank	96	98
LCS	98	98
MS	98	100
MSD	98	99
Limits:	80-120	80-120

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Lancaster Laboratories

Analysis Request/Environmental Services Chain of Custody

For Lancaster Laboratories use only Acct. #: 12152
Group #: ______ Sample #: ______ (2)
1377442 6993541-42

Client:	Southside Oil	Acct. #:	
Project Name/#:	20025	PWSID #:	
Project Manager:	Don Trego	P.O. #:	51141-242033
Sampler:	Paxton Wertz	Quote #:	

Name of State where samples were collected:

Matrix: Potable X; NPDES

Analyses Requested / Preservation Codes: Full list VOCs 524.2

For Lab Use Only — FSC: ______ SCR#: ______

Preservation Codes: H=HCl T=Thiosulfate N=HNO3 B=NaOH S=H2SO4 O=Other

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	Full list VOCs 524.2	Remarks	Temperature of samples upon receipt (if requested)
1836 Perryville Road	3/20/13	0915	X			X		3	X		
Trip Blank	3/20/13	0800	X			X		2	X		

Turnaround Time Requested (TAT) (please circle): Normal (circled) Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	3/22/13	0900	Bottle Receiving	3/22/13	0900
Bottle Receiving	3/22/13	13:30	[signature]	3/22/13	13:30
[signature]	3/22/13	16:30			
			[signature]	3/22/13	1630

Data Package Options (please circle if required)
Type I (validation/NJ reg) TX-TRRP-13
Type II (Tier II) MA MCP CT RCP
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)

SDG Complete? Yes No

State-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicated QC sample and submit triplicate volume)
Internal COC required? Yes No

Lancaster Laboratories, Inc. 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 717-656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client

4886.01

Natalie R. Luciano

From: Mark Steele [MCSteele@kleinfelder.com]
Sent: Tuesday, March 26, 2013 8:50 AM
To: Natalie R. Luciano
Cc: Don Trego; Paxton Wertz; Venelda Williams
Subject: FW: 1377442-Southside Oil 20025-03/22/2013 16:30:00 Acknowledgement

Attachments: 1377442c.pdf; 1377442d.pdf; EAcknow_1377442.xls

1377442c.pdf (102 KB) 1377442d.pdf (56 KB) EAcknow_1377442.xls (123 KB)

Natalie - Please delete the analysis of a trip blank here. It is not required.

Thank you.

From: Lancaster Laboratories Automated Acknowledgements [LAutomatedAcknowledgements@lancasterlabs.com]
Sent: Monday, March 25, 2013 4:54 PM
To: Mark Steele; Angela Vogt; Don Trego; Paxton Wertz
Subject: 1377442-Southside Oil 20025-03/22/2013 16:30:00 Acknowledgement

The following is an acknowledgement of the receipt of samples by Lancaster Laboratories. Please review this acknowledgement and contact your Client Service Representative if you have concerns.

This is an automated message from an unmonitored address. Please do not reply to this address.

eurofins | Lancaster Laboratories

Explanation of Symbols and Abbreviations

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

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

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

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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

Appendix G
Lancaster Laboratory Analysis Reports – Groundwater (April 5, 2013)

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Kleinfelder
1 Speen Street
Framingham MA 01701

April 17, 2013

Project: Southside Oil 20025

Submittal Date: 04/08/2013
Group Number: 1381139
PO Number: 51141-228833
State of Sample Origin: MD

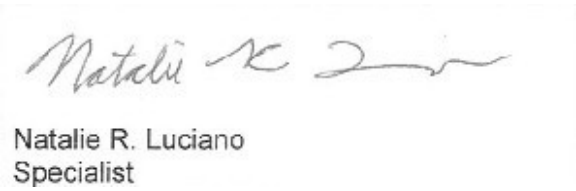
Client Sample Description	Lancaster Labs (LLI) #
MW-1 Grab Water	7013674
MW-2 Grab Water	7013675
MW-3 Grab Water	7013676
MW-4 Grab Water	7013677
MW-5 Grab Water	7013678
MW-6 Grab Water	7013679
MW-7 Grab Water	7013680
MW-8 Grab Water	7013681
MW-9 Grab Water	7013682
TF-1 Grab Water	7013683
TF-2 Grab Water	7013684
TF-3 Grab Water	7013685
MW-10D Grab Water	7013686
MW-12 Grab Water	7013687
MW-13 Grab Water	7013688
MW-14 Grab Water	7013689

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

ELECTRONIC COPY TO	Kleinfelder	Attn: Mark Steele
ELECTRONIC COPY TO	Kleinfelder	Attn: Angela Vogt
ELECTRONIC COPY TO	Kleinfelder	Attn: Venelda Williams
ELECTRONIC COPY TO	Kleinfelder	Attn: Don Trego
ELECTRONIC	Kleinfelder	Attn: Paxton Wertz

COPY TO

Respectfully Submitted,



Natalie R. Luciano
Specialist

(717) 556-7258

Sample Description: MW-1 Grab Water
Southside Oil 20025

LLI Sample # WW 7013674
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 07:58 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02501

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1

Sample Description: MW-1 Grab Water
Southside Oil 20025

LLI Sample # WW 7013674
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 07:58 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02501

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1
GC Volatiles	**SW-846 8015B**		**mg/l**	**mg/l**	
01635	TPH-GRO water C6-C10	n.a.	< 0.050	0.050	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	
08269	TPH-DRO water C10-C28	n.a.	< 0.10	0.10	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131051AA	04/15/2013 06:58	Christopher G Torres	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131051AA	04/15/2013 06:58	Christopher G Torres	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	13099A07A	04/10/2013 15:17	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13099A07A	04/10/2013 15:17	Catherine J Schwarz	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	131010005A	04/15/2013 20:35	Christine E Dolman	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	131010005A	04/11/2013 23:30	Karen L Beyer	1

Sample Description: MW-2 Grab Water
Southside Oil 20025

LLI Sample # WW 7013675
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 09:47 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02502

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether 2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.	110-75-8	< 10	10	1
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**15**	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1

Sample Description: MW-2 Grab Water
Southside Oil 20025

LLI Sample # WW 7013675
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 09:47 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02502

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1
GC Volatiles	**SW-846 8015B**		**mg/l**	**mg/l**	
01635	TPH-GRO water C6-C10	n.a.	< 0.050	0.050	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	
08269	**TPH-DRO water C10-C28**	n.a.	**0.79**	0.099	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131002AA	04/10/2013 19:01	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131002AA	04/10/2013 19:01	Emily R Styer	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	13099A07A	04/10/2013 15:42	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13099A07A	04/10/2013 15:42	Catherine J Schwarz	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	131010005A	04/16/2013 02:16	Christine E Dolman	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	131010005A	04/11/2013 23:30	Karen L Beyer	1

Sample Description: MW-3 Grab Water
Southside Oil 20025

LLI Sample # WW 7013676
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 09:25 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02503

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1

Sample Description: MW-3 Grab Water
Southside Oil 20025

LLI Sample # WW 7013676
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 09:25 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02503

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1
GC Volatiles	**SW-846 8015B**		**mg/l**	**mg/l**	
01635	TPH-GRO water C6-C10	n.a.	< 0.050	0.050	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	
08269	**TPH-DRO water C10-C28**	n.a.	**0.26**	0.096	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131002AA	04/10/2013 19:25	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131002AA	04/10/2013 19:25	Emily R Styer	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	13099A07A	04/10/2013 16:08	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13099A07A	04/10/2013 16:08	Catherine J Schwarz	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	131010005A	04/15/2013 20:58	Christine E Dolman	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	131010005A	04/11/2013 23:30	Karen L Beyer	1

Sample Description: MW-4 Grab Water
Southside Oil 20025

LLI Sample # WW 7013677
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 13:05 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02504

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	**t-Amyl methyl ether**	994-05-8	**12**	5	1
10335	**Benzene**	71-43-2	**13**	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	**t-Butyl alcohol**	75-65-0	**800**	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	**di-Isopropyl ether**	108-20-3	**6**	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**270**	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1

Sample Description: MW-4 Grab Water
Southside Oil 20025

LLI Sample # WW 7013677
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 13:05 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02504

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	**Xylene (Total)**	1330-20-7	**5**	5	1
GC Volatiles	**SW-846 8015B**		**mg/l**	**mg/l**	
01635	**TPH-GRO water C6-C10**	n.a.	**0.35**	0.050	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	
08269	**TPH-DRO water C10-C28**	n.a.	**0.45**	0.095	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131002AA	04/10/2013 19:49	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131002AA	04/10/2013 19:49	Emily R Styer	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	13099A07A	04/10/2013 16:33	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13099A07A	04/10/2013 16:33	Catherine J Schwarz	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	131010005A	04/15/2013 21:21	Christine E Dolman	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	131010005A	04/11/2013 23:30	Karen L Beyer	1

Sample Description: MW-5 Grab Water
Southside Oil 20025

LLI Sample # WW 7013678
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 10:28 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02505

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether 2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.	110-75-8	< 10	10	1
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**10**	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1

Sample Description: MW-5 Grab Water
Southside Oil 20025

LLI Sample # WW 7013678
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 10:28 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02505

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1
GC Volatiles	**SW-846 8015B**		**mg/l**	**mg/l**	
01635	TPH-GRO water C6-C10	n.a.	< 0.050	0.050	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	
08269	TPH-DRO water C10-C28	n.a.	< 0.095	0.095	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131002AA	04/10/2013 20:13	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131002AA	04/10/2013 20:13	Emily R Styer	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	13099A07A	04/10/2013 16:58	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13099A07A	04/10/2013 16:58	Catherine J Schwarz	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	131010005A	04/15/2013 21:43	Christine E Dolman	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	131010005A	04/11/2013 23:30	Karen L Beyer	1

Sample Description: MW-6 Grab Water
Southside Oil 20025

LLI Sample # WW 7013679
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 12:25 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02506

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	**t-Amyl methyl ether**	994-05-8	**11**	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	**t-Butyl alcohol**	75-65-0	**630**	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**230**	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1

Sample Description: MW-6 Grab Water
Southside Oil 20025

LLI Sample # WW 7013679
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 12:25 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02506

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1
GC Volatiles	**SW-846 8015B**		**mg/l**	**mg/l**	
01635	**TPH-GRO water C6-C10**	n.a.	**0.25**	0.050	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	
08269	TPH-DRO water C10-C28	n.a.	< 0.095	0.095	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131002AA	04/10/2013 20:37	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131002AA	04/10/2013 20:37	Emily R Styer	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	13099A07A	04/10/2013 19:04	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13099A07A	04/10/2013 19:04	Catherine J Schwarz	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	131010005A	04/15/2013 22:06	Christine E Dolman	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	131010005A	04/11/2013 23:30	Karen L Beyer	1

Sample Description: MW-7 Grab Water
Southside Oil 20025

LLI Sample # WW 7013680
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 08:50 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02507

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1

Sample Description: MW-7 Grab Water
Southside Oil 20025

LLI Sample # WW 7013680
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 08:50 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02507

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1
GC Volatiles	**SW-846 8015B**		**mg/l**	**mg/l**	
01635	TPH-GRO water C6-C10	n.a.	< 0.050	0.050	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	
08269	TPH-DRO water C10-C28	n.a.	< 0.096	0.096	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131002AA	04/10/2013 21:01	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131002AA	04/10/2013 21:01	Emily R Styer	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	13099A07A	04/10/2013 19:30	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13099A07A	04/10/2013 19:30	Catherine J Schwarz	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	131010005A	04/15/2013 22:29	Christine E Dolman	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	131010005A	04/11/2013 23:30	Karen L Beyer	1

Sample Description: MW-8 Grab Water
Southside Oil 20025

LLI Sample # WW 7013681
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 08:25 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02508

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1

Sample Description: MW-8 Grab Water
Southside Oil 20025

LLI Sample # WW 7013681
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 08:25 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02508

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1
GC Volatiles	**SW-846 8015B**		**mg/l**	**mg/l**	
01635	TPH-GRO water C6-C10	n.a.	< 0.050	0.050	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	
08269	**TPH-DRO water C10-C28**	n.a.	**0.13**	0.096	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131002AA	04/10/2013 21:25	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131002AA	04/10/2013 21:25	Emily R Styer	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	13099A07A	04/10/2013 19:55	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13099A07A	04/10/2013 19:55	Catherine J Schwarz	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	131010005A	04/16/2013 00:45	Christine E Dolman	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	131010005A	04/11/2013 23:30	Karen L Beyer	1

Sample Description: MW-9 Grab Water
Southside Oil 20025

LLI Sample # WW 7013682
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 07:40 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02509

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1

Sample Description: MW-9 Grab Water
Southside Oil 20025

LLI Sample # WW 7013682
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 07:40 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02509

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1
GC Volatiles	**SW-846 8015B**		**mg/l**	**mg/l**	
01635	TPH-GRO water C6-C10	n.a.	< 0.050	0.050	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	
08269	TPH-DRO water C10-C28	n.a.	< 0.094	0.094	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131002AA	04/10/2013 21:48	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131002AA	04/10/2013 21:48	Emily R Styer	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	13099A07A	04/10/2013 20:20	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13099A07A	04/10/2013 20:20	Catherine J Schwarz	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	131010005A	04/15/2013 22:52	Christine E Dolman	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	131010005A	04/11/2013 23:30	Karen L Beyer	1

Sample Description: TF-1 Grab Water
Southside Oil 20025

LLI Sample # WW 7013683
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 11:31 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

025T1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1

Sample Description: TF-1 Grab Water
Southside Oil 20025

LLI Sample # WW 7013683
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 11:31 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

025T1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1
GC Volatiles	**SW-846 8015B**		**mg/l**	**mg/l**	
01635	TPH-GRO water C6-C10	n.a.	< 0.050	0.050	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	
08269	**TPH-DRO water C10-C28**	n.a.	**0.65**	0.096	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131002AA	04/10/2013 22:12	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131002AA	04/10/2013 22:12	Emily R Styer	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	13099A07A	04/10/2013 20:46	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13099A07A	04/10/2013 20:46	Catherine J Schwarz	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	131010005A	04/16/2013 01:54	Christine E Dolman	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	131010005A	04/11/2013 23:30	Karen L Beyer	1

Sample Description: TF-2 Grab Water
Southside Oil 20025

LLI Sample # WW 7013684
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 11:03 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

025T2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	**Benzene**	71-43-2	**6**	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1

Sample Description: TF-2 Grab Water
Southside Oil 20025

LLI Sample # WW 7013684
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 11:03 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

025T2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1
GC Volatiles	**SW-846 8015B**		**mg/l**	**mg/l**	
01635	**TPH-GRO water C6-C10**	n.a.	**0.31**	0.050	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	
08269	**TPH-DRO water C10-C28**	n.a.	**1.2**	0.098	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131002AA	04/10/2013 22:36	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131002AA	04/10/2013 22:36	Emily R Styer	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	13099A07A	04/10/2013 21:11	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13099A07A	04/10/2013 21:11	Catherine J Schwarz	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	131010005A	04/16/2013 01:08	Christine E Dolman	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	131010005A	04/11/2013 23:30	Karen L Beyer	1

Sample Description: TF-3 Grab Water
Southside Oil 20025

LLI Sample # WW 7013685
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 12:00 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

025T3

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	**2-Butanone**	78-93-3	**28**	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	**Ethanol**	64-17-5	**650**	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	**1,2,4-Trimethylbenzene**	95-63-6	**9**	5	1
10335	**1,3,5-Trimethylbenzene**	108-67-8	**5**	5	1

Sample Description: TF-3 Grab Water
Southside Oil 20025

LLI Sample # WW 7013685
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 12:00 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

025T3

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	**Xylene (Total)**	1330-20-7	**30**	5	1
GC Volatiles	**SW-846 8015B**		**mg/l**	**mg/l**	
01635	**TPH-GRO water C6-C10**	n.a.	**0.32**	0.050	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	
08269	**TPH-DRO water C10-C28**	n.a.	**18**	0.19	2

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131002AA	04/10/2013 23:01	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131002AA	04/10/2013 23:01	Emily R Styer	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	13099A07A	04/10/2013 21:36	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13099A07A	04/10/2013 21:36	Catherine J Schwarz	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	131010005A	04/16/2013 03:02	Christine E Dolman	2
07003	Extraction - DRO (Waters)	SW-846 3510C	1	131010005A	04/11/2013 23:30	Karen L Beyer	1

Sample Description: MW-10D Grab Water
Southside Oil 20025

LLI Sample # WW 7013686
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 12:40 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02510

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	**t-Butyl alcohol**	75-65-0	**240**	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**93**	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1

Sample Description: MW-10D Grab Water
Southside Oil 20025

LLI Sample # WW 7013686
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 12:40 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02510

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1
GC Volatiles	**SW-846 8015B**		**mg/l**	**mg/l**	
01635	**TPH-GRO water C6-C10**	n.a.	**0.19**	0.050	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	
08269	**TPH-DRO water C10-C28**	n.a.	**0.23**	0.096	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131002AA	04/10/2013 23:25	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131002AA	04/10/2013 23:25	Emily R Styer	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	13099A07A	04/10/2013 22:01	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13099A07A	04/10/2013 22:01	Catherine J Schwarz	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	131010005A	04/16/2013 01:31	Christine E Dolman	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	131010005A	04/11/2013 23:30	Karen L Beyer	1

Sample Description: MW-12 Grab Water
Southside Oil 20025

LLI Sample # WW 7013687
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 13:59 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02512

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether 2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.	110-75-8	< 10	10	1
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**7**	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1

Sample Description: MW-12 Grab Water
Southside Oil 20025

LLI Sample # WW 7013687
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 13:59 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02512

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1
GC Volatiles	**SW-846 8015B**		**mg/l**	**mg/l**	
01635	TPH-GRO water C6-C10	n.a.	< 0.050	0.050	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	
08269	**TPH-DRO water C10-C28**	n.a.	**0.40**	0.095	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131002AA	04/10/2013 23:48	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131002AA	04/10/2013 23:48	Emily R Styer	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	13099A07A	04/10/2013 22:27	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13099A07A	04/10/2013 22:27	Catherine J Schwarz	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	131010005A	04/15/2013 23:15	Christine E Dolman	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	131010005A	04/11/2013 23:30	Karen L Beyer	1

Sample Description: MW-13 Grab Water
Southside Oil 20025

LLI Sample # WW 7013688
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 14:20 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02513

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether	110-75-8	< 10	10	1
	2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.				
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	< 5	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1

Sample Description: MW-13 Grab Water
Southside Oil 20025

LLI Sample # WW 7013688
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 14:20 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02513

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131002AA	04/11/2013 00:12	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131002AA	04/11/2013 00:12	Emily R Styer	1

Sample Description: MW-14 Grab Water
Southside Oil 20025

LLI Sample # WW 7013689
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 13:35 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Acetone	67-64-1	< 20	20	1
10335	Acrolein	107-02-8	< 100	100	1
10335	Acrylonitrile	107-13-1	< 20	20	1
10335	t-Amyl methyl ether	994-05-8	< 5	5	1
10335	Benzene	71-43-2	< 5	5	1
10335	Bromodichloromethane	75-27-4	< 5	5	1
10335	Bromoform	75-25-2	< 5	5	1
10335	Bromomethane	74-83-9	< 5	5	1
10335	2-Butanone	78-93-3	< 10	10	1
10335	t-Butyl alcohol	75-65-0	< 80	80	1
10335	n-Butylbenzene	104-51-8	< 5	5	1
10335	sec-Butylbenzene	135-98-8	< 5	5	1
10335	Carbon Tetrachloride	56-23-5	< 5	5	1
10335	Chlorobenzene	108-90-7	< 5	5	1
10335	Chloroethane	75-00-3	< 5	5	1
10335	2-Chloroethyl Vinyl Ether 2-Chloroethyl vinyl ether may not be recovered if acid was used to preserve this sample.	110-75-8	< 10	10	1
10335	Chloroform	67-66-3	< 5	5	1
10335	Chloromethane	74-87-3	< 5	5	1
10335	Dibromochloromethane	124-48-1	< 5	5	1
10335	1,2-Dichlorobenzene	95-50-1	< 5	5	1
10335	1,3-Dichlorobenzene	541-73-1	< 5	5	1
10335	1,4-Dichlorobenzene	106-46-7	< 5	5	1
10335	1,1-Dichloroethane	75-34-3	< 5	5	1
10335	1,2-Dichloroethane	107-06-2	< 5	5	1
10335	1,1-Dichloroethene	75-35-4	< 5	5	1
10335	cis-1,2-Dichloroethene	156-59-2	< 5	5	1
10335	trans-1,2-Dichloroethene	156-60-5	< 5	5	1
10335	1,2-Dichloropropane	78-87-5	< 5	5	1
10335	cis-1,3-Dichloropropene	10061-01-5	< 5	5	1
10335	trans-1,3-Dichloropropene	10061-02-6	< 5	5	1
10335	Ethanol	64-17-5	< 250	250	1
10335	Ethyl t-butyl ether	637-92-3	< 5	5	1
10335	Ethylbenzene	100-41-4	< 5	5	1
10335	di-Isopropyl ether	108-20-3	< 5	5	1
10335	Isopropylbenzene	98-82-8	< 5	5	1
10335	p-Isopropyltoluene	99-87-6	< 5	5	1
10335	**Methyl Tertiary Butyl Ether**	1634-04-4	**15**	5	1
10335	Methylene Chloride	75-09-2	< 5	5	1
10335	Naphthalene	91-20-3	< 5	5	1
10335	n-Propylbenzene	103-65-1	< 5	5	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	< 5	5	1
10335	Tetrachloroethene	127-18-4	< 5	5	1
10335	Toluene	108-88-3	< 5	5	1
10335	1,1,1-Trichloroethane	71-55-6	< 5	5	1
10335	1,1,2-Trichloroethane	79-00-5	< 5	5	1
10335	Trichloroethene	79-01-6	< 5	5	1
10335	Trichlorofluoromethane	75-69-4	< 5	5	1
10335	1,2,4-Trimethylbenzene	95-63-6	< 5	5	1

Sample Description: MW-14 Grab Water
Southside Oil 20025

LLI Sample # WW 7013689
LLI Group # 1381139
Account # 12152

Project Name: Southside Oil 20025

Collected: 04/05/2013 13:35 by TD

Submitted: 04/08/2013 14:15
Reported: 04/17/2013 16:42

Kleinfelder
1 Speen Street
Framingham MA 01701

02514

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	1,3,5-Trimethylbenzene	108-67-8	< 5	5	1
10335	Vinyl Chloride	75-01-4	< 5	5	1
10335	Xylene (Total)	1330-20-7	< 5	5	1
GC Volatiles	**SW-846 8015B**		**mg/l**	**mg/l**	
01635	TPH-GRO water C6-C10	n.a.	< 0.050	0.050	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**mg/l**	**mg/l**	
08269	TPH-DRO water C10-C28	n.a.	< 0.099	0.099	1

General Sample Comments

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	VOC 8260 Kleinfelder Full+EtOH	SW-846 8260B	1	W131002AA	04/11/2013 00:36	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	W131002AA	04/11/2013 00:36	Emily R Styer	1
01635	TPH-GRO water C6-C10	SW-846 8015B	1	13099A07A	04/10/2013 22:52	Catherine J Schwarz	1
01146	GC VOA Water Prep	SW-846 5030B	1	13099A07A	04/10/2013 22:52	Catherine J Schwarz	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	131010005A	04/15/2013 23:37	Christine E Dolman	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	131010005A	04/11/2013 23:30	Karen L Beyer	1

Quality Control Summary

Client Name: Kleinfelder Group Number: 1381139
Reported: 04/17/13 at 04:42 PM

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

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

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: W131002AA	Sample number(s): 7013675-7013689							
Acetone	< 20	20.	ug/l	98	90	49-234	8	30
Acrolein	< 100	100.	ug/l	106	99	46-146	7	30
Acrylonitrile	< 20	20.	ug/l	96	89	61-130	8	30
t-Amyl methyl ether	< 5	5.	ug/l	103	97	66-120	6	30
Benzene	< 5	5.	ug/l	113	106	77-121	6	30
Bromodichloromethane	< 5	5.	ug/l	112	105	73-120	7	30
Bromoform	< 5	5.	ug/l	90	84	61-120	7	30
Bromomethane	< 5	5.	ug/l	79	75	51-120	5	30
2-Butanone	< 10	10.	ug/l	96	90	57-141	6	30
t-Butyl alcohol	< 80	80.	ug/l	110	104	75-120	5	30
n-Butylbenzene	< 5	5.	ug/l	94	89	73-130	5	30
sec-Butylbenzene	< 5	5.	ug/l	96	92	74-124	5	30
Carbon Tetrachloride	< 5	5.	ug/l	114	106	65-137	7	30
Chlorobenzene	< 5	5.	ug/l	109	101	80-120	8	30
Chloroethane	< 5	5.	ug/l	77	73	60-120	5	30
2-Chloroethyl Vinyl Ether	< 10	10.	ug/l	78	77	52-127	2	30
Chloroform	< 5	5.	ug/l	111	104	77-122	7	30
Chloromethane	< 5	5.	ug/l	81	77	54-123	6	30
Dibromochloromethane	< 5	5.	ug/l	108	99	72-120	9	30
1,2-Dichlorobenzene	< 5	5.	ug/l	104	98	80-120	5	30
1,3-Dichlorobenzene	< 5	5.	ug/l	102	98	80-120	4	30
1,4-Dichlorobenzene	< 5	5.	ug/l	103	98	80-120	5	30
1,1-Dichloroethane	< 5	5.	ug/l	111	106	79-120	5	30
1,2-Dichloroethane	< 5	5.	ug/l	125	115	64-130	8	30
1,1-Dichloroethene	< 5	5.	ug/l	113	105	76-124	7	30
cis-1,2-Dichloroethene	< 5	5.	ug/l	120	109	80-120	9	30
trans-1,2-Dichloroethene	< 5	5.	ug/l	113	107	80-120	5	30
1,2-Dichloropropane	< 5	5.	ug/l	108	101	80-120	6	30
cis-1,3-Dichloropropene	< 5	5.	ug/l	112	107	78-120	5	30
trans-1,3-Dichloropropene	< 5	5.	ug/l	97	91	66-124	7	30
Ethanol	< 250	250.	ug/l	126	120	54-149	5	30
Ethyl t-butyl ether	< 5	5.	ug/l	102	99	66-120	3	30
Ethylbenzene	< 5	5.	ug/l	104	97	79-120	6	30
di-Isopropyl ether	< 5	5.	ug/l	102	94	65-120	8	30
Isopropylbenzene	< 5	5.	ug/l	102	97	77-120	4	30
p-Isopropyltoluene	< 5	5.	ug/l	99	94	77-121	5	30
Methyl Tertiary Butyl Ether	< 5	5.	ug/l	111	103	68-121	7	30
Methylene Chloride	< 5	5.	ug/l	112	105	84-118	6	30
Naphthalene	< 5	5.	ug/l	82	80	47-126	3	30
n-Propylbenzene	< 5	5.	ug/l	102	97	77-130	5	30
1,1,2,2-Tetrachloroethane	< 5	5.	ug/l	97	90	70-129	7	30
Tetrachloroethene	< 5	5.	ug/l	109	102	79-120	7	30
Toluene	< 5	5.	ug/l	105	98	79-120	7	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Kleinfelder Group Number: 1381139
Reported: 04/17/13 at 04:42 PM

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
1,1,1-Trichloroethane	< 5	5.	ug/l	113	106	66-126	6	30
1,1,2-Trichloroethane	< 5	5.	ug/l	105	99	80-120	6	30
Trichloroethene	< 5	5.	ug/l	118	114	80-120	3	30
Trichlorofluoromethane	< 5	5.	ug/l	107	101	65-130	6	30
1,2,4-Trimethylbenzene	< 5	5.	ug/l	101	95	69-122	6	30
1,3,5-Trimethylbenzene	< 5	5.	ug/l	100	98	68-124	3	30
Vinyl Chloride	< 5	5.	ug/l	91	87	63-120	5	30
Xylene (Total)	< 5	5.	ug/l	105	100	77-120	5	30
Batch number: W131051AA	Sample number(s): 7013674							
Acetone	< 20	20.	ug/l	78	85	49-234	9	30
Acrolein	< 100	100.	ug/l	101	109	46-146	7	30
Acrylonitrile	< 20	20.	ug/l	81	87	61-130	7	30
t-Amyl methyl ether	< 5	5.	ug/l	94	100	66-120	6	30
Benzene	< 5	5.	ug/l	100	108	77-121	7	30
Bromodichloromethane	< 5	5.	ug/l	100	105	73-120	5	30
Bromoform	< 5	5.	ug/l	83	88	61-120	5	30
Bromomethane	< 5	5.	ug/l	73	76	51-120	5	30
2-Butanone	< 10	10.	ug/l	81	86	57-141	6	30
t-Butyl alcohol	< 80	80.	ug/l	102	106	75-120	3	30
n-Butylbenzene	< 5	5.	ug/l	94	101	73-130	7	30
sec-Butylbenzene	< 5	5.	ug/l	94	104	74-124	10	30
Carbon Tetrachloride	< 5	5.	ug/l	98	105	65-137	7	30
Chlorobenzene	< 5	5.	ug/l	99	107	80-120	8	30
Chloroethane	< 5	5.	ug/l	74	81	60-120	9	30
2-Chloroethyl Vinyl Ether	< 10	10.	ug/l	73	81	52-127	11	30
Chloroform	< 5	5.	ug/l	94	104	77-122	11	30
Chloromethane	< 5	5.	ug/l	80	84	54-123	5	30
Dibromochloromethane	< 5	5.	ug/l	99	105	72-120	6	30
1,2-Dichlorobenzene	< 5	5.	ug/l	98	106	80-120	8	30
1,3-Dichlorobenzene	< 5	5.	ug/l	96	106	80-120	9	30
1,4-Dichlorobenzene	< 5	5.	ug/l	97	105	80-120	8	30
1,1-Dichloroethane	< 5	5.	ug/l	97	107	79-120	10	30
1,2-Dichloroethane	< 5	5.	ug/l	105	113	64-130	7	30
1,1-Dichloroethene	< 5	5.	ug/l	99	108	76-124	9	30
cis-1,2-Dichloroethene	< 5	5.	ug/l	103	112	80-120	9	30
trans-1,2-Dichloroethene	< 5	5.	ug/l	99	108	80-120	9	30
1,2-Dichloropropane	< 5	5.	ug/l	96	103	80-120	7	30
cis-1,3-Dichloropropene	< 5	5.	ug/l	102	111	78-120	9	30
trans-1,3-Dichloropropene	< 5	5.	ug/l	93	99	66-124	7	30
Ethanol	< 250	250.	ug/l	112	128	54-149	13	30
Ethyl t-butyl ether	< 5	5.	ug/l	96	103	66-120	7	30
Ethylbenzene	< 5	5.	ug/l	96	104	79-120	8	30
di-Isopropyl ether	< 5	5.	ug/l	94	102	65-120	8	30
Isopropylbenzene	< 5	5.	ug/l	95	104	77-120	8	30
p-Isopropyltoluene	< 5	5.	ug/l	95	105	77-121	10	30
Methyl Tertiary Butyl Ether	< 5	5.	ug/l	99	105	68-121	6	30
Methylene Chloride	< 5	5.	ug/l	99	104	84-118	5	30
Naphthalene	< 5	5.	ug/l	76	83	47-126	9	30
n-Propylbenzene	< 5	5.	ug/l	98	107	77-130	8	30
1,1,2,2-Tetrachloroethane	< 5	5.	ug/l	91	98	70-129	8	30
Tetrachloroethene	< 5	5.	ug/l	97	107	79-120	9	30
Toluene	< 5	5.	ug/l	97	104	79-120	7	30
1,1,1-Trichloroethane	< 5	5.	ug/l	93	101	66-126	8	30
1,1,2-Trichloroethane	< 5	5.	ug/l	95	102	80-120	8	30
Trichloroethene	< 5	5.	ug/l	102	110	80-120	7	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Kleinfelder Group Number: 1381139
Reported: 04/17/13 at 04:42 PM

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Trichlorofluoromethane	< 5	5.	ug/l	88	95	65-130	8	30
1,2,4-Trimethylbenzene	< 5	5.	ug/l	98	107	69-122	8	30
1,3,5-Trimethylbenzene	< 5	5.	ug/l	97	107	68-124	9	30
Vinyl Chloride	< 5	5.	ug/l	86	93	63-120	7	30
Xylene (Total)	< 5	5.	ug/l	98	105	77-120	7	30
Batch number: 13099A07A	Sample number(s): 7013674-7013687,7013689							
TPH-GRO water C6-C10	< 0.050	0.050	mg/l	104		75-135		
Batch number: 131010005A	Sample number(s): 7013674-7013687,7013689							
TPH-DRO water C10-C28	< 0.10	0.10	mg/l	93	102	73-120	9	20

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 13099A07A	Sample number(s): 7013674-7013687,7013689 UNSPK: P012282								
TPH-GRO water C6-C10	123	125	75-135	1	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260 VOCs
Batch number: W131002AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7013675	110	107	94	91
7013676	111	110	94	92
7013677	108	108	95	94
7013678	111	108	94	90
7013679	109	104	94	92
7013680	113	107	94	92
7013681	111	106	93	92
7013682	112	108	94	92
7013683	111	107	93	91
7013684	110	107	94	94
7013685	110	104	94	98
7013686	110	108	93	92
7013687	113	107	93	91
7013688	110	105	95	92
7013689	112	107	94	91
Blank	107	106	93	92
LCS	106	104	96	97
LCSD	107	107	98	100

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Kleinfelder Group Number: 1381139
Reported: 04/17/13 at 04:42 PM

Surrogate Quality Control

Limits:	80-116	77-113	80-113	78-113

Analysis Name: 8260 VOCs
Batch number: W131051AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7013674	104	105	99	94
Blank	101	103	100	95
LCS	102	104	101	98
LCSD	102	103	100	98
Limits:	80-116	77-113	80-113	78-113

Analysis Name: TPH-GRO water C6-C10
Batch number: 13099A07A

	Trifluorotoluene-F
7013674	91
7013675	92
7013676	85
7013677	84
7013678	84
7013679	84
7013680	83
7013681	82
7013682	83
7013683	82
7013684	92
7013685	94
7013686	87
7013687	83
7013689	88
Blank	85
LCS	97
MS	101
MSD	100
Limits:	63-135

Analysis Name: TPH-DRO water C10-C28
Batch number: 131010005A

	Orthoterphenyl
7013674	103
7013675	97
7013676	101
7013677	98
7013678	100
7013679	95
7013680	89
7013681	94
7013682	100
7013683	106
7013684	100
7013685	69
7013686	90

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Kleinfelder Group Number: 1381139
Reported: 04/17/13 at 04:42 PM

Surrogate Quality Control

7013687	54
7013689	83
Blank	94
LCS	107
LCSD	115
Limits:	46-131

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Lancaster Laboratories

Analysis Request/Environmental Services Chain of Custody

For Lancaster Laboratories use only Acct. #: 12152
Group #: 138139 Sample #: 701374-89

Client:	Southside Oil	Acct. #:	
Project Name/#:	20025	PWSID #:	
Project Manager:	Don Trego	P.O. #:	51141-228833
Sampler:	Travis Dugstad	Quote #:	
Name of State where samples were collected:	Maryland		

Matrix

Sample Identification	Date Collected (2013)	Time Collected	Grab	Composite	Soil	Potable Water	NPDES Water	Other	Total # of Containers	Full List VOC+oxy 8260	TPH-GRO 8015	TPH-DRO 8015	Ethanol 8260	Remarks
MW-1	4/5	0758	X			X			8	X	X	X	X	
MW-2	4/5	0947	X			X			8	X	X	X	X	
MW-3	4/5	0925	X			X			8	X	X	X	X	
MW-4	4/5	1305	X			X			8	X	X	X	X	
MW-5	4/5	1028	X			X			8	X	X	X	X	
MW-6	4/5	1225	X			X			8	X	X	X	X	
MW-7	4/5	0850	X			X			8	X	X	X	X	
MW-8	4/5	0825	X			X			8	X	X	X	X	
MW-9	4/5	0740	X			X			8	X	X	X	X	
TF-1	4/5	1131	X			X			8	X	X	X	X	
TF-2	4/5	1103	X			X			8	X	X	X	X	
TF-3	4/5	1200	X			X			8	X	X	X	X	

Analyses Requested
Preservation Codes

Preservation Codes: H=HCl T=Thiosulfate N=HNO3 B=NaOH S=H2SO4 O=Other

Temperature of samples upon receipt (if requested)

For Lab Use Only
FSC:
SCR#:

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

Data Package Options (please circle if required)
Type I (validation/NJ reg) TX-TRRP-13
Type II (Tier II) MA MCP CT RCP
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)

SDG Complete? Yes No

State-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicated QC sample and submit triplicate volume)
Internal COC required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
	4/5/13	1630		4/8/13	11:09
	4/8/13	14:10			
				4/8/13	1415

Lancaster Laboratories, Inc. 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 717-656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client

Lancaster Laboratories

Analysis Request/Environmental Services Chain of Custody

For Lancaster Laboratories use only Acct. #: 12152
Group #: 138139 Sample #: 701367-89

Client:	Southside Oil	Acct. #:	
Project Name/#:	20025	PWSID #:	
Project Manager:	Don Trego	P.O. #:	51141-228833
Sampler:	Travis Dugstad	Quote #:	
Name of State where samples were collected:	Maryland		

Sample Identification	Date Collected (2013)	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (Potable)	Matrix: Water (NPDES)	Matrix: Other	Total # of Containers	Full List VOC+oxy 8260	TPH-GRO 8015B	TPH-DRO 8015B	Ethanol 8260
MW-10D	4/5	1240	X			X			8	X	X	X	X
MW-12	4/5	1359	X			X			8	X	X	X	X
MW-13	4/5	1420	X			X			3	X			X
MW-14	4/5	1335	X			X			8	X	X	X	X

Analyses Requested / Preservation Codes

For Lab Use Only
FSC:
SCR#:

Preservation Codes: H=HCl T=Thiosulfate N=HNO3 B=NaOH S=H2SO4 O=Other

Remarks

Temperature of samples upon receipt (if requested)

Turnaround Time Requested (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

Data Package Options (please circle if required)
Type I (validation/NJ reg) TX-TRRP-13
Type II (Tier II) MA MCP CT RCP
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)

SDG Complete? Yes No

State-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicated QC sample and submit triplicate volume)
Internal COC required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
	4/5/13	1630		4/8/13	11:09
	4/8/13	1410			
				4/8/13	1415

Lancaster Laboratories, Inc. 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 717-656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client

Explanation of Symbols and Abbreviations

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

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

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

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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

Appendix H
Waste Manifest

For Facility Use Only
I.D.# 62765

NON-HAZARDOUS MANIFEST

For Facility Use Only
Manifest# 72201

Date:

Reco BIOTECHNOLOGY
710 Hospital Street
Richmond, VA 23219
(804) 644-2800

Generator: Name: Southside Oil LLC # 20025 — Contact Name: Paxton Wertz
Address: 31 Heather Lane, Perryville MD — Telephone: 410-689-0783
site - service station at above address

Transporter or Carrier: Name: IPS — Contact Name: AJ Anonick
Address: Midlothian — Telephone: 804-335-1077

Destination:
Delivery Address: Reco Biotechnology, 710 Hospital Street, Richmond, VA 23219 — Contact: Reco Biotechnology — Telephone: (804) 644-2800

Route:

NO. of Packages	(*) Container	Shipping Description	Soil Weight (Sub. to Cor.)
19	DM	Non-Regulated Material non-regulated None None (petroleum contaminated soil)	

* - DM = Drum
DT = Dump Truck/Trailer
SC = Steel Container
RC = Rail Car

Truck #:

*Gross Weight:
Tare Weight:
Net Weight:
* May attach weight tickets

Certification:
I/We certify that the above material is not a HAZARDOUS WASTE as defined by the Resource Conservation and Recovery Act (RCRA), Virginia Hazardous Waste Management Regulations or as defined by the state of origin.

Asst Terri Harding — PRINTED/TYPED NAME & TITLE
SIGNATURE
4-8-13 — DATE

Truck Driver's Signature: Andrew Tolnett — Date: 4.8.13

Discrepancies:

RECEIVED BY: Reco Biotechnology
SIGNED BY: D Hunt
DATE: 4-8-13

Aqua Clean of Virginia, LLC dba Reco Biotechnology

FACILITY COPY