Delaware River Main Channel Deepening
Reach B Rock Probes Investigation

July 2015

Philadelphia Regional Port Authority

U.S. Army Corps of Engineers Philadelphia District

GBA Engineers ★ Surveyors

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LIST OF ABBREVIATIONS AND ANCRONYMS

APACHE	Great Lakes Dredge & Dock Company drillboat *Apache*
ft./min.	Rate of penetration units, feet per minute
GBA	Gahagan and Bryant Associates, Inc.
GLDD	Great Lakes Dredge & Dock Company
GPR	Ground Penetrating Radar
GPS	Global Positioning System
MLLW	Mean Lower Low Water
NOAA	National Oceanic and Atmospheric Administration
OVERBURDEN	Gravel, sand, clay, and broken, weathered, unconsolidated rock
PROBE	Straight drilling without sampling until certain conditions to mark the end of the hole are met
PRPA	Philadelphia Regional Port Authority
QC	Quality Control
RTK	Real Time Kinematic
ROP	Rate of Penetration
SPT	Standard Penetration Test
SWIFTRUNNER	Great Lakes Dredge and Dock crewboat *Swiftrunner*
TMS	Thunderbird Mining Systems
TOR	Top of Competent Bedrock
USACE	U.S. Army Corps of Engineers, Philadelphia District
USCG	United States Coast Guard
WOB	Weight On Bit

INTRODUCTION

As part of the development of the information necessary to determine the quantity and location of rock in Reach B, for the Delaware River Main Channel Deepening Project (Deepening Project), the need to conduct a supplemental geotechnical investigation of rock outcrop areas in Reach B (see Figure 1) was identified. The United States Army Corps of Engineers-Philadelphia District (USACE) coordinated with the Philadelphia Regional Port Authority (PRPA) to perform the investigation. The investigation utilized industry equipment to cost effectively, better define the known rock areas. PRPA requested that Gahagan & Bryant Associates, Inc. (GBA) provide the required services. The investigation was to be undertaken in rock areas that were identified from prior USACE studies.

This report outlines the methodologies used, results obtained, and conclusions drawn. The data collected is complex, extensive and subject to interpretation. Relative rock hardness evaluations and ease or difficulty of excavation, necessity (or not) of drilling and blasting, will differ amongst experts and intended excavation techniques and equipment. Users of this report and the information contained should form their own judgments based upon the data provided. The work was accomplished under the direction of GBA, USACE, and PRPA.

PURPOSE

USCACE has conducted prior geophysical and geotechnical investigations to characterize the material within the dredging template. However, in order to further quantify the volume and location of rock within the dredging template in Reach B, and to aid in reducing contractors' uncertainty and risk in estimating dredging costs an additional investigation was deemed necessary. The investigation was focused within the rock outcrops areas from Stations 97+000 to 141+000. The dredging template for Reach B calls for deepening the existing grade to the authorized depth of -45 feet Mean Lower Low Water (MLLW) plus one foot of allowable pay over-depth, a required depth of -47 feet MLLW in rock areas and a required depth of -46 feet MLLW in specified areas adjacent to the rock areas.

PROJECT OBJECTIVE/GOAL

The objective of this investigation was to physically document the depth to the top of competent bedrock that is found above a depth of -55 feet MLLW within the dredging boundaries of Reach B, with a desired precision of +/- 0.5 feet. In order to achieve this purpose, GBA proposed straight drilling, without sampling, until certain conditions indicate contact with Top of Rock (TOR) were met. The primary goal was to first develop the criteria and then to record evidence that either showed that each probe penetrated through all overburden material, including broken, weathered and unconsolidated rock, and effectively measured the top of bedrock or did not encounter bedrock at all. GBA contracted the use of the Great Lakes Dredge & Dock (GLDD) drillboat "*Apache"* and in coordination with USACE used objective methodology to gather data pertinent to estimating the TOR. The compiled data from this investigation will be furnished by USACE to prospective bidders as part of future rock dredging project solicitations to supplement existing geophysical and geotechnical data.

PROJECT LOCATION

The area for this investigation is shown on Figure 1 and extends from Station 97+000 to 141+000. This portion of the channel is 800 feet wide and is bordered by the states of New Jersey, Delaware and the Commonwealth of Pennsylvania.

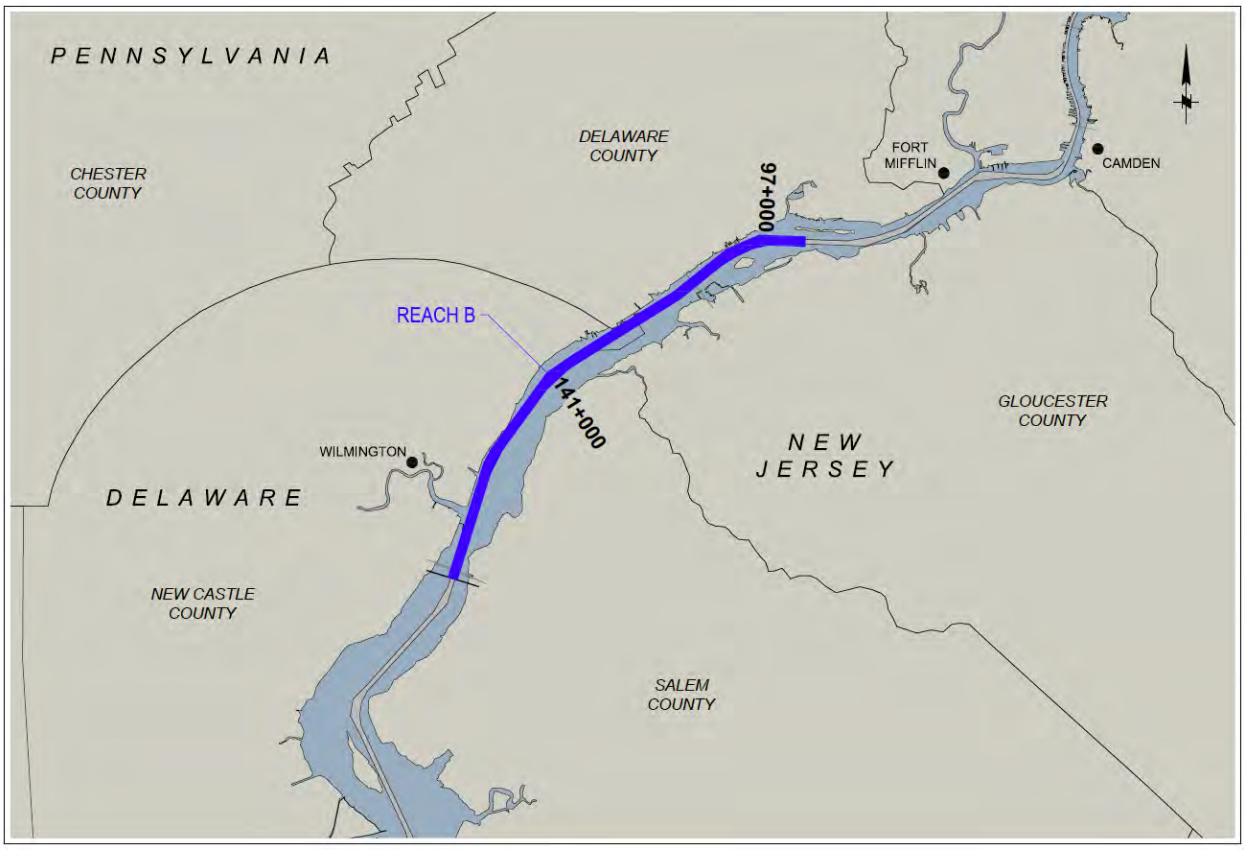


Figure 1 – Project Location

PREVIOUS INVESTIGATIONS

Previous geotechnical and geophysical investigations have been conducted within Reach B dating back to the 1960's, and include test pits, vibracores, rock cores, SPT borings, and resistivity and acoustic surveys. From these past investigations, substantial data has been compiled, where geotechnical data i.e. rock cores, vibracores, and Standard Penetration Test (SPT) borings have been correlated to geophysical data. Previous investigations undertaken by the USACE in Reach B as part of the Deepening Project are listed below.

1996 Acoustic Data

- Phase 1 Report
- Phase 2 Report
- Rock Quantity Estimates Sheets
- Top of Acoustic Basement Sheets Above 50 feet
- Top of Acoustic Basements Sheets
- Phase 3 Report
- Hydrographic Chart Sheet
- Ground Penetrating Radar (GPR) Survey Results

1996 Geoacoustic Study

- Geoacoustic Study of the Delaware Main Channel, 1996

1996 USACE Rock Investigation

- Core Boring Data
- Core Boring Report

2010 USACE Rock Investigation

- Geotechnical Investigation Report, 2010: Proposed Rock Cut Areas, Delaware River Tinicum to Marcus Hook, Pennsylvania, New Jersey, & Delaware

2010 USACE Vibracore Investigation

- Geotechnical Sediment Investigation, September 2010

2012 USACE Rock Investigation

- Supplemental Geotechnical Subsurface Investigation, July 2012

DEMCO Resistivity Study

- Reach B Resistivity Survey July 2012
- Final Resistivity Report, October. 2009

EQUIPMENT

GLDD Drillboat Apache

GBA contracted GLDD's drill boat *Apache* to conduct the investigation by performing a series of probes utilizing a specified methodology geared towards determining the top of competent bedrock. The *Apache* is 210 feet long, 60 feet wide, and has a drilling space on deck of 170 feet. The Apache's hull depth is 10.5 feet and the draft is five feet as shown in Figure 2. The *Apache* is a USCG inspected vessel with load line certified for operations on inshore and offshore waters. The *Apache* is held in position during drilling operations by four six-foot square spuds. Four 184,000 pound line pull winches coupled to 2.75 inch diameter wire rope create a lifting force of 1,250 tons which can lift the barge 3.5 feet to ensure a stable platform during drilling operations. The *Apache* was assisted by a 24 hour tug, the *Layla Renee,* as well as a crew boat, the *Swiftrunner*

The *Apache* utilizes three separate drill frames with Atlas Copco 1838 Series single pass drilling systems. Each frame operates independently of one another and is entirely self-contained with power units and fuel. The drill hole diameter is 4.5 inches.

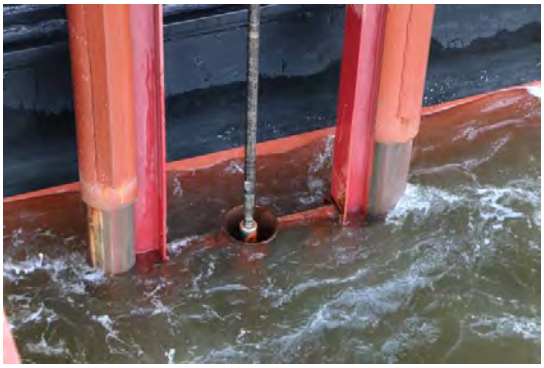
Figure 2 – GLDD Drillboat Apache

Positioning

The *Apache* was equipped with dual Trimble real time kinematic (RTK) global positioning system (GPS) receivers that provided a real time display of the *Apache's* horizontal position on a positioning computer in the survey office. The horizontal location of each drill frame was also displayed on the positioning computer. The individual frame locations were determined by horizontal offsets along the barge and then translated into Northing and Easting coordinates. A Trimble R8 global navigation satellite system (GNSS) RTK Rover was used to perform periodic horizontal and vertical quality control checks onboard the *Apache*. The crew boat *Swiftrunner* was equipped with a Trimble SPS 855/Zephyr and was used to perform periodic vertical quality control checks to compare to the tide recordings.

Elevation Measurements

The drill bit elevations were recorded using an optical encoder mounted on the drill winch with a chain and sprocket as pictured below to the left. The drill bit was calibrated by positioning it at the water surface (see photo below to the right) and setting the encoder recording to zero at the beginning of each probe hole. Drill bit elevations were subsequently adjusted using water surface tide readings as described in the "vertical control" section.



Thunderbird Mining Systems Drilling Efficiency Plus System

Prior to the investigation the *Apache* was outfitted with a Thunderbird Mining Systems (TMS) Drilling Efficiency Indicator Plus system as shown in Figure 3. This system consisted of touch screen computers within the cab of each drill frame, a central database computer in the survey office of the *Apache*, pressure sensors on each drill frame to monitor weight-on-bit (WOB) and torque values, and an optical encoder on the winch of each drill frame that recorded the rate of penetration (ROP). The drill hole locations for the project were entered into the in-cab computers and the drillers selected each hole prior to drilling. The in-cab computers were connected through a wireless network to the central database computer in the survey office. This allowed constant monitoring of all of the drilling operations. Data for each hole was electronically recorded on the central database computer.

Figure 3 – Monitoring of the Three Drill Frames in the Survey Office

METHODS

Project Layout

Probing investigation areas were developed and laid out by GBA and the USACE after thorough analysis of all the existing data within Reach B. Seventeen areas that could potentially contain rock based on this data and within the dredging template were outlined and labeled A through Q. In addition, drilling pattern files were developed for each area and loaded into the TMS system. The layout of the probing areas can be seen in the drawings contained in Appendix A.

The spacing and final depth of the probes were developed around an anticipated required dredging depth of -47 feet MLLW in rock areas. Spacing between probes was set at 75 feet, with a horizontal tolerance for each location of 10 feet. The probes were to extend to a depth of -55 feet MLLW or until the TOR was encountered, whichever came first. If TOR was encountered above -50 feet MLLW on the outside edge of a probing area, an additional line of probes would be performed outside the area until TOR was not encountered above -50 feet MLLW.

Horizontal Control

Horizontal and Vertical controls for the probing project were based off of three monuments: JU0786 served as the primary, JU4112 as a horizontal check and JU0832 as vertical check.

1. Primary: “PRINTZ” / PID: JU0786 in New Castle County Delaware 39d 47’ 45.21714” (N) 075d 27’ 27.67300” (W) Elevation: 17.5 feet (NAVD88)
2. Horizontal Check: “HAR 2” / PID: JU4112 in New Castle County Delaware 39d 48’ 12.02442” (N) 075d 28’ 48.97020” (W)
3. Vertical Check: “Q 276” / PID: JU0832 in Delaware County Pennsylvania 39d 49’ 12.0” (N) 075d 25’ 49.8” (W) Elevation: 47.69 feet (NAVD88)

Horizontal checks with a Trimble R8 GNSS System on the upper deck of the *Apache* were performed twice a week and more often when operating near cable or pipeline crossings. Before startup, two quality control (QC) points were marked on the upper deck of the drillboat at known offsets from the two GPS antennas. The location of these QC points were selected for their distance from the tallest vertical structures on the Apache (drill frames, spuds and GPS towers) to improve line of sight to satellites and to allow for fixed RTK quality positioning accuracy. The Apache’s positioning software displays the Northing/Easting of these two QC points at all times. Whenever a surveyor performed a check with the rover GPS system, the values were checked against each other. Throughout the entire probing investigation, each time this was performed, the rover was shown to be within 2.0 feet of the value shown by the positioning software on the drillboat. Because Northings/Eastings of the drill frames are determined by an analogous procedure, this procedure served as a reliable check on horizontal control.

Vertical Control

The primary source of vertical control were tide recordings from the Marcus Hook and Philadelphia National Oceanic and Atmospheric Administration (NOAA) gauges which are on either side of the project limits, i.e. upstream side and downstream side. Tides used for each probing location were determined using a straight line interpolation between the tide values at

these two gauges based on the drillboat's horizontal distance between them. These values were broadcast in MLLW and were checked against RTK tide readings on the *Swiftrunner*. Vertical checks on the *Swiftrunner* were performed at least twice per 12-hour shift.

In order to quality control check the tidal readings and procedures utilized by GLDD for the project, GBA used a representative data set of tide/time corrections from the NOAA Marcus Hook, PA gage that occurred during the project and calculated tides using a historic USACE procedure.. This historic USACE procedure was utilized prior to the District's implementation of the RTK GPS methodology and involved subtracting or adding a one minute correction for every 1,000 feet that the sample barge and/or survey vessel was upstream or downstream from the primary tide gage station. If the operation requiring the tide was upstream of the primary tide gage station, the time was subtracted from the gage to obtain the corrected tide reading. If the barge/vessel was downstream, the time was added to obtain the correct tidal reading.

A total of 294 sample tide readings were evaluated as part of GBA's quality control check. Approximately 12.6% of the total number of readings utilized for the drilling of +/- 2,326 holes. The result of this QC check showed that the USACE time/tide corrections procedure matched the GLDD tides within +/- 0.10 feet for all 294 samples evaluated.

Drilling Procedure

The typical drilling procedure employed for the investigation was as follows:

1. Driller logs on to the TMS system at the beginning of each shift
2. Driller completes pre-shift inspection
3. Driller selects and confirms the area pattern from the list on the display
4. Driller selects the hole from a dropdown list of all the holes within the area pattern
5. Once the *Apache* has been moved within the horizontal tolerance of the hole location, the driller lowers the drill bit to the waterline and presses the "start" of hole button on the screen. The driller then enters the tide value, provided by the survey crew, into a pop-up menu on the screen
6. Once the tide is entered the driller is given a target depth (-55 feet MLLW adjusted for the tide)
7. The hole is drilled following the instructions given in the Drilling Protocol and all data is recorded on the central database
8. Driller ends hole location
9. Once all holes for that setup have been completed, the drillboat is moved to the next location

Figure 4 shows a schematic drawing of the *Apache* and the vertical measurements used in the drilling procedure.

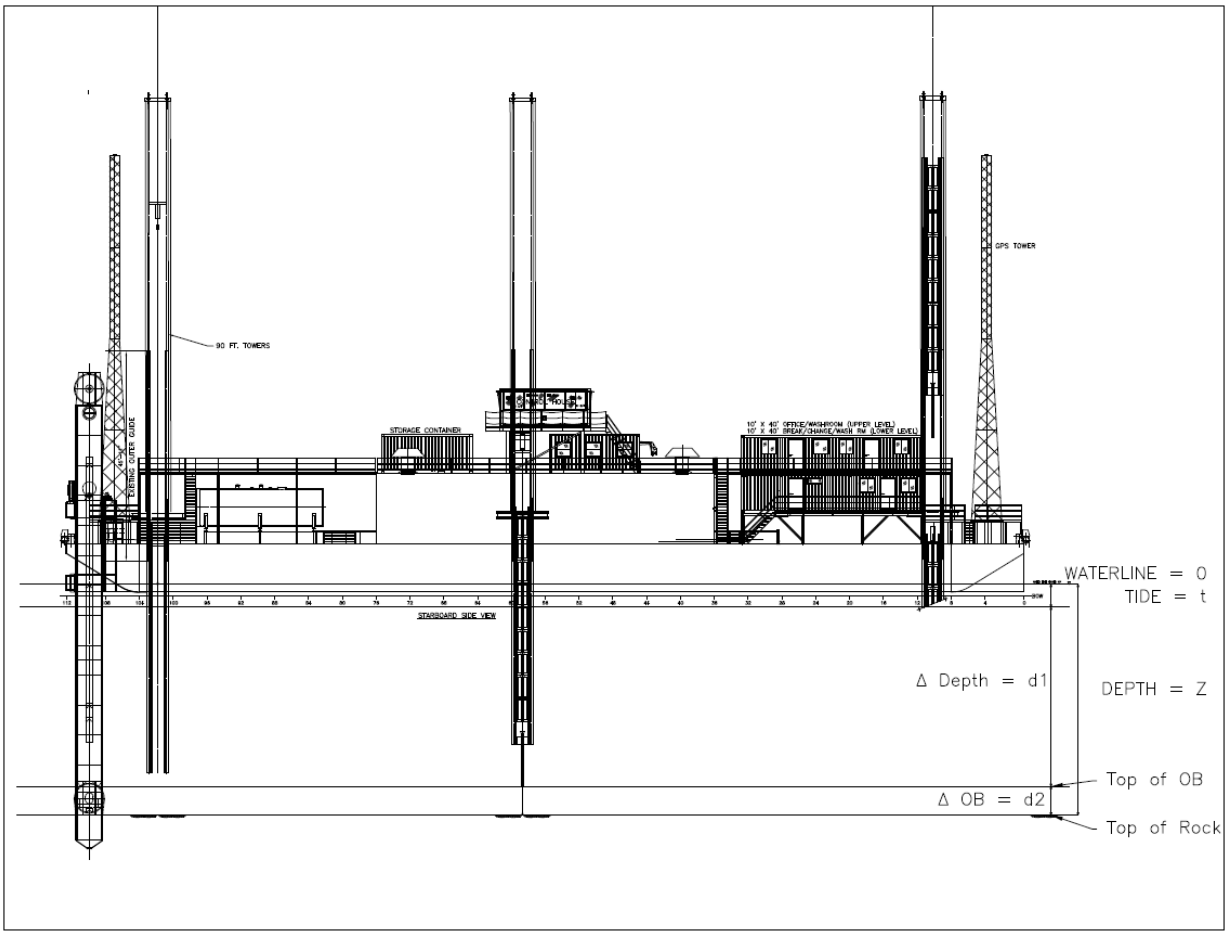


Figure 4 – Schematic Drawing "Apache" Showing Vertical Measurements

Test Program

Prior to commencing probing operations GBA conducted a three day Test Program from April 13, 2015 through April 15, 2015. A total of 79 probes were performed at previously taken boring locations to analyze how the drilling rate of penetration varied in known material types.

Drilling ROP data was monitored during the test program in different material types (rock, weathered rock, gravel, sand and gravel). The TOR elevations obtained during the Test Program were compared to the TOR elevations from the boring logs. The Test Program also monitored repeatability of the TOR results by multiple measurements at locations within close proximity, which provided a determination of vertical and horizontal positioning precision for TOR. From the data obtained during the test program a drilling protocol was developed for the remainder of the probing investigation.

Five Rock Core boring locations were selected for the Test Program:

1. **Rock Test Area** (CB-294, CB-324)- borings with rock at or near the surface
2. **Weathered Rock Test Area** (CB-348)- boring with a large amount of weathered rock
3. **Gravel Test Area** (CB-325)- boring with a large amount of gravel and no rock
4. **Sand and Gravel Test Area** (CB-327)- boring with a large amount of sand and gravel and no rock

The locations of the Test program Areas are shown in Appendix A. The boring logs for the test Program borings are in Appendix B. Test Program probes were performed at each boring location and at locations spaced at 5 feet increments in four directions extending out from the boring location. Figure 5 shows the location of the individual test probes for each test area.

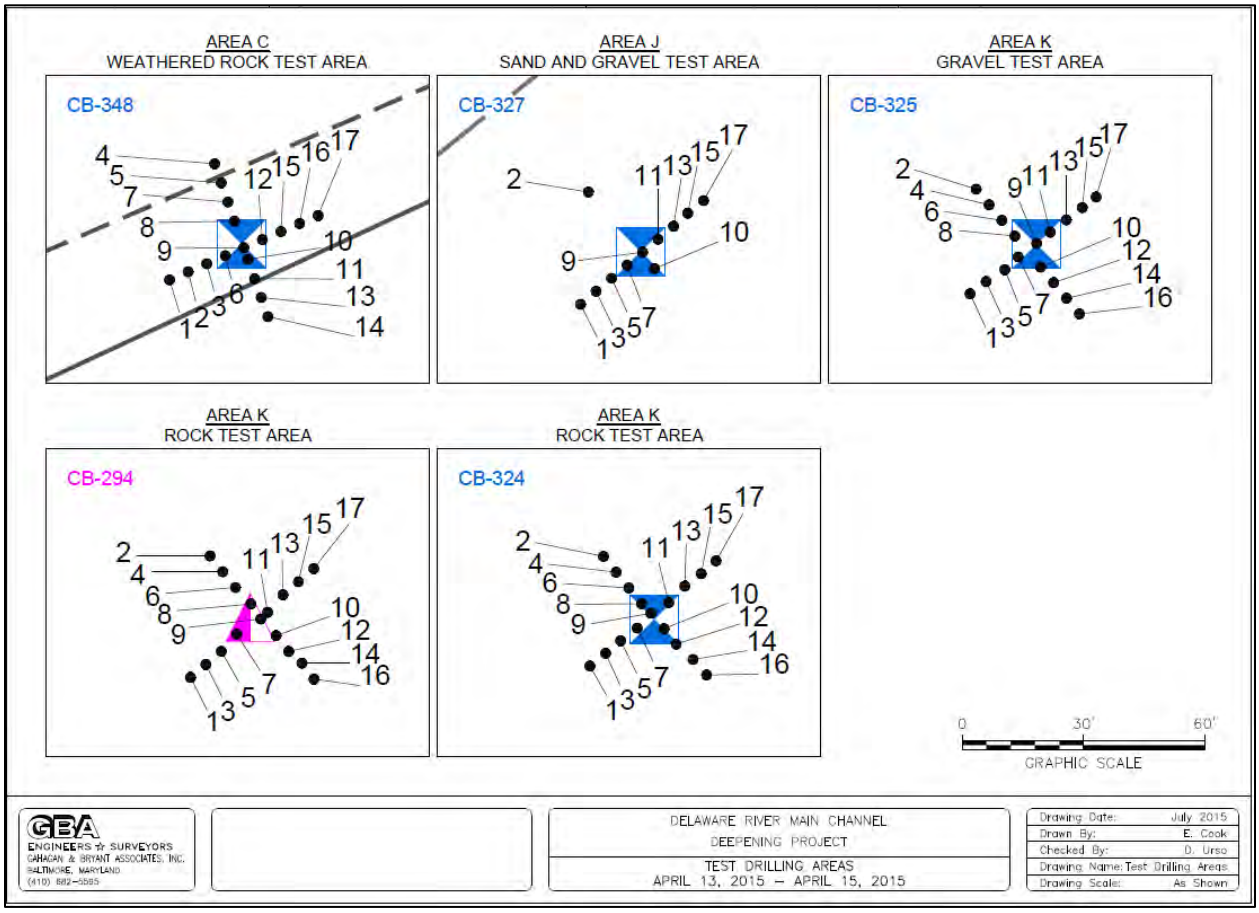


Figure 5 – Test Program Probing Locations

Although exact matching was not expected between previous boring TOR elevations and test probe TOR elevations this was the best method available to "ground truth" and develop our method of data analysis. The following are some reasons why we cannot expect an exact match:

1. Boring log data depicts subsurface conditions at the specific location and designated date.

2. Subsurface conditions at different locations (even just a few feet away) may differ from conditions at the boring locations.

3. Time between investigations may result in a change in river bottom surface and subsurface conditions, due to weathering (both chemical and physical) and erosion.

4. Other factors, including drilling equipment, positioning technology, and driller's interpretations may cause slight differences in subsurface conditions at the same boring location.

5. The TOR surface in the project area is highly irregular and because of this TOR elevations may vary at locations within close proximity.

Test Program Results

Probing results in the Rock Test Area showed that drilling ROP in competent rock, using four feet per minute (ft./min), with the hammer on as the standard for establishing TOR, provided reliable correlation to borehole data. Comparisons of the TOR elevations obtained in the Rock Test Area to the TOR elevations in borings showed the average of the test probes to be within 1-2 feet of the borings (0.6 feet for CB-294 and 1.6 feet for CB-324). TOR elevations obtained during the test probes had a standard deviation of 1.0-1.4 feet (1.0 feet. for CB-294 and 1.4 feet. for CB-324). The data obtained in the Rock Test Area is shown in Table 1.

Table 1 – Rock Test Area TOR Elevations Compared to Boring TOR Elevations

Rock Test Area				
Probe	**TOR Elevation MLLW (Feet)**	**Boring TOR Elevation MLLW (Feet)**	**Distance from Boring (feet)**	**Difference (Feet)**
CB-294-1	-45.9	-44.0	19.6	-1.9
CB-294-2	-44.1	-44.0	19.9	-0.1
CB-294-3	-47.5	-44.0	14.6	-3.5
CB-294-4	-45.1	-44.0	16.0	-1.1
CB-294-5	-43.7	-44.0	9.6	0.3
CB-294-6	-44.9	-44.0	10.1	-0.9
CB-294-7	-44.3	-44.0	4.0	-0.3
CB-294-8	-45.0	-44.0	5.3	-1.0
CB-294-9	-44.5	-44.0	3.0	-0.5
CB-294-10	-43.9	-44.0	6.8	0.1
CB-294-11	-42.6	-44.0	5.4	1.4
CB-294-12	-43.8	-44.0	11.4	0.2
CB-294-13	-44.0	-44.0	11.1	0.0
CB-294-14	-44.9	-44.0	15.8	-0.9
CB-294-15	-44.9	-44.0	16.1	-0.9
CB-294-16	-44.6	-44.0	20.5	-0.6
CB-294-17	-44.8	-44.0	21.1	-0.8
Average:	**-44.6**			
Standard Deviation:	**1.0**			
CB-324-1	-48.9	-46.8	19.6	-2.1
CB-324-2	-44.6	-46.8	20.0	2.2
CB-324-3	-46.8	-46.8	14.6	0.0
CB-324-4	-44.8	-46.8	15.0	2.0
CB-324-5	-46.9	-46.8	9.8	-0.1
CB-324-6	-44.6	-46.8	10.0	2.2
CB-324-7	-43.2	-46.8	4.7	3.6
CB-324-8	-44.5	-46.8	5.0	2.3
CB-324-9	-44.2	-46.8	1.7	2.6
CB-324-10	-44.5	-46.8	3.3	2.3
CB-324-11	-45.4	-46.8	5.5	1.4
CB-324-12	-44.7	-46.8	8.2	2.1
CB-324-13	-45.0	-46.8	11.2	1.8
CB-324-14	-45.8	-46.8	13.8	1.0
CB-324-15	-43.5	-46.8	16.2	3.3
CB-324-16	-46.3	-46.8	18.9	0.5
CB-324-17	-44.3	-46.8	21.1	2.5
Average:	**-45.2**			
Standard Deviation:	**1.4**			

Probing results in the Weathered Rock Test Area showed that drilling ROP in weathered rock was in the 6-12 ft. /min range with the hammer on. Comparisons of the TOR elevations obtained in the Weathered Rock Test Area to the TOR elevation in the boring showed the average of the test probes to be within 2 feet of the TOR determined from the CB-348 boring log. TOR elevations obtained during the test probes had a standard deviation of 1.2 feet. The data obtained in the Weathered Rock Test area is shown in Table 2.

Table 2 – Weathered Rock Test Area TOR Elevations Compared to Boring TOR Elevation

Weathered Rock Test Area				
Probe	TOR Elevation MLLW (feet)	Boring CB-348 TOR Elevation MLLW (feet)	Distance from Boring (feet)	Difference (feet)
CB-348-1	-47.6	-48.3	19.9	0.7
CB-348-2	-47.1	-48.3	14.9	1.2
CB-348-3	-44.6	-48.3	9.9	3.7
CB-348-4	-45.5	-48.3	20.9	2.8
CB-348-5	-48.3	-48.3	15.9	0.0
CB-348-6	-46.8	-48.3	5.0	1.5
CB-348-7	-46.8	-48.3	10.9	1.5
CB-348-8	-46.1	-48.3	5.9	2.2
CB-348-9	-47.6	-48.3	1.1	0.7
CB-348-10	-45.0	-48.3	4.1	3.3
CB-348-11	-45.6	-48.3	9.2	2.7
CB-348-12	-46.9	-48.3	5.2	1.4
CB-348-13	-46.9	-48.3	14.1	1.4
CB-348-14	-46.8	-48.3	19.1	1.5
CB-348-15	-45.8	-48.3	10.2	2.5
CB-348-16	-43.8	-48.3	15.2	4.5
CB-348-17	-45.1	-48.3	20.2	3.2
Average:	**-46.3**			
Standard Deviation:	**1.2**			

Probing Results in the Gravel test area showed erratic rates of penetration. When encountering gravel the ROP would drop for a few seconds and then quickly rise again. The ROP would jump between 5 and 25 ft. /min while penetrating gravel. Probing results in the Sand and Gravel Test Area showed rates of penetration ranging from 12 to 25 ft/min while penetrating sand and gravel, with more uniform ROP.

Based on the Test Program results, a drilling protocol was prepared for the remainder of the project. This protocol was agreed upon by the USACE and distributed to all the drillers. An ROP of 4 was chosen as a stopping point to ensure we reached the top of competent bedrock.

Drilling Protocol

- Lower the drill string until the river bottom is encountered, and then pause
- Drill without the hammer until there is no advancement
- When a Rate of Penetration, with the hammer on, of less than or equal to 4 is achieved this will mark the top of rock.
- Drill 1 foot into the rock or drill until -55 feet MLLW is reached

Probing Investigation

After the completion of the test program, the probing investigation commenced on April 16, 2015. Probes were performed 24 hours a day, seven days a week. Operations started at the furthest upriver extent of the project in Area A, and continued downriver to Area Q. Some mechanical delays were encountered during this investigation. Various hydraulic repairs, and drill head repairs (breaker bar replacement) were conducted throughout the investigation as well. The probing operation was completed on May 4, 2015. A total of 2,326 probes total were performed over the 18 day long investigation. The dates the probing areas were completed and probing production statistics are shown in tables 3 and 4.

Table 3 – Probe Area Dates

Area	# of Probes	Dates Completed
A	99	4/16/15-4/17/15
B	57	4/16/15-4/17/15
C	81	4/17/15-4/18/15
D	99	4/18/15-4/19/15
E	258	4/19/15-4/22/15
F	81	4/22/15-4/24/15
G	67	4/22/15-4/23/15
H	486	4/23/15-4/27/15
I	132	4/27/15-4/29/15
J	36	4/29/2015
K	240	4/29/15-4/30/15
L	210	4/30/15-5/1/15
M	102	5/1/15-5/2/15
N	21	5/1/2015
O	27	5/2/2015
P	306	5/2/15-5/4/15
Q	24	5/4/2015

Table 4 – Probing Production

Date	# of Probes Performed	Hours Worked
4/16/2015	75	17
4/17/2015	122	24
4/18/2015	108	24
4/19/2015	54	24
4/20/2015	98	24
4/21/2015	97	24
4/22/2015	131	24
4/23/2015	125	24
4/24/2015	76	14
4/25/2015	119	24
4/26/2015	136	24
4/27/2015	150	20
4/28/2015	17	1
4/29/2015	175	24
4/30/2015	208	24
5/1/2015	198	24
5/2/2015	212	24
5/3/2015	183	24
5/4/2015	42	6
Total:	**2326**	**394**
Avg. Probes/ work day:	**142**	
Avg. Probes/ work hour:	**6**	

GBA and USACE observers were onboard during the entire drilling operation. While monitoring and directing the investigation, GBA kept detailed daily operations logs as well as drilling production logs with field interpreted TOR elevations based on real time ROP values observed during the drilling of each hole. Figure 6 shows field recorded TOR elevations as recorded by GBA and USACE. Field production logs are included in Appendix C. All fields in the field production logs may not be 100% complete. With three frames drilling at once, 24 hours a day, occasionally direct observation of information was not possible. However, this information was recorded in the database and was analyzed at a later time.

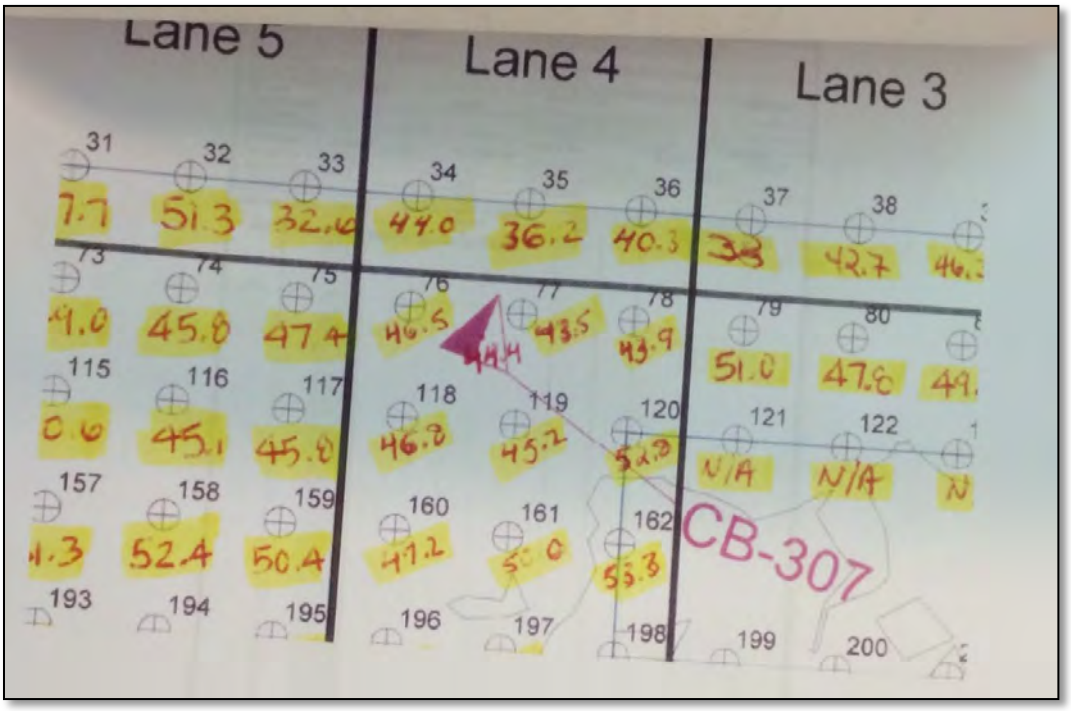


Figure 6 – Field Recorded TOR Elevations

Post Investigation Top of Rock Quality Control

After completion of the probing investigation, an additional quality control process was undertaken to verify precision of the drilling protocol. The TOR elevations of probes performed within 20 feet of an existing boring location were compared to the boring TOR elevation. The standard deviation for the differences between the TOR elevations obtained in the probes and the TOR elevations in the borings was 1.1 feet. Table 5 summarizes these comparisons.

Table 5 – Post-Investigation TOR Quality Control

Boring	Top of Rock Elelvation MLLW (feet)	Probe	Top of Rock Elelvation MLLW (feet)	Distance from Boring (feet)	Difference (feet)
CB-286	-46.2	A51	-46.2	18	0.0
CB-283	-45.8	C55	-44.5	14	1.3
CB-278	-43.5	E212	-44.0	17	0.5
CB-304	-46.7	E75	-45.2	17	1.5
CB-302	-44.4	H416	-44.1	17	0.3
CB-301	-48.4	H366	-51.1	17	2.7
CB-275	-44.3	H156	-43.5	20	0.8
CB-317	-50.0	P83	-53.9	5	3.9
CB-255	-44.1	P99	-44.5	19	0.4
DRV-7	-48.2	P125	-47.3	10	0.9
CB-254	-43.8	P61	-44.1	16	0.3
				Standard Deviation:	**1.2**

Top of Rock Selection Procedures

During the Test Program, where probes were performed at previous boring locations, results showed that drilling Rate of Penetration in competent rock was in the 0-4 ft. /min range with the hammer on. However, post project ROP data analysis concluded that consistent ROP values as high as 6 ft. /min could also indicate TOR, therefore post project selection of TOR values was based on a ROP of less than 6 ft. /min. When reviewing the data to select a final TOR rock elevation for each hole, GBA and USACE personnel reviewed the data for each hole, and the field recorded TOR elevations. There were also instances where ROP would drop below 6 ft. /min while drilling that were not the TOR. These instances were times when the driller would stop the advancement of the drill string or was reaming the hole. A typical ROP curve with drilling features is shown in Figure 7.

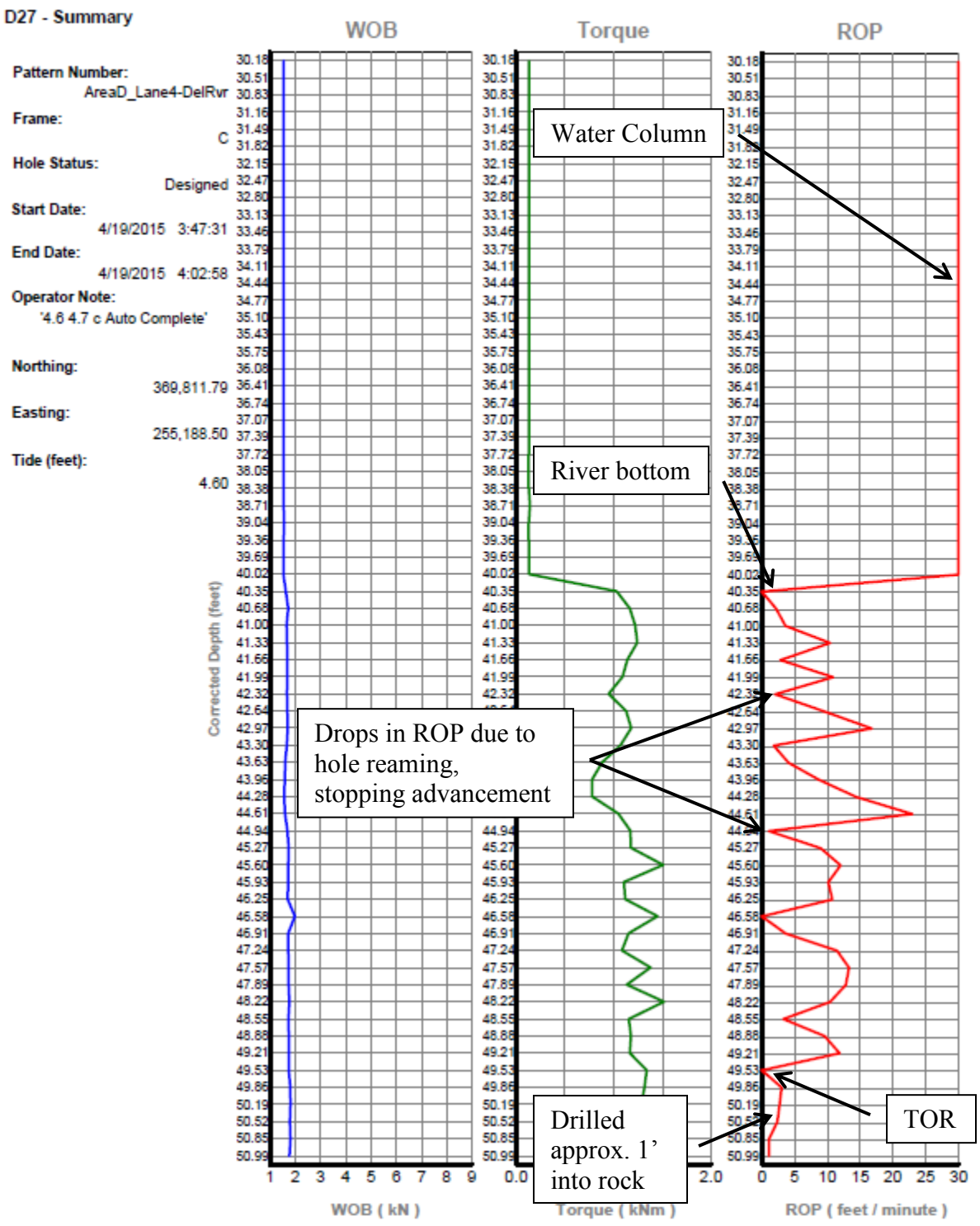


Figure 7 – Typical ROP Curve

Top of Rock Quality Control Procedures

1. A geologist, who was onboard the Apache during the probing investigation, went through each hole's data, compared it to the field interpreted TOR elevation, and selected a TOR elevation
2. An engineer, who was onboard the Apache during the probing investigation, went through each hole's data, compared it to the field interpreted TOR elevation, and selected a TOR elevation
3. A QC spreadsheet was created for each area, comparing the two TOR elevations selected for each hole
4. A geologist went through the QC spreadsheet for each area and re-evaluated TOR elevations for any hole where the selected elevation was a 0.5 foot or greater difference between the geologist and engineers choice
5. If both the geologist and the engineer felt the data was suspect in some way the hole would be removed from the data set
6. TOR XYZ files were created for each area
7. GBA personnel and USACE personnel met to develop a mutually agreed upon evaluation and analysis of the XYZ files
8. Contours based upon the agreed upon elevations at each probe for each area, were created from the XYZ files and plotted in plan-view drawings showing hole #, TOR elevation and TOR contours
9. The plan view drawing for each area was reviewed to look for outliers, and strange patterns in the contours; he TOR outliers that caused any strange contours were reevaluated

Following these QC procedures final TOR XYZ files were created for each probing area.

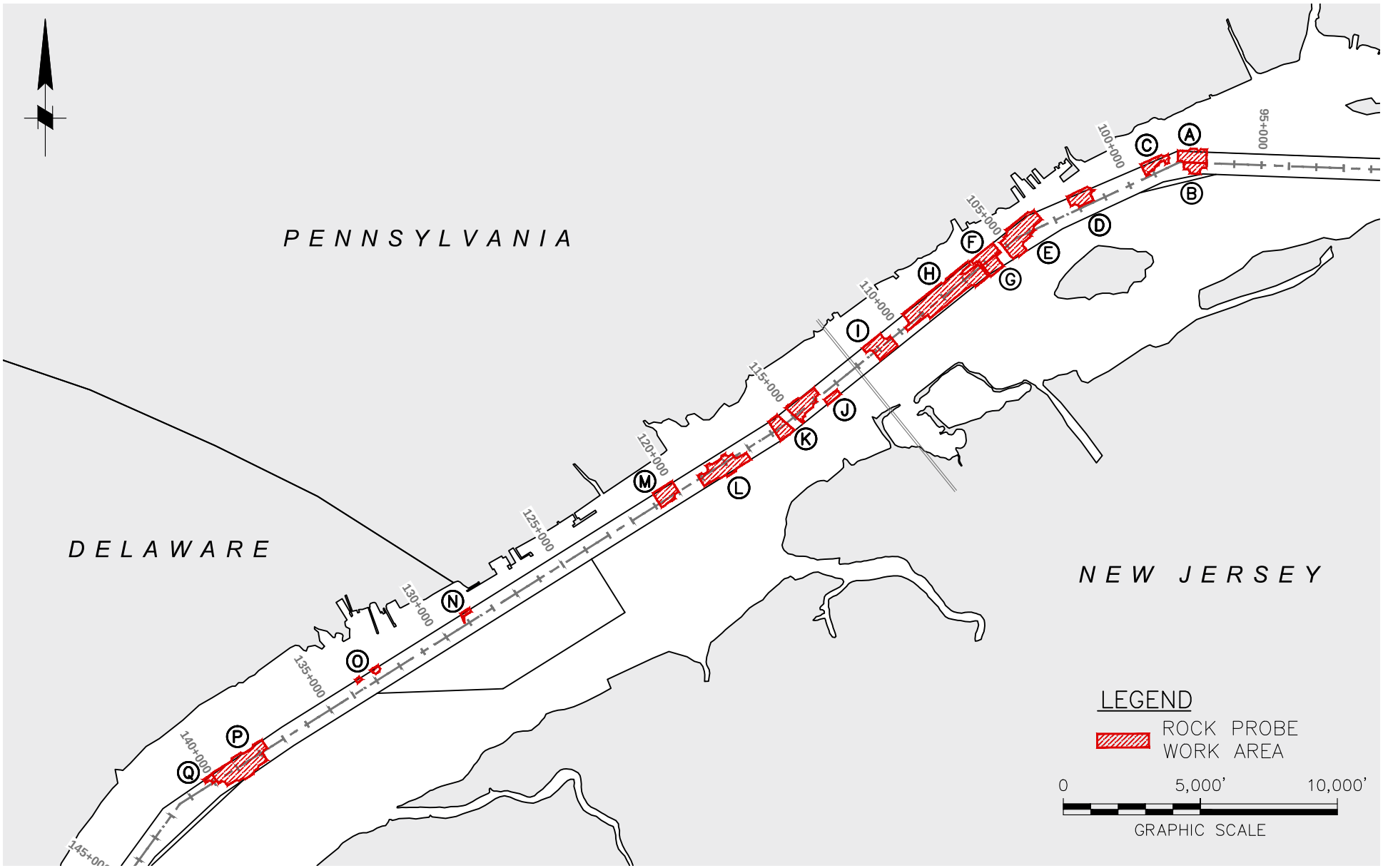
RESULTS

Once the final XYZ files were created, contours were generated for the TOR surface for each probing area. TOR drawings are contained in Appendix A. Test Program boring logs are contained in Appendix B. Field Production Spreadsheets are contained in Appendix C. TOR xyz files are contained in Appendix D.

APPENDIX A

Project Drawings

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\DE_Location_Vicinity_Map.dwg



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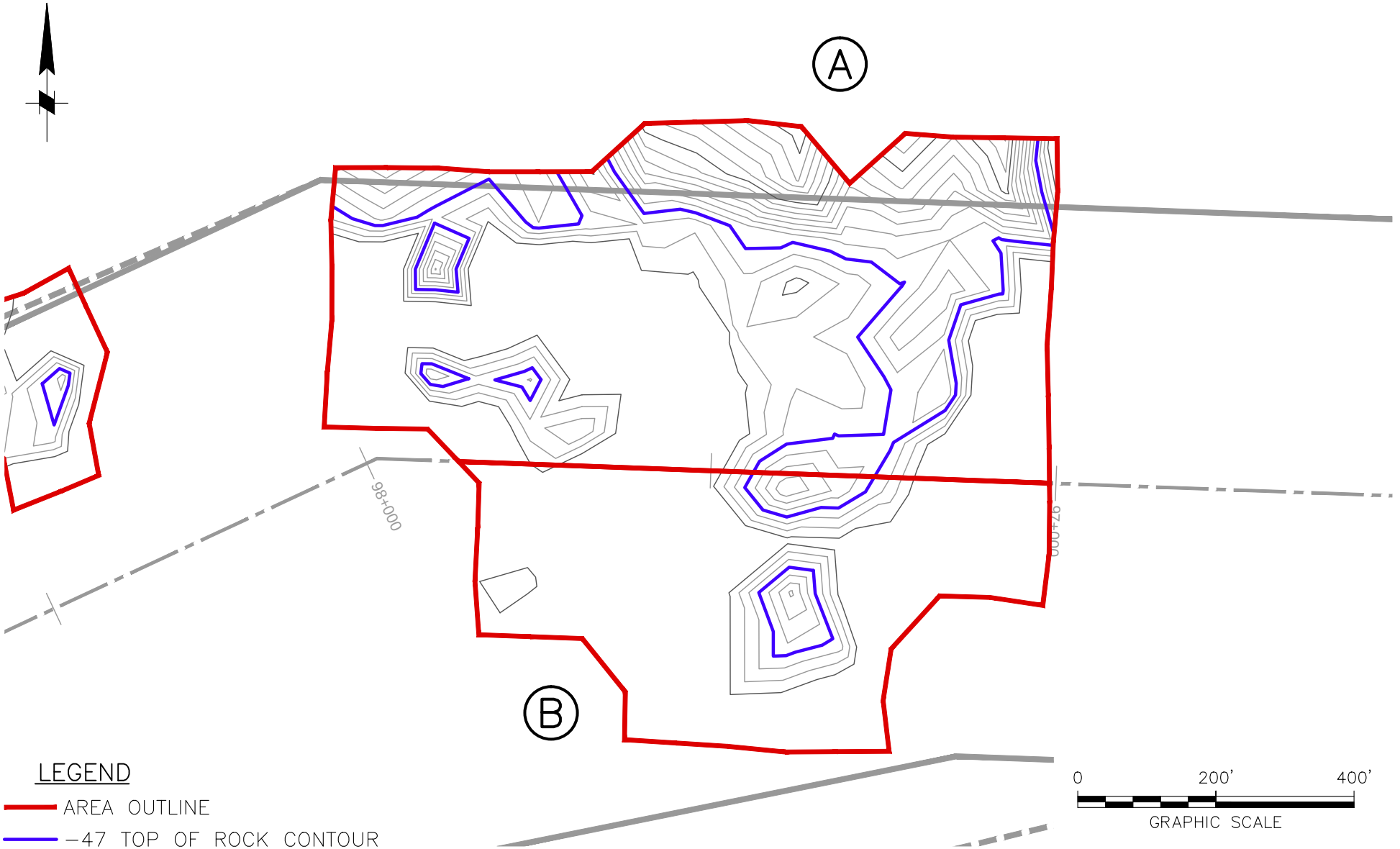
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B WORK AREAS

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	DE Location Map
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures\Report_Figure_TOR_Contour_Boundary.dwg



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DELAWARE RIVER MAIN CHANNEL
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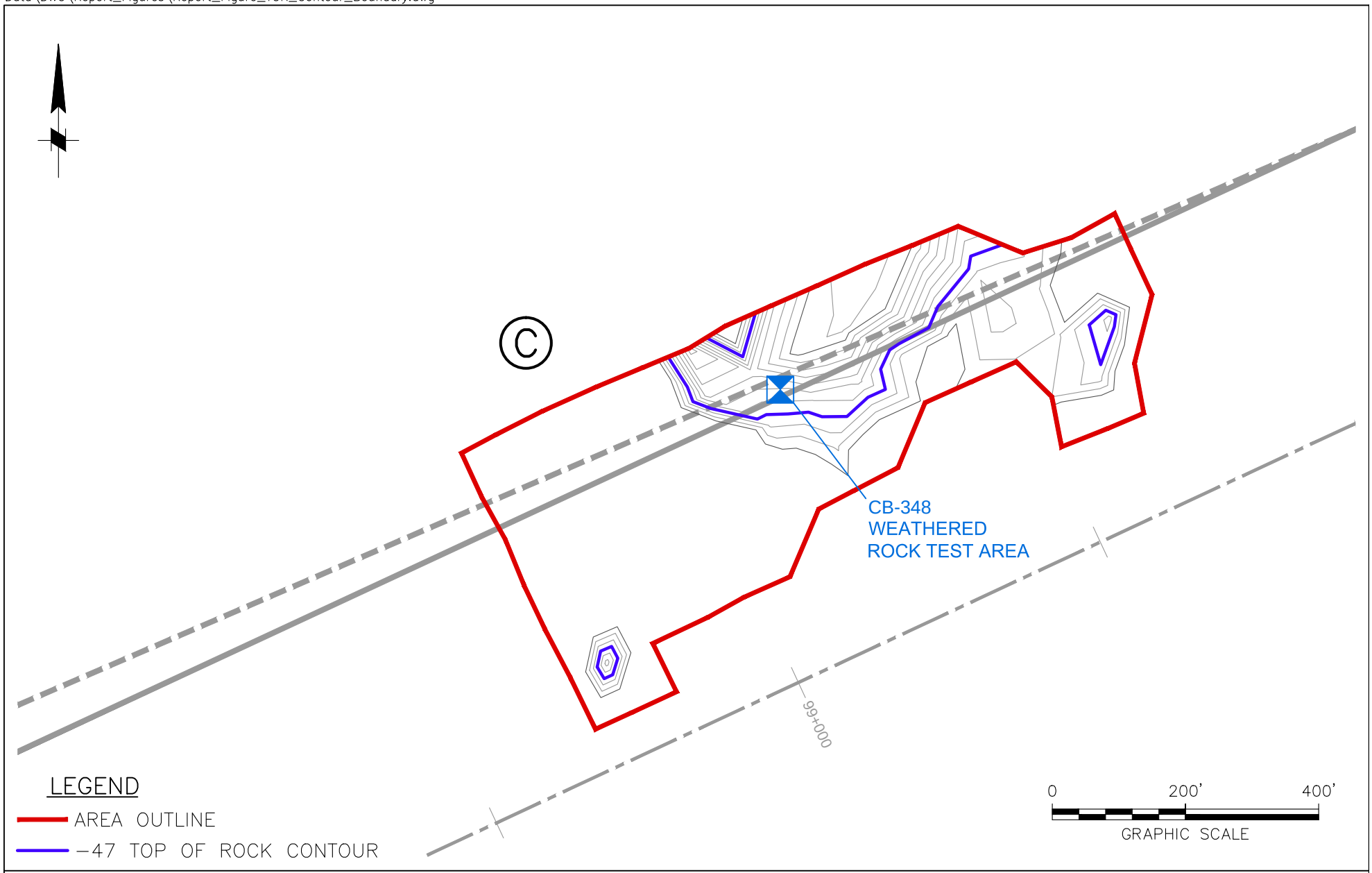
REACH B TOP OF ROCK AREAS A & B

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Areas
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures\Report_Figure_TOR_Contour_Boundary.dwg



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DELAWARE RIVER MAIN CHANNEL
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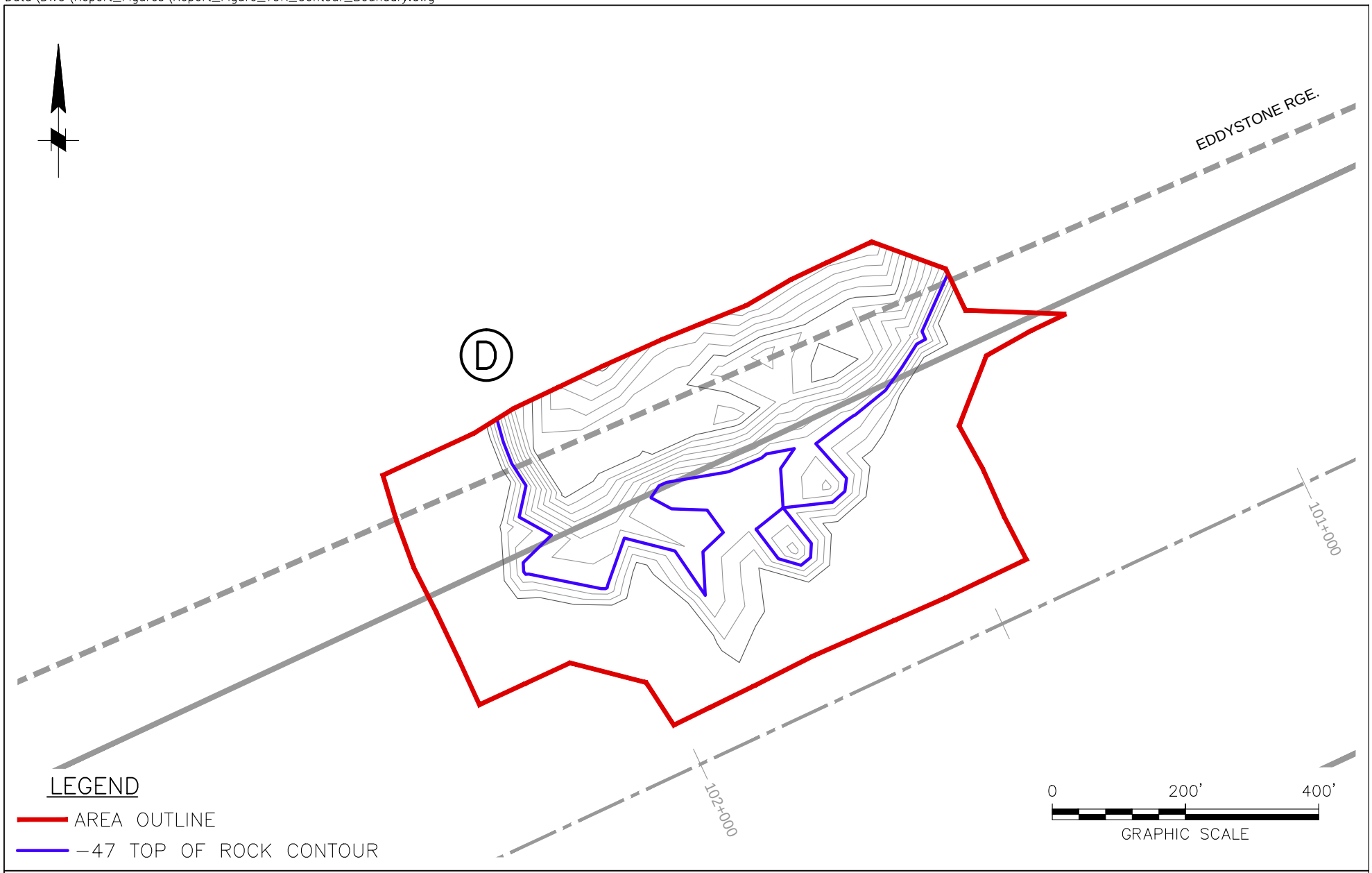
REACH B TOP OF ROCK AREAS C

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures\Report_Figure_TOR_Contour_Boundary.dwg



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DELAWARE RIVER MAIN CHANNEL
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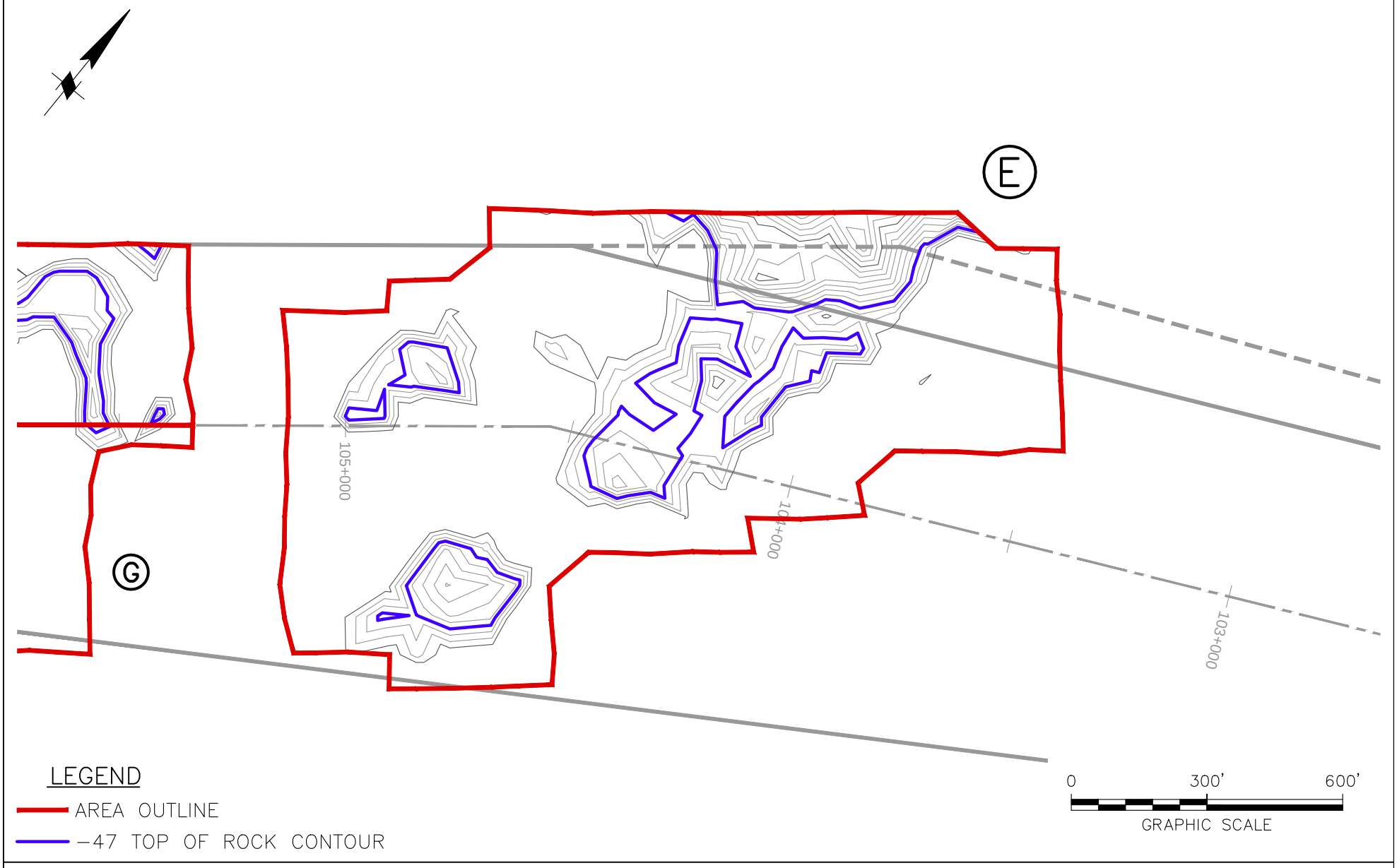
REACH B TOP OF ROCK AREAS D

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures\Report_Figure_TOR_Contour_Boundary.dwg



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DELAWARE RIVER MAIN CHANNEL
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REACH B TOP OF ROCK AREAS E

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures\Report_Figure_TOR_Contour_Boundary.dwg

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DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS F & G

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures\Report_Figure_TOR_Contour_Boundary.dwg

LEGEND

AREA OUTLINE

−47 TOP OF ROCK CONTOUR

0 400' 800'

GRAPHIC SCALE

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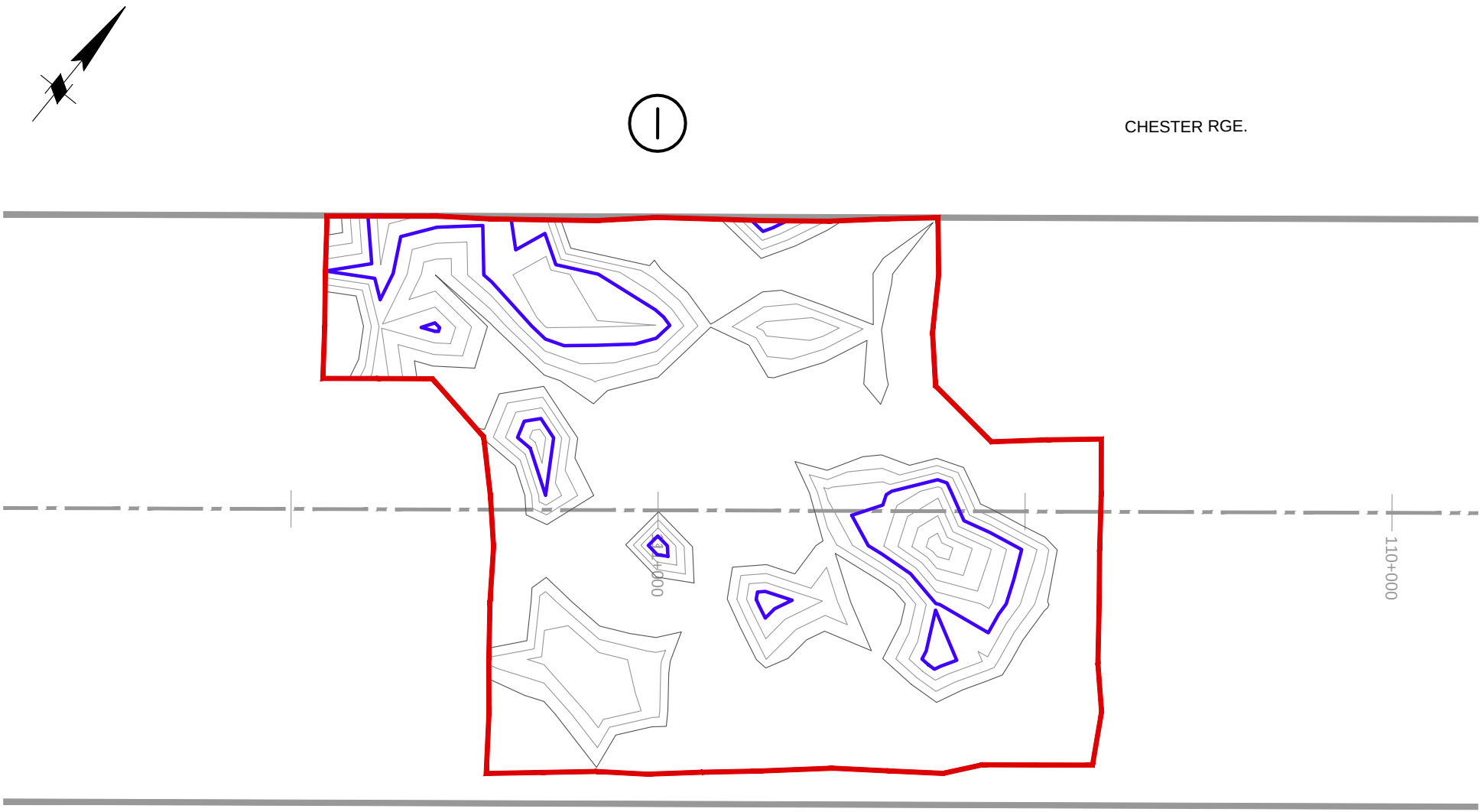
REACH B TOP OF ROCK AREAS H

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures\Report_Figure_TOR_Contour_Boundary.dwg



LEGEND

AREA OUTLINE

−47 TOP OF ROCK CONTOUR

0 200' 400'

GRAPHIC SCALE

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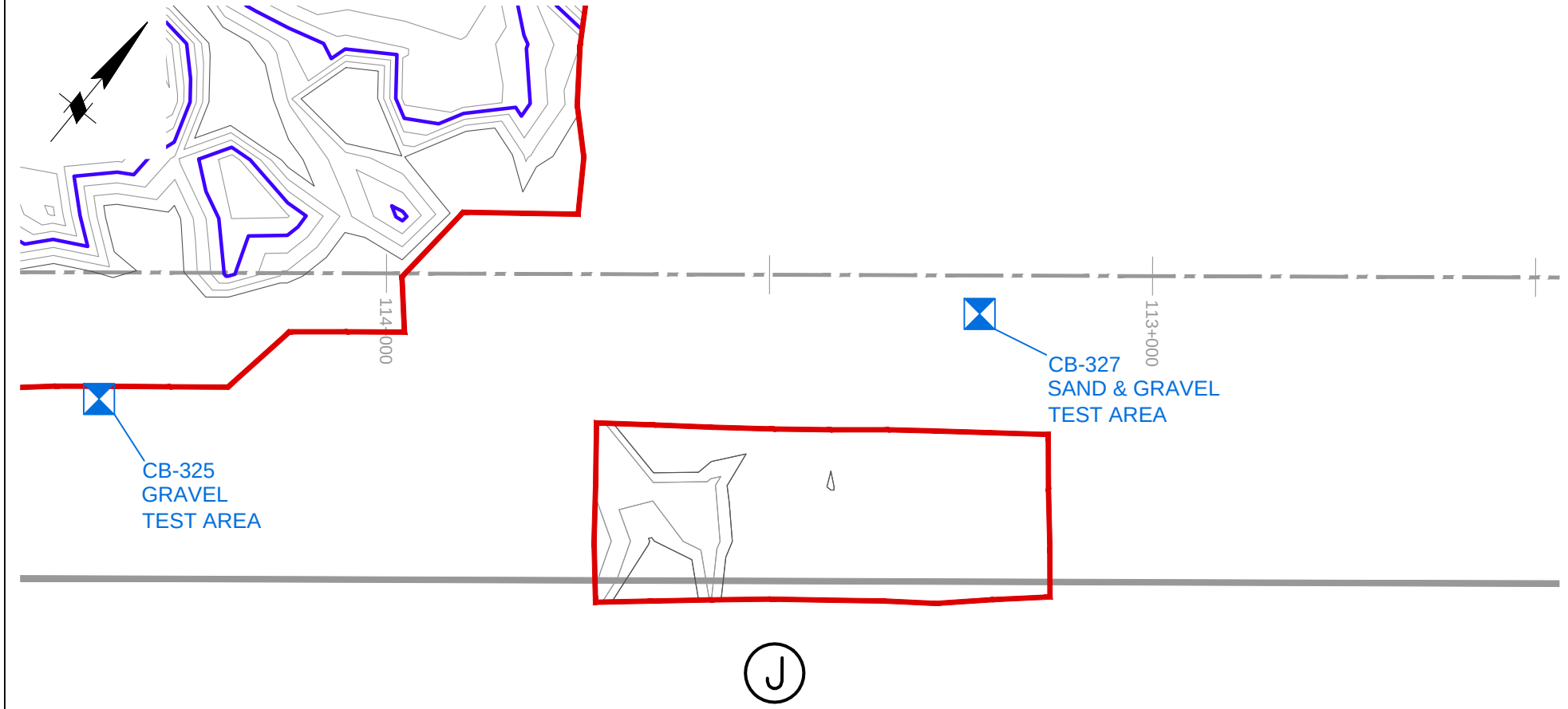
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS I

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures\Report_Figure_TOR_Contour_Boundary.dwg



LEGEND

AREA OUTLINE

–47 TOP OF ROCK CONTOUR

0 200' 400'

GRAPHIC SCALE

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DELAWARE RIVER MAIN CHANNEL
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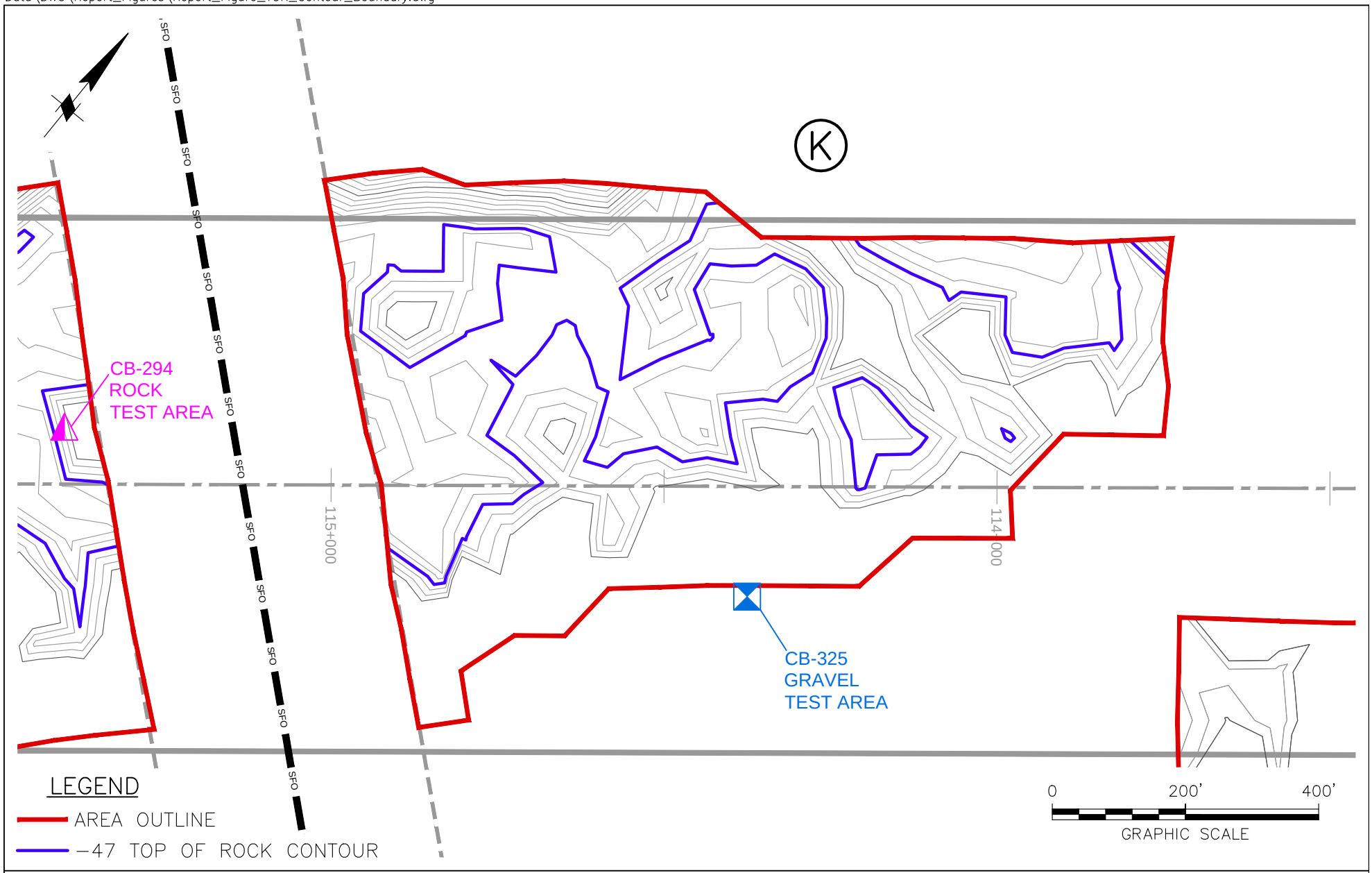
REACH B TOP OF ROCK AREAS J

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures\Report_Figure_TOR_Contour_Boundary.dwg



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DELAWARE RIVER MAIN CHANNEL
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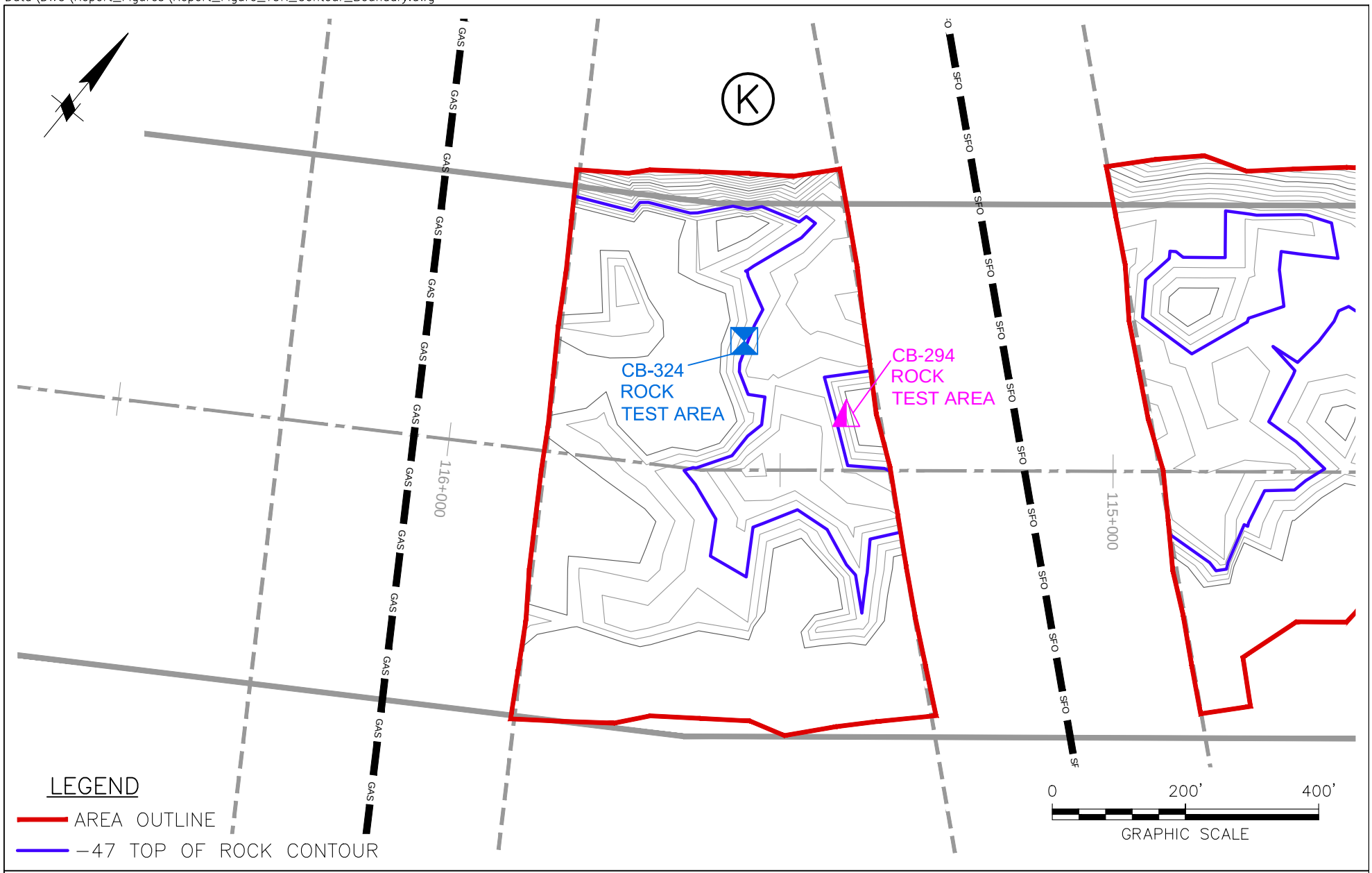
REACH B TOP OF ROCK AREAS K1

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures\Report_Figure_TOR_Contour_Boundary.dwg



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REACH B TOP OF ROCK AREAS K2

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

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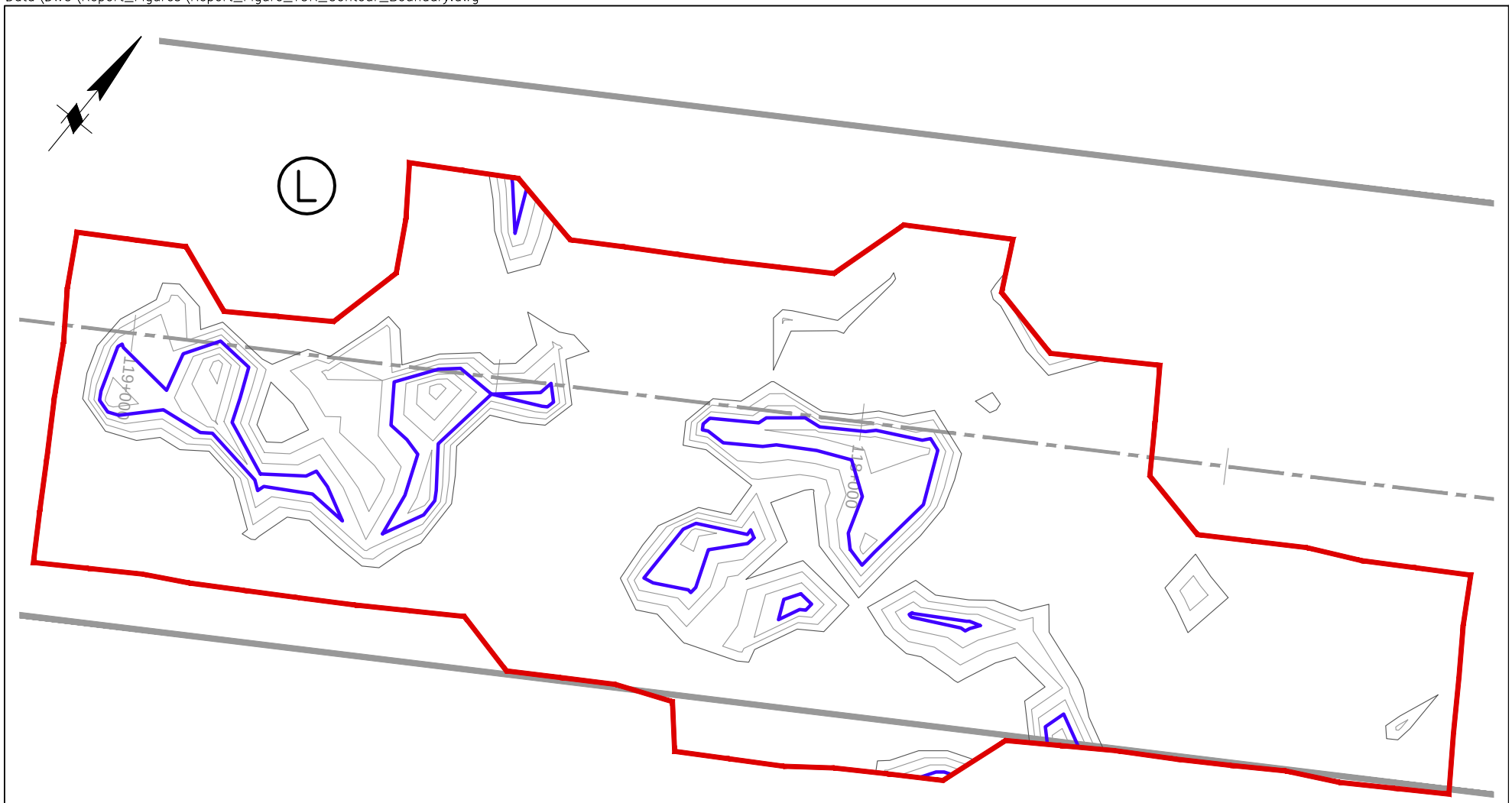

LEGEND

AREA OUTLINE

−47 TOP OF ROCK CONTOUR

0 200' 400'

GRAPHIC SCALE

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DELAWARE RIVER MAIN CHANNEL
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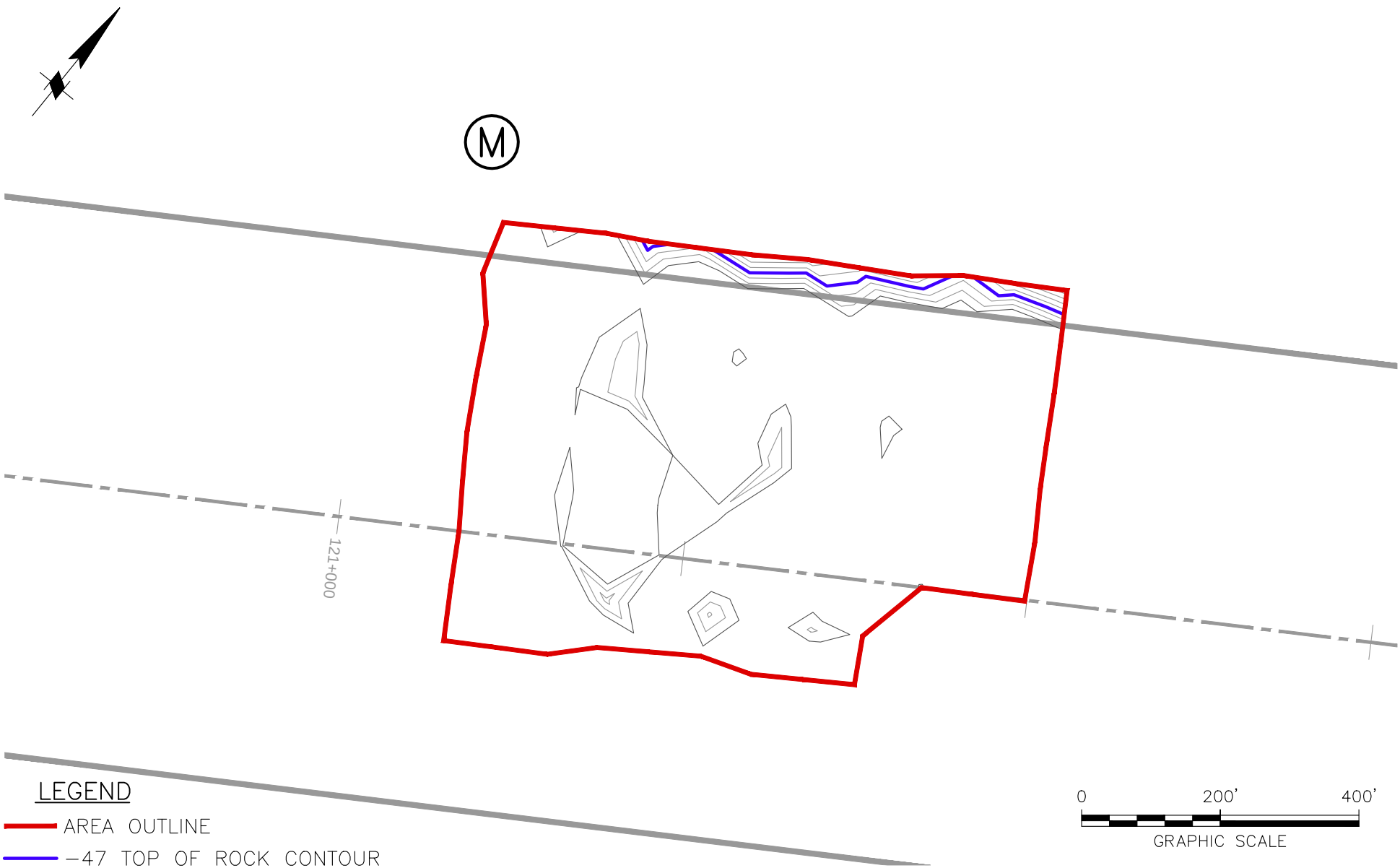
REACH B TOP OF ROCK AREAS L

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures\Report_Figure_TOR_Contour_Boundary.dwg



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DELAWARE RIVER MAIN CHANNEL
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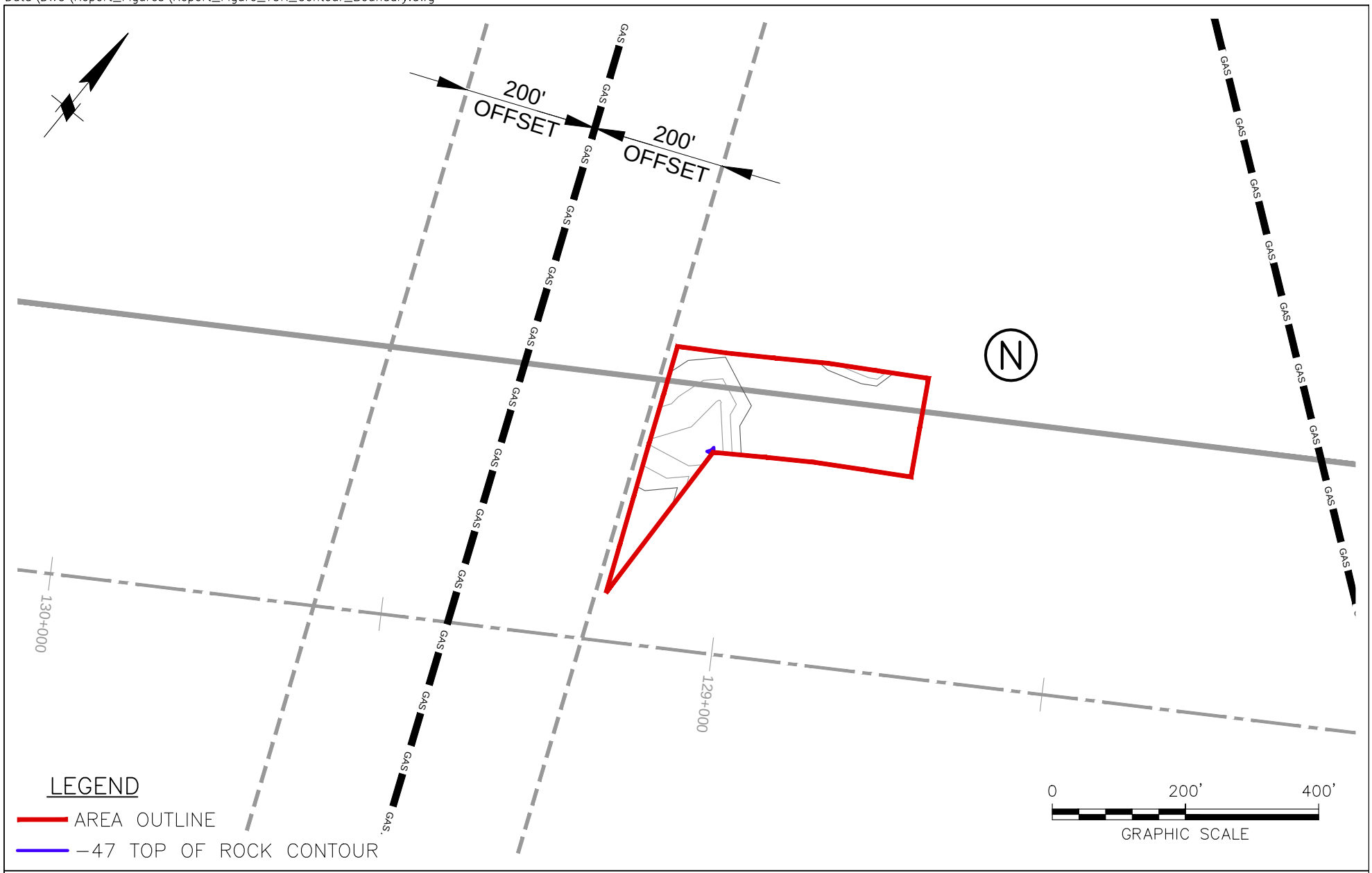
REACH B TOP OF ROCK AREAS M

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures\Report_Figure_TOR_Contour_Boundary.dwg



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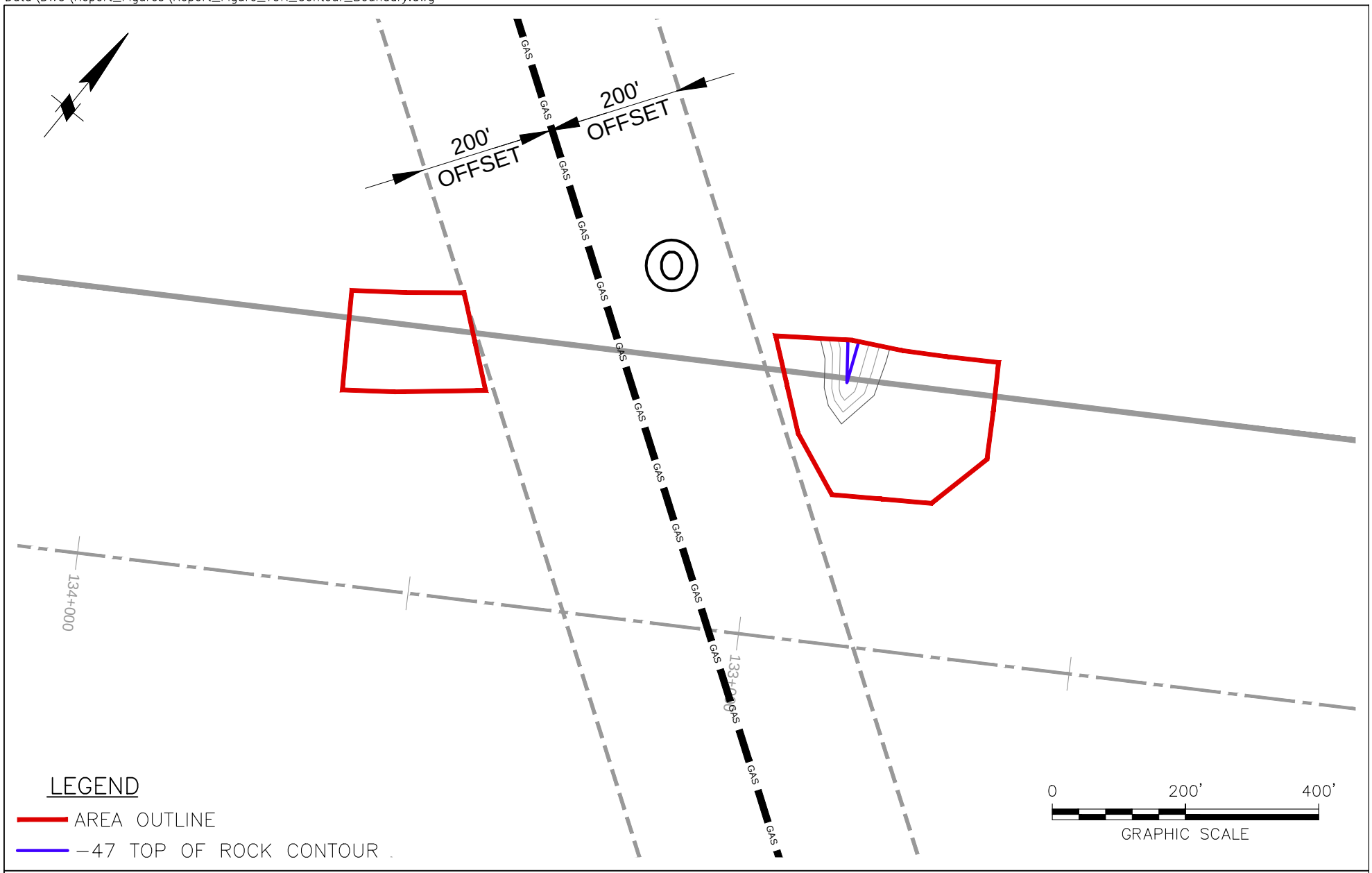
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS N

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures\Report_Figure_TOR_Contour_Boundary.dwg



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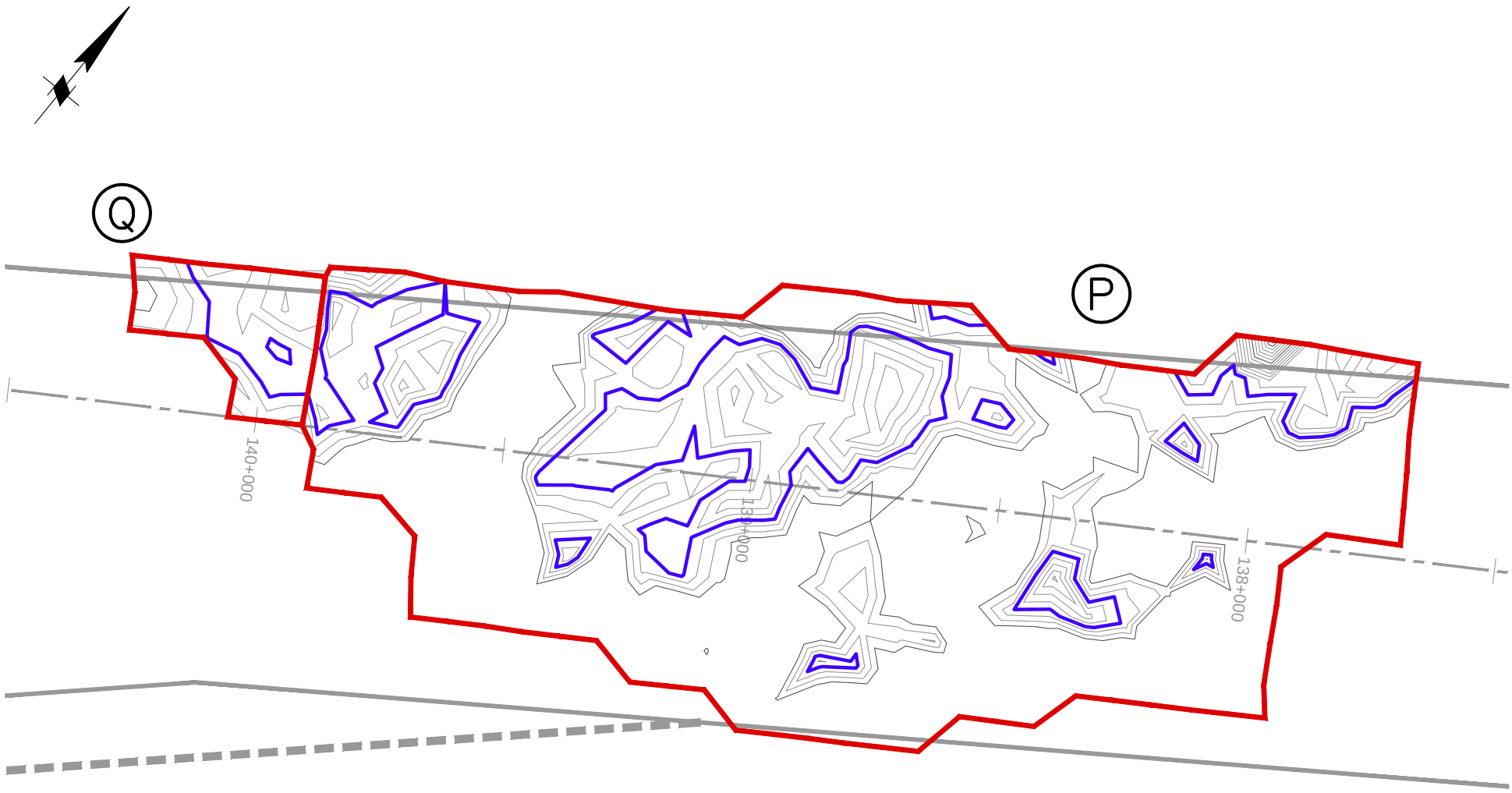
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS O

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures\Report_Figure_TOR_Contour_Boundary.dwg



LEGEND

AREA OUTLINE

−47 TOP OF ROCK CONTOUR

0 300' 600'

GRAPHIC SCALE

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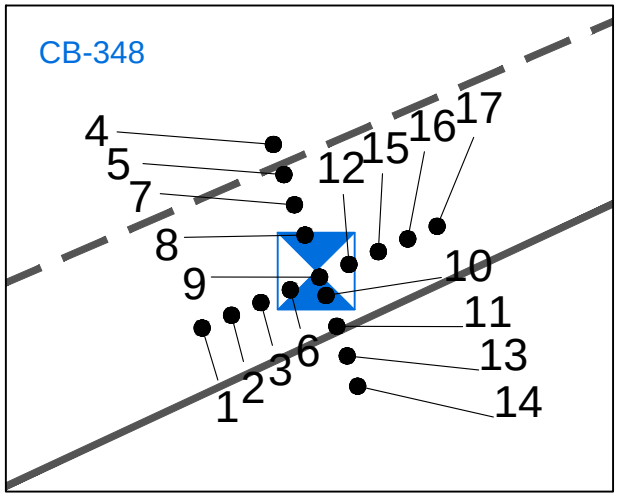
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS P & Q

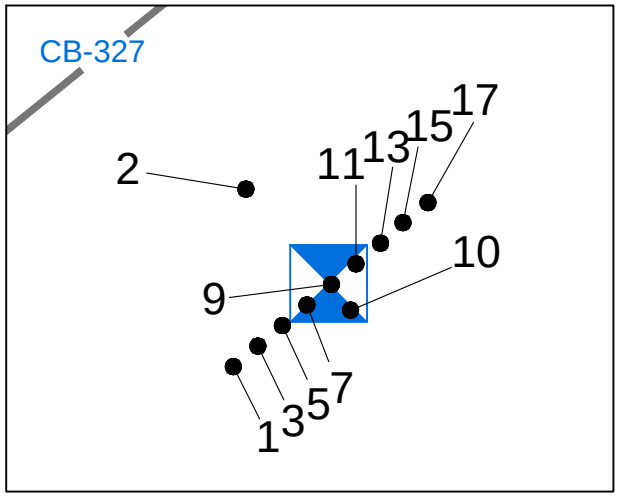
Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Test Program\DWG\Test_Drilling_April_13-15.dwg

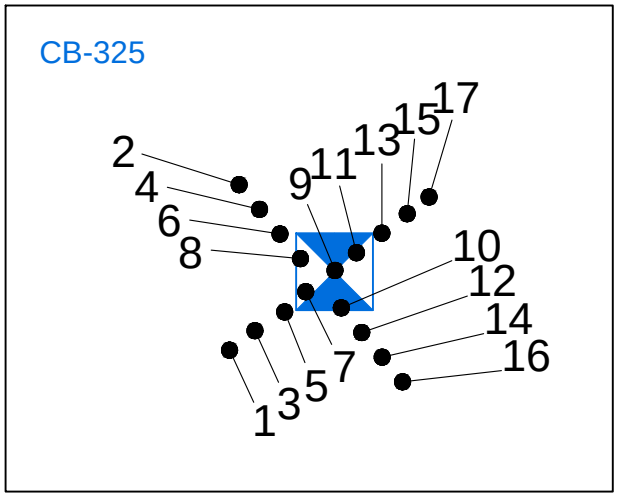
AREA C
WEATHERED ROCK TEST AREA



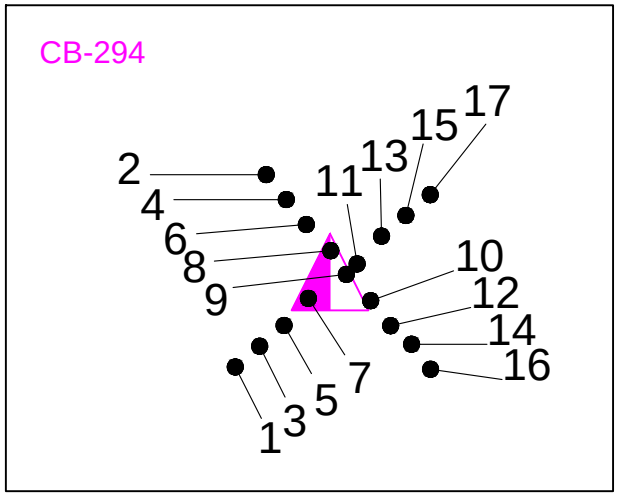
AREA J
SAND AND GRAVEL TEST AREA



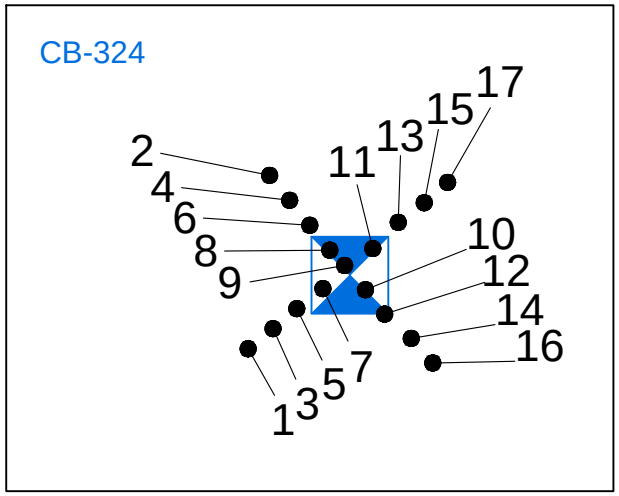
AREA K
GRAVEL TEST AREA

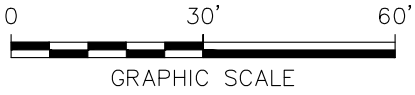


AREA K
ROCK TEST AREA



AREA K
ROCK TEST AREA





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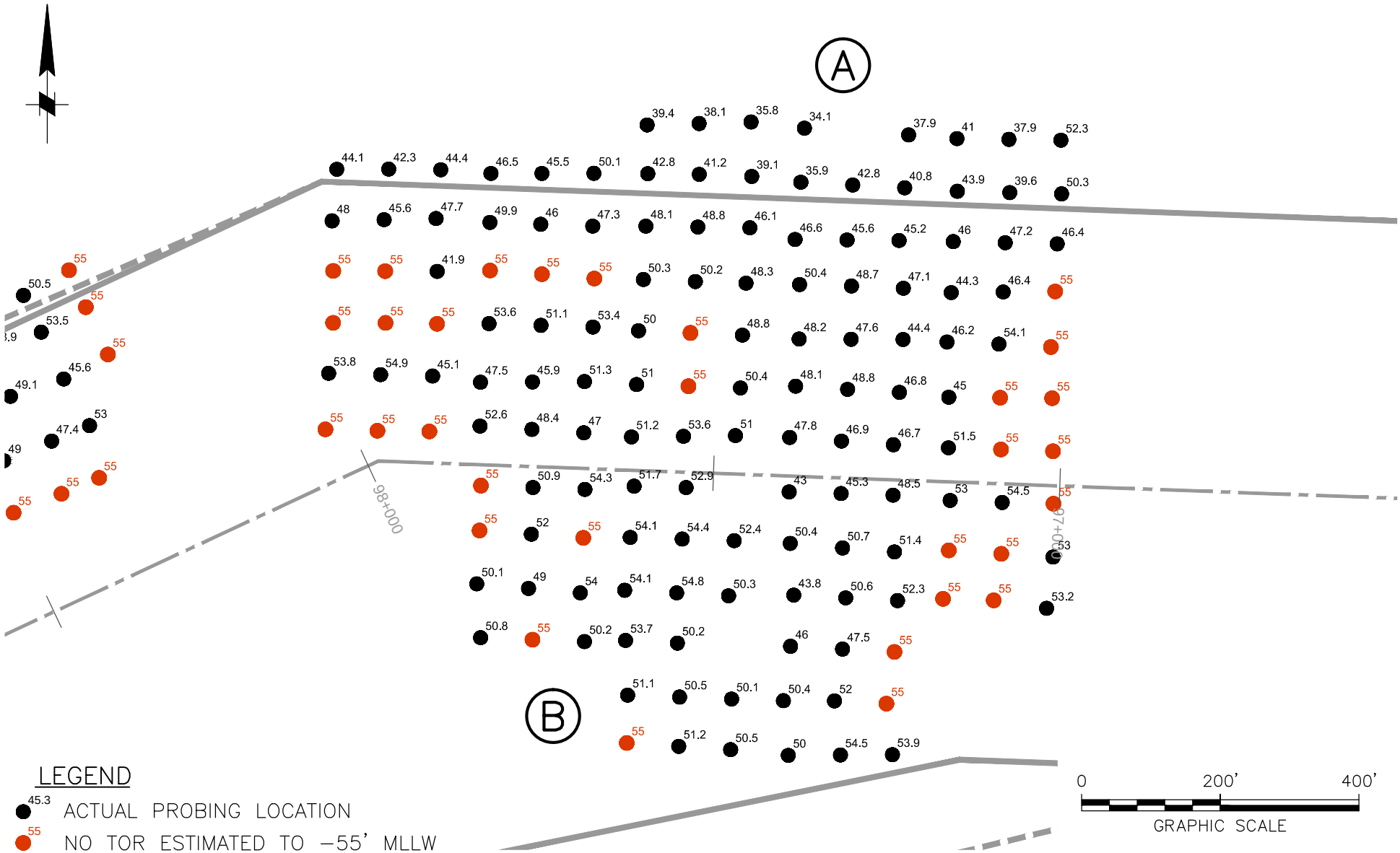
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

TEST DRILLING AREAS
APRIL 13, 2015 – APRIL 15, 2015

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	Test Drilling Areas
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures_TOR_Probes_Only.dwg



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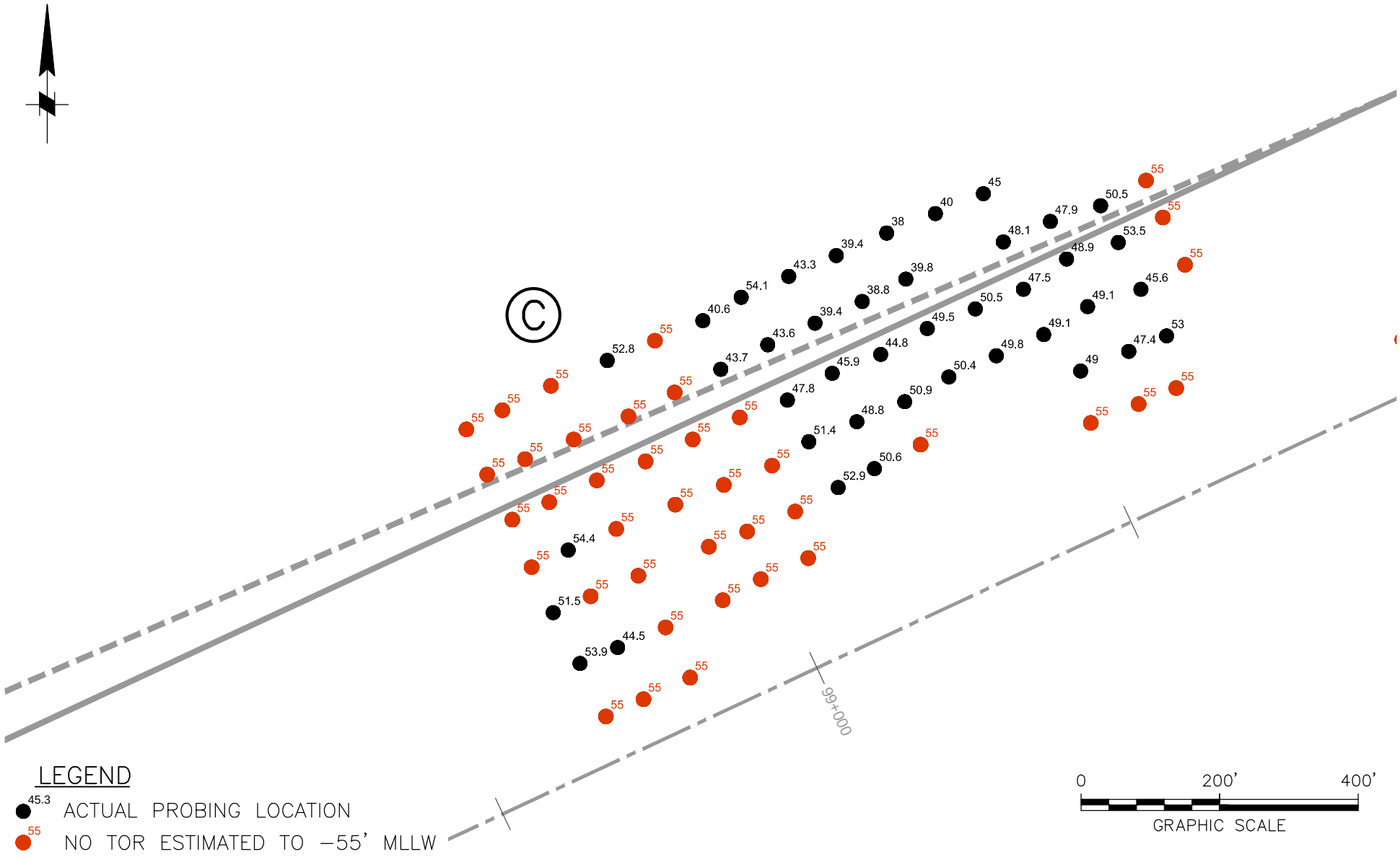
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS A & B

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Areas
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures_TOR_Probes_Only.dwg



LEGEND

45.3 ACTUAL PROBING LOCATION

55 NO TOR ESTIMATED TO −55' MLLW

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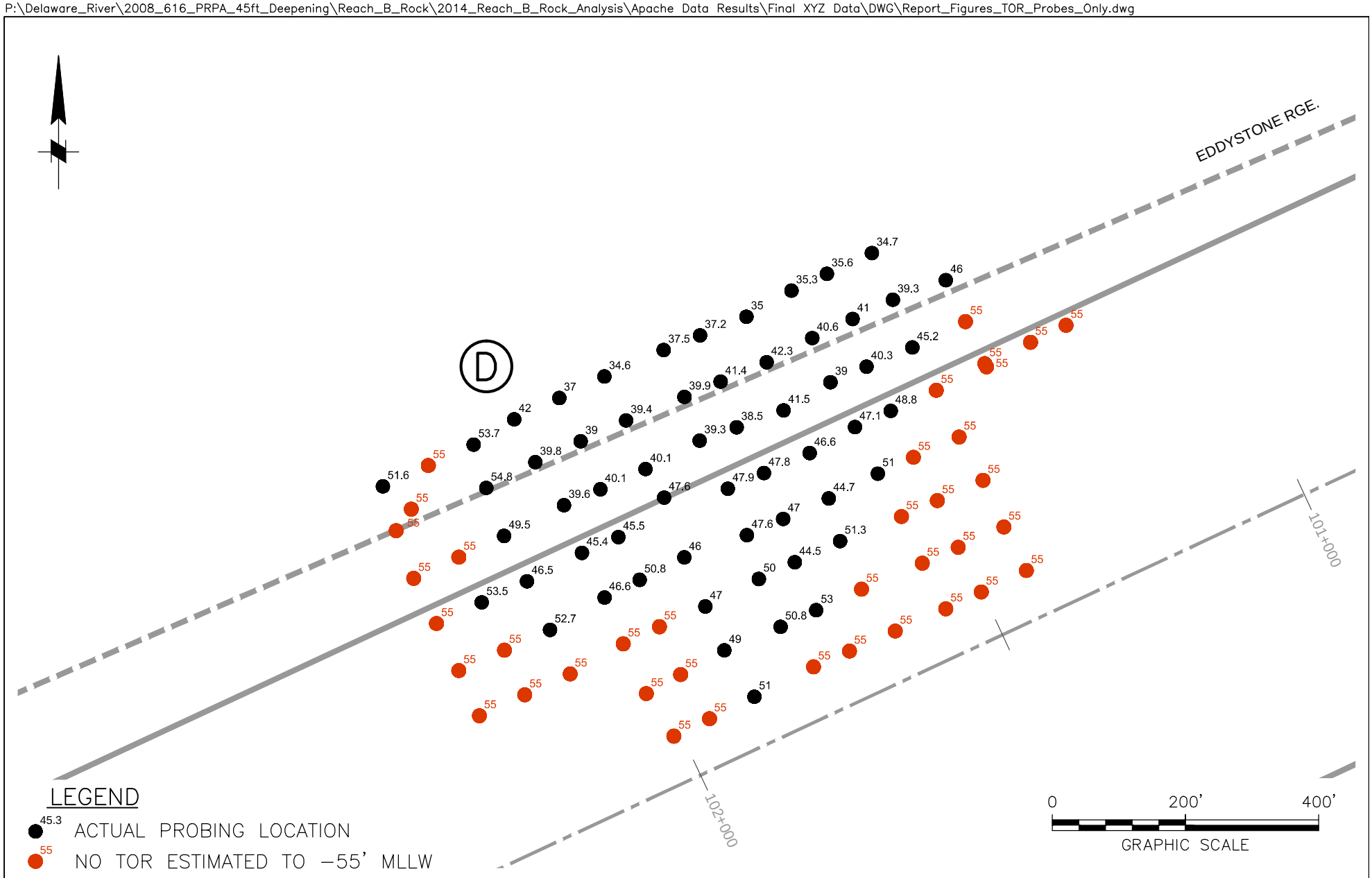
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS C

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures_TOR_Probes_Only.dwg



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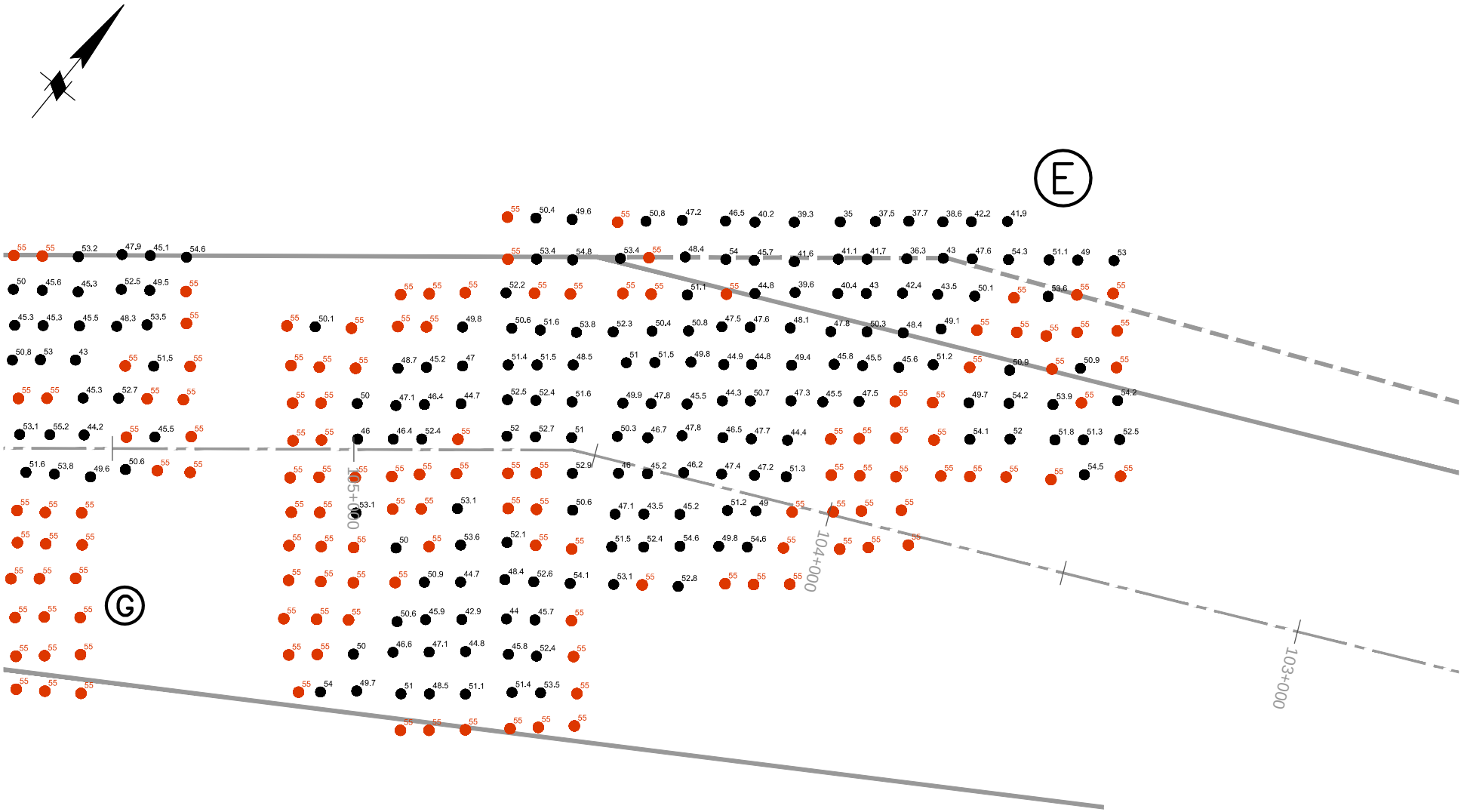
(410) 682-5595

DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS D

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures_TOR_Probes_Only.dwg



LEGEND

45.3 ACTUAL PROBING LOCATION

55 NO TOR ESTIMATED TO −55' MLLW

0 300' 600'

GRAPHIC SCALE

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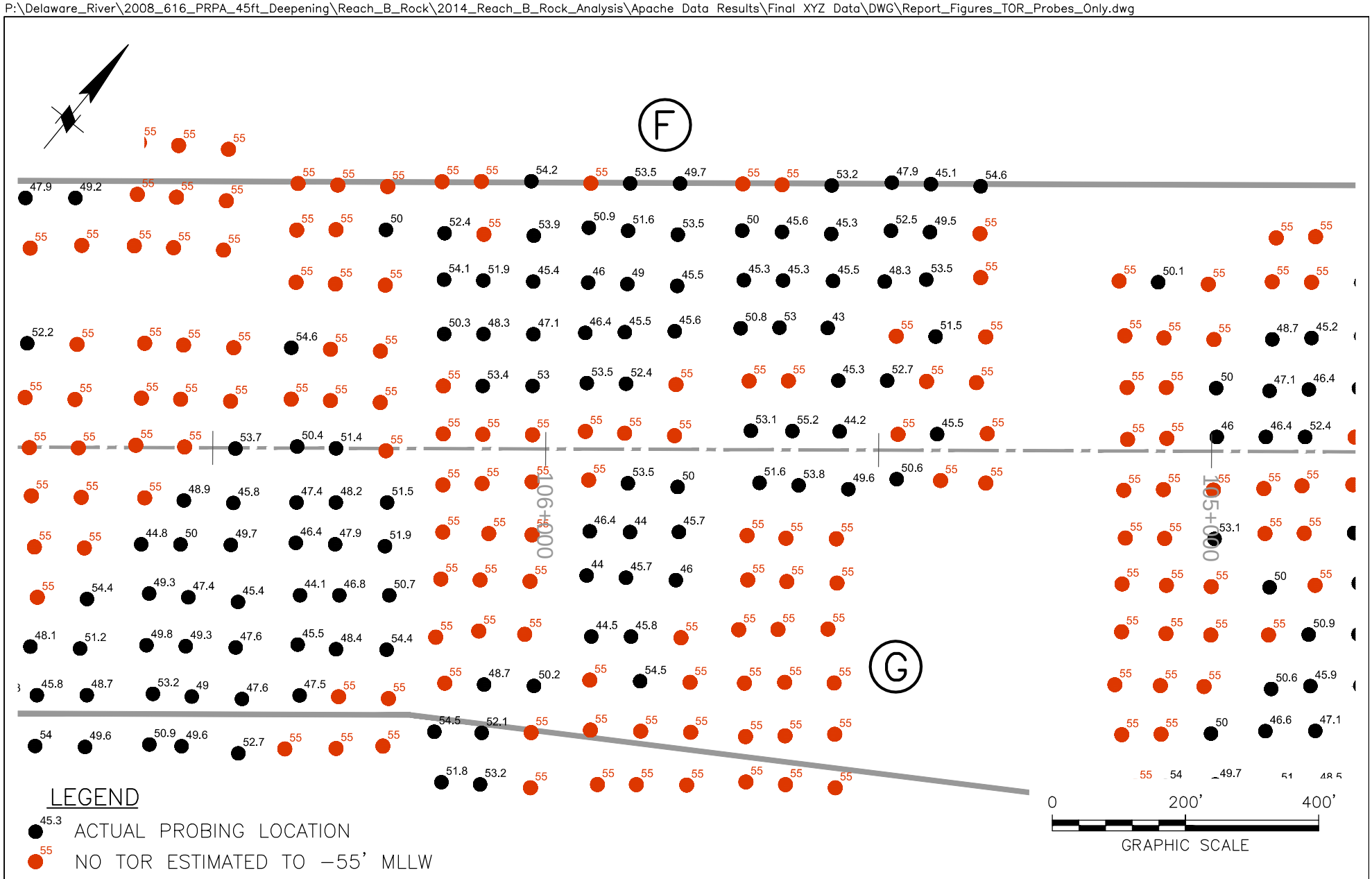
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS E

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures_TOR_Probes_Only.dwg



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DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS F & G

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

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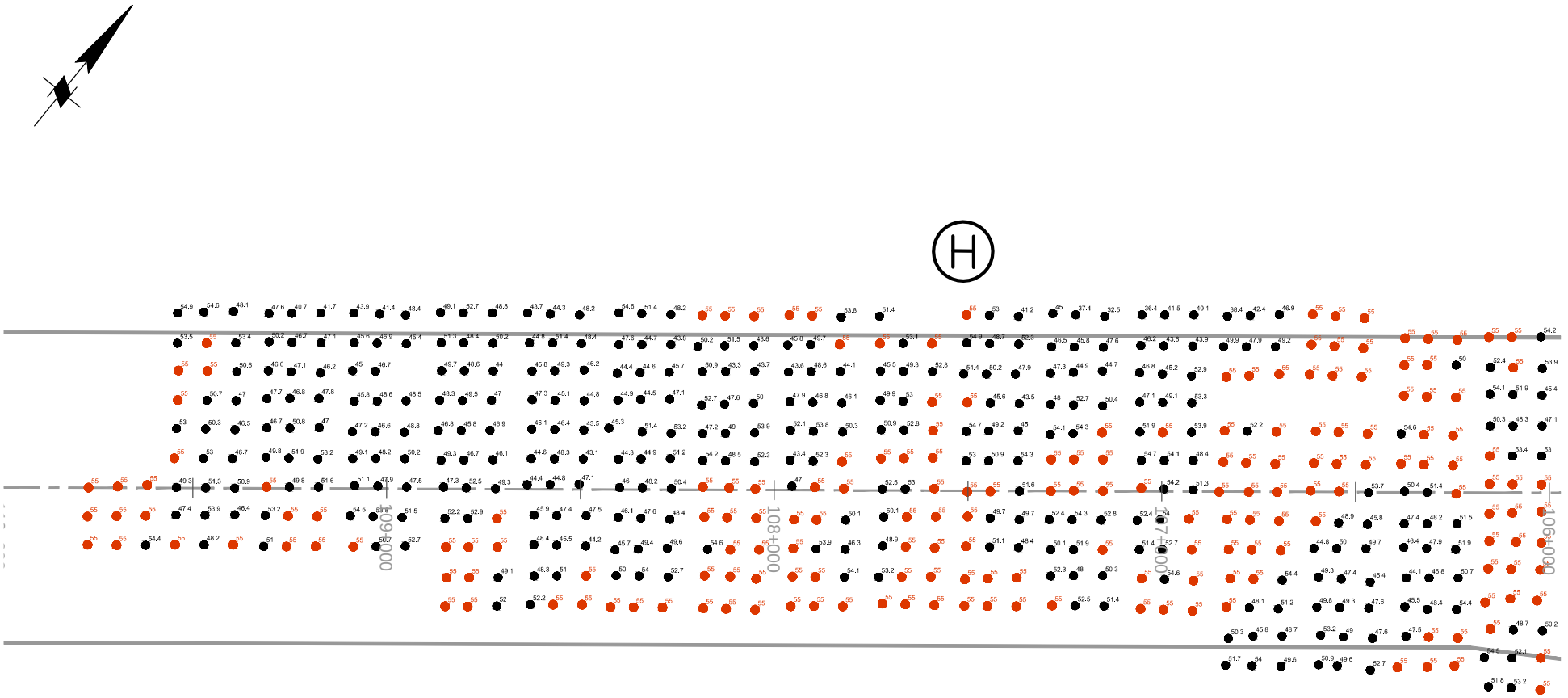

LEGEND

45.3 ACTUAL PROBING LOCATION

55 NO TOR ESTIMATED TO −55' MLLW

0 400' 800'

GRAPHIC SCALE

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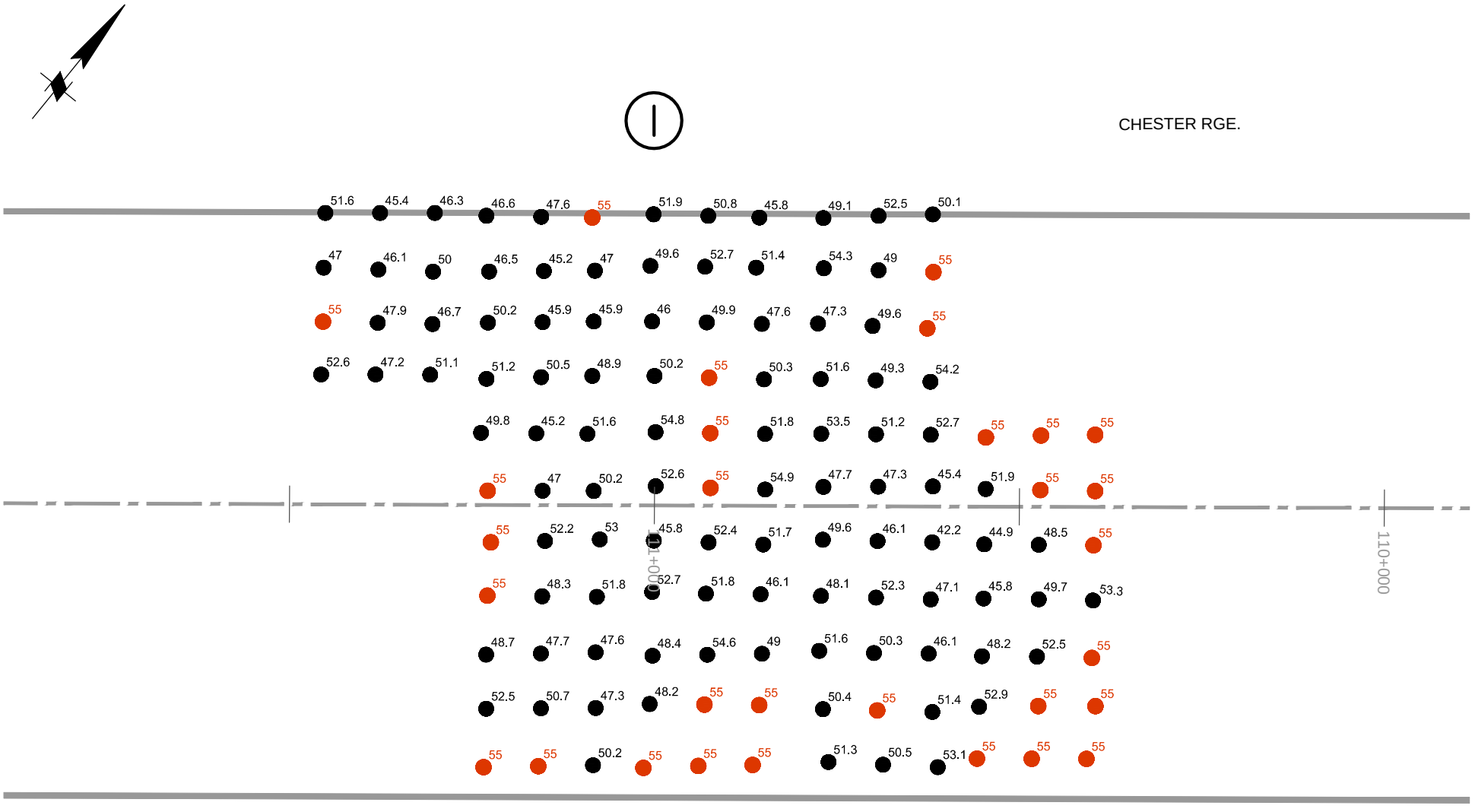
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS H

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures_TOR_Probes_Only.dwg



LEGEND

45.3 ACTUAL PROBING LOCATION

55 NO TOR ESTIMATED TO −55' MLLW

0 200' 400'

GRAPHIC SCALE

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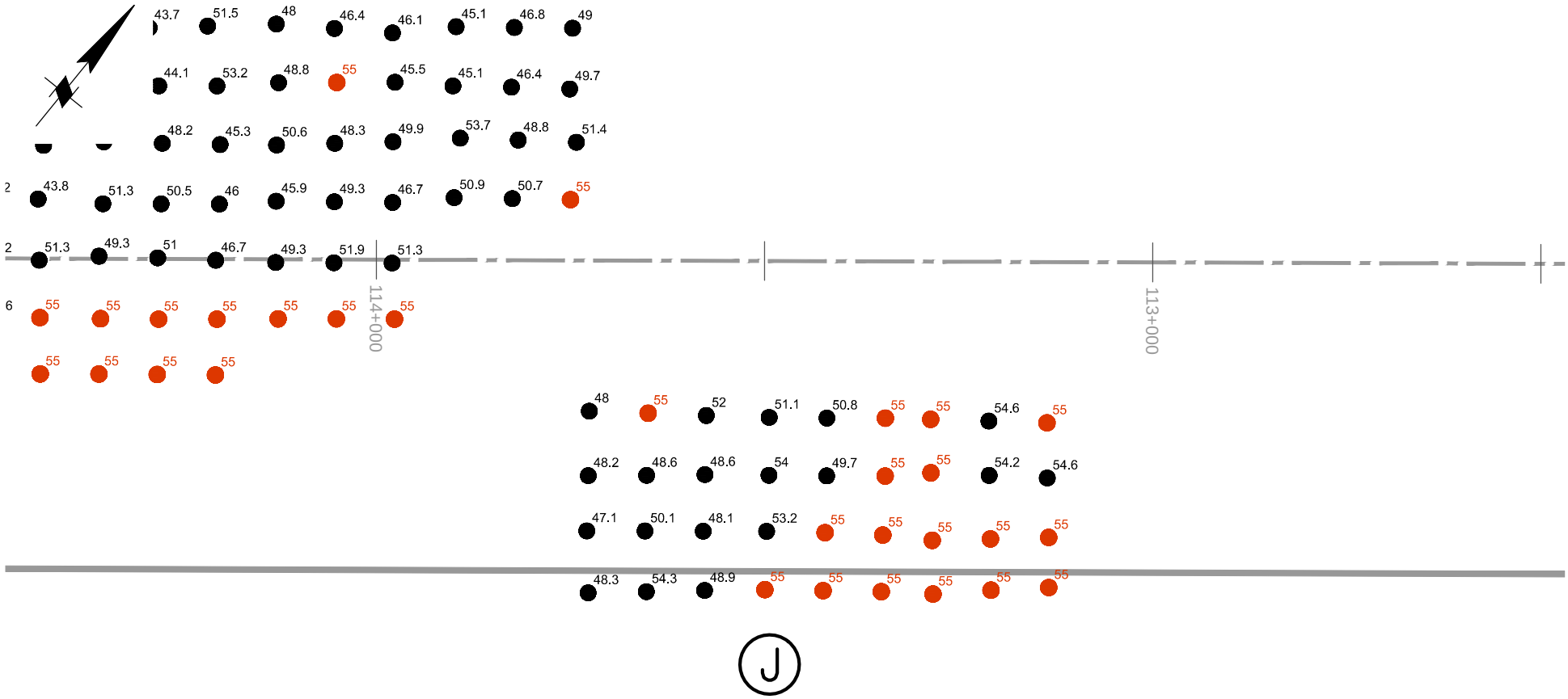
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS I

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures_TOR_Probes_Only.dwg



LEGEND

45.3 ACTUAL PROBING LOCATION

55 NO TOR ESTIMATED TO −55' MLLW

0 200' 400'

GRAPHIC SCALE

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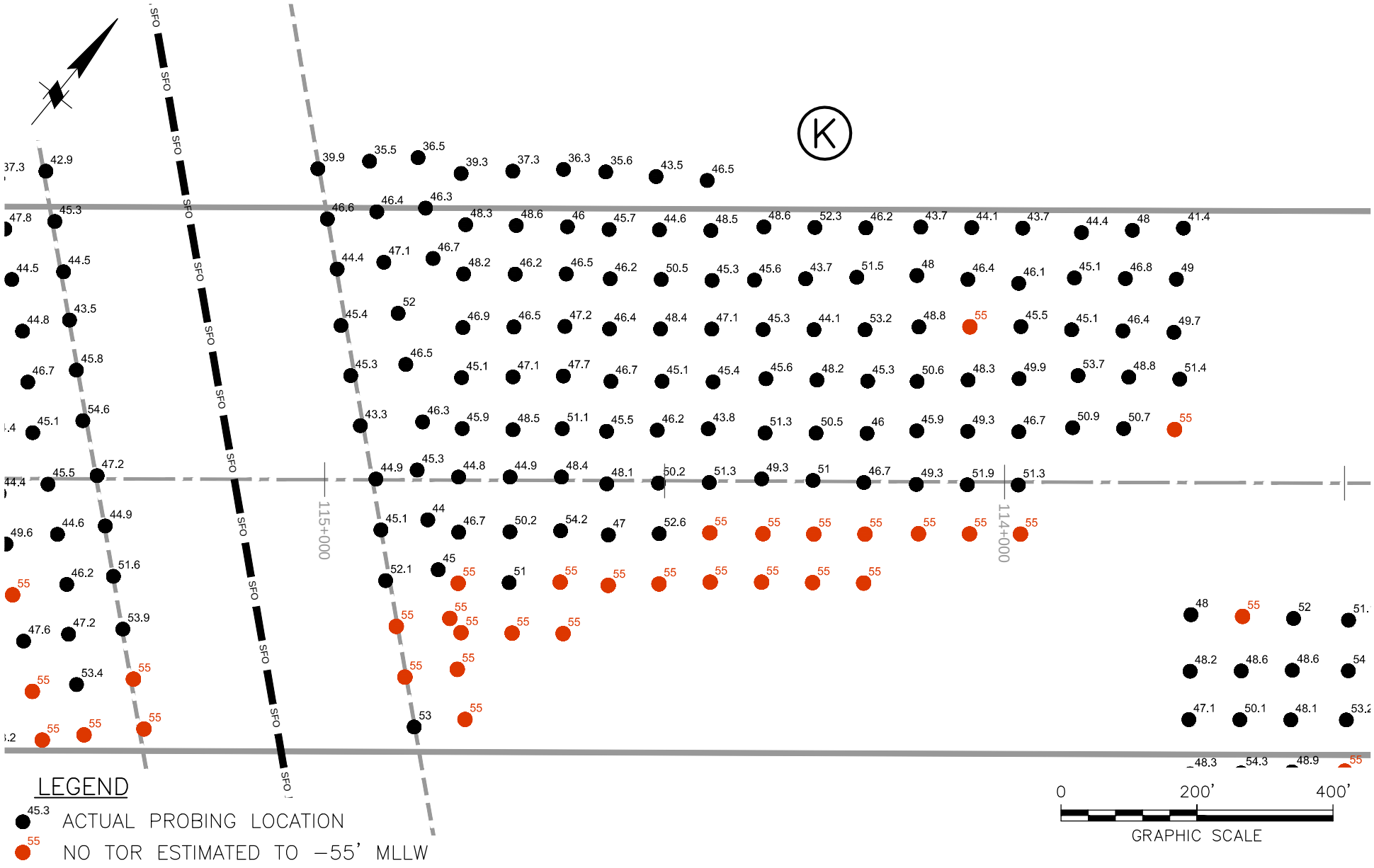
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS J

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures_TOR_Probes_Only.dwg



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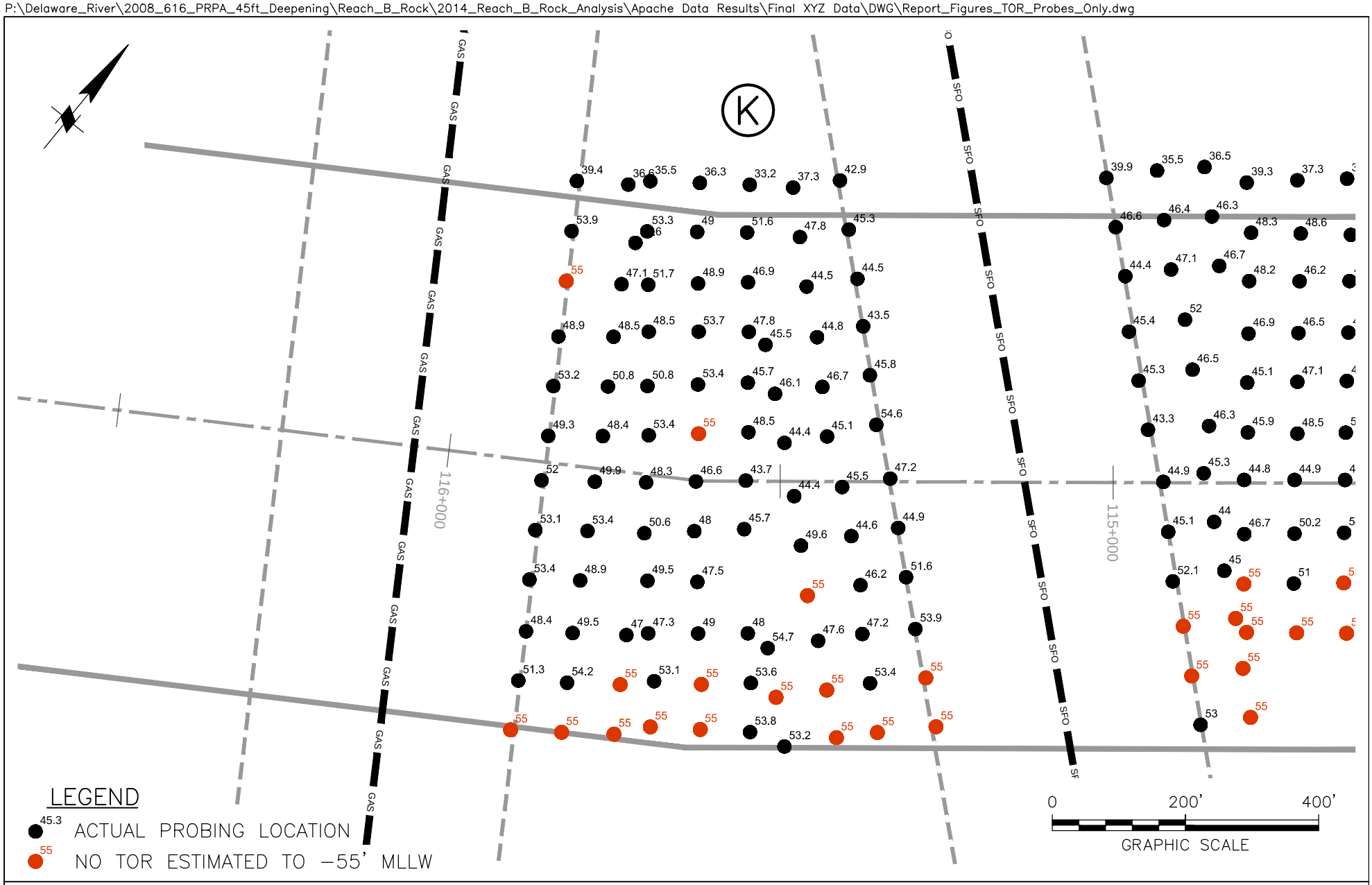
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS K1

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures_TOR_Probes_Only.dwg



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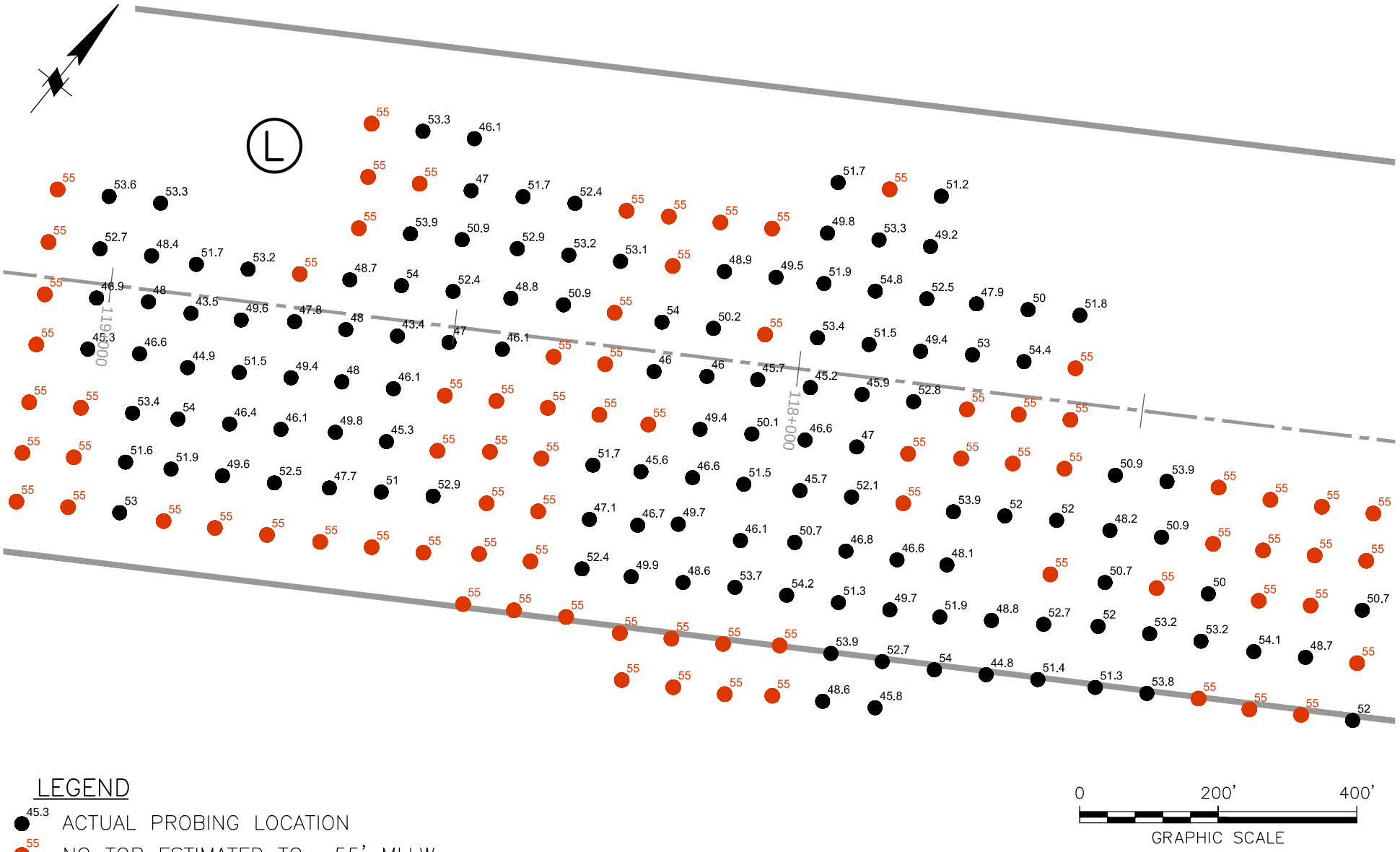
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS K2

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures_TOR_Probes_Only.dwg



LEGEND

45.3 ACTUAL PROBING LOCATION

55 NO TOR ESTIMATED TO −55' MLLW

0 200' 400'

GRAPHIC SCALE

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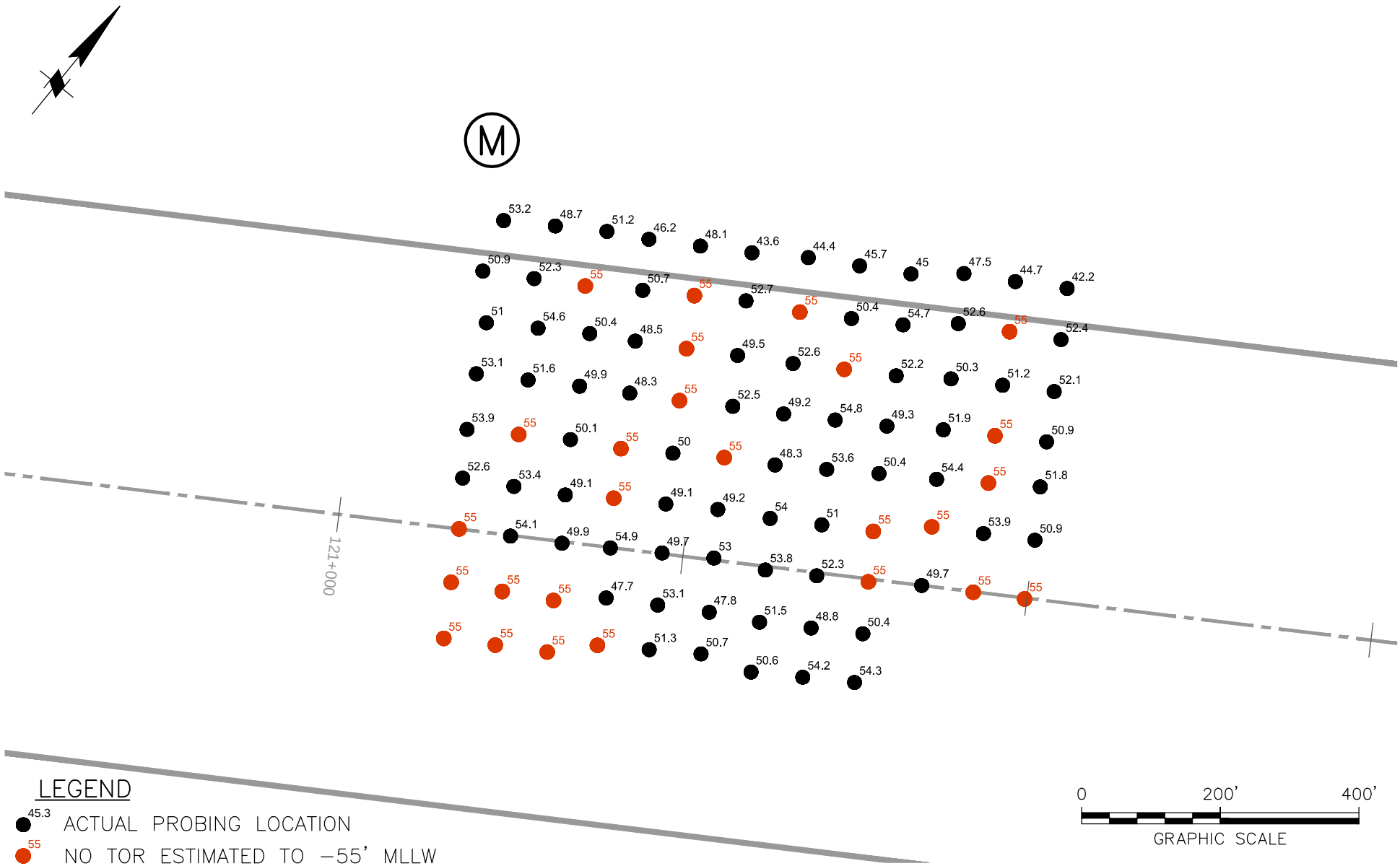
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS L

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures_TOR_Probes_Only.dwg



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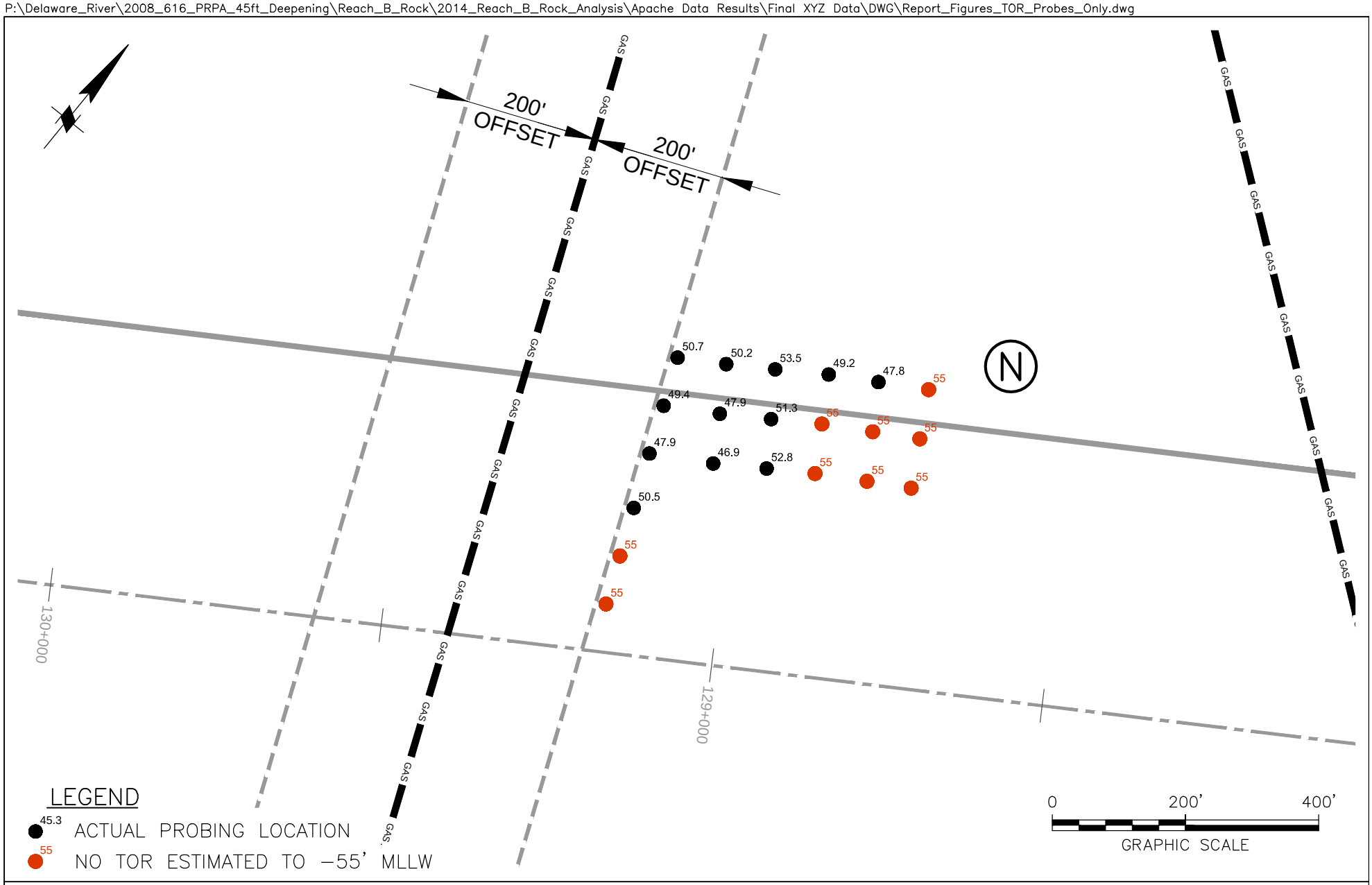
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS M

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures_TOR_Probes_Only.dwg



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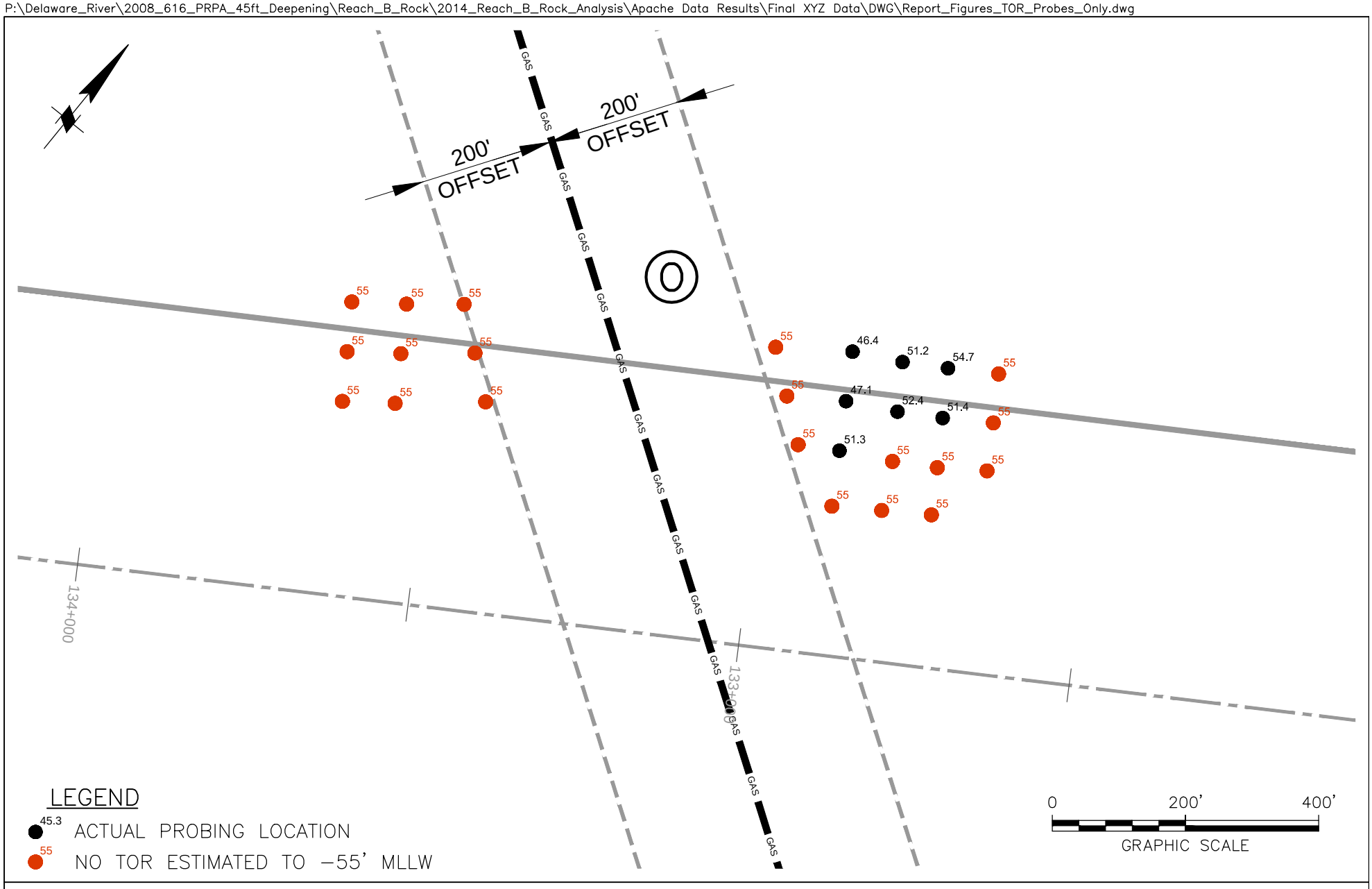
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS N

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures_TOR_Probes_Only.dwg



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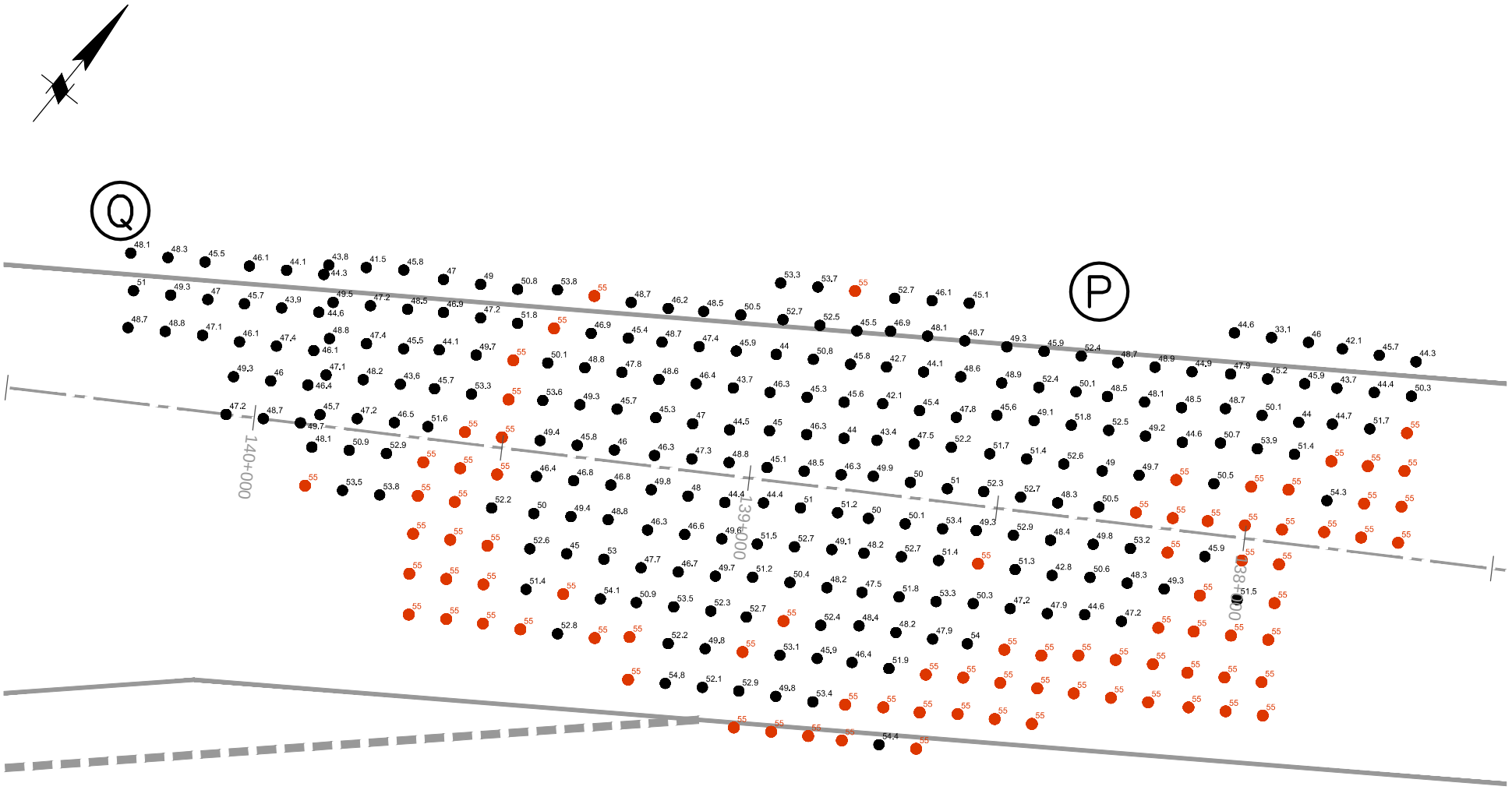
DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS O

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

P:\Delaware_River\2008_616_PRPA_45ft_Deepening\Reach_B_Rock\2014_Reach_B_Rock_Analysis\Apache Data Results\Final XYZ Data\DWG\Report_Figures_TOR_Probes_Only.dwg



LEGEND

45.3 ACTUAL PROBING LOCATION

55 NO TOR ESTIMATED TO −55' MLLW

0 300' 600'

GRAPHIC SCALE

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DELAWARE RIVER MAIN CHANNEL
DEEPENING PROJECT

REACH B TOP OF ROCK AREAS P & Q

Drawing Date:	July 2015
Drawn By:	E. Cook
Checked By:	D. Urso
Drawing Name:	TOR_Area
Drawing Scale:	As Shown

APPENDIX B

Test Program Boring Logs

Hole No. CB-294

DRILLING LOG

DIVISION: North Atlantic

INSTALLATION: Philadelphia District

SHEET 1 OF 1 SHEETS

1. PROJECT: Geotechnical Inv. of Rock Cut Areas
2. LOCATION (Coordinates or Station): STA. 115 + 400 N 361,639.5 E 244,665.5
3. DRILLING AGENCY: Uni-Tech Drilling Co., Inc
4. HOLE NO. *(As shown on drawing title and file number)*: CB-294
5. NAME OF DRILLER: Jim Evans
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED --- DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN: 0.0
8. DEPTH DRILLED INTO ROCK: 20.2
9. TOTAL DEPTH OF HOLE: 20.2
10. SIZE AND TYPE OF BIT: HQ Diamond Bit
11. DATUM FOR ELEVATION SHOWN *(TBM or MSL)*: MLLW
12. MANUFACTURER'S DESIGNATION OF DRILL: CME-750
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED 0; UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES: 3
15. ELEVATION GROUND WATER: 0.0
16. DATE HOLE: STARTED 5/27/2010; COMPLETED 5/27/2010
17. ELEVATION TOP OF HOLE: -44.0
18. TOTAL CORE RECOVERY FOR BORING: 98 %
19. GEOLOGIST: Steve Scott

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS *(Drilling time, water loss, depth weathering, etc., if significant)* g
-44.0	0.0		BEDROCK - See Core Log CB-294			
-47.0	3.0					
-64.2	20.2		Boring Terminated at 20.17 ft. below river bottom.			

O'BRIEN & GERE

ROCK CORE LOG

TEST HOLE No. **CB-294**

Project **Geotechnical Inv. of Rock Cut Areas**
Location **N361,639.500/E244,665.500** Elevation **-44.00ft**
Driller **Jim Evans** Method **HQ Diamond Drill** Dates **5/27/10**
Hole Orientation **Vertical** Logged By **SRS** Date **5/27/10**

Drilling Details	Depth (ft)	Core Recovery (%)	Core Condition	Discontinuity Spacing	R.Q.D. (%)	Intact Rock Strength (psi)	Weathering	Structural Discontinuity Description	Unconf. Comp. Strength (ksi)	Rock Mass Description	Tests
HQ Diamond Impregnated / HQ										Coring Started at 0ft	
	1	100	Moderately Fractured	3	34		F - SW	Joint, horiz. with 55°, joint to 0.6' MB, 55° MB, 55° Joint, horiz. MB, 35° Joint, 40°		RUN #1: GNEISS, fine grained, 60° foliation, black, white, fresh to sl. weathered, mod. hard, mod. fractured; fracture surfaces are sl. to mod. weathered	
	2										
	3	100	Moderately Fractured	6	40	R4 R4	F - SW	MB, 75° MB, 40° MB, 20° MB, 60° Multiple MB's to 4, 60° to 35° MB, 45° Joint, 45° Joint, 5° MB, 75° MB, 45° MB, horiz. Joint, 35°	10.0,13.1	RUN #2: GNEISS, Same as Run #1; fracture surface at 5' is intensely weathered	
	4										
	5										
	6										
	7										
	8	100	Slightly Fractured	2	75		F - SW	MB, 25° Joint, horiz. MB, 50° MB, 50° MB, 35° MB, 35° MB, 50° Joint, 58° MB, 5 °		RUN #3: GNEISS, Same as Run #1, except slightly fractured	
	9										
	10										
	11										
	12										
	13	100	Slightly Fractured	3	85		F - SW	MB, 5° MB, 45° Joint, 60° Joint, 45° Joint, horiz. MB, horiz.		RUN #4: GNEISS, Same as Run #3	
	14										
	15										
	16										
	17										
								Multiple MBs to 17.9', horiz. to 5°		RUN #5: GNEISS, Same as Run #3, except	

CORE RECOVERY
$\frac{\text{Length of core}}{\text{core run}} \times 100$

R.Q.D.
$\frac{\text{Sum core lengths > 4 in.}}{\text{length of core run}} \times 100$

DISCONTINUITY SPACING
No. of fractures/Run

ROCK STRENGTH (ksi)

R0 Extremely weak	<0.15
R1 Very weak	0.15 - 0.7
R2 Weak	0.7 - 3.5
R3 Medium strong	3.5 - 7.0
R4 Strong	7.0 -14.5
R5 Very strong	14.5 - 30.0
R6 Extremely strong	>30.0

WEATHERING

F	Fresh
SW	Slightly
MW	Moderately
HW	Highly
CW	Completely
RS	Residual Soil

FILE No. **46126**
PREPARED By: **DDW**
SHEET 1 of 2

ROCK CORE LOG 46126 USACE DE RIVER CORE LOGS.GPJ BC_MOT.GDT 8/5/10

O'BRIEN & GERE

ROCK CORE LOG

TEST HOLE No. **CB-294**

Project **Geotechnical Inv. of Rock Cut Areas**
Location **N361,639.500/E244,665.500** Elevation **-44.00ft**
Driller **Jim Evans** Method **HQ Diamond Drill** Dates **5/27/10**
Hole Orientation **Vertical** Logged By **SRS** Date **5/27/10**

Drilling Details	Depth (ft)	Core Recovery (%)	Core Condition	Discontinuity Spacing	R.Q.D. (%)	Intact Rock Strength (psi)	Weathering	Structural Discontinuity Description	Unconf. Comp. Strength (ksi)	Rock Mass Description	Tests
HQ	19	86	Ufractured	0	47		F - SW	MB, 60°		unfractured RUN #5: GNEISS, Same as Run #3, except unfractured *(continued)*	
	20										
										Boring Terminated at 20.1 ft	
	21										
	22										
	23										
	24										
	25										
	26										
	27										
	28										
	29										
	30										
	31										
	32										
	33										
	34										
	35										

CORE RECOVERY
$\frac{\text{Length of core}}{\text{core run}} \times 100$

R.Q.D.
$\frac{\text{Sum core lengths > 4 in.}}{\text{length of core run}} \times 100$

DISCONTINUITY SPACING
No. of fractures/Run

ROCK STRENGTH (ksi)

R0 Extremely weak	<0.15
R1 Very weak	0.15 - 0.7
R2 Weak	0.7 - 3.5
R3 Medium strong	3.5 - 7.0
R4 Strong	7.0 -14.5
R5 Very strong	14.5 - 30.0
R6 Extremely strong	>30.0

WEATHERING

F	Fresh
SW	Slightly
MW	Moderately
HW	Highly
CW	Completely
RS	Residual Soil

FILE No. **46126**
PREPARED By: **DDW**
SHEET 2 of 2

ROCK CORE LOG 46126 USACE DE RIVER CORE LOGS.GPJ BC_MOT.GDT 8/5/10

Hole No. CB-324

DRILLING LOG	DIVISION North Atlantic	INSTALLATION Philadelphia District	SHEET 1 OF 1

1. PROJECT Delaware River Deepening Project Reach B	10. SIZE AND TYPE OF BIT 2" or 3" SPT 140# Safety hammer
2. LOCATION *(Coordinates or Station* 361632.209 244474.082	11. DATUM FOR ELEVATION SHOWN *(TBM or MSL)* -45.77 MLLW
3. DRILLING AGENCY Jersey Boring and Drilling Company	12. MANUFACTURERS DESIGNATION OF DRILL CME-55
4. HOLE NO. *(As shown on drawing title and title number)* CB-324	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN — DISTURBED Yes — UNDISTURBED
5. NAME OF DRILLER Joseph Kurzynowski	14. TOTAL NUMBER CORE BOXES 1
6. DIRECTION OF HOLE X VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER N/A 16. DATE HOLE — STARTED 12/8/11 12:00 — COMPLETED 14:30
	17. ELEVATION TOP OF HOLE -45.77 MLLW
7. THICKNESS OF OVERBURDEN 1'	18. TOTAL CORE RECOVERY FOR BORING 100% =5'
8. DEPTH DRILLED INTO ROCK 5'	19. SIGNATURE OF INSPECTOR Gary M.B. Kribbs. P.G.
9. TOTAL DEPTH OF HOLE 6'	

ELEVATION a	DEPTH b	General Sample Condition Rock: fracture or joint angle Mechanical Break = MB, Natural Fracture = NF LEGEND c	CLASSIFICATION OF MATERIALS (Description) *d*	SPT or Core % REC & RQD e	BOX OR SAMPLE # or Run # depth % Rec f	(Weathering, staining water loss drilling penetration rates, drilling issues and testing results) REMARKS g
			Gray/Brown Sand			
-46.77	1					
-47.77	2	Horiz. NF Horiz. + 42° NF Horiz. NF	White/Black **Mafic GNEISS** 42° gneissic foliation	REC 100%	R-1 1-6'	
-48.77	3	Horiz. NF		5' RQD		
-49.77	4	Horiz. + 42° NF CS-3.1	Horizontal and vertical Natural fracturing	28% 1.4'		CS-8,563 psi
-50.77	5	Horiz. NF Broken zone ST-3	4.2 to 5' gneissic foliation showing flowage/migmatization			FL-4,984 lbs STS-1,100 psi
-51.77	6					
			Bottom of Boring 6'			

Rock Coring

Hole No. CB-325

DRILLING LOG	DIVISION North Atlantic	INSTALLATION Philadelphia District	SHEET 1 OF 1

1. PROJECT Delaware River Deepening Project Reach B		10. SIZE AND TYPE OF BIT *2" or 3" SPT 140# Safety hammer	
2. LOCATION *(Coordinates or Station* 362091.716 245618.512		11. DATUM FOR ELEVATION SHOWN *(TBM or MSL)* -44.49 MLLW	
3. DRILLING AGENCY Jersey Boring and Drilling Company		12. MANUFACTURERS DESIGNATION OF DRILL CME-55	
4. HOLE NO. *(As shown on drawing title and title number)*	CB-325	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN 3	DISTURBED Yes / UNDISTURBED
5. NAME OF DRILLER Joseph Kurzynowski		14. TOTAL NUMBER CORE BOXES N/A	
		15. ELEVATION GROUND WATER N/A	
6. DIRECTION OF HOLE X VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		16. DATE HOLE	STARTED 12/7/11 12:30 / COMPLETED 15:30
		17. ELEVATION TOP OF HOLE -44.49 MLLW	
7. THICKNESS OF OVERBURDEN 8'		18. TOTAL CORE RECOVERY FOR BORING N/A	
8. DEPTH DRILLED INTO ROCK N/A		19. SIGNATURE OF INSPECTOR Gary M.B. Kribbs P.G.	
9. TOTAL DEPTH OF HOLE 8'			

ELEVATION a	DEPTH b	General Sample Condition Rock: fracture or joint angle Mechanical Break = MB, Natural Fracture = NF LEGEND c	CLASSIFICATION OF MATERIALS (Description) *d*	SPT or Core % REC & RQD e	BOX OR SAMPLE # or Run # depth % Rec f	(Weathering, staining water loss drilling penetration rates, drilling issues and testing results) REMARKS g
						Casing embedded 3'
-45.49	1					
						Spoon pulled casing up &
-46.49	2				S-1 *	Collapsed the hole
			Multi-colored		4-6'	A-1-a (0)
			GRAVEL and SAND		REC	GW
-47.49	3				62.5%	
-48.49	4					
			Moderately well sorted	27-36		
-49.49	5					
				50-53	S-2	
-50.49	6				6-8'	
				27-36	REC	
					62.5%	
-51.49	7				1.25'	Casing running
				27-33		
-52.49	8					
			Bottom of Boring 8'			
	9					
	10					
	11					
	12					
	13					
	14					
	15					

SPT Boring Only

ENG FORM 1836 MAR 71	PREVIOUS EDITIONS ARE OBSOLETE.	PROJECT DRDP-RB	HOLE NO. CB-325

Hole No. CB-327

DRILLING LOG	DIVISION North Atlantic	INSTALLATION Philadelphia District	SHEET 1 OF 1

1. PROJECT Delaware River Deepening Project Reach B	10. SIZE AND TYPE OF BIT 2" or 3" SPT 140 # Safety Hammer
2. LOCATION *(Coordinates or Station* 362901.539 246441.847	11. DATUM FOR ELEVATION SHOWN *(TBM or MSL)* -42.4 MLLW
3. DRILLING AGENCY Jersey Boring and Drilling Company	12. MANUFACTURERS DESIGNATION OF DRILL CME-55
4. HOLE NO. *(As shown on drawing title and title number)* CB-327	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN 4 — DISTURBED Yes — UNDISTURBED
5. NAME OF DRILLER Joseph Kurzynowski	14. TOTAL NUMBER CORE BOXES N.A
	15. ELEVATION GROUND WATER N/A
6. DIRECTION OF HOLE X VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	16. DATE HOLE — STARTED 12/6/11 7:45 — COMPLETED 10:00
	17. ELEVATION TOP OF HOLE -42.4 MLLW
7. THICKNESS OF OVERBURDEN 10.5'	18. TOTAL CORE RECOVERY FOR BORING N/A
8. DEPTH DRILLED INTO ROCK N/A	19. SIGNATURE OF INSPECTOR Gary M.B. Kribbs P.G.
9. TOTAL DEPTH OF HOLE 10.5'	

ELEVATION a	DEPTH b	General Sample Condition Rock: fracture or joint angle Mechanical Break = MB, Natural Fracture = NF LEGEND c	CLASSIFICATION OF MATERIALS (Description) *d*	SPT or Core % REC & RQD e	BOX OR SAMPLE # or Run # depth % Rec f	(Weathering, staining water loss drilling penetration rates, drilling issues and testing results) REMARKS g
			Very loose			Casing embedded into sediment
-43.4	1		Casing 3 feet.			Due to strong river current
			Loose gravel and sand in wash			
-44.4	2					
					S-1	
-45.4	3				3-5'	
			Gray	12-27	REC	
-46.4	4		**GRAVEL and SAND**		0%	
				36-41	0.0'	
					S-2	
-47.4	5				5-7'	
				12-26	REC	
-48.4	6		Reddish Gray		40%	**A-4 (0)**
			Micaceous Sandy SILT with	19-28	0.8'	**ML**
			rock fragments and gravel		S-3	**Non-plastic**
-49.4	7				7-9'	
			Brown/Gray	37-53	REC	**A-1-a (0)**
-50.4	8		**GRAVEL and SAND**		100%	**N/A**
					2'	
			Grading down to	54-53	S-4	
-51.4	9		Medium grained **SAND**		9-11'	
			With gravel and rock fragments	63-67	REC	
-52.4	10				100%	
				100/0.5	2'	
-53.4	11		Bottom of Boring 10.5'			

SPT Boring Only

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE. PROJECT DRDP-RB HOLE NO. CB-327
MAR 71

Hole No. CB-348

DRILLING LOG		INSTALLATION Philadelphia District	SHEET 1 OF 1
1. PROJECT Delaware River Deepening Project Reach B		10. SIZE AND TYPE OF BIT 2" or 3" SPT or HX Diamond Bit.	
2. LOCATION *(Coordinates or Station* 371156.556 258176.725		11. DATUM FOR ELEVATION SHOWN *(TBM or MSL)* -44.1 MLLW	
3. DRILLING AGENCY Jersey Boring and Drilling Company		12. MANUFACTURERS DESIGNATION OF DRILL CME-55	
4. HOLE NO. *(As shown on drawing title and title number)*	CB-348	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN 2	DISTURBED Yes / UNDISTURBED
5. NAME OF DRILLER Joseph Kurzynowski		14. TOTAL NUMBER CORE BOXES 1	
6. DIRECTION OF HOLE X VERTICAL ☐ INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER N/A	
		16. DATE HOLE	STARTED 12/19/11 7:30 / COMPLETED 11:30
		17. ELEVATION TOP OF HOLE -44.1 MLLW	
7. THICKNESS OF OVERBURDEN 5'		18. TOTAL CORE RECOVERY FOR BORING 79% =6.3''	
8. DEPTH DRILLED INTO ROCK 8'		19. SIGNATURE OF INSPECTOR Gary M.B. Kribbs P.G.	
9. TOTAL DEPTH OF HOLE 13'			

ELEVATION a	DEPTH b	General Sample Condition Rock: fracture or joint angle Mechanical Break = MB, Natural Fracture = NF LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SPT or Core % REC & RQD e	BOX OR SAMPLE # or Run # depth % Rec f	(Weathering, staining water loss drilling penetration rates, drilling issues and testing results) REMARKS g
				14-18	S-1	Difficulty seating casing
					0-2'	**A-1-a (0)**
-45.1	1				REC	**N/A**
			Black/Gray	8-12	55%	
-46.1	2		**SAPROLITE**		1.1	
			Breaks down to Sand & Gravel	34-91		Horizontal fracturing
			45^0 residual foliation			Heavy iron staining into rock
-47.1	3				S-2	matrix-ground mass
			(Breaks down to Silty Gravel and Sand)	50/0.2	3-4.2'	A-2-4 (0)
-48.1	4				92%	N/A
			Quartz zone with Pyrite and Biotite			
-49.1	5					
		Horiz NF-F	Very Micaceous			
-50.1	6	(F = foliation)	Quartz zone			
		45° NF-F	Very Micaceous		R-1	
		45° NF-F	Black Micaceous **Gneissic SCHIST**	REC	5-10'	
-51.1	7		(Biotite)	80%		
		90° NF		4'		
-52.1	8			RQD		
				0.0%		
				0.0'		
-53.1	9		46°foliation			
-54.1	10			REC		
		30° NF-F		77% .		
		30° NF-F		2.3'	R-2	
-55.1	11	45° NF-F		RQD	10-13'	
				17%		
-56.1	12			0.5'		
			20° foliation			Core barrel and casing slapping
		Horiz NF	12-12.25' pyrite crystals			Due to tide current. Called hole
-57.1	13					
			Bottom of Boring 13'			

SPT Boring

Roller Bit

Rock Coring

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE. PROJECT DRDP-RB HOLE NO. CB-348
MAR 71

APPENDIX C
Field Production Logs

Delaware River Main Channel Deepening Project
GLDD Drillboat Apache - Field Production Sheet

AREA A

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/17/2015	6:41	A	1	55.3	32.7	40.5	48.0	0.3	32.4	40.2	
4/17/2015	6:41	B	2	55.3	33.1	39.1	41.2	0.3	32.8	38.8	
4/17/2015	6:41	C	3	55.3	33.3	36.9	38.3	0.3	33.0	36.6	
4/16/2015	16:02	A	4	57.0	34.2	36.1		2.0	32.2	34.1	REDRILL
4/16/2015	16:00	B	5	57.3	35.1	42.4	42.8	2.3	32.8	40.1	
4/16/2015	16:01	C	6	57.1	33.9	40.4	40.4	2.1	31.8	38.3	
4/16/2015	15:05	A	7	57.8	37.0	45.4	45.9	2.8	34.2	42.6	
4/16/2015	15:05	B	8	57.8	39.8	41.4	43.6	2.8	37.0	38.6	
4/17/2015	6:12	A	9	55.8	43.2	44.7	56.1	0.8	42.4	43.9	
4/17/2015	6:12	B	10	55.8	39.7	41.4	42.5	0.8	38.9	40.6	
4/17/2015	6:12	C	11	55.8	37.1	39.9	41.3	0.8	36.3	39.1	
4/16/2015	16:27	A	12	56.5	37.4	37.7	38.8	1.5	35.9	36.2	
4/16/2015	16:27	B	13	56.5	43.4	44.4	46.0	1.5	41.9	42.9	
4/16/2015	16:27	C	14	56.5	41.8	43.0	43.6	1.5	40.3	41.5	
4/16/2015	14:47	A	15	58.1	46.5	47.0	48.6	3.1	43.4	43.9	
4/16/2015	14:47	B	16	58.1	42.4	43.0	49.6	3.1	39.3	39.9	
4/17/2015	5:40	A	17	56.1	46.5	49.0	56.3	1.1	45.4	47.9	
4/17/2015	5:40	B	18	56.1	49.1	N/A	56.4	1.1	48.0		
4/17/2015	5:40	C	19	56.1	46.8	47.2	48.4	1.1	45.7	46.1	
4/16/2015	17:02	A	20	56.0	47.3	48.6	48.9	1.0	46.3	47.6	
4/16/2015	17:02	B	21	56.0	46.3	48.0	49.2	1.0	45.3	47.0	
4/16/2015	17:02	C	22	56.0	45.8	46.2	48.0	1.0	44.8	45.2	
4/16/2015	14:28	A	23	58.5	49.0	49.5	50.7	3.5	45.5	46.0	
4/16/2015	14:28	B	24	58.7	48.4	50.0	58.0	3.7	44.7	46.3	
4/17/2015	10:46	A	25	60.3	50.0	N/A		5.3	44.7		
4/17/2015	10:46	B	26	60.2	50.3	N/A		5.2	45.1		
4/17/2015	10:46	C	27	60.3	44.6	50.4		5.3	39.3	45.1	
4/17/2015	10:17	A	28	60.0	50.0	N/A		5.0	45.0		
4/17/2015	10:17	B	29	59.8	49.2	N/A		4.8	44.4		
4/17/2015	10:17	C	30	59.8	48.8	N/A		4.8	44.0		
4/17/2015	5:19	A	31	56.5	48.7	51.9	56.7	1.5	47.2	50.4	
4/17/2015	5:19	B	32	56.5	48.1	51.9	52.7	1.5	46.6	50.4	
4/17/2015	5:19	C	33	56.5	49.7			1.5	48.2		operator ended line too soon, unable to capture data, had Jimmy talk to him
4/16/2015	17:17	A	34	55.8	50.2	51.9	54.1	0.8	49.4	51.1	
4/16/2015	17:17	B	35	55.8	49.5	55.0	56.1	0.8	48.7	54.2	
4/16/2015	17:17	C	36	55.8	47.7	49.0	51.3	0.8	46.9	48.2	
4/16/2015	14:14	A	37	58.7	47.8	49.1	49.1	3.7	44.1	45.4	
4/16/2015	14:14	B	38	58.5	50.6	54.1	59.0	3.5	47.1	50.6	
4/17/2015	11:15	A	39	60.7	51.0	N/A		5.70	45.3		
4/17/2015	11:15	B	40	60.7	51.5	N/A		5.70	45.8		
4/17/2015	11:15	C	41	60.7	51.9	N/A		5.70	46.2		
4/17/2015	10:00	A	42	59.3	49.3	N/A		4.3	45.0		
4/17/2015	10:00	B	43	59.3	49.0	57.1		4.3	44.7	52.8	
4/17/2015	10:00	C	44	59.3	49.5	54.0		4.3	45.2	49.7	
4/17/2015	4:57	A	45	56.8	49.5	51.0	57.1	1.8	47.7	49.2	possible rock at 48.9, couldn't tell if hammer was on

Delaware River Main Channel Deepening Project
GLDD Drillboat Apache - Field Production Sheet

AREA A

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/17/2015	4:57	B	46	56.8	50.9	n/a	57.1	1.8	49.1		
4/17/2015	4:57	C	47	56.7	50.0	50.7		1.7	48.3	49.0	
4/16/2015	17:32	A	48	55.7	48.6	49.2	50.3	0.7	47.9	48.5	
4/16/2015	17:32	B	49	55.7	48.1	49.4	51.7	0.7	47.4	48.7	
4/16/2015	17:32	C	50	55.6	44.8	48.0	49.0	0.6	44.2	47.4	
4/16/2015	13:57	A	51	58.9	49.1	50.1	50.1	3.9	45.2	46.2	
4/16/2015	13:57	B	52	59.0	55.2	N/A	59.4	4.0	51.2		
4/17/2015	11:29	A	54	60.9	52.1	59.8		5.9	46.2	53.9	
4/17/2015	11:29	B	55	60.9	52.5	N/A	60.8	5.9	46.6		
4/17/2015	11:29	C	56	60.9	50.5	51.0		5.9	44.6	45.1	
4/17/2015	9:40	A	57	59.2	49.8	52.5		4.2	45.6	48.3	
4/17/2015	9:40	B	58	59.0	49.9	49.9		4.0	45.9	45.9	
4/17/2015	9:40	C	59	59.2	51.1	55.5		4.2	46.9	51.3	
4/17/2015	4:31	A	60	57.1	48.8	54.8	57.7	2.1	46.7	52.7	
4/17/2015	4:31	B	61	57.1	50.3	N/A	58.3	2.1	48.2		
4/17/2015	4:31	C	62	57.1	49.7	52.5	53.0	2.1	47.6	50.4	
4/16/2015	17:47	A	63	55.4	48.2	49.1	51.3	0.4	47.8	48.7	
4/16/2015	17:47	B	64	55.4	47.1	49.4	51.2	0.4	46.7	49.0	
4/16/2015	17:47	C	65	55.4	44.6	49.0	49.5	0.4	44.2	48.6	
4/16/2015	13:38	A	66	59.2	48.9	51.1	51.1	4.2	44.7	46.9	
4/16/2015	13:38	B	67	59.3	51.1	N/A	59.6	4.3	46.8		
4/16/2015	13:38	C	68	59.3	48.4	N/A	59.6	4.3	44.1		
4/17/2015	11:42	A	69	61.1	52.0	N/A	61.0	6.1	45.9		
4/17/2015	11:42	B	70	61.1	55.4	N/A	61.0	6.1	49.3		
4/17/2015	11:42	C	71	61.1	53.1	N/A	61.0	6.1	47.0		
4/17/2015	9:25	A	72	58.5	50.3	51.7		3.5	46.8	48.2	
4/17/2015	9:25	B	73	58.5	51.9	51.9		3.5	48.4	48.4	
4/17/2015	9:25	C	74	58.5	49.5	n/a	58.1	3.5	46.0		
4/17/2015	3:55	A	75	57.9	48.4	55.6	58.2	2.9	45.5	52.7	driller said hammer was not on during low penetration readings, this can't be rock
4/17/2015	4:10	B	76	57.5	48.5	56.4	57.9	2.5	46.0	53.9	something wrong on first hole, appearing to show rock at 36' range, moved to 72' on deck and redrilled
4/17/2015	3:55	C	77	57.9	48.9	53.0	54.1	2.9	46.0	50.1	
4/16/2015	18:02	A	78	55.2	45.6	48.0	49.4	0.2	45.4	47.8	
4/16/2015	18:02	B	79	55.2	46.7	47.4	52.2	0.2	46.5	47.2	
4/16/2015		C	80	55.2	44.7	47.8	48.8	0.2	44.5	47.6	
4/16/2015	13:18	A	81	59.6	49.3	N/A	60.0	4.6	44.7		
4/16/2015	13:18	B	82	59.7	49.4	N/A	60.0	4.7	44.7		
4/16/2015	13:18	C	83	59.6	49.0	N/A	60.0	4.6	44.4		
4/16/2015	13:56	C	84	58.9	53.0	N/A	59.4	3.9	49.1		
4/16/2015	14:14	C	85	58.7	50.9	N/A	59.0	3.7	47.2		
4/16/2015	14:28	C	86	58.5	49.6	N/A	58.7	3.5	46.1		
4/16/2015	14:47	C	87	58.1	44.7	53.4	53.4	3.1	41.6	50.3	
4/16/2015	15:05	C	88	57.8	41.7	55.3		2.8	38.9	52.5	
4/17/2015	16:24	A	1000	57.8	44.7	48	52.0?	2.8	41.9	45.2	
4/17/2015	16:24	B	1001	57.8	41.8	n/a	57.8	2.8	39.0		

Delaware River Main Channel Deepening Project
GLDD Drillboat Apache - Field Production Sheet

AREA A

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/17/2015	16:24	C	1002	57.8	40.8	47.4	49.5	2.8	38.0	44.6	
4/17/2015	15:38	A	1003	58.6	48.5	50.8	54.1	3.4	45.1	47.4	
4/17/2015	15:38	B	1004	58.6	48.8	48.8	50.6	3.4	45.4	45.4	
4/17/2015	15:38	C	1005	58.6	49.1	53.9	54.9	3.4	45.7	50.5	
4/17/2015	15:54	A	1006	58.5	47.9	n/a	58.5	3.2	44.7		
4/17/2015	15:54	B	1007	58.5	48.5	48.8	58.5	3.2	45.3	45.6	
4/17/2015	15;54	C	1008	58.5	47.9	51.5	53	3.2	44.7	48.3	
4/17/2015	14:44	A	1009	59.2	46.8	54.9		4.2	42.6	50.7	
4/17/2015	14:44	B	1010	59.2	49.4	56		4.2	45.2	51.8	
4/17/2015	14:44	C	1011	59.2	49.4	51.6		4.2	45.2	47.4	

Delaware River Main Channel Deepening Project
GLDD Drillboat Apache - Field Production Sheet

AREA B

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/17/2015	9:10	C	1	57.9	49.6	N/A		2.9	46.7		
4/17/2015	3:30	A	2	58.1	50.2	55.3	58.3	3.1	47.1	52.2	driller said hammer was not on during low penetration readings, this can't be rock
4/17/2015	3:27	B	3	58.2	48.8	56.6	57.8	3.2	45.6	53.4	
4/17/2015	3:27	C	4	58.2	47.9	53.5	54.5	3.2	44.7	50.3	
4/16/2015	18:22	A	5	55.0	43.3	44.0	45.9	0.0	43.3	44.0	
4/16/2015	18:22	B	6	55.0	44.9	45.3	52.8	0.0	44.9	45.3	
4/16/2015	18:22	C	7	55.0	44.3	47.0	52.1	0.0	44.3	47.0	
4/16/2015	12:33	A	8	60.1	49.4	58.1		5.1	44.3	53.0	
4/16/2015	12:33	B	9	60.2	49.9	N/A		5.2	44.7		
4/16/2015	12:33	C	10	60.1	50.3	N/A		5.1	45.2		
4/17/2015	8:54	C	11	57.6	48.5	N/A		2.6	45.9		
4/17/2015	3:04	A	12	58.6	50.6	58.0	58.9	3.6	47.0	54.4	driller said hammer was not on during low penetration readings, this can't be rock
4/17/2015	3:04	B	13	58.6	50.5	56.3	59.0	3.6	46.9	52.7	
4/17/2015	3:04	C	14	58.5	48.7	54.5	55.9	3.5	45.2	51.0	seemed to hit rock at 50.5 but then got soft again
4/16/2015	20:30	A	15	57.7	48.0	53.5	58.3	2.7	45.3	50.8	softer at 55
4/16/2015	20:30	B	16	57.7	48.1	54.0	55.0	2.7	45.4	51.3	
4/16/2015	20:30	C	17	57.9	47.7	n/a	54.5	2.9	44.8		
4/16/2015	12:03	A	18	60.7	52.0	N/A		5.7	46.3		
4/16/2015	12:03	B	19	60.7	53.0	60.1		5.7	47.3	54.4	
4/17/2015	8:33	C	20	56.8	47.9	55.7		1.8	46.1	53.9	
4/17/2015	2:35	A	21	59.3	49.8	58.8	59.6	4.3	45.5	54.5	
4/17/2015	2:36	B	22	59.2	49.7	52.0	59.5	4.2	45.5	47.8	very difficult to interpret rock here, 47.5 could be way off, penetration rate oscillated back and forth between 4-5 and 13-14
4/17/2015	2:35	C	23	59.2	49.1	54.5		4.2	44.9	50.3	
4/16/2015	20:12	A	24	59.1	47.9	49.0	50.0	4.1	43.8	44.9	
4/16/2015	20:12	B	25	59.1	49.8	56.0	59.0	4.1	45.7	51.9	
4/15/2015	20:12	C	26	58.9	50.3	56.8	?	3.9	46.4	52.9	
4/16/2015	11:00	A	27	60.9	49.7	N/A	60.8	5.9	43.8		
4/17/2015	8:12	C	28	56.3	48.6	51.7		1.3	47.3	50.4	
4/17/2015		A	29	59.7				4.7	-4.7	-4.7	
4/17/2015	1:47	B	30	60.2	50.0	55.9	57.2	5.2	44.8	50.7	
4/17/2015	1:54	C	31	59.9	50.3	55.8	56.3	4.9	45.4	50.9	top of rock could be deeper than -50.6'
4/16/2015	21:47	A	32	60.0	50.7	?	52.5	5.0	45.7		
4/16/2015	21:47	B	33	60.0	52.2	52.2	54.9	5.0	47.2	47.2	
4/16/2015	21:47	C	34	60.0	52.3	n/a	59.7	5.0	47.3		
4/16/2015	23:48	B	35	61.3				6.3	-6.3		
4/16/2015	23:48	C	36	61.3				6.3	-6.3		
4/16/2015	22:00	A	37	60.5	50.8	53.8	54.2	5.5	45.3	48.3	
4/16/2015	22:00	B	38	60.4	52.4	57.5	59.7	5.4	47.0	52.1	
4/16/2015	22:00	C	39	60.4	54.9	n/a	60.7	5.40	49.5		
4/16/2015	23:21	B	40	61.2	53.9	58.0	61.3	6.20	47.7	51.8	Penetration rate a little too high from -51.7' down, approx 7 ft/min, might not be rock
4/16/2015	23:21	C	41	61.2	52.1	57.1	57.5	6.20	45.9	50.9	

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AREA B

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/16/2015	22:35	A	42	60.8	50.8	56.0	57.3	5.8	45.0	50.2	
4/16/2015	22:35	B	43	60.8	51.3	N/A	61.0	5.8	45.5		
4/16/2015	22:35	C	44	60.8	51.3	60.1	60.8	5.8	45.5	54.3	
4/16/2015	11:00	B	45	60.8	47.1	N/A	60.8	5.8	41.3		
4/16/2015	11:00	C	46	60.9	52.2	N/A	60.4	5.9	46.3		Stuck
4/16/2015	12:03	C	47	60.7	55.1	59.0		5.7	49.4	53.3	
4/16/2015	23:29	A	48	61.2	51.4	n/a	60.2	6.2	45.2		
4/16/2015	23:48	A	49	61.3	51.1	55.0	61.6	6.3	44.8	48.7	
4/17/2015	8:12	B	50	56.3	46.3	N/A		1.3	45.0		
4/17/2015	8:33	B	51	56.6	48.3	51.0		1.6	46.7	49.4	
4/17/2015	8:54	B	52	57.6	49.3	55.6		2.6	46.7	53.0	
4/17/2015	9:10	B	53	57.9	50.1	53.9		2.9	47.2	51.0	
4/17/2015	8:12	A	54	56.3	44.4	52.5		1.3	43.1	51.2	
4/17/2015	8:33	A	55	56.8	46.5	52.1		1.8	44.7	50.3	
4/17/2015	8:54	A	56	57.6	49.5	N/A		2.6	46.9		
4/17/2015	9:10	A	57	57.9	48.9	N/A		2.9	46.0		

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GLDD Drillboat Apache - Field Production Sheet

AREA C

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
			1	57.4				2.4	-2.4		
			2	57.5				2.5	-2.5		
			3	57.5				2.5	-2.5		
4/17/2015	20:55	A	4	57.3	46.0	n/a	58.2	2.3	43.7		
4/17/2015	20:25	A	5	56.3	41.8	41.8	43.4	1.3	40.5	40.5	
4/17/2015	20:55	B	6	57.3	46.6	55.0	57.9	2.3	44.3	52.7	
4/17/2015	20:55	C	7	57.3	46.9	54.8	55.3	2.3	44.6	52.5	
4/17/2015	20:25	C	8	56.3	40.7	40.7	41.8	1.3	39.4	39.4	
4/17/2015	17:12	B	9	57.3	44.9	45.0	?	2.0	42.9	43.0	
4/17/2015	20:25	B	10	56.1	44.0	44.0	53.6	1.1	42.9	42.9	
4/17/2015	17:12	A	11	57.4	39.9	41.5	?	2.0	37.9	39.5	
4/17/2015	17:12	C	12	57.8	45.1	48.5	50.3	1.9	43.2	46.6	
			13	58.2				3.2	-3.2		
			14	57.9				2.9	-2.9		
			15	58.2				3.2	-3.2		
4/17/2015	21:21	A	16	58.1	46.8	n/a	58.3	3.1	43.7		
4/17/2015	20:00	A	17	55.6	42.5	44.2	46.1	0.6	41.9	43.6	
4/17/2015	21:21	B	18	58.1	47.6	n/a	60.6	3.1	44.5		
4/17/2015	21:21	C	19	58.1	45.8	46.0	47.9	3.1	42.7	42.9	
4/17/2015	20:00	C	20	55.6	39.1	39.2	40.3	0.6	38.5	38.6	
4/17/2015	17:15	B	21	56.9	43.0	47.8	48.8	1.9	41.1	45.9	has listed as twelve
4/17/2015	20:00	B	22	55.6	39.9	40.2	41.8	0.6	39.3	39.6	
4/17/2015	17:15	A	23	56.9	42.5	43.7	59.5	1.9	40.6	41.8	
4/17/2015	17:15	C	24	56.9	47.8	50.0	50.0	1.9	45.9	48.1	
			25	58.8				3.8	-3.8		
			26	59.0				4.0	-4.0		
			27	59.4				4.4	-4.4		
4/17/2015	21:45	A	28	58.8	51.5	n/a	59.2	3.8	47.7		
4/17/2015	21:45	B	29	58.8	54.1	n/a	59.1	3.8	50.3		
4/17/2015	21:45	C	30	58.8	53.8	n/a	59.1	3.8	50.0		
4/17/2015	18:22	A	31	55.8	47.3	48.6	52.1	0.8	46.5	47.8	
4/17/2015	18:22	B	32	55.8	46.7	46.7	48.3	0.8	45.9	45.9	
4/17/2015	18:22	C	33	55.8	45.6	45.6	46.6	0.8	44.8	44.8	
4/17/2015	17:30	A	34	56.8	48.6	51.4	52.4	1.7	46.9	49.7	
4/17/2015	17:30	B	35	56.7	49.1	52.4	56.8	1.7	47.4	50.7	
4/17/2015	17:30	C	36	56.7	49.0	50.3	51.3	1.7	47.3	48.6	
			37	60.0				5.0	-5.0		
			38	59.6				4.6	-4.6		
			39	60.0				5.00	-5.0		
4/17/2015	22:00	A	40	59.1	51.5	n/a	59.2	4.10	47.4		
4/17/2015	22:00	B	41	59.0	52.5	n/a	59.8	4.00	48.5		
4/17/2015	22:00	C	42	59.1	51.5	n/a	59.8	4.1	47.4		no hammer action
4/17/2015	18:00	A	43	56.1	48.3	52.8	53.8	1.1	47.2	51.7	
4/17/2015	18:00	B	44	56.1	48.4	49.9	52.5	1.1	47.3	48.8	
4/17/2015	0:00	C	45	56.1	49.1	52.0	54.6	1.1	48.0	50.9	very very hard at 51.1 corrected
4/17/2015	17:41	A	46	56.4	50.3	54.7	55.9	1.4	48.9	53.3	
4/17/2015	17:41	B	47	56.4	50.0	52.9	54.3	1.4	48.6	51.5	

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AREA C

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/17/2015	17:41	C	48	56.4	49.5	51.4	52.4	1.4	48.1	50.0	
			49	60.4				5.4	-5.4		
			50	60.5				5.5	-5.5		
			51	60.5				5.5	-5.5		
4/17/2015	22:45	A	52	60.8				5.8	-5.8		A frame down
4/17/2015	22:45	B	53	60.1	53.2	n/a	60.0	5.1	48.1		
			54					6.1	-6.1		
			55					5.8	-5.8		
			56					6.1	-6.1		
			57					6.2	-6.2		
			58					6.4	-6.4		
			59					6.2	-6.2		
4/17/2015	22:45	C	60	60.1	52.4	n/a	60.2	5.1	47.3		no hammer action
4/18/2015	11:52	B	1000	60.1	52.1	53.4		5.5	46.6	47.9	
4/18/2015	11:52	B	1001	60.2	53.2	54.5		5.6	47.6	48.9	
4/18/2015	11:52	C	1002	60.1	50.7	54.6		5.5	45.2	49.1	
4/18/2015	11:21	B	1003	59.9	53.3	57.9		5.0	48.3	52.9	
4/18/2015	11:21	B	1004	59.7	51.0	55.4		4.8	46.2	50.6	
4/18/2015	11:21	C	1005	59.7	53.5	N/A		4.8	48.7		
4/18/2015	10:37	B	1006	58.6	42.1	N/A		3.8	38.3		
4/18/2015	10:37	B	1007	59.1	55.1	N/A		4.0	51.1		
4/18/2015	10:37	C	1008	58.5	56.7	N/A		3.8	52.9		
4/18/2015	13:52	C	1009	61.2	51.4	55.0		5.8	45.6	49.2	
4/18/2015	13:52	B	1010	61.2	51.6	54.5		5.8	45.8	48.7	
4/18/2015	13:52	B	1011	60.9	50.3	N/A		5.7	44.6		
4/18/2015	12:32	C	1012	60.9	50.2	51.5		5.9	44.3	45.6	
4/18/2015	12:32	B	1013	60.9	50.0	N/A		5.9	44.1		
4/18/2015	12:32	B	1014	60.9	51.5	N/A		6.0	45.5		
4/18/2015	13:13	B	1015	61.1	49.6	N/A		6.1	43.5		
4/18/2015	13:13	B	1016	61.1	50.5	N/A		6.0	44.5		
4/18/2015	13:13	C	1017	61.1	51.0	N/A	58.5	6.0	45.0		
4/18/2015	14:12	C	1018	60.8	50.3	N/A		5.4	44.9		
4/18/2015	14:12	B	1019	60.8	52.5	N/A		5.3	47.2		
4/18/2015	14:12	B	1020	60.8	50.4	N/A		5.4	45.0		

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AREA D

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/19/2015	1:58	B	1	61.6	47.1	N/A	61.7	6.5	40.6		
4/19/2015	1:29	B	2	61.7	49.7	57.8	58.5	6.4	43.3	51.4	
4/19/2015	1:24	C	3	61.7	47.4	59.9	61.0	6.5	40.9	53.4	
4/19/2015	0:30	B	4	60.9	40.4	48.1	50.9	6.2	34.2	41.9	Eddie did not go deep enough, I went and spoke to him and he claimed it was rock, I told him we need to see 4 ROP or less for 1' so he redrilled this hole
4/19/2015	0:55	B	5	60.9	41.4	43.6	45.5	6.3	35.1	37.3	
4/19/2015	0:28	C	6	60.9	39.6	39.6	41.1	6.1	33.5	33.5	
4/18/2015	15:14		7	59.2	39.4	42.0	47.1	4.2	35.2	37.8	
4/18/2015	15:14	B	8	59.5	40.2	41.7	43.0	4.5	35.7	37.2	
4/18/2015	15:14	C	9	59.2	38.2	39.5		4.2	34.0	35.3	
4/18/2015	6:20	B	10	57.5	36.4	36.8		1.4	35.0	35.4	
4/18/2015	6:30	B	11	57.5	36.6	36.7	37.6	1.1	35.5	35.6	
4/18/2015	6:17	C	12	57.5	35.9	36.1		1.4	34.5	34.7	
4/19/2015	3:05	B	13	60.6	50.2	N/A	60.6	6.2	44.0		redrilled 3 times
4/19/2015	2:35	C	14	60.9	48.1	N/A	60.9	5.5	42.6		
4/19/2015	2:24	C	15	61.3	46.7	61.0	61.3	6.2	40.5	54.8	
4/19/2015	0:09	B	16	60.5	43.9	45.5	46.9	5.8	38.1	39.7	
4/19/2015	0:02	B	17	60.5	43.7	45.0	46.1	5.0	38.7	40.0	
4/19/2015	0:02	C	18	60.5	44.2	44.3	45.3	4.9	39.3	39.4	
4/18/2015	15:43	B	19	59.0	43.6	46.9	49.3	4.0	39.6	42.9	
4/18/2015	15:40	B	20	58.9				3.9	-3.9	-3.9	Bouy in the way, skipped
4/18/2015	15:42	C	21	58.9	44.2	45.0	47.7	3.9	40.3	41.1	
4/18/2015	7:54	B	22	55.6	39.9	41.7	57.8	0.0	39.9	41.7	
4/18/2015	7:54	B	23	55.6	36.0	42.5	58.1	0.0	36.0	42.5	
4/18/2015	7:54	C	24	55.6	39.1	39.4	58.0	0.0	39.1	39.4	
4/19/2015	3:29	B	25	60.1	51.8	N/A	60.5	5.1	46.7		
4/19/2015	3:29	C	26	60.1	49.5	N/A	60.3	5.0	44.5		
4/19/2015	3:47	C	27	59.7	44.9	49.9		4.6	40.3	45.3	
4/18/2015	23:00	B	28	59.5	43.7	44.1	45.7	4.5	39.2	39.6	
4/18/2015	23:09	B	29	59.8	44.9	48.1	51.2	4.8	40.1	43.3	mislabled as 28 again
4/18/2015	23:00	C	30	59.5	44.5	44.7	46.1	4.5	40.0	40.2	
4/18/2015	15:59	B	31	58.7	42.6	43.5	44.5	3.7	38.9	39.8	
4/18/2015	15:55	B	32	58.8	42.7	43.1	46.1	3.8	38.9	39.3	
4/18/2015	15:55	C	33	58.8	43.4	45.5	46.9	3.8	39.6	41.7	
4/18/2015	8:24	B	34	55.2	40.3	40.9	59.7	0.0	40.3	40.9	
4/18/2015	8:24	B	35	55.2	39.0	39.9		0.0	39.0	39.9	
4/18/2015	8:24	C	36	55.2	44.5	45.2		0.0	44.5	45.2	
4/19/2015	4:18	B	37	59.2	51.5	N/A	59.5	4.1	47.4		
4/19/2015	4:24	C	38	59.2	52.9	57.4	58.3	3.9	49.0	53.5	
4/19/2015	4:16	C	39	59.2	48.8	50.6	51.9	4.00	44.8	46.6	
4/18/2015	22:42	B	40	58.8	48.4	49.7	50.9	3.80	44.6	45.9	
4/18/2015	22:33	B	41	58.6	48.8	49.1	50.4	3.60	45.2	45.5	
4/18/2015	22:28	C	42	58.6	48.3	52.2	53.1	3.6	44.7	48.6	
4/18/2015	16:17	B	43	58.2	49.0	51.0	52.1	3.2	45.8	47.8	
4/18/2015	16:20	B	44	58.1	49.0	50.5	52.1	3.1	45.9	47.4	

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AREA D

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/18/2015	16:25	C	45	58.2	49.5	49.7	51.1	3.2	46.3	46.5	
4/18/2015	8:39	B	46	55.1	45.0	47.3	60.4	0.4	44.6	46.9	
4/18/2015	8:39	B	47	55.1	48.6	49.7		0.4	48.2	49.3	
4/18/2015	8:39	C	48	55.1	55+	N/A		0.4			
4/19/2015	4:43	B	49	58.6	52.2	N/A	58.8	3.7	48.5		
4/19/2015	4:51	C	50	58.6	54.2	N/A	58.8	3.4	50.8		
4/19/2015	4:43	C	51	58.6	52.3	57.0	58.1	3.7	48.6	53.3	
4/18/2015	21:40	B	52	57.0	48.5	48.6	50.0	2.0	46.5	46.6	
4/18/2015	21:40	C	53	57.0	51.0	53.6	54.6	2.0	49.0	51.6	
4/18/2015	21:55	C	54	57.2	48.2	49.4	51.0	2.2	46.0	47.2	
4/18/2015	16:38	B	55	57.9	47.9	50.9	51.8	2.9	45.0	48.0	
4/18/2015	16:35	B	56	57.9	48.9	50.4	51.6	2.9	46.0	47.5	
4/18/2015	16:35	C	57	57.9	47.3	47.7	50.8	2.9	44.4	44.8	
4/18/2015	8:57	B	58	55.5	51.6	52.2		0.8	50.8	51.4	
4/18/2015	8:57	B	59	55.5	61.0	N/A		0.9	60.1		
4/18/2015	8:57	C	60	55.5	50.1	N/A		0.9	49.2		
4/19/2015	5:13	B	61	58.2	N/A	N/A	58.9	3.1			most likely clay/silt, bit never hesitated
4/19/2015	5:20	B	62	58.2	N/A	N/A	58.3	3.0			most likely clay/silt, bit never hesitated
4/19/2015	5:24	C	63	58.3	N/A	N/A	58.7	3.0			most likely clay/silt, bit never hesitated
4/18/2015	21:15	B	64	56.0	42.5	n/a	55.9	1.0	41.5		no hammer engaged
4/18/2015	21:00	B	65	55.8	42.0	n/a	56.3	0.8	41.2		
4/18/2015	20:55	C	66	55.8	46.2	47.8	49.0	0.8	45.4	47.0	
4/18/2015	16:53		67	57.8	47.0	47.1	48.7	2.8	44.2	44.3	
4/18/2015	16:49	B	68	57.7	47.7	52.5	53.5	2.7	45.0	49.8	
4/18/2015	16:49	C	69	57.8	51.6	54.1	55.8	2.8	48.8	51.3	
4/18/2015	9:17	B	70	56.1	52.9	N/A		1.6	51.3		
4/18/2015	9:17	B	71	56.1	53.0	N/A		1.2	51.8		
4/18/2015	20:25		72	104.3	49.2	n/a	55.1	-0.1	49.3		sunk to 52.4 no air or rotation
4/18/2015	20:34	B	73	116.9	61.9	n/a	61.0	0.0	61.9		to bottom no air or rotation
4/18/2015	20:22	C	74	102.5	47.4	48.9	50.0	-0.1	47.5	49.0	
4/18/2015	17:05	B	75	57.4	50.3	50.4	56.1	2.4	47.9	48.0	
4/18/2015	17:05	B	76	57.5	55.4	55.5	57.5	2.5	52.9	53.0	
4/18/2015	17:05	C	77	57.5	58.1	n/a	58.1	2.5	55.6		
4/18/2015	9:37	B	78	57.0	N/A	N/A		1.9			
4/18/2015	9:37	B	79	57.0	N/A	N/A		2.1			
4/18/2015	18:25	B	80	112.2	58.3	n/a	58.3	1.1	57.2		
4/18/2015	18:25	B	81	102.8	49.0	n/a	57.1	1.2	47.8		
4/18/2015	18:25	C	82	105.8	52.0	52.3	55.1	1.2	50.8	51.1	
4/18/2015	17:42	B	83	56.9	57.4	n/a	57.4	1.9	55.5		no hammer engaged
4/18/2015	17:38	B	84	56.9	50.6	n/a	57.6	1.9	48.7		
4/18/2015	17:38	C	85	56.9	57.6	n/a	57.6	1.9	55.7		no hammer engaged
4/18/2015	9:57	B	86	57.5	N/A	N/A		2.6			
4/18/2015	9:57	B	87	57.5	52.3	N/A		2.3	50.0		
4/18/2015	9:57	C	88	57.5	N/A	N/A		2.6			
4/18/2015	9:37	C	89	57.0	N/A	N/A		1.9			
4/18/2015	9:17	C	90	56.1	N/A	N/A		1.2			
4/19/2015	15:27	B	1000	61.0	50.0	51.9		5.8	44.2	46.1	

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AREA D

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/19/2015	15:33	B	1001	60.8	54.7	N/A	60.8	5.7	49.0		
4/19/2015	13:15	B	1003	61.0	52.4	N/A	61.0	6.0	46.4		
4/19/2015	15:03	B	1006	61.2	56.0	N/A	61.4	6.2	49.8		
4/19/2015	13:28	B	1007	61.4	52.2	N/A	61.4	6.3	45.9		
4/19/2015	13:28	B	1008	61.4	53.0	N/A	61.5	6.3	46.7		

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AREA E

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/21/2015	5:21	C	1	60.8	38.2	54.0	59.1	5.8	32.4	48.2	
4/21/2015	3:21	B	2	62.6	40.8	55.7	57.0	7.6	33.2	48.1	
4/21/2015	3:58	C	3	62.3	38.9	58.4	59.7	7.3	31.6	51.1	
4/21/2015	3:19	C	4	62.6	39.9	56.0	57.2	7.6	32.3	48.4	
4/20/2015	14:10	B	5	62.3	41.5	54.0	56.9	7.3	34.2	46.7	
4/20/2015	14:19	C	6	62.3	35.4	47.5	48.3	7.3	28.1	40.2	
4/20/2015	13:10	C	7	62.0	39.5	46.0	49.8	7.0	32.5	39.0	
4/20/2015	12:28	B	8	61.3	38.9	42.5		6.3	32.6	36.2	
4/20/2015	12:43	B	9	61.5	38.3	44.0	48.1	6.5	31.8	37.5	
4/20/2015	12:28	C	10	61.3	39.5	44.3	46.6	6.3	33.2	38.0	
4/19/2015	23:13	B	11	59.3	38.3	43.7	45.5	4.3	34.0	39.4	
4/21/2015	6:32	C	12	59.5	50.9	n/a	59.6	4.5	46.4		
4/21/2015	2:56	B	13	62.6	51.3	N/A	62.5	7.6	43.7		
4/21/2015	2:43	B	14	62.6	49.8	N/A	62.5	7.6	42.2		
4/21/2015	2:43	C	15	62.6	48.4	56.0	59.0	7.6	40.8	48.4	
4/20/2015	15:32	B	16	61.6	47.6	N/A	62.7	6.6	41.0		
4/20/2015	15:43	B	17	61.5	47.6	52.4	55.5	6.5	41.1	45.9	
4/20/2015	15:31	C	18	61.6	45.8	48.3	53.5	6.6	39.2	41.7	
4/20/2015	12:16	B	19	60.8	46.7	48.0	53.2	5.8	40.9	42.2	
4/20/2015	12:10	B	20	60.8	47.8	49.2	50.6	5.8	42.0	43.4	
4/20/2015	12:02	C	21	60.7	41.8	42.0	44.5	5.7	36.1	36.3	
4/19/2015	23:40	B	22	59.8	44.0	48.0	55.9	4.8	39.2	43.2	
4/19/2015	0:07	B	23	60.6	42.6	53.5	55.7	5.6	37.0	47.9	
4/19/2015	0:13	B	24	60.8	43.7	n/a	60.4	5.8	5.3		
4/19/2015	21:15	B	25	55.6	38.5	55.1	55.6	0.6	37.9	54.5	side wall collapse difficulty get out.
4/19/2015	21:43	B	26	56.5	38.6	n/a	56.2	1.5	37.1		very little hammer @ 50 to 54.4 uncorr
4/19/2015	21:56	B	27	56.9	41.4	n/a	57.0	1.9	39.5		minimal hammer
4/21/2015	0:33	B	28	57.9	50.6	N/A	58.6	2.9	47.7		
4/21/2015	0:26	B	29	58.7	48.9	N/A	58.2	3.7	45.2		
4/21/2015	0:26	C	30	58.5	50.5	N/A	58.1	3.5	47.0		
4/21/1/5	8:04	B	31	57.9	49.4	54.5	57.0	2.9	46.5	51.6	
4/21/1/5		B	32	57.8	49.0	N/A	58.0	2.8	46.2		
4/21/2015	8:04	C	33	57.9	49.5	N/A	58.0	2.9	46.6		
4/21/2015	2:08	B	34	62.3	53.7	N/A	62.5	7.3	46.4		
4/21/2015	2:21	B	35	62.5	53.6	N/A	62.3	7.5	46.1		
4/21/2015	2:08	C	36	62.3	52.4	N/A	62.3	7.3	45.1		POSSIBLY top of rock at -59 uncorrected
4/20/2015	15:56	B	37	61.3	52.1	n/a	62.4	6.3	45.8		
4/20/2015	15:56	B	38	61.4	51.1	51.4	57.9	6.4	44.7	45.0	
4/20/2015	15:56	C	39	61.3	45.5	45.5	48.7	6.30	39.2	39.2	
4/20/2015	11:31	B	40	59.7	44.6	46.5	49.3	4.70	39.9	41.8	
4/20/2015	11:36	B	41	59.9	45.8	48.0	59.7	4.90	40.9	43.1	
4/20/2015	11:42	C	42	60.2				5.2	-5.2	-5.2	Not logged on to view
4/19/2015	1:18	B	43	61.5	46.8	50.3	51.5	6.7	40.1	43.6	
4/19/2015	1:00	B	44	61.4	47.0	58.8	59.3	6.4	40.6	52.4	
4/19/2015	0:44	B	45	61.3	46.2	n/a	60.6	6.3	39.9		Minimal hammer
4/19/2015	20:51	B	46	55.9	39.9	n/a	55.7	0.9	39.0		no hammer Corrected to hole 46
4/19/2015	20:38	B	47	55.7	41.6	n/a	56.0	0.7	40.9		

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/19/2015	20:21	B	48	55.6	42.2	n/a	56.0	0.6	41.6		corrected to Hole 48 no hammer, difficulty with side wall collapse
4/21/2015	1:12	C	49	59.9	52.2	N/A	59.6	4.9	47.3		
4/21/2015	1:01	C	50	59.6	50.0	N/A	59.5	4.6	45.4		
4/21/2015	0:01	B	51	57.2	see note	n/a	57.9	2.2			lost computers during hole and screen was fragmented
4/21/2015	0:07	C	52	57.9	50.3	N/A	57.5	2.9	47.4		
4/21/2015	0:01	C	53	57.7	see note	52.3	53.6	2.7		49.6	lost computers during hole and screen was fragmented
4/21/2015	8:39	B	54	57.5	51.0	53.0	57.2	2.5	48.5	50.5	
4/21/2015	8:29	B	55	57.6	51.2	54.2	57.7	2.6	48.6	51.6	
4/21/2015	8:29	C	56	57.6	48.8	56.5	57.7	2.6	46.2	53.9	
4/21/2015	1:40	B	57	62.0	53.0	59.9	61.9	7.0	46.0	52.9	
4/21/2015	1:30	B	58	61.9	50.4	N/A	61.7	6.9	43.5		
4/21/2015	1:30	C	59	61.9	52.5	N/A	61.7	6.9	45.6		
4/20/2015	16:18	B	60	61.0	53.5	54.3	56.2	6.0	47.5	48.3	16:21 done
4/20/2015	16:11	B	61	60.9	52.1	55.4	60.0	5.9	46.2	49.5	
4/20/2015	16:14	C	62	61.0	51.2	54.1	57.7	6.0	45.2	48.1	
4/20/2015	11:19	B	63	59.4	51.2	52.0	54.9	4.4	46.8	47.6	
4/20/2015	11:07	B	64	59.2	50.3	54.5	57.9	4.2	46.1	50.3	
4/20/2015	10:58	B	65	59.1	48.6	52.3	55.7	4.1	44.5	48.2	
4/20/2015	1:37	B	66	61.6	45.3	57.7	60.5	7.0	38.3	50.7	
4/20/2015	3:38	B	67	62.1	46.2	n/a	62.4	6.7	39.5		
4/20/2015	3:56	B	68	62.0	46.0	n/a	62.0	6.6	39.4		possible rock at -54' MLLW, ROP in the 6 range
4/19/2015	18:20	B	69	57.6	42.3	n/a	58.0	2.6	39.7		side wall cave in, slow progress.
4/19/2015	18:29	B	70	57.5	43.3	n/a	58.0	2.5	40.8		
4/19/2015	18:38	B	71	57.4	42.1	57.5	57.8	2.4	39.7	55.1	difficult near bottom
4/21/2015	1:37	B	72	60.5	54.1	n/a	60.3	5.5	48.6		
4/21/2015	1:30	C	73	60.4	52.2	n/a	60.2	5.4	46.8		
4/21/2015	23:40	B	74	56.5	48.2	49.8	51.9	1.5	46.7	48.3	
4/21/2015	23:45	C	75	57.4	47.3	50.5	51.9	2.4	44.9	48.1	
4/21/2015	23:37	C	76	56.9	48.8	50.6	51.9	1.9	46.9	48.7	
4/21/2015	8:54	B	77	57.1	51.4	53.4	57.3	2.1	49.3	51.3	
4/21/2015	8:58	B	78	57.0	50.2	55.9	57.2	2.0	48.2	53.9	
4/21/2015	8:54	C	79	57.1	47.3	50.6	54.0	2.1	45.2	48.5	
4/21/2015	0:50	B	80	61.2	51.0	n/a	61.1	6.2	44.8		
4/21/2015	1:01	B	81	61.3	52.0	n/a	61.3	6.3	45.7		
4/21/2015	0:50	C	82	61.2	51.9	n/a	61.0	6.2	45.7		
4/20/2015	16:30	B	83	60.6	50.3	50.3	53.1	5.6	44.7	44.7	
4/20/2015	16:35	B	84	60.7	50.7	50.3	57.7	5.7	45.0	44.6	16:40 done
4/20/2015	16:32	C	85	60.7	50.3	55.1	56.6	5.7	44.6	49.4	
4/20/2015	10:35	B	86	58.4	49.1	49.8	52.7	3.4	45.7	46.4	
4/20/2015	10:41	B	87	58.4	48.7	50.4	51.8	3.4	45.3	47.0	
4/20/2015	10:47	B	88	58.6	49.0	50.0	57.7	3.6	45.4	46.4	
4/20/2015	5:02	B	89	60.8	50.9	57.4	60.8	5.4	45.5	52.0	
4/20/2015	4:54	B	90	61.0	51.7	n/a	61.0	5.5	46.2		

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AREA E

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/20/2015	4:35	B	91	61.3	51.1	57.4	58.6	5.9	45.2	51.5	
4/19/2015	18:10	B	92	57.9	48.6	n/a	58.4	2.9	45.7		
4/19/2015	18:04	B	93	57.9	44.9	53.8	58.3	2.9	42.0	50.9	
4/19/2015	17:55	B	94	58.1	43.4	n/a	58.3	3.1	40.3		side wall cave in.
4/22/2015	1:51	B	95	61.0	53.4	n/a	60.9	6.0	47.4		
4/22/2015	1:51	C	96	60.9	53.6	56.4	58.6	5.9	47.7	50.5	
4/21/2015	23:19	B	97	55.5	47.5	48.0	50.0	0.5	47.0	47.5	
4/21/2015	23:22	C	98	56.5	46.2	47.8	48.7	1.5	44.7	46.3	
4/21/2015	23:19	C	99	56.5	46.1	47.2	48.4	1.5	44.6	45.7	
4/21/2015	9:34	B	100	56.6	49.5	55.7	56.7	1.6	47.9	54.1	
4/21/2015	9:28	B	101	56.7	49.7	54.0		1.7	48.0	52.3	
4/21/2015	9:29	C	102	56.6	47.8	53.2	55.3	1.6	46.2	51.6	
4/21/2015	0:28	B	103	60.2	51.7	55.2	60.6	5.2	46.5	50.0	
4/21/2015	0:16	B	104	60.7	51.1	56.0	57.7	5.7	45.4	50.3	
4/21/2015	0:15	C	105	60.3	50.6	53.5	54.0	5.3	45.3	48.2	
4/20/2015	16:48	B	106	60.5	51.8	57.4	60.6	5.5	46.3	51.9	
4/20/2015	16:48	B	107	60.5	49.8	50.2	52.0	5.5	44.3	44.7	
4/20/2015	16:49	C	108	60.5	50.6	53.0	55.3	5.5	45.1	47.5	
4/20/2015	10:26	B	109	58.0	48.3	49.5	57.7	3.0	45.3	46.5	
4/20/2015	10:22	B	110	57.9	48.6	53.5	57.5	2.9	45.7	50.6	
4/20/2015	10:12	B	111	57.7	48.5	N/A	57.5	2.7	45.8		
4/20/2015	5:02	B	112	60.2	50.8	see note	60.2	4.9	-9.4		difficult to interpret, appeared to be hard rock from 54' down to 60.2' (not tide corrected) however ROP would occasionally jump to the 10 range, but generally was in the 6ish range sometimes as low as less than 1
4/20/2015	4:54	B	113	60.0	47.0	54.2	56.9	4.6	-9.9	49.6	ROP not less than 4 but close, appeared to be hardd rock
4/20/2015	4:35	B	114	59.9	48.5	57.8	59.9	4.5	-11.4	53.3	
4/19/2015	17:26	B	115	58.5	49.5	n/a	58.7	3.5	46.0		
4/19/2015	17:34	B	116	58.4	48.4	n/a	58.1	3.4	45.0		
4/19/2015	17:41	B	117	58.2	49.3	n/a	58.1	3.2	46.1		
4/22/2015	2:20	B	118	61.3	54.9	n	61.1	6.3	48.6		
4/22/2015	2:13	C	119	61.2	51.9	53.1	54.5	6.2	45.7	46.9	
4/21/2015	22:22	B	120	55.5	46.7	46.7	48.6	0.5	46.2	46.2	
4/21/2015	22:13	B	121	55.7	51.7	53.4	54.7	0.7	51.0	52.7	
4/21/2015	22:13	C	122	55.5	49.7	n/a	55.7	0.5	49.2		
4/21/2015	9:43	B	123	56.5	49.7	53.9	56.6	1.5	48.2	52.4	
4/21/2015	9:49	B	124	56.4	48.8	54.5	56.5	1.4	47.4	53.1	
4/21/2015	9:43	C	125	56.4	45.0	52.5	56.5	1.4	43.6	51.1	
4/20/2015	23:10	B	126	58.5	50.4	54.7	58.3	3.5	46.9	51.2	ROP very low starting at 51.6 (uncorrected), low the whole way down from there
4/20/2015	23:29	B	127	58.7	49.9	51.6	58.7	3.7	46.2	47.9	
4/20/2015	23:10	C	128	58.5	47.1	50.9	52.8	3.5	43.6	47.4	
4/20/2015	17:25	B	129 true	59.8	48.2	53.3	57.5	4.8	43.4	48.5	true 129 complete 17:33
4/20/2015	17:15	B	129(130)	59.8	48.1	51.8	55.4	4.8	43.3	47.0	called (129) on drillers log.

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AREA E

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/20/2015	17:16	C	131	60.0	47.5	51.2	52.2	5.0	42.5	46.2	
4/20/2015	9:49	B	132	57.4	50.2	N/A	57.2	2.4	47.8		
4/20/2015	9:53	B	133	57.4	52.4	N/A	57.2	2.4	50.0		
4/20/2015	9:57	B	134	57.4	48.6	N/A	57.4	2.4	46.2		
4/20/2015	6:42	B	135	59.3	47.2	n/a	59.3	3.9	-12.1		
4/20/2015	6:34	B	136	59.3	47.7	58.2	59.4	3.9	-11.7	54.3	
4/20/2015	6:20	B	137	59.7	47.7	56.1	59.0	4.2	-11.3	51.9	
4/19/2015	17:04	B	138	59.0	55.6	n/a	59.1	4.0	4.1		difficulty with hole caving
4/19/2015	16:53	B	139	59.1	49.8	58.2	59.3	4.1	45.7	54.1	
4/19/2015	16:47	B	140	59.3	50.4	n/a	59.2	4.3	46.1		
4/22/2015	2:37	B	141	61.6		n/a	61.8	6.6	-6.6		
4/22/2015	2:36	C	142	61.5		n/a	62.9	6.5	-6.5		
4/21/2015	21:53	B	143	55.8	57.9	n/a	57.9	0.8	57.1		no hammer, rotation or air
4/21/2015	21:58	B	144	55.7	56.8	n/a	56.8	0.7	56.1		no hammer, rotation or air
4/21/2015	21:53	C	145	55.8	52.5	n/a	58.2	0.8	51.7		
4/21/2015	10:16	B	146	56.1	52.5	N/A	56.2	1.1	51.4		
4/21/2015	10:05	B	147	56.3	51.0	N/A	56.3	1.3	49.7		
4/21/2015	10:10	B	148	56.1	47.7	54.0	56.3	1.1	46.6	52.9	
4/20/2015	22:50	B	149	57.6	48.4	50.4	55.9	2.6	45.8	47.8	completed 22:53
4/20/2015	22:42	B	150	57.4	47.4	47.4	50.5	2.4	45.0	45.0	
4/20/2015	22:42	C	151	57.4	46.7	48.5	49.7	2.4	44.3	46.1	
4/20/2015	17:41	B	152	59.4	48.2	51.7	53.2	4.4	43.8	47.3	
4/20/2015		B	153	59.3	n/a	51.4	53.8	4.3		47.1	
4/20/2015	17:43	C	154	59.4	50.4	55.6	57.2	4.4	46.0	51.2	
4/20/2015	9:38	B	155	57.3	51.8	N/A	57.1	2.3	49.5		
4/20/2015	9:32	B	156	57.2	48.3	N/A	57.2	2.2	46.1		
4/20/2015	8:17	B	157	57.8	49.7	N/A	58.2	2.8	46.9		
4/20/2015	8:22	B	158	57.7	52.6	N/A	58.0	2.7	49.9		
4/20/2015	8:27	B	159	57.7	49.1	N/A	58.1	2.7	46.4		
4/19/2015	16:25	B	160	59.6	50.0	n/a	59.7	4.6	45.4		
4/19/2015	16:14	B	161	59.9	50.4	n/a	59.7	4.9	4.7		
4/22/2015	3:05	C	162	61.9	60.8	n/a	61.9	6.9	53.9		
4/22/2015	3:00	C	163	61.8	58.9	n/a	61.8	6.8	52.1		
4/21/2015	21:28	B	164	56.0	55.5	n/a	56.2	1.0	54.5		
4/21/2015	21:35	C	165	56.0	54.6	n/a	56.2	1.0	53.6		
4/21/2015	21:28	C	166	56.0	52.1	n/a	56.2	1.0	51.1		
4/21/2015	10:27	B	167	56.0	51.9	N/A	56.1	1.0	50.9		
4/21/2015	10:28	B	168	56.0	52.9	N/A	56.1	1.0	51.9		
4/21/2015	10:34	B	169	55.9	47.7	51.7	56.0	0.9	46.8	50.8	
4/20/2015	22:05	B	170	56.3	47.2	48.8	50.1	1.3	45.9	47.5	
4/20/2015	22:25	B	171	56.8	45.2	46.2	48.8	1.8	43.4	44.4	B frame Screen problem
4/20/2015	22:04	C	172	56.3	46.4	46.6	47.6	1.3	45.1	45.3	
4/20/2015	18:04	B	173	59.2	51.4	53.2	54.4	4.2	47.2	49.0	
4/20/2015	17:58	B	174	59.1	51.4	55.3	56.6	4.1	47.3	51.2	
4/20/2015	17:58	C	175	59.2	50.2	n/a	59.4	4.2	46.0		
4/20/2015	9:07	B	176	57.2	54.3	N/A	57.4	2.2	52.1		
4/22/2015	3:21	B	177	61.9	56.1	N/A	61.9	6.9	49.2		

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GLDD Drillboat Apache - Field Production Sheet

AREA E

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/22/2015	3:21	C	178	61.9	58.3	N/A	61.9	6.9	51.4		
4/22/2015	3:30	C	179	62.0	56.9	n/a	62.1	7.0	49.9		
4/21/2015	21:02	B	180	56.5	52.2	n/a	57.5	1.5	50.7		
4/21/2015	21:08	C	181	56.4	48.5	n/a	56.6	1.4	47.1		
4/21/2015	21:02	C	182	56.5	55.6	54.0	56.6	1.5	54.1	52.5	
4/21/2015	11:36	B	183	56.7	49.4	53.8	55.4	1.7	47.7	52.1	
4/21/2015	11:32	B	184	56.5	48.4	N/A	56.7	1.5	46.9		
4/21/2015	11:26	B	185	56.3	53.0	N/A	56.3	1.3	51.7		
4/20/2015	21:47	B	186	56.2	50.7	53.1	56.2	1.2	49.5	51.9	completed 21:54
4/20/2015	21:33	B	187	56.2	49.3	53.6	56.3	1.2	48.1	52.4	
4/20/2015	21:33	C	188	56.2	48.4	53.6	54.7	1.2	47.2	52.4	
4/20/2015	18:16	B	189	59.0	51.8	54.4	56.3	4.0	47.8	50.4	
4/20/2015	18;:22	B	190	58.8	52.3	58.5	58.9	3.8	48.5	54.7	completed 18:26
4/20/2015	18:16	C	191	55.0	52.2	n/a	59.3	4.0	48.2		
4/20/2015	0:00	B	192	57.7	N/A	N/A	57.7	2.3			
4/22/2015	3:47	B	193	62.0	56.1	n/a	62.0	7.0	49.1		
4/22/2015	3:53	C	194	62.1	55.8	N/A	62.2	7.1	48.7		
4/22/2015	3:45	C	195	62.1	54.1	n/a	62.1	7.1	47.0		
4/21/2015	20:40	B	196	56.7	48.9	n/a	56.9	1.7	47.2		
4/21/2015	20:13	B	197	57.2	48.9	55.6		2.2	46.7	53.4	caving & stuck for 15 min.
4/21/2015	20:13	C	198	57.2	n/a	46.9	47.9	2.2		44.7	
4/21/2015	12:10	B	199	58.3	48.5	51.9		3.3	45.2	48.6	
4/21/2015	12:34	B	200	58.5	50.6	56.0	57.9	3.5	47.1	52.5	
4/21/2015	12:41	B	201	58.6	53.7	N/A	58.6	3.6	50.1		
4/20/2015	21:21	B	202	56.4	52.8	n/a	56.4	1.4	51.4		
4/20/2015	21:02	C	203	56.5	46.1	54.4	55.4	1.5	44.6	52.9	
4/20/2015	20:11	B	204	57.4	49.6	n/a	58.0	2.4	47.2		no Hammer
4/20/2015	19:44	B	205	57.3	??	n/a	60.3	2.3			no hammer
4/22/2015	4:11	B	206	62.1	54.5	N/A	62.4	7.1	47.4		
4/22/2015	4:09	C	207	62.0	52.7	N/A	62.0	7.0	45.7		
4/22/2015	4:19	C	208	62.0	54.3	N/A	62.0	7.0	47.3		
4/21/2015	18:27	B	209	58.8	49.2	54.4	55.5	3.8	45.4	50.6	
4/21/2015	18:32	B	210	58.7	48.9	49.7	51.0	3.7	45.2	46.0	
4/21/2015	18:27	C	211	58.7	46.3	46.3	49.3	3.7	42.6	42.6	Survey room monitor switch 17:18 to 18:20
4/21/2015	13:38	B	212	59.9	48.7	49.9	51.2	4.9	43.8	45.0	
4/21/2015	13:30	B	213	59.8	50.4	50.9	52.4	4.8	45.6	46.1	
4/21/2015	13:26	B	214	59.8	53.6	N/A	59.5	4.8	48.8		
4/22/2015	4:36	B	215	62.0	55.4	N/A	62.1	7.0	48.4		
4/22/2015	4:44	B	216	61.8	53.8	N/A	61.9	6.8	47.0		
4/22/2015	4:35	C	217	61.8	54.1	56.9	58.2	6.8	47.3	50.1	
4/21/2015	17:10	B	218	60.2	52.0	52.8	55.0	5.2	46.8	47.6	
4/21/2015	17:05	B	219	60.0	51.8	52.0	53.8	5.0	46.8	47.0	
4/21/2015	17:08	C	220	60.1	49.6	49.8	52.1	5.1	44.5	44.7	
4/21/2015	13:48	B	221	60.0	50.7	50.9	52.0	5.0	45.7	45.9	
4/21/2015	13:52	B	222	60.3	54.4	57.6	59.5	5.3	49.1	52.3	
4/21/2015	13:56	B	223	60.3	56.4	N/A	60.3	5.3	51.1		
4/22/2015	5:06	B	224	61.4	54.8	N/A	61.6	6.4	48.4		

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GLDD Drillboat Apache - Field Production Sheet

AREA E

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/22/2015	4:57	B	225	61.7	59.2	60.5	61.6	6.7	52.5	53.8	
4/22/2015	4:58	C	226	61.4	55.9	56.5	57.6	6.4	49.5	50.1	
4/21/2015	16:07	B	227	61.0	55.6	57.0	59.7	6.0	49.6	51.0	
4/21/2015	16:30	B	228	60.6	54.0	55.1	56.7	5.6	48.4	49.5	t-bird screen reboot
4/21/2015	16:43	B	229	60.6	53.5	56.8	60.7	5.6	47.9	51.2	
4/21/2015	14:46	B	230	61.0	52.4	57.3	58.7	6.0	46.4	51.3	
4/21/2015	14:43	B	231	60.9	52.0	59.3	60.5	5.9	46.1	53.4	
4/21/2015	14:36	B	232	60.8	51.3	N/A	61.1	5.8	45.5		
4/21/2015	15:43	B	233	61.2	54.8	n/a	61.9	6.2	48.6		
4/21/2015	15:00	B	234	61.1	50.7	N/A	61.4	6.1	44.6		
4/21/2015	15:09	B	235	61.1	51.9	N/A	61.6	6.1	45.8		
4/21/2015	15:15	B	236	61.1	N/A	N/A	61.1	6.1			No rock
4/19/2015	22:34	B	237	58.2	36.5	45.1	46.5	3.2	33.3	41.9	no hammer until 42
4/19/2015	22:53	B	238	58.7	36.0	46.2	47.0	3.7	32.3	42.5	minimal hammer in upper then stuck in hole
4/20/2015	9:21	B	239	57.2	47.9	N/A	57.0	2.2	45.7		
4/21/2015	6:28	B	240	59.6	52.0	59.0	60.0	4.6	47.4	54.4	
4/21/2015	7:48	B	241	58.2	52.2	N/A	58.4	3.2	49.0		
4/21/2015	5:26	B	242	60.8	36.9	n/a	63.0	5.8	31.1		
4/21/2015	5:43	B	243	60.4	36.2	56.8	59.7	5.4	30.8	51.4	
4/20/2015	20:52	B	244	56.6	49.5	56.2	56.7	1.6	47.9	54.6	Broke Coupling repaired
4/21/2015	15:49	B	245	61.1	55.2	n/a	61.7	6.1	49.1		no hammer
4/21/2015	15:56	B	246	61.1	n/a	n/a	61.7	6.1			
4/22/2015	3:01	B	247	61.7		n/a	62.0	6.7	-6.7		initial depth ? No stop
4/22/2015	2:44	B	248	61.3		n/a	62.4	6.3	-6.3		initial depth ?
4/22/2015	2:13	B	249	61.1	56.6	na	61.2	6.1	50.5		
4/22/2015	2:01	B	250	60.5	53.4	n/a	60.9	5.5	47.9		
4/21/2015	1:30	B	251	60.4	53.2	n/a	60.6	5.4	47.8		
4/21/2015	1:01	B	252	59.4	50.3	N/A	59.5	4.4	45.9		
4/20/2015	9:12	B	253	57.2	54.2	N/A	57.4	2.2	52.0		
4/20/2015	9:16	B	254	57.2	50.7	N/A	57.2	2.2	48.5		
4/20/2015	8:52	B	255	57.5	N/A	N/A	57.6	2.3			
4/20/2015	8:45	B	256	57.5	53.8	N/A	58.7	2.4	51.4		
4/19/2015	16:34	B	257	59.4	48.6	n/a	59.6	4.4	44.2		
4/20/2015	19:44	C	258	57.6	48.3	n/a	57.5	2.6	45.7		minor hammer

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AREA F

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
	9:40	C	1	57.0	49.9	n/a	57.4	2.0	47.9		
4/23/2015	2:09	B	2	59.1	51.3	N/A	59.0	4.1	47.2		
4/23/2015	2:10	C	3	59.3	50.6	N/A	59.0	4.3	46.3		
4/23/2015	1:59	C	4	59.0	49.7	N/A	58.7	4.0	45.7		
4/23/2015	0:44	B	5	56.9	45.0	N/A	57.0	1.9	43.1		
4/23/2015	0:34	B	6	56.6	46.8	55.2	56.3	1.6	45.2	53.6	
4/23/2015	0:34	C	7	56.8	46.5	51.7	52.5	1.8	44.7	49.9	
4/22/2015	11:38	B	8	55.8	45.9	N/A	56.0	0.8	45.1		
4/22/2015	11:33	B	9	55.8	47.0	N/A	55.8	0.8	46.2		
4/22/2015	11:36	C	10	55.8	45.9	53.9	55.7	0.8	45.1	53.1	
4/22/2015	7:58	B	11	58.1	47.5	53.0	54.5	3.1	44.4	49.9	
4/22/2015	8:04	B	12	58.1	48.0	50.0	54.2	3.1	44.9	46.9	
4/22/2015	7:58	C	13	58.1	45.0	57.7	58.4	3.1	41.9	54.6	
4/23/2015	9:52	B	14	56.8	52.0	n/a	56.9	1.8	50.2		
4/23/2015	9:52		15	56.8	n/a	n/a	58.9	1.8			
4/23/2015	9:52		16	56.8	48.5	51.9	55.9	1.8	46.7	50.1	
4/23/2015	2:28	B	17	59.4	51.5	N/A	59.6	4.4	47.1		
4/23/2015	2:38	B	18	59.7	51.3	N/A	59.9	4.7	46.6		
4/23/2015	2:28	C	19	59.7	50.7	58.5	59.4	4.7	46.0	53.8	
4/23/2015	0:05	B	20	55.9	46.8	52.6	55.1	0.9	45.9	51.7	
4/23/2015	0:13	B	21	56.0	46.2	52.9	55.9	1.0	45.2	51.9	
4/23/2015	0:02	C	22	55.9	47.8	55.2	55.8	0.9	46.9	54.3	
4/22/2015	11:52	B	23	56.2	46.1	51.5	55.9	1.2	44.9	50.3	?
4/22/2015	11:57	B	24	56.3	45.5	47.4	48.9	1.3	44.2	46.1	
4/22/2015	11:52	C	25	56.2	45.7	46.7	49.0	1.2	44.5	45.5	
4/22/2015	9:00	B	26	56.9	47.9	55.3	57.2	1.9	46.0	53.4	
4/22/2015	9:28	B	27	56.8	50.4	55.6	57.3	1.8	48.6	53.8	
4/22/2015	9:28	C	28	56.8	47.3	N/A	57.4	1.9	45.4		
4/23/2015	10:08		29	56.9	n/a	n/a	56.9	1.5	45.4		
4/23/2015	10:08	B	30	56.7	53.2	n/a	56.8	1.7	51.5		
4/23/2015	10:08	C	31	56.5	52.1	n/a	57.5	1.5	50.6		
4/23/2015	3:04	B	32	60.3	53.9	59.6	60.1	5.3	48.6	54.3	
4/23/2015	2:56	B	33	60.1	51.4	57.2	58.5	5.1	46.3	52.1	
4/23/2015	2:56	C	34	60.3	49.7	50.7	51.8	5.3	44.4	45.4	
4/22/2015	23:45	B	35	55.7	46.0	48.3	49.9	0.7	45.3	47.6	
4/22/2015	22:36	B	36	55.8	36.1	49.7	55.8	0.8	35.3	48.9	
4/22/2015	22:36	C	37	55.7	44.6	46.0	47.1	0.7	43.9	45.3	
4/22/2015	12:15	B	38	56.7	47.0	49.0	55.9	1.7	45.3	47.3	
4/22/2015	12:11	B	39	56.7	46.6	47.7	55.9	1.7	44.9	46.0	
4/22/2015	12:12	C	40	56.7	46.9	50.0	52.1	1.7	45.2	48.3	
4/22/2015	9:46	B	41	56.6	47.5	50.3	51.8	1.6	45.9	48.7	
4/22/2015	9:51	B	42	56.6	47.6	55.6	56.7	1.6	46.0	54.0	
4/22/2015	9:46	C	43	56.6	46.4	N/A	57.8	1.6	44.8		
4/23/2015	3:27	B	44	60.7	55.3	56.4	57.8	5.7	49.6	50.7	rock is very hard here
4/23/2015	3:37	B	45	60.8	53.1	53.9	54.9	5.8	47.3	48.1	rock is very hard here
4/23/2015	3:27	C	46	60.7	51.3	52.8	54.3	5.7	45.6	47.1	rock is very hard here
4/22/2015	23:08	B	47	55.9	45.9	47.7	48.8	0.9	45.0	46.8	

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AREA F

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/22/2015	23:15	B	48	55.8	46.1	46.9	47.9	0.8	45.3	46.1	
4/22/2015	23:08	C	49	55.9	46.5	48.2	49.4	0.9	45.6	47.3	
4/22/2015	12:58	B	50	57.8	48.9	53.5	57.6	2.8	46.1	50.7	
4/22/2015	13:01	B	51	58.0	48.0	55.0	57.8	3.0	45.0	52.0	
4/22/2015		C	52	58.2	46.1	46.4	49.1	3.2	42.9	43.2	
4/22/2015	10:04	B	53	56.5	47.7	53.2	54.5	1.5	46.2	51.7	
4/22/2015	10:04	B	54	56.3	47.6	N/A	56.9	1.3	46.3		
4/22/2015	10:04	C	55	56.5	47.0	N/A	56.7	1.5	45.5		
4/22/2015	4:00	B	56	60.9	58.8	N/A	61.4	5.9	52.9		
4/22/2015	3:52	B	57	60.9	59.2	59.5	60.8	5.9	53.3	53.6	
4/22/2015	3:52	C	58	60.9	55.3	58.7	59.9	5.9	49.4	52.8	
4/22/2015	22:46	B	59	56.2	50.3	55.0	56.3	1.2	49.1	53.8	
4/22/2015	22:35	B	60	56.3	50.2	54.0	54.0	1.3	48.9	52.7	
4/22/2015	22:35	C	61	56.2	49.1	n/a	56.4	1.2	47.9		
4/22/2015	13:25	B	62	58.8	49.5	N/A	58.4	3.8	45.7		
4/22/2015	13:20	B	63	58.9	48.7	N/A	58.4	3.9	44.8		
4/22/2015	13:20	C	64	58.8	47.8	49.3	51.4	3.8	44.0	45.5	
4/22/2015	10:20	B	65	56.3	46.4	53.8	55.3	1.3	45.1	52.5	
4/22/2015	10:24	B	66	56.2	46.2	N/A	57.1	1.2	45.0		
4/22/2015	10:20	C	67	56.3	46.3	N/A	56.3	1.3	45.0		
4/23/2015	4:18	B	68	61.1	55.7	N/A	61.5	6.1	49.6		
4/23/2015	4:25	B	69	61.1	N/A	N/A	61.7	6.1			
4/23/2015	4:18	C	70	61.1	N/A	N/A	61.3	6.1			
4/22/2015	22:20	B	72	56.4	50.4	n/a	56.7	1.4	49.0		
4/22/2015	22:10	B	71	56.7	51.6	n/a	57.0	1.7	49.9		
4/22/2015	22:10	C	73	56.6	48.6	n/a	56.7	1.6	47.0		
4/22/2015	14:19	B	74	60.3	45.3	58.4	60.3	5.3	40.0	53.1	
4/22/2015	14:25	B	75	60.3	51.1	N/A	60.1	5.3	45.8		
4/22/2015	14:22	C	76	60.3	49.5	49.8	52.1	5.3	44.2	44.5	
4/22/2015	10:42	B	77	56.1	47.7	48.0	56.1	1.1	46.6	46.9	
4/22/2015	10:38	B	78	56.1	48.4	N/A	56.2	1.1	47.3		
4/22/2015	10:38	C	79	56.1	48.9	N/A	56.2	1.1	47.8		
4/23/2015	9:40	B	80	56.3	48.7	N/A	57.3	1.9	46.8		
4/24/2015	9:40	B	81	56.3	49.1	N/A	57.6	2.0	47.1		

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AREA G

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/23/2015	4:45	B	1	61.2	N/A	N/A	61.6	6.2			
4/23/2015	4:41	B	2	61.2	56.2	N/A	61.4	6.2	50.0		
4/23/2015	4:41	C	3	61.2	57.8	N/A	61.4	6.2	51.6		
4/22/2015	21:33	B	4	57.1	51.1	n/a	57.5	2.1	49.0		Switch to F sheet when complete
4/22/2015	21:46	B	5	57.0	50.2	55.5	57.2	2.0	48.2	53.5	
4/22/2015	21:33	C	6	57.1	52.0	53.9	55.0	2.1	49.9	51.8	
4/22/2015	14:51	B	7	60.8	52.1	60.3	60.6	5.8	46.3	54.5	
4/22/2015	14:44	B	8	60.9	52.8	57.6	59.5	5.9	46.9	51.7	
4/22/2015	14:49	C	9	60.9	50.8	55.6	57.8	5.9	44.9	49.7	
4/22/2015	10:57	B	10	55.9	49.6	52.0	55.9	0.9	48.7	51.1	
4/22/2015	11:04	B	11	55.8	N/A	N/A	56.1	0.8			
4/22/2015	10:57	C	12	55.8	N/A	N/A	56.4	0.8			May say "G@", driller typing error
4/23/2015	5:08	B	13	61.1	N/A	N/A	62.3	6.1			
4/23/2015	5:16	C	14	61.0	56.2	N/A	61.1	6.0	50.2		
4/23/2015	5:04	C	15	61.2	54.0	N/A	61.3	6.2	47.8		
4/22/2015	21:01	B	16	57.5	47.2	52.3	55.8	2.5	44.7	49.8	
4/22/2015	21:10	B	17	57.6	46.4	46.9	47.9	2.6	43.8	44.3	
4/22/2015	21:01	C	18	57.5	48.0	48.6	49.6	2.5	45.5	46.1	
4/22/2015	15:20	B	19	61.2	53.8	n/a	61.2	6.2	47.6		no hammer
4/22/2015	??	B	20	61.3		n/a		6.3	-6.3		
4/22/2015	15:18	C	21	61.2	53.5		61.3	6.2	47.3	-6.2	no hammer
4/23/2015	5:39	B	22	60.9	58.5	N/A	61.1	5.9	52.6		
4/23/2015	5:49	B	23	60.7	54.9	N/A	61.0	5.7	49.2		
4/23/2015	5:39	C	24	60.9	58.1	N/A	61.2	5.9	52.2		
4/22/2015	20:15	B	25	58.2	47.1	47.2	49.4	3.2	43.9	44.0	
4/22/2015	20:32	B	26	58.2	46.5	50.0	52.0	3.2	43.3	46.8	
4/22/2015	20:20	C	27	58.2	49.2	49.8	50.9	3.2	46.0	46.6	
4/22/2015	15:33	B	28	61.4	56.2	n/a	61.5	6.4	49.8		
4/22/2015	15:38	B	29	61.4	55.9	na	61.5	6.4	49.5		
4/22/2015	15:33	C	30	61.4	58.0	n/a	61.4	6.4	51.6		
4/23/2015	6:09	B	31	60.4	55.5	N/A	60.6	5.4	50.1		
4/23/2015	6:02	B	32	60.5	55.9	N/A	60.9	5.5	50.4		
4/23/2015	6:02	C	33	60.4	53.5	N/A	61.0	5.4	48.1		
4/22/2015	18:26	B	34	60.0	49.2	50.3	50.3	5.0	44.2	45.3	
4/22/2015	18:24	B	35	60.1	50.4	50.4	51.9	5.1	45.3	45.3	
4/22/2015	18:24	C	36	60.1	54.4	n/a	60.5	5.1	49.3		
4/22/2015	15:48	B	37	61.5	57.2	n/a	61.3	6.5	50.7		
4/22/2015	15:54	B	38	61.5	58.6	n/a	61.5	6.5	52.1		
4/22/2015	15:50	C	39	61.5	55.8	n/a	61.5	6.50	49.3		
4/23/2015	7:48	B	40	58.6	54.7	N/A	58.9	3.60	51.1		
4/23/2015	7:48	B	41	58.5	51.9	52.3	53.5	3.50	48.4	48.8	
4/23/2015	7:48	C	42	58.6	50.0	54.5	56.2	3.6	46.4	50.9	
4/22/2015	18:08	B	43	60.5	56.9	n/a	60.8	5.5	51.4		
4/22/2015	18:08	B	44	60.5	58.1	n/a	60.7	5.5	52.6		
4/22/2015	18:08	C	45	60.5	53.6	n/a	60.7	5.5	48.1		
4/22/2015	16:08	B	46	61.5	56.6	n/a	61.9	6.5	50.1		
4/22/2015	16:02	B	47	61.6	56.5	n/a	61.4	6.6	49.9		

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AREA G

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/22/2015	16:02	C	48	61.6	55.3	n/a	61.6	6.6	48.7		no hammer
4/23/2015	8:12	B	49	58.2	50.9	N/A	57.6	3.2	47.7		
4/23/2015		B	50	58.3	54.7	55.3	56.4	3.3	51.4	52.0	
4/23/2015	8:12	C	51	58.2	52.2	N/A	58.5	3.2	49.0		
4/22/2015	17:58	B	52	60.8	55.8	n/a	61.0	5.8	50.0		
4/22/2015	17:53	B	53	60.7	56.8	n/a	61.0	5.7	51.1		
4/22/2015	17:53	C	54	60.7	52.2	n/a	61.1	5.7	46.5		
4/22/2015	16:20	B	55	61.6	55.1	n/a	61.7	6.6	48.5		
4/22/2015	16:20	B	56	61.5	55.8	n/a	61.7	6.5	49.3		
4/22/2015	16:20	C	58	61.6	55.7	n/a	61.5	6.6	49.1		no hammer
4/23/2015	8:35	B	59	58.0	50.5	54.8	55.9	3.0	47.5	51.8	
4/23/2015		B	60	57.9	54.0	56.2	57.0	2.9	51.1	53.3	
4/23/2015	8:35	C	61	58.0	51.4	n/a	58.0	3.0	48.4		
4/22/2015	17:17	B	62	61.2	54.2	n/a	61.8	6.2	48.0		
4/22/2015	17:36	B	63	61.1	54.2	n/a	61.1	6.1	48.1		
4/22/2015	17:17	C	64	61.2	54.0	n/a	61.4	6.2	47.8		no hammer
4/22/2015	16:39	B	65	61.5	55.6	n/a	61.7	6.5	49.1		
4/22/2015	16:35	B	66	61.5	55.5	n/a	61.7	6.5	49.0		
4/22/2015	16:35	C	67	61.5	58.4	n/a	63.1	6.5	51.9		

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AREA H

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/27/2015	8:33	A	1	61.0	49.8	60.7	61.2	6.0	43.8	54.7	
4/27/2015	8:02	B	2	61.1	56.0	N/A	61.2	6.1	49.9		
4/27/2015	8:02	C	3	61.2	50.2	54.5	56.2	6.2	44.0	48.3	
4/27/2015	5:49	B	4	59.9	47.7	53.7	56.6	4.9	42.8	48.8	
4/27/2015	5:36	B	5	59.5	43.7	45.5	49.6	4.5	39.2	41.0	
4/27/2015	5:36	C	6	59.5	45.3	47.0	48.3	4.5	40.8	42.5	
4/26/2015	23:25	B	7	59.0	45.5	47.8	49.6	4.0	41.5	43.8	
4/26/2015	23:33	B	8	58.9	45.1	46.8	49.0	3.9	41.2	42.9	
4/26/2015	23:25	C	9	59.0	46.8	52.1	53.6	4.0	42.8	48.1	
4/26/2015	23:03	B	10	59.3	45.9	58.6	59.5	4.3	41.6	54.3	
4/26/2015	22:51	B	11	59.6	46.8	N/A	59.8	4.6	42.2		
4/26/2015	22:51	C	12	59.6	47.2	53.5	55.2	4.6	42.6	48.9	
4/26/2015	13:26	B	13	56.2	43.5	44.7	49.7	1.2	42.3	43.5	
4/26/2015	13:18	B	14	56.2	43.8	43.8	47.7	1.2	42.6	42.6	
4/26/2015	13:18	C	15	56.2	42.0	49.7	51.1	1.2	40.8	48.5	
4/26/2015	12:49	B	16	56.6	42.9	56.0	56.8	1.6	41.3	54.4	
4/26/2015	12:58	B	17	56.6	43.4	53.0	56.7	1.6	41.8	51.4	
4/26/2015	12:49	C	18	56.6	42.3	46.5	52.3	1.6	40.7	44.9	
4/26/2015	0:09	B	19	56.7	43.5	N/A	56.8	1.7	41.8		
4/25/2015	23:54	B	20	56.8	45.0	N/A	57.3	1.8	43.2		
4/25/2015	23:54	C	21	56.8	44.7	N/A	57.1	1.8	42.9		
4/25/2015	23:16	B	22	57.4	45.4	57.4	57.7	2.4	43.0	55.0	
4/25/2015	23:28	B	23	57.3	44.4	N/A	57.4	2.3	42.1		
4/25/2015	23:19	C	24	57.3	43.4	N/A	63.5	2.3	41.1		Drilled deeper because they needed to look at hammer hydraulics
4/25/2015	11:28	B	25	56.7	41.6	53.0	54.9	1.7	39.9	51.3	
4/25/2015	11:32	B	26	57.0	41.0	N/A	53.3	2.0	39.0		
4/25/2015	11:28	C	27	57.0	39.0	N/A	52.0	2.0	37.0		
4/25/2015	10:12	B	28	58.1	40.1	N/A	58.3	3.1	37.0		
4/25/2015	10:11	B	29	58.1	41.2	56.4	57.6	3.0	37.0	53.4	
4/25/2015	10:12	C	30	58.1	38.3	N/A	50.1	3.1	35.2		
4/24/2015	21:00	B	31	58.2	38.5	40.8	49.7	3.2	35.3	37.6	
4/24/2015	20:43	B	32	57.9	38.4	54.7	56.1	2.9	35.5	51.8	very hard from 40' uncorrected, but ROP>4 and <9
4/24/2015	20:43	C	33	58.2	missed it	36.0	37.0	3.2		32.8	
4/24/2015	17:53	B	34	59.9	46.1	48.7	50.0	4.9	41.2	43.8	
4/24/2015	17:59	B	35	59.8	41.0	41.0	42.3	4.8	36.2	36.2	
4/24/2015	17:44	C	36	59.8	42.5	45.0	47.3	4.8	37.7	40.2	
4/23/2015	23:04	B	37	55.3	38.7	38.8	40.0	0.3	38.4	38.5	
4/23/2015	23:09	B	38	55.2	41.6	43.1	44.2	0.2	41.4	42.9	
4/23/2015	23:04	C	39	55.3	47.0	47.1	48.4	0.3	46.7	46.8	
4/23/2015	22:30	B	40	55.8	56.2	n/a	56.2	0.8	55.4		no hammer
4/23/2015	22:34	C	41	55.7	56.1	n/a	56.1	0.7	55.4		no hammer or air
4/23/2015	22:29	C	42	55.8	52.8	n/a	56.1	0.8	52.0		no hammer
4/27/2015	8:53	A	43	60.9	51.8	61.0	61.2	5.9	45.9	55.1	
4/27/2015	8:53	B	44	60.9	51.1	N/A	61.0	5.9	45.2		
4/27/2015	8:53	C	45	60.9	50.3	59.0	60.5	5.9	44.4	53.1	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/27/2015	5:13	B	46	59.1	50.9	57.9	58.9	4.1	46.8	53.8	
4/27/2015	5:22	B	47	59.3	51.3	52.5	53.7	4.3	47.0	48.2	
4/27/2015	5:13	C	48	59.1	51.7	53.0	54.0	4.1	47.6	48.9	
4/26/2015	23:56	B	49	58.3	48.6	49.4	51.9	3.3	45.3	46.1	
4/26/2015	23:50	B	50	58.5	49.5	51.6	52.2	3.5	46.0	48.1	
4/26/2015	23:50	C	51	58.5	48.8	49.1	53.1	3.5	45.3	45.6	
4/26/2015	22:33	B	52	59.8	49.8	59.0	60.3	4.8	45.0	54.2	
4/26/2015	22:39	B	53	59.8	51.4	54.5	55.6	4.8	46.6	49.7	
4/26/2015	22:33	C	54	59.8	52.0	54.9	56.2	4.8	47.2	50.1	
4/26/2015	13:38	B	55	56.1	45.9	49.0	50.1	1.1	44.8	47.9	
4/26/2015	13:42	B	56	56.1	46.3	52.5	53.8	1.1	45.2	51.4	
4/26/2015	13:38	C	57	56.1	46.2	49.4	50.7	1.1	45.1	48.3	
4/26/2015	12:36	B	58	56.8	48.2	51.0	52.2	1.8	46.4	49.2	
4/26/2015	12:33	B	59	56.9	46.5	46.5	47.6	1.9	44.6	44.6	
4/26/2015	12:33	C	60	56.8	45.4	51.5	52.2	1.8	43.6	49.7	May Be Rock right from the top
4/26/2015	0:38	B	61	56.3	45.6	56.0	56.5	1.3	44.3	54.7	
4/26/2015	0:51	B	62	56.2	44.6	53.4	55.3	1.2	43.4	52.2	
4/26/2015	0:39	C	63	56.3	44.9	45.6	46.7	1.3	43.6	44.3	
4/25/2015	22:45	B	64	58.0	46.9	49.3	51.8	3.0	43.9	46.3	
4/25/2015	22:45	C	65	58.0	46.9	53.4	56.5	3.0	43.9	50.4	
4/25/2015	22:57	C	66	57.7	46.3	N/A	58.0	2.7	43.6		
4/25/2015	12:05	B	67	56.4	47.4	55.0	56.5	1.4	46.0	53.6	
4/25/2015	12:05	B	68	56.4	48.2	N/A	56.6	1.4	46.8		
4/25/2015	12:05	C	69	56.4	47.1	55.4	56.7	1.4	45.7	54.0	
4/25/2015	10:01	B	70	58.4	51.3	58.2	58.6	3.4	47.9	54.8	
4/25/2015	9:55	B	71	58.5	50.3	52.0	58.9	3.5	46.8	48.5	
4/25/2015	9:55	C	72	58.5	47.6	55.6	57.4	3.5	44.1	52.1	
4/24/2015	21:29	B	73	57.6	49.2	51.7	57.8	2.6	46.6	49.1	
4/24/2015	21:36	C	74	57.4	48.2	48.4	49.4	2.4	45.8	46.0	
4/24/2015	21:24	C	75	57.6	47.7	50.1	51.1	2.6	45.1	47.5	
4/24/2015	9:47	B	76	56.7	47.7	48.4	49.5	1.7	46.0	46.7	
4/24/2015	9:51	B	77	56.7	45.2	45.2	46.4	1.7	43.5	43.5	
4/24/2015	9:47	C	78	56.7	45.5	45.7	47.5	1.7	43.8	44.0	
4/23/2015	23:42	B	79	54.9	47.0	51.0	55.0	-0.1	47.1	51.1	
4/23/2015	23:35	B	80	55.0	46.3	47.9	51.0	0.0	46.3	47.9	
4/23/2015	23:35	C	81	55.0	49.1	49.5	50.6	0.0	49.1	49.5	
4/23/2015	22:14	B	82	56.0	54.8	n/a	56.6	1.0	53.8		
4/23/2015	22:08	B	83	56.2	56.5	n/a	56.5	1.2	55.3		no hammer or air
4/23/2015	22:08	C	84	56.0	56.4	n/a	56.4	1.0	55.4		
4/27/2015	9:09	A	85	60.8	51.3	N/A	61.0	5.8	45.5		
4/27/2015	9:09	B	86	60.8	52.7	N/A	60.8	5.8	46.9		
4/27/2015	9:09	C	87	60.8	50.8	56.4	58.3	5.8	45.0	50.6	
4/27/2015	5:00	B	88	58.9	50.3	51.7	58.5	3.9	46.4	47.8	
4/27/2015	4:52	B	89	58.7	49.3	51.5	52.8	3.7	45.6	47.8	
4/27/2015	4:52	C	90	58.7	48.9	52.4	53.4	3.7	45.2	48.7	
4/27/2015	0:09	B	91	58.2	47.9	49.0	50.1	3.2	44.7	45.8	
4/27/2015	0:17	B	92	58.1	48.8	49.5	50.9	3.1	45.7	46.4	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/27/2015	0:09	C	93	58.2	30.9	31.8	32.8	3.2	27.7	28.6	NO GOOD, driller said there must have been something wrong for it to show that shallow and we had moved to the next station before we had a chance to redrill
4/26/2015	22:16	B	94	60.0	52.2	55.2	56.3	5.0	47.2	50.2	
4/26/2015	22:12	B	95	60.2	52.6	56.7	57.7	5.2	47.4	51.5	
4/26/2015	22:12	C	96	60.2	49.0	49.5	50.6	5.2	43.8	44.3	
4/26/2015	13:59	B	97	55.8	46.4	46.8	47.8	0.8	45.6	46.0	
4/26/2015	13:53	B	98	55.9	46.9	N/A	56.1	0.9	46.0		review this one, may be rock
4/26/2015	13:53	C	99	55.9	44.9	47.2	49.0	0.9	44.0	46.3	
4/26/2015	12:19	B	100	57.2	46.8	47.2	48.2	2.2	44.6	45.0	
4/26/2015	12:24	B	101	57.0	46.6	47.9	49.1	2.0	44.6	45.9	
4/26/2015	12:19	C	102	57.2	47.7	47.7	49.3	2.2	45.5	45.5	
4/26/2015	1:16	B	103	55.9	43.5	52.9	54.0	0.9	42.6	52.0	
4/26/2015	1:10	B	104	56.0	44.2	50.4	51.4	1.0	43.2	49.4	
4/26/2015	1:10	C	105	55.9	44.4	44.7	45.5	0.9	43.5	43.8	
4/25/2015	22:15	B	106	58.3	46.8	48.0	50.8	3.3	43.5	44.7	
4/25/2015	22:23	C	107	58.1	47.7	51.7	54.6	3.1	44.6	48.6	
4/25/2015	22:15	C	108	58.2	47.0	48.1	49.1	3.2	43.8	44.9	
4/25/2015	12:26	B	109	56.0	44.3	47.3	49.8	1.0	43.3	46.3	
4/25/2015	12:32	B	110	56.1	45.3	50.4	52.0	1.1	44.2	49.3	
4/25/2015	12:26	C	111	56.0	47.6	55.0	56.2	1.0	46.6	54.0	
4/25/2015	9:40	B	112	58.6	52.5	N/A	58.7	3.6	48.9		
4/25/2015	9:45	B	113	58.6	51.0	54.3	55.3	3.6	47.4	50.7	
4/25/2015	9:39	C	114	58.6	48.9	51.4		3.6	45.3	47.8	
4/24/2015	21:58	B	115	57.2	47.7	52.5	56.0	2.2	45.5	50.3	
4/24/2015	22:09	B	116	57.0	46.9	47.1	50.2	2.0	44.9	45.1	
4/24/2015	21:58	C	117	57.2	46.9	48.0	50.3	2.2	44.7	45.8	
4/24/2015	9:35	B	118	56.9	46.6	48.8	50.0	1.9	44.7	46.9	
4/24/2015	9:32	B	119	57.0	47.2	47.3	48.6	2.0	45.2	45.3	
4/24/2015	9:32	C	120	56.9	49.5	54.9	57.2	1.9	47.6	53.0	
4/23/2015	23:57	B	121	54.8	48.8	n/a	54.9	-0.2	49.0		
4/24/2015	0:01	B	122	54.7	52.0	n/a	55.8	-0.3	52.3		
4/23/2015	23:57	C	123	54.8	48.2	n/a	55.0	-0.2	48.4		
4/23/2015	21:44	B	124	56.4	52.7	n/a	57.7	1.4	51.3		no hammer
4/23/2015	21:54	B	125	56.4	56.8	n/a	56.8	1.4	55.4		no hammer or air
4/23/2015	21:44	C	126	56.4	53.7	n/a	56.5	1.4	52.3		no hammer
4/27/2015	9:26	A	127	60.5	52.3	N/A	60.7	5.5	46.8		
4/27/2015	9:26	B	128	60.7	52.6	56.7	58.7	5.7	46.9	51.0	
4/27/2015	9:26	C	129	60.5	50.4	52.5	54.8	5.5	44.9	47.0	Mis-named hole, will be 165
4/27/2015	4:22	B	130	58.0	48.6	50.9	54.7	3.0	45.6	47.9	
4/27/2015	4:22	C	131	58.0	48.7	50.7	51.8	3.0	45.7	47.7	
4/27/2015	4:35	C	132	58.3	48.4	51.6	52.6	3.3	45.1	48.3	
4/27/2015	0:36	B	133	57.8	48.3	48.6	49.8	2.8	45.5	45.8	
4/27/2015	0:31	B	134	57.9	49.5	51.5	52.8	2.9	46.6	48.6	
4/27/2015	0:31	C	135	57.9	48.1	51.4	52.4	2.9	45.2	48.5	
4/26/2015	21:50	B	136	60.5	52.1	58.8	59.9	5.5	46.6	53.3	

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AREA H

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/26/2015	21:50	C	137	60.5	51.0	55.1	56.1	5.5	45.5	49.6	
4/26/2015	21:58	C	138	60.5	51.6	52.6	53.3	5.5	46.1	47.1	
4/26/2015	14:15	B	139	55.8	46.4	48.4	49.9	0.8	45.6	47.6	
4/26/2015	14:15	B	140	55.8	45.6	45.6	47.6	0.8	44.8	44.8	
4/26/2015	14:11	C	141	55.8	45.3	45.3	47.8	0.8	44.5	44.5	
4/26/2015	12:07	B	142	57.3	47.2	48.2	49.3	2.3	44.9	45.9	
4/26/2015	12:01	B	143	57.4	46.6	46.6	50.3	2.4	44.2	44.2	
4/26/2015	12:02	C	144	57.4	43.2	49.3	51.4	2.4	40.8	46.9	
4/26/2015	1:42	B	145	55.8	48.0	54.7	55.8	0.8	47.2	53.9	
4/26/2015	1:52	B	146	55.8	47.1	52.2	55.8	0.8	46.3	51.4	
4/26/2015	1:44	C	147	55.8	44.7	50.8	51.8	0.8	43.9	50.0	
4/25/2015	21:40	B	148	58.8	49.8	58.0	59.0	3.8	46.0	54.2	4s and 5s for several feet towards the bottom
4/25/2015	21:40	C	149	58.7	49.6	50.7	51.7	3.7	45.9	47.0	
4/25/2015	21:54	C	150	58.7	48.3	49.5	50.6	3.7	44.6	45.8	
4/25/2015	12:47	B	151	55.8	45.3	51.8	52.6	0.8	44.5	51.0	
4/25/2015	12:52	B	152	55.8	46.0	54.4	55.8	0.8	45.2	53.6	
4/25/2015	12:47	C	153	55.8	46.0	N/A	55.9	0.8	45.2		
4/25/2015	9:27	B	154	58.9	53.5	N/A	59.0	3.9	49.6		
4/25/2015	9:23	B	155	59.1	49.3	51.0	52.3	4.1	45.2	46.9	
4/25/2015	9:23	C	156	58.9	47.2	47.7	50.2	3.9	43.3	43.8	
4/24/2015	22:36	B	157	56.6	49.4	53.0	56.7	1.6	47.8	51.4	
4/24/2015	22:26	B	158	56.7	48.5	54.2	55.2	1.7	46.8	52.5	
4/24/2015	22:26	C	159	56.6	46.8	52.2	53.8	1.6	45.2	50.6	
4/24/2015	9:15	B	160	57.4	47.5	49.5	50.6	2.4	45.1	47.1	
4/24/2015	9:18	B	161	57.3	49.7	52.2	52.7	2.3	47.4	49.9	
4/24/2015	9:15	C	162	57.4	50.1	55.6	57.7	2.4	47.7	53.2	
4/27/2015	9:38	A	163	60.3	50.8	58.2	59.3	5.3	45.5	52.9	
4/27/2015	9:38	B	164	60.4	51.1	56.8	60.5	5.4	45.7	51.4	
4/27/2015	9:38	C	165	60.3	50.4	52.0	56.1	5.3	45.1	46.7	
4/27/2015	4:08	C	166	57.8	48.1	49.4	50.5	2.8	45.3	46.6	
4/27/2015	4:04	C	167	57.4	48.2	53.5	54.6	2.4	45.8	51.1	
4/27/2015	4:04	B	168	57.5	48.3	49.5	50.6	2.5	45.8	47.0	
4/27/2015	0:48	B	169	57.6	49.8	51.6	52.7	2.6	47.2	49.0	
4/27/2015	0:53	B	170	57.6	49.0	52.0	53.2	2.6	46.4	49.4	
4/27/2015	0:48	C	171	57.6	49.3	51.2	52.3	2.6	46.7	48.6	
4/26/2015	21:34	B	172	60.7	52.2	52.8	54.0	5.7	46.5	47.1	
4/26/2015	21:38	C	173	60.7	51.4	54.4	55.6	5.7	45.7	48.7	very hard
4/26/2015	21:34	C	174	60.8	51.9	52.7	53.8	5.8	46.1	46.9	very hard
4/26/2015	14:32	B	175	55.8	46.6	46.6	48.0	0.8	45.8	45.8	
4/26/2015	14:25	B	176	55.8	446.9	46.9	49.2	0.8	446.1	46.1	
4/26/2015	14:25	C	177	55.8	44.1	44.1	46.0	0.8	43.3	43.3	
4/26/2015	11:45	B	178	57.6	47.7	47.7	48.8	2.6	45.1	45.1	
4/26/2015	11:50	B	179	57.5	51.7	52.8	57.9	2.5	49.2	50.3	
4/26/2015	11:45	C	180	57.5	49.7	53.5	57.0	2.5	47.2	51.0	
4/26/2015	2:18	B	181	56.0	48.1	51.9	55.9	1.0	47.1	50.9	
4/26/2015	2:09	B	182	55.9	48.3	51.0	53.5	0.9	47.4	50.1	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/26/2015	2:10	C	183	55.9	49.8	N/A	56.2	0.9	48.9		engineer wanted him to overdrill to test the hammer
4/25/2015	21:12	B	184	59.4	50.3	54.9	59.6	4.4	45.9	50.5	
4/25/2015	21:24	C	185	59.3	50.3	58.3	59.4	4.3	46.0	54.0	
4/25/2015	21:12	C	186	59.4	49.7	missed it	missed it	4.4	45.3	missed it	there was rock towards the end, missed elevations, turned screen off too fast
4/25/2015	13:14	B	187	55.6	47.2	52.0	54.0	0.6	46.6	51.4	
4/25/2015	13:05	B	188	55.7	47.5	53.6	56.1	0.7	46.8	52.9	
4/25/2015	13:05	C	189	55.7	47.5	N/A	55.9	0.7	46.8		
4/25/2015	9:05	B	190	59.2	51.2	58.9	59.5	4.2	47.0	54.7	
4/25/2015	9:12	B	191	59.2	50.0	53.5	58.2	4.2	45.8	49.3	
4/25/2015	9:05	C	192	59.2	49.2	50.8	54.6	4.2	45.0	46.6	
4/24/2015	22:50	B	193	56.5	50.1	55.7	56.7	1.5	48.6	54.2	
4/24/2015	23:00	B	194	56.3	48.2	N/A	56.5	1.3	46.9		
4/24/2015	22:50	C	195	56.5	47.1	N/A	56.6	1.5	45.6		
4/24/2015	9:04	B	196	57.5	49.7	54.7	55.8	2.5	47.2	52.2	
4/24/2015	9:00	B	197	57.5	49.8	N/A	57.6	2.5	47.3		
4/24/2015	9:00	C	198	57.5	49.5	56.5	57.9	2.5	47.0	54.0	
4/24/2015	0:57	B	199	55.1	49.1	n/a	55.0	0.1	49.0		
4/24/2015	0:51	B	200	54.9	48.3	52.0	53.0	-0.1	48.4	52.1	bobby started drilling this as hole #121, we had him restart, hopefully this did not overwrite data for hole 121
4/24/2015	0:51	C	201	54.9	n/a	n/a	55.2	-0.1			screen did not display during this hole (did not discover this until it was too late), but there was no rock
4/23/2015	21:20	B	202	56.9	54.1	n/a	57.1	1.9	52.2		
4/23/2015	21:26	C	203	56.6	55.2	n/a	57.0	1.6	53.6		
4/23/2015	21:20	C	204	56.9	57.3	n/a	57.3	1.9	55.4		no hammer or air
4/23/2015	11:10	B	205	56.2	55.7	n/a	56.5	1.2	54.5		
4/23/2015	11:08	B	206	55.7	n/a	n/a	55.9	0.7			
4/23/2015	11:08	C	207	55.8	48.8	n/a	56.3	0.8	48.0		
4/27/2015	9:57	A	208	60.1	50.8	N/A	61.0	5.1	45.7		
4/27/2015	9:57	B	209	60.1	51.3	57.9	60.2	5.1	46.2	52.8	
4/27/2015	9:57	C	210	60.1	51.8	51.8	53.7	5.1	46.7	46.7	
4/27/2015	3:46	B	211	57.2	48.8	52.3	53.4	2.2	46.6	50.1	
4/27/2015	3:51	B	212	57.2	46.6	N/A	57.1	2.2	44.4		
4/27/2015	3:46	C	213	57.2	48.5	N/A	57.0	2.2	46.3		
4/27/2015	1:18	B	214	57.1	49.1	53.8	55.4	2.1	47.0	51.7	
4/27/2015	1:11	B	215	57.2	47.5	52.2	53.4	2.2	45.3	50.0	
4/27/2015	1:11	C	216	57.2	49.0	52.4	53.9	2.2	46.8	50.2	
4/26/2015	21:15	B	217	61.0	51.9	55.3	55.3	6.0	45.9	49.3	
4/26/2015	21:20	C	218	61.0	51.9	52.7	53.7	6.0	45.9	46.7	
4/26/2015	21:15	C	219	61.0	52.1	52.5	53.6	6.0	46.1	46.5	hardest I've seen so far, ROP about 1 the whole way
4/26/2015	14:56	B	220	56.2	43.7	47.0	48.6	1.2	42.5	45.8	
4/26/2015	15:03	B	221	56.2	47.1	49.0	50.3	1.2	45.9	47.8	
4/26/2015	14:56	C	222	56.2	44.1	44.1	46.0	1.2	42.9	42.9	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/26/2015	11:33	B	223	57.9	47.2	47.6	48.6	2.9	44.3	44.7	
4/26/2015	11:27	B	224	58.0	47.9	47.9	49.0	3.0	44.9	44.9	
4/26/2015	11:27	C	225	57.9	48.1	N/A	57.4	2.9	45.2		
4/26/2015	2:43	B	226	56.5	49.3	N/A	56.2	1.5	47.8		
4/26/2015	2:50	C	227	56.7	48.0	50.7	51.8	1.7	46.3	49.0	
4/26/2015	2:40	C	228	56.5	47.3	54.4	55.7	1.5	45.8	52.9	
4/25/2015	20:43	B	229	59.8	48.0	48.4	50.4	4.8	43.2	43.6	
4/25/2015	20:43	C	230	59.8	50.4	N/A	59.5	4.8	45.6		
4/25/2015	20:52	C	231	59.6	50.4	N/A	59.8	4.6	45.8		
4/25/2015	13:30	B	232	55.5	46.3	N/A	55.6	0.5	45.8		
4/25/2015	13:34	B	233	55.5	46.4	N/A	55.6	0.5	45.9		
4/25/2015	13:30	C	234	55.5	45.5	N/A	55.9	0.5	45.0		
4/25/2015	8:00	B	235	60.4	50.3	59.7	60.6	5.4	44.9	54.3	
4/25/2015	7:55	B	236	60.5	50.4	56.3	57.2	5.5	44.9	50.8	
4/25/2015	7:55	C	237	60.4	50.0	59.7	60.9	5.4	44.6	54.3	
4/24/2015	23:22	B	238	55.9	47.1	N/A	56.4	0.9	46.2		
4/24/2015	23:12	B	239	56.1	47.5	N/A	56.4	1.1	46.4		
4/24/2015	23:12	C	240	56.1	48.1	N/A	56.3	1.1	47.0		
4/24/2015	8:40	B	241	57.7	48.4	57.5	58.4	2.7	45.7	54.8	
4/24/2015	8:48	B	242	57.6	47.7	57.4	57.8	2.6	45.1	54.8	
4/24/2015	8:40	C	243	57.7	47.1	51.1	53.0	2.7	44.4	48.4	
4/24/2015	1:15	B	244	55.6	47.5	n/a	55.0	0.6	46.9		
4/24/2015	1:27	B	245	55.9	46.5	n/a	56.1	0.9	45.6		
4/24/2015	1:15	C	246	55.7	45.2	n/a	55.4	0.7	44.5		
4/23/2015	20:46	B	247	57.1	54.5	n/a	57.4	2.1	52.4		
4/23/2015	20:59	C	248	57.0	51.8	n/a	57.2	2.0	49.8		
4/23/2015	20:46	C	249	57.2	54.4	n/a	57.5	2.2	52.2		
4/23/2015	11:24	B	250	55.6	N/A	N/A	56.0	0.6			
4/23/2015	11:26	B	251	55.6	N/A	N/A	56.3	0.6			
4/23/2015	11:24	C	252	55.6	N/A	N/A	55.9	0.6			
4/27/2015	10:10	A	253	59.8	49.0	54.2	56.4	4.8	44.2	49.4	
4/27/2015	10:10	B	254	59.8	50.3	56.4	57.4	4.8	45.5	51.6	
4/27/2015	10:10	C	255	59.8	49.2	55.7	57.4	4.8	44.4	50.9	
4/27/2015	3:36	B	256	57.0	48.1	n/a	56.8	2.0	46.1		
4/27/2015	3:31	B	257	56.9	48.5	54.2	55.2	1.9	46.6	52.3	
4/27/2015	3:31	C	258	56.9	48.4	54.4	55.4	1.9	46.5	52.5	
4/27/2015	1:33	B	259	57.0	48.8	53.0	54.9	2.0	46.8	51.0	
4/27/2015	1:38	C	260	56.9	48.9	50.1	51.1	1.9	47.0	48.2	
4/27/2015	1:33	C	261	57.0	49.3	49.4	50.4	2.0	47.3	47.4	
4/26/2015	20:50	B	262	61.1	52.1	55.3	56.4	6.1	46.0	49.2	
4/26/2015	20:43	B	263	61.2	53.1	59.6	60.8	6.2	46.9	53.4	
4/26/2015	20:04	C	264	61.4	53.0	56.3	57.3	6.4	46.6	49.9	
4/26/2015	14:18	B	265	56.5	45.9	45.9	50.2	1.5	44.4	44.4	
4/26/2015	13:14	B	266	56.4	46.2	46.2	48.0	1.4	44.8	44.8	
4/26/2015	13:14	C	267	56.4	46.1	48.3	50.2	1.4	44.7	46.9	
4/26/2015	11:08	B	268	58.2	48.1	49.1	52.8	3.2	44.9	45.9	
4/26/2015	11:16	B	269	58.1	49.7	51.6	54.5	3.1	46.6	48.5	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/26/2015	11:08	C	270	58.1	47.9	53.5	56.0	3.1	44.8	50.4	
4/26/2015	3:14	B	271	57.1	47.4	N/A	57.0	2.1	45.3		
4/26/2015	3:14	C	272	57.1	47.0	N/A	57.0	2.1	44.9		
4/26/2015	3:24	C	273	57.5	48.3	N/A	57.4	2.5	45.8		
4/25/2015	20:13	B	274	60.2	50.5	53.0	60.6	5.2	45.3	47.8	this ranged from ROP 3 to 5 the whole way down from about 53 so I would look closely at this one
4/25/2015	20:24	B	275	60.1	50.2	N/A	60.2	5.1	45.1		
4/25/2015	20:11	C	276	60.2	50.3	N/A	60.4	5.2	45.1		
4/25/2015	13:55	B	277	55.6	46.1	53.3	54.0	0.6	45.5	52.7	
4/25/2015	13:49	B	278	55.5	46.1	53.5	54.5	0.5	45.6	53.0	
4/25/2015	13:49	C	279	55.5	45.0	N/A	55.9	0.5	44.5		
4/25/2015	5:49	B	280	61.4	51.6	N/A	61.6	6.4	45.2		
4/25/2015	5:59	B	281	61.5	51.7	N/A	61.4	6.5	45.2		
4/25/2015	5:49	C	282	61.4	51.8	57.8	59.1	6.4	45.4	51.4	
4/24/2015	23:45	B	283	55.6	45.4	N/A	55.9	0.6	44.8		
4/24/2015	23:57	B	284	55.6	45.9	N/A	55.7	0.6	45.3		
4/24/2015	23:45	C	285	55.6	45.7	N/A	56.0	0.6	45.1		
4/24/2015	8:22	B	286	58.2	48.3	N/A	58.4	3.2	45.1		
4/24/2015	8:15	B	287	58.2	48.9	57.5	58.3	3.2	45.7	54.3	
4/24/2015	8:15	C	288	58.2	47.3	54.5	56.8	3.2	44.1	51.3	
4/24/2015	1:59	B	289	56.8	48.2	n/a	56.8	1.8	46.4		
4/24/2015	1:49	B	290	56.3	46.8	n/a	56.4	1.3	45.5		
4/24/2015	1:49	C	291	56.3	46.8	n/a	56.2	1.3	45.5		
4/23/2015	20:26	B	292	57.7	48.3	n/a	58.8	2.7	45.6		
4/23/2015	20:15	B	293	57.7	50.0	n/a	57.9	2.7	47.3		
4/23/2015	20:15	C	294	57.7	50.9	56.9	57.8	2.7	48.2	54.2	
4/23/2015	11:40	B	295	55.4	49.7	50.9	51.8	0.4	49.3	50.5	
4/23/2015	11:45	B	296	55.4	51.6	52.2	53.1	0.4	51.2	51.8	
4/23/2015	11:40	C	297	55.4	48.8	N/A	56.0	0.4	48.4		
4/27/2015	3:12	B	298	56.6	47.6	54.7	55.7	1.6	46.0	53.1	
4/27/2015	3:19	B	299	56.6	46.6	n/a	57.8	1.6	45.0		
4/27/2015	3:12	C	300	56.6	45.0	N/A	56.4	1.6	43.4		
4/27/2015	1:56	B	301	56.7	48.0	56.1	56.8	1.7	46.3	54.4	
4/27/2015	1:53	C	302	56.7	48.1	55.8	56.9	1.7	46.4	54.1	
4/27/2015	2:04	C	303	56.6	48.1	53.5	54.3	1.6	46.5	51.9	
4/26/2015	18:14	B	304	60.5	52.0	58.0	59.6	5.5	46.5	52.5	
4/26/2015	18:10	B	305	60.5	52.2	58.0	59.1	5.5	46.7	52.5	
4/26/2015	18:10	C	306	60.5	50.6	N/A	60.5	5.5	45.1		
4/26/2015	15:29	B	307	57.0	47.7	47.7	50.0	2.0	45.7	45.7	
4/26/2015	15:34	B	308	57.1	47.7	49.8	51.5	2.1	45.6	47.7	
4/26/2015	15:29	C	309	57.0	45.3	49.5	51.8	2.0	43.3	47.5	
4/26/2015	10:57	B	310	58.4	47.8	49.5	50.7	3.4	44.4	46.1	
4/26/2015	10:51	B	311	58.6	49.3	51.5	52.6	3.6	45.7	47.9	
4/26/2015	10:51	C	312	58.4	49.3	51.7	53.2	3.4	45.9	48.3	
4/26/2015	3:48	B	313	58.0	49.6	N/A	58.2	3.0	46.6		
4/26/2015	3:58	B	314	58.2	49.5	N/A	58.2	3.2	46.3		

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AREA H

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/26/2015	3:48	C	315	58.0	48.4	N/A	58.1	3.0	45.4		
4/25/2015	18:23	B	316	60.6	50.9	N/A	60.6	5.6	45.3		
4/25/2015	18:14	B	317	60.6	51.1	N/A	60.7	5.6	45.5		
4/25/2015	18:14	C	318	60.6	49.6	55.1	57.1	5.6	44.0	49.5	
4/25/2015	14:08	B	319	55.7	46.1	50.5	51.5	0.7	45.4	49.8	
4/25/2015	14:16	B	320	55.8	45.5	N/A	55.7	0.8	44.7		
4/25/2015	14:08	C	321	55.8	45.4	N/A	55.9	0.8	44.6		
4/25/2015	5:18	B	322	61.2	51.3	N/A	62.1	6.2	45.1		
4/25/2015	5:08	B	323	61.0	51.4	55.6	56.8	6.0	45.4	49.6	
4/25/2015	5:08	C	324	61.0	51.9	55.5	56.6	6.0	45.9	49.5	
4/25/2015	0:28	B	325	55.3	45.9	52.9	53.9	0.3	45.6	52.6	
4/25/2015	0:11	B	326	55.4	46.2	54.8	55.5	0.4	45.8	54.4	
4/25/2015	0:11	C	327	55.4	43.8	53.3	53.9	0.4	43.4	52.9	
4/24/2015	7:50	B	328	58.7	49.7	56.2	57.0	3.7	46.0	52.5	
4/24/2015	8:00	B	329	58.4	49.5	57.5	58.6	3.4	46.1	54.1	
4/24/2015	7:50	C	330	58.7	47.8	N/A	58.7	3.7	44.1		
4/24/2015	2:22	B	331	57.3	47.7	n/a	57.3	2.3	45.4		
4/24/2015	2:34	C	332	57.5	47.3	n/a	57.7	2.5	44.8		
4/24/2015	2:22	C	333	57.3	47.9	n/a	57.1	2.3	45.6		
4/23/2015	16:08	B	334	59.8	50.1	58.2	60.1	4.8	45.3	53.4	
4/23/2015	18:20	B	335	59.5	50.0	57.4	58.5	4.5	45.5	52.9	
4/23/2015	16:08	C	336	59.9	50.3	51.1	54.9	4.9	45.4	46.2	
4/23/2015	11:55	B	337	55.2	47.4	47.4	48.4	0.2	47.2	47.2	
4/23/2015	11:53	B	338	55.3	48.3	48.5	49.5	0.3	48.0	48.2	
4/23/2015	11:53	C	339	55.3	49.2	51.8	53.5	0.3	48.9	51.5	
4/27/2015	2:58	B	340	56.4	46.9	52.8	53.8	1.4	45.5	51.4	
4/27/2015	2:51	B	341	56.3	46.2	n/a	56.2	1.3	44.9		
4/27/2015	2:51	C	342	56.4	46.9	n/a	56.2	1.4	45.5		
4/27/2015	2:18	B	343	56.4	46.7	n/a	56.6	1.4	45.3		
4/27/2015	2:23	C	344	56.4	46.4	55.7	56.5	1.4	45.0	54.3	
4/27/2015	2:18	C	345	56.4	46.9	54.2	55.2	1.4	45.5	52.8	
4/26/2015	17:48	B	347	60.2	50.6	N/A	60.3	5.2	45.4		
4/26/2015	17:52	B	348	60.3	50.9	N/A	60.3	5.3	45.6		
4/26/2015	17:52	C	349	60.3	50.4	N/A	60.1	5.3	45.1		
4/26/2015	15:51	B	350	57.4	48.4	50.8	52.5	2.4	46.0	48.4	
4/26/2015	15:48	B	351	57.4	47.8	47.8	51.6	2.4	45.4	45.4	
4/26/2015	15:48	C	352	57.4	46.3	46.3	47.8	2.4	43.9	43.9	
4/26/2015	10:30	B	353	58.8	50.0	50.1	51.4	3.8	46.2	46.3	
4/26/2015	10:36	B	354	58.7	50.1	52.9	53.2	3.7	46.4	49.2	
4/26/2015	10:30	C	355	58.8	50.7	53.4	55.0	3.8	46.9	49.6	
4/26/2015	4:27	B	356	59.1	50.6	N/A	58.8	4.1	46.5		
4/26/2015	4:17	B	357	58.9	50.1	N/A	58.6	3.9	46.2		
4/26/2015	4:17	C	358	58.9	49.3	N/A	58.6	3.9	45.4		
4/25/2015	17:57	B	359	60.5	51.5	N/A	60.4	5.5	46.0		
4/25/2015	18:04	B	360	60.5	51.0	N/A	60.4	5.5	45.5		
4/25/2015	17:57	C	361	60.5	49.0	51.8	53.5	5.5	43.5	46.3	
4/25/2015	14:28	B	362	56.2	46.2	50.5	51.4	1.2	45.0	49.3	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/25/2015	14:28	B	363	56.1	46.3	N/A	56.0	1.1	45.2		
4/25/2015	14:28	C	364	56.1	45.5	N/A	56.0	1.1	44.4		
4/25/2015	4:17	B	365	60.2	50.5	N/A	60.3	5.2	45.3		
4/25/2015	4:35	B	366	60.6	51.0	56.6	58.4	5.6	45.4	51.0	
4/25/2015	4:23	C	367	60.4	50.5	54.3	55.8	5.4	45.1	48.9	
4/25/2015	0:47	B	368	55.3	46.4	50.6	51.7	0.3	46.1	50.3	
4/25/2015	0:58	B	369	55.3	46.5	52.1	53.4	0.3	46.2	51.8	
4/25/2015	0:53	C	370	55.3	45.8	N/A	55.5	0.3	45.5		
4/24/2015	6:16	B	371	60.0	51.5	56.3	57.6	5.0	46.5	51.3	
4/24/2015	6:11	B	372	60.0	51.0	57.7	59.4	5.0	46.0	52.7	
4/24/2015	6:11	C	373	60.0	48.6	n/a	60.1	5.0	43.6		
4/24/2015	3:06	B	374	58.6	48.0	n/a	58.3	3.6	44.4		
4/24/2015	3:21	B	375	58.9	49.1	n/a	59.0	3.9	45.2		
4/24/2015	3:06	C	376	58.6	49.2	n/a	58.2	3.6	45.6		
4/23/2015	15:49	B	377	59.7	50.6	56.6	57.7	4.7	45.9	51.9	
4/23/2015	15:46	B	378	59.7	50.8	54.4	55.4	4.7	46.1	49.7	
4/23/2015	15:46	C	379	59.7	48.2	49.6	52.9	4.7	43.5	44.9	
4/23/2015	12:19	B	380	55.2	46.3	46.6	48.5	0.2	46.1	46.4	
4/23/2015	12:21	B	381	55.3	48.0	48.7	49.7	0.3	47.7	48.4	
4/23/2015	12:19	C	382	55.2	48.6	52.0	55.2	0.2	48.4	51.8	
4/26/2015		B	383	59.7	51.3	N/A	59.8	4.7	46.6		
4/26/2015	17:27	B	384	59.7	50.7	N/A	59.7	4.7	46.0		
4/26/2015	17:27	C	385	59.7	49.4	54.6	56.6	4.7	44.7	49.9	
4/26/2015	16:04	B	386	57.5	48.6	52.0	52.8	2.5	46.1	49.5	
4/26/2015	16:08	B	387	58.0	49.0	53.9	55.0	3.0	46.0	50.9	
4/26/2015	16:04	C	388	57.7	48.8	N/A	57.9	2.7	46.1		
4/26/2015	10:01	B	389	59.3	50.2	54.3	55.5	4.3	45.9	50.0	
4/26/2015	8:46	B	390	60.5	51.8	61.0	61.6	5.5	46.3	55.5	
4/26/2015	10:01	C	391	59.3	48.8	57.0	58.5	4.3	44.5	52.7	
4/26/2015	4:49	B	392	59.5	50.8	N/A	59.4	4.5	46.3		
4/26/2015	4:48	C	393	59.8	49.8	N/A	59.3	4.8	45.0		
4/26/2015	4:59	C	394	59.5	50.4	N/A	59.6	4.5	45.9		
4/25/2015	17:45	B	395	60.3	50.9	N/A	60.3	5.3	45.6		
4/25/2015	17:35	B	396	60.1	50.3	N/A	60.0	5.1	45.2		
4/25/2015	17:35	C	397	60.2	49.5	59.5	60.1	5.2	44.3	54.3	
4/25/2015	14:47	B	398	56.6	46.8	54.8	56.2	1.6	45.2	53.2	
4/25/2015	14:55	B	399	56.8	48.4	N/A	58.1	1.8	46.6		
4/25/2015	14:47	C	400	56.6	47.2	N/A	56.6	1.6	45.6		
4/25/2015	3:45	B	401	59.5	51.3	N/A	59.5	4.5	46.8		
4/25/2015	3:55	C	402	59.7	50.6	N/A	59.5	4.7	45.9		
4/25/2015	3:50	C	403	59.5	50.7	N/A	59.5	4.5	46.2		
4/25/2015	1:36	B	404	56.1	46.0	54.0	55.3	1.1	44.9	52.9	
4/25/2015	1:23	B	405	55.8	45.5	49.0	50.5	0.8	44.7	48.2	
4/25/2015	1:23	C	406	55.8	44.2	51.1	53.5	0.8	43.4	50.3	
4/24/2015	5:43	B	407	60.2	49.2	n/a	60.2	5.2	44.0		
4/24/2015	5:52	B	408	60.1	49.5	n/a	60.2	5.1	44.4		
4/24/2015	5:43	C	409	60.2	49.4	n/a	60.5	5.2	44.2		

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/24/2015	4:00	B	410	59.5	50.0	n/a	59.4	4.5	45.5		
4/24/2015	3:43	B	411	59.3	missed it	n/a	59.6	4.3			
4/24/2015	3:43	C	412	59.3	49.8	n/a	59.2	4.3	45.5		
4/23/2015	15:20	B	413	59.1	50.0	57.1	59.1	4.1	45.9	53.0	
4/23/2015	15:30	B	414	59.4	49.3	52.9	55.2	4.4	44.9	48.5	
4/23/2015	15:20	C	415	59.1	48.3	49.9	51.5	4.1	44.2	45.8	
4/23/2015	12:39	B	416	55.5	44.4	44.7	47.1	0.5	43.9	44.2	
4/23/2015	12:37	B	417	55.4	47.0	47.2	49.4	0.4	46.6	46.8	
4/23/2015	12:37	C	418	55.5	47.3	51.4	54.5	0.5	46.8	50.9	
4/26/2015	17:02	B	419	59.4	53.0	N/A	60.2	4.4	48.6		
4/26/2015	17:02	B	420	59.5	51.7	N/A	59.2	4.5	47.2		
4/26/2015	17:02	C	421	59.4	50.4	56.3	57.4	4.4	46.0	51.9	
4/26/2015	16:28	B	422	58.5	50.4	55.6	56.5	3.5	46.9	52.1	
4/26/2015	16:23	B	423	58.3	47.1	N/A	58.1	3.3	43.8		
4/26/2015	16:23	C	424	58.3	48.1			3.3	44.8	-3.3	Screen froze
4/26/2015	6:03	B	425	60.9	52.4	n/a	60.9	5.9	46.5		
4/26/2015	6:13	B	426	60.9	52.0	n/a	60.8	5.9	46.1		
4/26/2015	6:03	C	427	60.8	51.4	n/a	60.8	5.8	45.6		
4/26/2015	5:22	B	428	60.2	50.5	n/a	59.9	5.2	45.3		
4/26/2015	5:30	C	429	60.3	50.9	n/a	60.2	5.3	45.6		
4/26/2015	5:22	C	430	60.2	50.5	n/a	60.0	5.2	45.3		
4/25/2015	17:13	B	431	59.9	50.2	N/A	59.8	4.9	45.3		
4/25/2015	17:16	B	432	60.0	50.2	N/A	59.9	5.0	45.2		
4/25/2015	17:13	C	433	59.9	48.5	N/A	60.0	4.9	43.6		
4/25/2015	15:13	B	434	57.0	47.2	N/A	57.3	2.0	45.2		
4/25/2015	15:07	B	435	57.0	47.5	N/A	57.1	2.0	45.5		
4/25/2015	15:07	C	436	57.0	47.3	N/A	57.1	2.0	45.3		
4/25/2015	3:24	B	437	59.1	50.1	N/A	59.1	4.1	46.0		
4/25/2015	3:08	B	438	58.6	48.7	N/A	58.5	3.6	45.1		
4/25/2015	3:08	C	439	58.6	49.3	N/A	58.5	3.6	45.7		
4/25/2015	2:12	B	440	57.0	48.5	N/A	57.2	2.0	46.5		
4/25/2015	2:29	B	441	57.2	47.7	56.3	57.8	2.2	45.5	54.1	
4/25/2015	2:20	C	442	57.4	47.7	53.7	54.9	2.4	45.3	51.3	
4/24/2015	5:19	B	443	60.2	48.9	n/a	60.4	5.2	43.7		
4/24/2015	5:08	B	444	60.2	50.6	n/a	60.2	5.2	45.4		
4/24/2015	5:08	C	445	60.2	50.5	n/a	60.2	5.2	45.3		
4/24/2015	4:31	B	446	59.9	50.5	n/a	59.8	4.9	45.6		
4/24/2015	4:40	B	447	60.0	49.6	54.0	60.0	5.0	44.6	49.0	
4/24/2015	4:31	C	448	59.9	50.6	56.5	57.7	4.9	45.7	51.6	
4/23/2015	15:02	B	449	59.0	49.0	54.4	55.8	4.0	45.0	50.4	
4/23/2015	15:00	B	450	58.8	49.2	54.0	58.6	3.8	45.4	50.2	
4/23/2015	15:00	C	451	58.9	48.0	51.5	53.6	3.9	44.1	47.6	
4/23/2015	13:15	B	452	56.4	46.6	46.9	50.1	1.4	45.2	45.5	
4/23/2015	13:17	B	453	56.4	49.8	49.9	51.5	1.4	48.4	48.5	
4/23/2015	13:15	C	454	56.2	50.0	N/A	56.2	1.2	48.8		
4/23/2015	14:35	B	455	58.2	50.3	56.4	58.0	3.2	47.1	53.2	
4/23/2015	14:37	B	456	58.5	49.5	52.9	55.2	3.5	46.0	49.4	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/23/2015	14:35	C	457	58.2	49.1	50.9	52.6	3.2	45.9	47.7	
4/23/2015	13:33	B	458	56.7	49.2	50.0	51.0	1.7	47.5	48.3	
4/23/2015	13:31	B	459	56.7	53.0	N/A	56.6	1.7	51.3		
4/23/2015	13:31	C	460	56.7	52.7	N/A	56.9	1.7	51.0		
4/23/2015	14:18	B	461	57.9	50.6	54.5	57.7	2.9	47.7	51.6	
4/23/2015	14:16	B	462	57.9	50.6	52.4	56.3	2.9	47.7	49.5	
4/23/2015	14:16	C	463	57.9	50.1	55.8	57.2	2.9	47.2	52.9	
4/23/2015	13:47	B	464	57.0	50.3	N/A	56.9	2.0	48.3		
4/23/2015	13:49	B	465	57.0	50.8	N/A	56.8	2.0	48.8		
4/23/2015	13:47	C	466	57.0	45.9	N/A	56.9	2.0	43.9		
4/25/2015	15:52	B	1000	58.1	48.8	53.1	54.6	3.1	45.7	50.0	
4/25/2015	15:52	B	1001	58.1	48.9	50.3	52.8	3.1	45.8	47.2	
4/25/2015	15:52	C	1002	58.1	49.2	52.9	54.6	3.1	46.1	49.8	
4/25/2015	16:34	B	1003	58.8	52.4	56.3	58.9	3.8	48.6	52.5	
4/25/2015	16:30	B	1004	59.1	51.3	58.1	58.9	4.1	47.2	54.0	
4/25/2015	16:34	C	1005	59.1	48.8	53.3	55.3	4.1	44.7	49.2	
4/27/2015	11:00	A	1006	59.4	48.8	51.8	53.3	4.4	44.4	47.4	
4/27/2015	11:00	B	1007	59.4	49.2	58.8	59.5	4.4	44.8	54.4	
4/27/2015	11:00	C	1008	59.4	48.7	51.4	53.5	4.4	44.3	47.0	
4/27/2015	11:40	A	1009	58.3	48.4	56.7	57.7	3.3	45.1	53.4	
4/27/2015	11:40	B	1010	58.3	48.6	54.4	55.2	3.3	45.3	51.1	
4/27/2015	11:40	C	1011	58.3	47.7	N/A	58.7	3.3	44.4		
4/27/2015	12:00	A	1015	58.0	50.8	N/A	58.7	3.0	47.8		
4/27/2015	12:00	B	1016	58.0	50.1	N/A	58..3	3.0	47.1		
4/27/2015	12:00	C	1017	58.0	47.4	57.3	58.3	3.0	44.4	54.3	
4/27/2015	12:19	A	1018	57.7	48..8	N/A	58.1	2.7			
4/27/2015	12:19	B	1019	57.7	48.6	N/A	58.5	2.7	45.9		
4/27/2015	12:19	C	1020	57.7	46.4	N/A	58.0	2.7	43.7		
4/27/2015	12:38	A	1021	57.4	47.6	N/A	57.9	2.4	45.2		
4/27/2015	12:38	B	1022	57.4	48.3	N/A	57.7	2.4	45.9		
4/27/2015	12:38	C	1023	57.4	47.3	N/A	57.9	2.4	44.9		

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/29/2015	4:42	A	1	55.8	46.3	N/A	55.8	0.8	45.5		
4/29/2015	4:41	B	2	55.8	46.1	N/A	55.8	0.8	45.3		
4/29/2015	4:42	C	3	55.8	46.4	N/A	55.9	0.8	45.6		
4/29/2015	0:37	A	4	59.2	49.7	N/A	59.4	4.2	45.5		
4/29/2015	0:37	B	5	59.2	50.6	56.9	57.5	4.2	46.4	52.7	
4/29/2015	0:37	C	6	59.2	51.5	N/A	59.5	4.2	47.3		
4/29/2015	0:18	A	7	59.8	51.7	56.9	58.6	4.8	46.9	52.1	
4/29/2015	0:17	B	8	59.7	51.7	57.1	58.1	4.7	47.0	52.4	
4/29/2015	0:17	C	9	59.7	50.4	52.7	53.8	4.7	45.7	48.0	
4/27/2015	13:54	A	10	55.7	45.2	50.0	55.6	0.7	44.5	49.3	
4/27/2015	13:54	B	11	55.7	46.8	54.6	55.6	0.7	46.1	53.9	
4/27/2015	13:54	C	12	55.7	41.8	52.0	53.7	0.7	41.1	51.3	
4/29/2015	4:28	A	13	55.8	46.4	N/A	55.9	0.8	45.6		
4/29/2015	4:26	B	14	55.8	45.2	N/A	55.9	0.8	44.4		
4/29/2015	4:27	C	15	55.8	46.7	52.1	55.9	0.8	45.9	51.3	weak seam around 54 uncorrected
4/29/2015	0:50	A	16	59.0	50.2	51.2	52.8	4.0	46.2	47.2	
4/29/2015	0:49	B	17	59.0	47.5	51.8	53.6	4.0	43.5	47.8	
4/29/2015	0:49	C	18	59.0	49.6	50.9	52.2	4.0	45.6	46.9	
4/28/2015	23:58	A	19	59.9	51.6	N/A	60.1	4.9	46.7		
4/28/2015	23:57	B	20	60.0	51.5	58.4	59.5	5.0	46.5	53.4	
4/29/2015	0:04	C	21	59.8	50.4	56.2	57.3	4.8	45.6	51.4	re-drill due to loss of info. during power changeover
4/27/2015	16:18	B	22	56.2	46.9	53.4	55.9	1.2	45.7	52.2	
4/27/2015	16:18	C	23	56.2	44.9	N/A	56.4	1.2	43.7		
4/27/2015	16:18	A	24	56.2	45.9	54.3	55.9	1.2	44.7	53.1	
4/29/2015	3:42	A	25	56.2	46.5	N/A	61.9	1.2	45.3		
4/29/2015	3:41	B	26	56.2	48.3	N/A	56.4	1.2	47.1		
4/29/2015	3:41	C	27	56.2	47.9	50.9	52.1	1.2	46.7	49.7	
4/29/2015	1:00	A	28	58.9	52.0	54.3	55.8	3.9	48.1	50.4	
4/29/2015	1:00	B	29	58.9	50.0	50.4	51.4	3.9	46.1	46.5	
4/29/2015	1:00	C	30	58.9	49.0	50.7	51.7	3.9	45.1	46.8	
4/28/2015	23:43	A	31	60.2	50.9	52.6	53.6	5.2	45.7	47.4	
4/28/2015	23:43	B	32	60.2	50.7	56.8	57.6	5.2	45.5	51.6	
4/28/2015	23:43	C	33	60.2	52.0	59.2	60.4	5.2	46.8	54.0	
4/27/2015	16:35	A	34	56.5	47.5	48.7	50.0	1.5	46.0	47.2	
4/27/2015	16:35	B	35	56.5	49.6	51.8	53.0	1.5	48.1	50.3	
4/27/2015	16:35	C	36	56.5	48.0	N/A	56.3	1.5	46.5		
4/29/2015	3:29	A	37	56.5	47.3	N/A	56.5	1.5	45.8		
4/29/2015	3:28	B	38	56.4	48.3	N/A	56.5	1.4	46.9		
4/29/2015	3:29	C	39	56.4	48.8	56.3	56.5	1.4	47.4	54.9	
4/29/2015	1:13	A	40	58.6	50.7	N/A	58.8	3.6	47.1		
4/29/2015	1:12	B	41	58.6	50.5	54.3	56.5	3.6	46.9	50.7	
4/29/2015	1:13	C	42	58.6	50.7	52.5	54.6	3.6	47.1	48.9	
4/28/2015	23:26	A	43	60.5	52.9	57.3	58.5	5.5	47.4	51.8	
4/28/2015	23:26	B	44	60.4	53.5	N/A	60.8	5.4	48.1		
4/28/2015	23:27	C	45	60.5	52.5	56.3	58.1	5.5	47.0	50.8	
4/27/2015	16:57	A	46	56.9	48.2	53.8	55.2	1.9	46.3	51.9	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/27/2015	16:57	B	47	56.9	48.6	51.6	53.3	1.9	46.7	49.7	
4/27/2015	16:57	C	48	56.9	48.0	56.0	56.7	1.9	46.1	54.1	
4/29/2015	1:31	A	49	58.3	49.2	52.9	54.0	3.3	45.9	49.6	
4/29/2015	1:24	B	50	58.4	48.4	52.1	53.6	3.4	45.0	48.7	
4/29/2015	1:24	C	51	58.4	50.3	57.1	58.2	3.4	46.9	53.7	
4/28/2015	23:11	A	52	60.6	54.4	60.5	60.8	5.6	48.8	54.9	
4/28/2015	23:10	B	53	60.6	53.1	N/A	60.8	5.6	47.5		
4/28/2015	23:11	C	54	60.6	52.0	58.0	59.2	5.6	46.4	52.4	
4/27/2015	17:12	A	55	57.3	48.8	N/A	57.1	2.3	46.5		
4/27/2015	17:12	B	56	57.2	48.5	51.5	52.5	2.2	46.3	49.3	
4/27/2015	17:12	C	57	57.3	47.6	55.4	56.9	2.3	45.3	53.1	
4/27/2015	15:26	A	58	55.5	46.7	N/A	55.6	0.5	46.2		
4/27/2015	15:26	B	59	55.5	48.4	N/A	55.5	0.5	47.9		
4/27/2015	15:26	C	60	55.5	45.6	N/A	55.8	0.5	45.1		
4/29/2015	1:43	A	61	58.2	48.2	N/A	58.3	3.2	45.0		
4/29/2015	1:43	B	62	58.2	48.6	53.6	54.7	3.2	45.4	50.4	
4/29/2015	1:43	C	63	58.2	49.8	56.0	57.0	3.2	46.6	52.8	
4/28/2015	22:59	A	64	60.8	53.8	59.6	61.0	5.8	48.0	53.8	
4/28/2015	22:58	B	65	60.8	54.0	N/A	61.0	5.8	48.2		
4/28/2015	22:59	C	66	60.8	52.1	60.8	61.0	5.8	46.3	55.0	
4/27/2015	17:25	A	67	57.5	48.2	50.2	51.4	2.5	45.7	47.7	
4/27/2015	17:25	B	68	57.5	49.0	49.8	51.5	2.5	46.5	47.3	
4/27/2015	17:25	C	69	57.5	47.9	47.9	50.5	2.5	45.4	45.4	
4/27/2015	15:07	A	70	55.6	45.5	52.9	55.6	0.6	44.9	52.3	
4/27/2015	15:07	B	71	55.6	46.9	N/A	55.7	0.6	46.3		
4/27/2015	15:07	C	72	55.6	44.9	N/A	55.6	0.6	44.3		
4/29/2015	1:56	A	73	57.9	48.3	N/A	58.2	2.9	45.4		
4/29/2015	1:55	B	74	57.9	48.0	55.9	57.1	2.9	45.1	53.0	
4/29/2015	1:57	C	75	57.9	48.7	57.4	58.1	2.9	45.8	54.5	
4/28/2015	22:44	A	76	61.0	51.8	52.8	53.8	6.0	45.8	46.8	
4/28/2015	22:46	B	77	61.0	51.5	59.3	61.0	6.0	45.5	53.3	
4/28/2015	22:44	C	78	61.0	51.0	60.0	61.0	6.0	45.0	54.0	
4/27/2015	17:36	A	79	57.8	48.4	52.4	53.5	2.8	45.6	49.6	
4/27/2015	17:36	B	80	57.8	48.7	48.7	50.6	2.8	45.9	45.9	
4/27/2015	17:36	C	81	57.8	44.7	44.7	47.2	2.8	41.9	41.9	
4/27/2015	14:48	A	82	55.7	45.3	46.0	47.2	0.7	44.6	45.3	
4/27/2015	14:48	B	83	55.7	48.0	49.5	50.7	0.7	47.3	48.8	
4/27/2015	14:48	C	84	55.7	45.1	N/A	55.8	0.7	44.4		
4/29/2015	2:08	A	85	57.7	47.9	N/A	57.9	2.7	45.2		
4/29/2015	2:07	B	86	57.7	47.2	N/A	57.9	2.7	44.5		
4/29/2015	2:08	C	87	57.7	48.0	54.4	54.6	2.7	45.3	51.7	
4/27/2015	21:50	A	88	60.3	49.8	58.1	59.7	5.3	44.5	52.8	Boring stuck in hole at 22:00.
4/27/2015	21:49	B	89	60.3	49.5	59.3	60.4	5.3	44.2	54.0	
4/27/2015	21:49	C	90	60.3	49.6	54.1	55.2	5.3	44.3	48.8	
4/27/2015	17:47	A	91	58.1	48.5	51.3	53.9	3.1	45.4	48.2	
4/27/2015	17:47	B	92	58.1	49.3	55.3	56.3	3.1	46.2	52.2	
4/27/2015	17:47	C	93	58.1	47.2	50.4	51.7	3.1	44.1	47.3	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/27/2015	14:12	A	94	56.1	45.5	46.7	48.3	1.1	44.4	45.6	
4/27/2015	14:12	B	95	56.1	47.7	51.1	54.1	1.1	46.6	50.0	
4/27/2015	14:12	C	96	56.1	47.2	54.4	56.3	1.1	46.1	53.3	
4/29/2015	2:26	A	97	57.5	46.8	50.6	52.6	2.5	44.3	48.1	
4/29/2015	2:25	B	98	57.5	45.9	52.5	53.5	2.5	43.4	50.0	
4/29/2015	2:25	C	99	57.5	46.6	50.0	52.6	2.5	44.1	47.5	
4/27/2015	21:32	A	100	60.4	49.4	53.9	57.6	5.4	44.0	48.5	
4/27/2015	21:28	B	101	60.4	49.6	60.1	60.6	5.4	44.2	54.7	
4/27/2015	21:30	C	102	60.4	50.2	58.7	60.3	5.4	44.8	53.3	
4/27/2015	18:03	A	103	58.5	47.9	54.9	56.7	3.5	44.4	51.4	
4/27/2015	18:03	B	104	58.5	48.8	54.2	55.2	3.5	45.3	50.7	
4/27/2015	18:03	C	105	58.5	48.9	50.5	52.3	3.5	45.4	47.0	
4/27/2015	13:58	A	106	56.3	46.5	51.5	52.9	1.3	45.2	50.2	
4/27/2015	13:58	B	107	56.3	48.7	54.9	56.1	1.3	47.4	53.6	
4/27/2015	13:58	C	108	56.3	48.2	N/A	56.5	1.3	46.9		
4/29/2015	2:38	A	109	57.2	51.1	56.7	57.4	2.2	48.9	54.5	
4/29/2015	2:36	B	110	57.2	48.0	57.1	57.4	2.2	45.8	54.9	
4/29/2015	2:37	C	111	57.2	47.6	50.1	51.0	2.2	45.4	47.9	
4/27/2015	21:12	A	112	60.6	50.8	53.6	55.7	5.6	45.2	48.0	
4/27/2015	21:11	B	113	60.5	51.8	N/A	60.6	5.5	46.3		
4/27/2015	21:09	C	114	60.6	?	N/A	60.5	5.6			initial depth not recorded
4/27/2015	18:15	A	115	58.7	50.0	54.8	57.5	3.7	46.3	51.1	
4/27/2015	18:15	B	116	58.5	50.9	N/A	58.3	3.5	47.4		
4/27/2015	18:15	C	117	58.7	50.7	55.6	57.0	3.7	47.0	51.9	
4/27/2015	13:45	A	118	56.5	50.4	54.7	56.9	1.5	48.9	53.2	
4/27/2015	13:45	B	119	56.5	53.3	N/A	57.9	1.5	51.8		
4/27/2015	13:45	C	120	56.5	50.7	N/A	57.1	1.5	49.2		
4/29/2015	2:49	A	121	57.0	57.6	N/A	57.6	2.0	55.6		
4/29/2015	2:48	B	122	57.0	55.9	N/A	57.3	2.0	53.9		
4/29/2015	2:48	C	123	57.0	49.3	52.0	53.5	2.0	47.3	50.0	
4/27/2015	20:56	C	124	60.6	51.2	N/A	60.6	5.6	45.6		
4/27/2015	20:29	B	125	60.5	54.1	N/A	60.5	5.5	48.6		
4/27/2015	20:38	C	126	60.5	54.8	N/A	60.5	5.5	49.3		
4/27/2015	20:07	B	127	60.4	51.3	58.8	59.8	5.4	45.9	53.4	
4/27/2015	20:03	B	128	60.3	52.0	55.6	56.5	5.3	46.7	50.3	
4/27/2015	20:03	C	129	60.3	56.6	58.9	60.2	5.3	51.3	53.6	
4/27/2015	13:27	A	130	56.7	53.8	N/A	57.5	1.7	52.1		
4/27/2015	13:27	B	131	56.7	46.4	N/A	57.2	1.7	44.7		
4/27/2015	13:27	C	132	56.7	44.8	N/A	57.5	1.7	43.1		

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AREA J

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/29/2015	17:53	A	1	56.4	45.3	47.8	50.6	1.4	43.9	46.4	
4/29/2015	17:53	B	2	56.4	44.9	N/A	56.0	1.4	43.5		
4/29/2015	17:55	C	3	56.4	40.9	54.0	56.0	1.4	39.5	52.6	
4/29/2015	8:23	A	4	60.6	49.1	57.3	58.3	5.6	43.5	51.7	
4/29/2015	8:23	B	5	60.6	50.0	56.7	57.8	5.6	44.4	51.1	
4/29/2015	8:23	C	6	60.6	50.0	N/A	60.5	5.6	44.4		
4/29/2015	5:16	A	7	56.2	47.1	N/A	56.2	1.2	45.9		
4/29/2015	5:15	B	8	56.4	47.5	N/A	56.7	1.4	46.1		
4/29/2015	5:16	C	9	56.4	48.8	N/A	56.1	1.4	47.4		
4/29/2015	18:18	A	10	56.9	45.2	50.4	51.3	1.9	43.3	48.5	
4/29/2015	18:18	B	11	56.9	46.3	52.0	53.2	1.9	44.4	50.1	
4/29/2015	18:18	C	12	56.9	45.0	50.7	53.3	1.9	43.1	48.8	
4/29/2015	8:05	A	13	60.3	48.7	59.4	60.1	5.3	43.4	54.1	Rock towards bottom likely
4/29/2015	8:05	B	14	60.3	50.2	55.3	58.0	5.3	44.9	50.0	
4/29/2015	8:05	C	15	60.3	49.3	N/A	60.5	5.3	44.0		
4/29/2015	5:29	A	16	56.4	45.9	N/A	56.3	1.4	44.5		
4/29/2015	5:27	B	17	56.4	47.4	N/A	56.3	1.4	46.0		
4/29/2015	5:28	C	18	56.4	48.7	55.9	56.3	1.4	47.3	54.5	
4/29/2015	20:10	A	19	59.7	48.5	51.7	53.3	4.7	43.8	47.0	
4/29/2015	20:06	B	20	59.7	49.4	53.8	55.8	4.7	44.7	49.1	
4/29/2015	20:06	C	21	59.7	48.4	52.6	53.9	4.7	43.7	47.9	
4/29/2015	6:44	A	22	58.5	53.3	N/A	57.9	3.5	49.8		
4/29/2015	6:38	B	23	58.4	51.0	N/A	58.0	3.4	47.6		
4/29/2015	6:39	C	24	58.4	49.8	N/A	58.0	3.4	46.4		
4/29/2015	5:39	A	25	56.7	51.0	N/A	56.7	1.7	49.3		
4/29/2015	5:39	B	26	57.0	55.3	N/A	56.5	2.0	53.3		
4/29/2015	5:40	C	27	57.0	55.5	N/A	56.5	2.0	53.5		
4/29/2015	20:25	A	28	60.1	47.9	53.7	54.6	5.1	42.8	48.6	
4/29/2015	20:24	B	29	60.1	49.2	59.3	59.9	5.1	44.1	54.2	
4/29/2015	20:25	C	30	60.1	49.9	53.9	54.9	5.1	44.8	48.8	
4/29/2015	6:25	A	31	58.1	49.4	N/A	57.7	3.1	46.3		
4/29/2015	6:24	B	32	58.1	51.0	N/A	57.7	3.1	47.9		
4/29/2015	6:24	C	33	58.1	57.0	N/A	57.7	3.1	53.9		
4/29/2015	5:52	A	34	57.2	N/A	N/A	57.3	2.2			
4/29/2015	5:51	B	35	57.2	N/A	N/A	57.3	2.2			
4/29/2015	5:51	C	36	57.2	N/A	N/A	57.1	2.2			

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AREA K

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/30/2015	8:10	A	1	59.5	39.5	46.0	47.0	4.5	35.0	41.5	
4/30/2015	8:30	A	2	59.7	39.1	43.0	44.7	4.7	34.4	38.3	
4/30/2015	13:55	A	3	58.9	36.8	40.0	42.5	3.9	32.9	36.1	
4/30/2015	13:55	B	4	59.0	37.0	40.4	43.6	4.0	33.0	36.4	
4/30/2015	13:55	C	5	58.9	36.9	38.0	40.2	3.9	33.0	34.1	
4/29/2015	16:51	C	6	55.7	34.8	38.1	39.9	0.7	34.1	37.4	
4/29/2015	16:10	C	7	56.0	35.0	44.0	45.8	1.0	34.0	43.0	
4/29/2015	9:44	A	8	61.4	39.8	46.4	47.8	6.4	33.4	40.0	
4/29/2015	9:57	A	9	61.4	38.0	44.0	45.9	6.4	31.6	37.6	
4/29/2015	10:12	A	10	61.4	39.5	43.0	45.4	6.4	33.1	36.6	
4/30/2015	5:43	A	11	55.7	36.2	44.1	45.7	0.7	35.5	43.4	
4/30/2015	5:47	B	12	55.7	32.8	38.1	39.3	0.7	32.1	37.4	
4/30/2015	5:43	C	13	55.7	33.1	37.7	38.8	0.7	32.4	37.0	
4/30/2015	1:52	A	14	58.6	36.0	40.5	42.0	3.6	32.4	36.9	
4/30/2015	1:51	B	15	58.6	37.8	50.8	52.1	3.6	34.2	47.2	
4/30/2015	1:51	C	16	58.6	40.1	51.0	52.0	3.6	36.5	47.4	
4/30/2015	8:10	B	18	59.5	53.6	N/A	59.0	4.5	49.1		
4/30/2015	8:30	B	19	59.7	52.0	47.6	58.5	4.7	47.3	42.9	
4/30/2015	13:35	A	20	59.4	51.4	59.5	59.8	4.4	47.0	55.1	
4/30/2015	13:35	B	21	59.4	51.2	53.6	55.4	4.4	46.8	49.2	
4/30/2015	13:35	C	22	59.4	51.6	56.4	59.8	4.4	47.2	52.0	
4/29/2015	16:51	B	23	55.7	45.3	47.8	50.0	0.7	44.6	47.1	
4/29/2015	16:10	B	24	56.0	46.1	46.1	48.3	1.0	45.1	45.1	
4/29/2015	9:44	B	25	61.4	52.5	52.5	53.8	6.4	46.1	46.1	
4/29/2015	9:57	B	26	61.4	51.7	53.1	54.1	6.4	45.3	46.7	
4/29/2015	10:10	B	27	61.4	51.8	54.0	55.0	6.4	45.4	47.6	
4/30/2015	5:32	A	28	55.6	47.6	48.9	49.8	0.6	47.0	48.3	
4/30/2015	5:32	B	29	55.6	47.2	49.7	51.6	0.6	46.6	49.1	
4/30/2015	5:32	C	30	55.6	46.5	47.0	48.1	0.6	45.9	46.4	
4/30/2015	2:16	A	31	58.1	47.9	48.9	50.1	3.1	44.8	45.8	
4/30/2015	2:17	B	32	58.0	47.7	47.9	49.0	3.0	44.7	44.9	
4/30/2015	2:16	C	33	58.0	49.3	53.5	54.9	3.0	46.3	50.5	
4/30/2015	8:10	C	35	59.5	52.9	N/A	59.2	4.5	48.4		
4/30/2015	8:30	C	36	59.7	51.0	51.0	53.1	4.7	46.3	46.3	
4/30/2015	13:23	A	37	59.6	53.2	56.5	57.2	4.6	48.6	51.9	
4/30/2015	13:23	B	38	59.6	53.2	56.5	57.0	4.6	48.6	51.9	
4/30/2015	13:23	C	39	59.6	49.8	52.6	53.7	4.6	45.2	48.0	
4/29/2015	16:51	A	40	55.7	44.3	46.5	47.4	0.7	43.6	45.8	
4/29/2015	16:10	A	41	56.4	45.9	45.9	48.2	1.4	44.5	44.5	
4/29/2015	9:44	C	42	61.4	50.7	51.6	53.0	6.4	44.3	45.2	
4/29/2015	9:57	C	43	61.4	52.1	53.8	54.9	6.4	45.7	47.4	
4/29/2015	10:10	C	44	61.4	52.0	53.2	54.8	6.4	45.6	46.8	
4/30/2015	5:20	A	45	55.7	45.5	49.0	49.9	0.7	44.8	48.3	
4/30/2015	5:20	B	46	55.7	45.9	46.9	48.9	0.7	45.2	46.2	
4/30/2015	5:19	C	47	55.7	47.1	47.3	48.6	0.7	46.4	46.6	
4/30/2015	2:29	A	48	58.0	47.7	50.2	51.1	3.0	44.7	47.2	
4/30/2015	2:26	B	49	58.0	49.7	55.4	57.4	3.0	46.7	52.4	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/30/2015	2:26	C	50	58.0	47.9	48.7	49.7	3.0	44.9	45.7	
4/30/2015	1:25	A	51	58.9	49.5	50.3	52.4	3.9	45.6	46.4	
4/30/2015	1:25	B	52	58.9	47.5	48.2	49.2	3.9	43.6	44.3	
4/30/2015	1:25	C	53	58.9	50.8	N/A	59.1	3.9	46.9		
4/29/2015	22:45	A	54	61.4	53.3	55.1	57.4	6.4	46.9	48.7	
4/29/2015	22:43	B	55	61.4	52.8	54.9	55.9	6.4	46.4	48.5	
4/29/2015	22:43	C	56	61.4	52.5	53.2	55.1	6.4	46.1	46.8	
4/29/2015	22:28	A	57	61.4	49.6	51.9	55.8	6.4	43.2	45.5	
4/29/2015	22:28	B	58	61.4	49.9	54.8	56.8	6.4	43.5	48.4	
4/29/2015	22:28	C	59	61.4	50.8	57.9	59.6	6.4	44.4	51.5	
4/30/2015	9:00	A	60	60.5	54.4	56.4	58.6	5.5	48.9	50.9	
4/30/2015	9:12	A	61	60.6	52.4	54.4	55.6	5.6	46.8	48.8	
4/30/2015	13:06	A	62	60.0	52.0	54.0	55.2	5.0	47.0	49.0	
4/30/2015	13:06	B	63	60.0	53.0	58.8	60.0	5.0	48.0	53.8	
4/30/2015	13:06	C	64	60.0	49.4	53.2	54.8	5.0	44.4	48.2	
4/29/2015	15:45	C	65	56.4	46.0	47.0	49.2	1.4	44.6	45.6	
4/29/2015	15:35	C	66	56.5	45.5	46.8	48.0	1.5	44.0	45.3	
4/29/2015	15:18	C	67	56.8	45.3	45.3	47.0	1.8	43.5	43.5	
4/29/2015	10:40	A	68	61.2	50.5	51.0	53.1	6.2	44.3	44.8	
4/29/2015	10:59	A	69	60.9	51.0	53.0	55.7	5.9	45.1	47.1	Re-drilled hole
4/30/2015	5:08	A	70	55.7	45.6	47.9	48.9	0.7	44.9	47.2	
4/30/2015	5:08	B	71	55.7	47.0	47.6	48.5	0.7	46.3	46.9	
4/30/2015	5:08	C	72	55.7	47.8	48.7	49.8	0.7	47.1	48.0	
4/30/2014	2:38	A	73	57.8	49.2	50.0	51.4	2.8	46.4	47.2	
4/30/2014	2:38	B	74	57.8	49.1	51.8	52.7	2.8	46.3	49.0	
4/30/2014	2:37	C	75	57.8	48.9	50.5	51.7	2.8	46.1	47.7	
4/30/2015	1:03	A	76	59.5	49.8	49.4	51.4	4.5	45.3	44.9	
4/30/2015	1:04	B	77	59.5	48.6	50.7	51.7	4.5	44.1	46.2	
4/30/2015	1:03	C	78	59.5	50.7	57.7	59.5	4.5	46.2	53.2	
4/29/2015	22:57	A	79	61.3	53.1	56.4	57.2	6.3	46.8	50.1	
4/29/2015	22:56	B	80	61.3	51.9	N/A	61.5	6.3	45.6		
4/29/2015	22:56	C	81	61.3	51.6	52.3	53.3	6.3	45.3	46.0	
4/29/2015	22:14	A	82	61.4	49.2	58.0	59.1	6.4	42.8	51.6	ROPs were variable
4/29/2015	22:14	B	83	61.4	52.8	53.6	54.9	6.4	46.4	47.2	ROPs were variable
4/29/2015	22:15	C	84	61.4	52.5	58.2	61.5	6.4	46.1	51.8	ROPs were variable
4/30/2015	9:00	B	85	60.5	55.3	58.8	60.3	5.5	49.8	53.3	
4/30/2015	9:12	B	86	60.6	54.2	56.5	57.4	5.6	48.6	50.9	
4/30/2015	12:55	A	87	60.3	54.0	N/A	60.4	5.3	48.7		
4/30/2015	12:55	B	88	60.3	55.0	N/A	60.4	5.3	49.7		
4/30/2015	12:55	C	89	60.3	49.8	49.8	52.2	5.3	44.5	44.5	
4/29/2015	15:45	B	90	56.4	46.3	50.0	51.4	1.4	44.9	48.6	
4/29/2015	15:35	B	91	56.5	47.0	49.0	50.2	1.5	45.5	47.5	
4/29/2015	15:18	B	92	56.8	46.7	47.6	48.7	1.8	44.9	45.8	
4/29/2015	10:40	B	93	61.2	51.3	53.7	55.5	6.2	45.1	47.5	
4/29/2015	10:54	B	94	61.0	52.5	52.5	56.7	6.0	46.5	46.5	
4/30/2015	4:59	A	95	55.8	45.9	46.9	48.0	0.8	45.1	46.1	
4/30/2015	4:58	B	96	55.8	46.4	49.4	50.3	0.8	45.6	48.6	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/30/2015	4:58	C	97	55.8	45.6	48.4	49.4	0.8	44.8	47.6	
4/30/2015	2:50	A	98	57.5	46.6	51.2	51.9	2.5	44.1	48.7	
4/30/2015	2:47	B	99	57.5	47.3	49.8	50.8	2.5	44.8	47.3	
4/30/2015	2:47	C	100	57.5	46.8	47.9	49.3	2.5	44.3	45.4	
4/30/2015	0:53	A	101	59.6	49.8	50.2	52.2	4.6	45.2	45.6	
4/30/2015	0:52	B	102	59.6	50.7	53.0	54.1	4.6	46.1	48.4	
4/30/2015	0:52	C	103	59.6	49.8	49.9	51.2	4.6	45.2	45.3	
4/29/2015	23:07	A	104	61.2	52.6	56.7	57.7	6.2	46.4	50.5	
4/29/2015	23:07	B	105	61.2	52.0	57.6	61.2	6.2	45.8	51.4	
4/29/2015	23:07	C	106	61.2	51.4	56.6	57.8	6.2	45.2	50.4	
4/29/2015	21:56	A	107	61.3	51.6	58.9	61.2	6.3	45.3	52.6	
4/29/2015	22:00	B	108	61.3	50.8	57.9	58.9	6.3	44.5	51.6	
4/29/2015	21:56	C	109	61.3	51.4	58.2	61.2	6.3	45.1	51.9	
4/30/2015	9:00	C	110	60.5	52.8	55.5	56.9	5.5	47.3	50.0	
4/30/2015	9:12	C	111	60.6	52.6	54.3	55.6	5.6	47.0	48.7	
4/30/2015	12:42	A	112	60.3	54.0	59.1	60.5	5.3	48.7	53.8	
4/30/2015	12:42	B	113	60.3	55.2	N/A	60.5	5.3	49.9		
4/30/2015	12:42	C	114	60.3	49.0	53.9	55.2	5.3	43.7	48.6	
4/29/2015	15:45	A	115	56.5	45.8	48.5	49.6	1.5	44.3	47.0	
4/29/2015	15:35	A	116	56.8	45.8	46.9	47.9	1.8	44.0	45.1	
4/29/2015	15:18	A	117	57.5	46.6	46.6	49.3	2.5	44.1	44.1	
4/29/2015	10:40	C	118	61.2	49.4	49.6	51.5	6.2	43.2	43.4	
4/29/2015	10:58	C	119	60.9	51.9	51.9	54.7	5.9	46.0	46.0	Re-drilled hole
4/30/2015	4:47	A	120	56.0	46.6	47.7	48.7	1.0	45.6	46.7	
4/30/2015	4:45	B	121	56.0	46.9	49.6	51.2	1.0	45.9	48.6	
4/30/2015	4:44	C	122	56.0	47.0	53.0	53.0	1.0	46.0	52.0	
4/30/2015	3:00	A	123	57.4	47.0	48.6	50.0	2.4	44.6	46.2	
4/30/2015	2:59	B	124	57.4	48.3	48.7	49.8	2.4	45.9	46.3	
4/30/2015	2:58	C	125	57.4	46.2	46.5	48.5	2.4	43.8	44.1	
4/30/2015	0:39	A	126	59.8	51.1	56.1	59.9	4.8	46.3	51.3	
4/30/2015	0:37	B	127	59.8	50.8	55.2	56.2	4.8	46.0	50.4	
4/30/2015	0:37	C	128	59.8	50.7	53.0	54.0	4.8	45.9	48.2	
4/29/2015	23:19	A	129	61.1	51.6	53.2	54.2	6.1	45.5	47.1	
4/29/2015	23:18	B	130	61.1	50.8	N/A	61.1	6.1	44.7		
4/29/2015	23:18	C	131	61.1	49.8	52.9	54.0	6.1	43.7	46.8	
4/29/2015	21:39	A	132	61.2	50.1	57.6	59.1	6.2	43.9	51.4	
4/29/2015	21:23	B	133	61.0	52.2	57.1	58.1	6.0	46.2	51.1	
4/29/2015	21:34	C	134	61.2	52.5	N/A	61.4	6.2	46.3		
4/30/2015	9:32	A	135	61.1	54.8	59.7	60.2	6.1	48.7	53.6	
4/30/2015	9:49	A	136	61.2	54.3	56.0	57.3	6.2	48.1	49.8	
4/30/2015	12;30	A	137	60.5	53.6	53.6	55.9	5.5	48.1	48.1	
4/30/2015	12:30	B	138	60.5	52.1	52.1	56.4	5.5	46.6	46.6	
4/30/2015	12:30	C	139	60.5	49.0	49.0	53.7	5.5	43.5	43.5	
4/29/2015	14:30	C	140	57.5	46.6	46.6	48.9	2.5	44.1	44.1	
4/29/2015	14:16	C	141	57.6	45.9	48.2	50.0	2.6	43.3	45.6	
4/29/2015	13:55	C	142	58.0	45.9	51.0	52.7	3.0	42.9	48.0	
4/29/2015	11:20	A	143	60.6	50.4	52.0	55.6	5.6	44.8	46.4	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/29/2015	11:35	A	144	60.5	50.8	51.0	55.3	5.5	45.3	45.5	
4/30/2015	4:34	A	145	56.1	45.7	47.5	48.7	1.1	44.6	46.4	
4/30/2015	4:34	B	146	56.0	45.7	46.2	47.0	1.0	44.7	45.2	
4/30/2015	4:33	C	147	56.1	46.5	49.5	50.7	1.1	45.4	48.4	
4/30/2015	3:12	A	148	57.3	47.3	50.6	51.6	2.3	45.0	48.3	
4/30/2015	3:11	B	149	57.3	48.4	52.9	54.0	2.3	46.1	50.6	
4/30/2015	3:10	C	150	57.3	48.5	54.2	55.1	2.3	46.2	51.9	
4/30/2015	0:25	A	151	60.1	51.1	54.2	55.9	5.1	46.0	49.1	
4/30/2015	0:25	B	152	60.1	53.0	56.0	57.5	5.1	47.9	50.9	
4/30/2015	0:24	C	153	60.1	50.4	53.3	54.7	5.1	45.3	48.2	
4/30/2015	9:32	B	155	61.1	54.9	59.4	60.2	6.1	48.8	53.3	
4/30/2015	9:49	B	156	61.2	54.3	60.5	61.1	6.2	48.1	54.3	
4/30/2015	12;17	A	157	60.8	52.8	57.0	60.9	5.8	47.0	51.2	
4/30/2015	12:17	B	158	60.8	52.1	55.5	56.2	5.8	46.3	49.7	
4/30/2015	12:17	C	159	60.8	49.8	52.3	53.8	5.8	44.0	46.5	
4/29/2015	14:30	B	160	57.5	47.4		56.0	2.5	44.9	-2.5	
4/29/2015	14:16	B	161	57.6	47.6	47.6	50.0	2.6	45.0	45.0	
4/29/2015	13:55	B	162	58.0	47.7	47.7	50.0	3.0	44.7	44.7	
4/29/2015	11:18	B	163	60.6	50.0	51.0	54.8	5.6	44.4	45.4	
4/29/2015	11:35	B	164	60.5	50.0	50.0	51.8	5.5	44.5	44.5	
4/30/2015	4:23	A	165	56.2	47.8	51.2	51.9	1.2	46.6	50.0	
4/30/2015	4:23	B	166	56.2	47.5	51.4	52.4	1.2	46.3	50.2	
4/30/2015	4:24	C	167	56.2	47.6	55.4	56.5	1.2	46.4	54.2	
4/30/2014	3:21	A	168	57.2	47.4	50.8	51.9	2.2	45.2	48.6	
4/30/2014	3:20	B	169	57.2	47.9	54.8	55.8	2.2	45.7	52.6	
4/30/2014	3:20	C	170	57.2	48.4	N/A	57.2	2.2	46.2		
4/30/2015	0:03	A	171	60.5	50.9	N/A	60.6	5.5	45.4		
4/30/2015	0:03	B	172	60.5	51.0	N/A	60.5	5.5	45.5		
4/30/2015	0:02	C	173	60.5	51.3	N/A	60.5	5.5	45.8		
4/30/2015	9:32	C	175	61.1	54.7	59.4	60.9	6.1	48.6	53.3	
4/30/2015	9:49	C	176	61.2	53.4	55.4	58.6	6.2	47.2	49.2	
4/30/2015	12:04	A	177	60.9	51.8	55.7	56.7	5.9	45.9	49.8	
4/30/2015	12:04	B	178	61.0	51.7	53.7	55.3	6.0	45.7	47.7	
4/30/2015	12:04	C	179	60.9	49.8	51.9	53.6	5.9	43.9	46.0	
4/29/2015	14:30	A	180	57.5	46.5	57.0	58.9	2.5	44.0	54.5	
4/29/2015	14:16	A	181	57.6	46.3	49.0	51.2	2.6	43.7	46.4	
4/29/2015	13:55	A	182	57.9	47.2	53.8	56.4	2.9	44.3	50.9	
4/29/2015	11:20	C	183	60.6	49.1	56.8	58.9	5.6	43.5	51.2	
4/29/2015	11:36	C	184	60.5	47.8	50.6	52.0	5.5	42.3	45.1	
4/30/2015	4:11	A	185	56.3	47.9	N/A	56.5	1.3	46.6		
4/30/2015	4:10	B	186	56.3	47.2	52.3	53.3	1.3	45.9	51.0	
4/30/2015	4:10	C	187	56.3	47.9	N/A	56.5	1.3	46.6		
4/30/2015	3:31	A	188	56.9	47.5	N/A	57.5	1.9	45.6		
4/30/2015	3:30	B	189	56.9	47.6	N/A	57.1	1.9	45.7		
4/30/2015	3:30	C	190	56.9	47.4	N/A	57.4	1.9	45.5		
4/29/2015	23:50	A	191	60.6	50.6	N/A	60.9	5.6	45.0		
4/29/2015	23:51	B	192	60.6	51.4	N/A	60.8	5.6	45.8		

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/29/2015	23:50	C	193	60.6	51.8	N/A	60.8	5.6	46.2		
4/30/2015	10:09	A	195	61.4	54.5	55.0	56.6	6.4	48.1	48.6	
4/30/2015	10:23	A	196	61.5	54.0	56.0	57.3	6.5	47.5	49.5	
4/30/2015	10:35	A	197	61.5	53.2	53.5	54.6	6.5	46.7	47.0	
4/30/2015	11:50	A	198	61.1	52.1	53.6	54.7	6.1	46.0	47.5	
4/30/2015	11:50	B	199	61.1	52.1	52.1	56.6	6.1	46.0	46.0	
4/30/2015	11:50	C	200	61.1	52.1	55.0	56.3	6.1	46.0	48.9	
4/29/2015	13:24	C	201	58.4	50.3	N/A	58.9	3.4	46.9		
4/29/2015	13:12	C	202	58.6	49.4	51.3	52.7	3.6	45.8	47.7	
4/29/2015	12:59	C	203	59.0	49.9	50.5	52.7	4.0	45.9	46.5	
4/29/2015	12:40	C	204	59.2	49.5	58.0	59.1	4.2	45.3	53.8	
4/29/2015	11:53	A	205	60.1	49.8	N/A	60.7	5.1	44.7		
4/29/2015	12:08	A	206	59.9	49.5	N/A	60.4	4.9	44.6		
4/30/2015	3:57	A	207	56.7	47.9	N/A	56.9	1.7	46.2		
4/30/2015	3:54	B	208	56.7	48.4	N/A	56.8	1.7	46.7		
4/30/2015	3:54	C	209	56.7	48.3	N/A	56.9	1.7	46.6		
4/30/2015	10:09	B	211	61.4	56.4	58.5	59.2	6.4	50.0	52.1	
4/30/2015	10:23	B	212	61.5	56.4	60.8	61.4	6.5	49.9	54.3	
4/30/2015	10:35	B	213	61.5	60.0	N/A	61.7	6.5	53.5		
4/30/2015	11:39	A	214	61.2	53.4	59.5	61.5	6.2	47.2	53.3	
4/30/2015	11:39	B	215	61.4	54.7	N/A	61.8	6.4	48.3		
4/30/2015	11:39	C	216	61.4	55.6	N/A	61.4	6.4	49.2		
4/29/2015	13:24	B	217	58.4	51.4	N/A	58.8	3.4	48.0		
4/29/2015	13:12	B	218	58.6	53.1	N/A	59.1	3.6	49.5		
4/29/2015	12:59	B	219	59.0	51.5	N/A	59.3	4.0	47.5		
4/29/2015	12:40	B	220	59.2	55.8	N/A	59.8	4.2	51.6		
4/29/2015	11:53	B	221	60.1	53.6	N/A	60.8	5.1	48.5		
4/29/2015	12:08	B	222	59.9	51.3	N/A	60.2	4.9	46.4		
4/30/2015	10:09	C	223	61.4	54.8	N/A	61.7	6.4	48.4		
4/30/2015	10:23	C	224	61.5	53.8	N/A	61.4	6.5	47.3		
4/30/2015	10:35	C	225	61.5	54.7	N/A	61.5	6.5	48.2		
4/30/2015	11:05	A	226	61.5	57.2	N/A	61.6	6.5	50.7		
4/30/2015	11:05	B	227	61.5	59.7	N/A	61.6	6.5	53.2		
4/30/2015	11:05	C	228	61.5	53.2	N/A	61.7	6.5	46.7		
4/29/2015	13:24	A	229	58.4	52.2	57.0	57.8	3.4	48.8	53.6	
4/29/2015	13:12	A	230	58.6	48.6	N/A	59.1	3.6	45.0		
4/29/2015	12:59	A	231	59.0	48.7	N/A	59.4	4.0	44.7		
4/29/2015	12:40	A	232	59.2	48.2	N/A	59.7	4.2	44.0		
4/29/2015	11:53	C	233	60.1	52.6	58.3	59.8	5.1	47.5	53.2	
4/29/2015	12:08	C	234	59.9	52.5	N/A	60.3	4.9	47.6		
4/30/2015	15:23	A	1000	57.6	50.2	52.5	54.1	2.6	47.6	49.9	
4/30/2015	15:23	B	1001	57.8	51.6	56.0	58.2	2.8	48.8	53.2	
4/30/2015	15:23	C	1002	57.6	47.2	49.0	51.2	2.6	44.6	46.4	
4/30/2015	15:05	A	1003	57.9	46.4	46.4	48.0	2.9	43.5	43.5	
4/30/2015	15:05	B	1004	58.1	47.0	47.0	48.6	3.1	43.9	43.9	
4/30/2015	15:05	C	1005	57.9	46.3	46.3	48.5	2.9	43.4	43.4	
4/30/2015	14:30	A	1006	58.5	45.0	45.0	48.1	3.5	41.5	41.5	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/30/2015	14:30	B	1007	58.5	46.1	50.5	58.8	3.5	42.6	47.0	
4/30/2015	14:30	C	1008	58.5	44.0	49.0	51.4	3.5	40.5	45.5	
4/30/2015	15:47	A	1009	57.2	47.3	51.4	53.9	2.2	45.1	49.2	
4/30/2015	15:47	B	1010	57.2	47.1	54.1	55.3	2.2	44.9	51.9	
4/30/2015	15:47	C	1011	57.2	48.2	53.8	55.0	2.2	46.0	51.6	
4/30/2015	16:20	A	1012	56.8	46.1	N/A	57.1	1.8	44.3		
4/30/2015	16:20	B	1013	56.7	48.4	N/A	57.0	1.7	46.7		
4/30/2015	16:20	C	1014	56.8	45.5	N/A	57.7	1.8	43.7		

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AREA L

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/1/2015	13:26	A	1	60.2	53.6	N/A	60.5	5.2	48.4		
5/1/2015	13:26	B	2	60.2	54.0	N/A	60.4	5.2	48.8		
5/1/2015	13:26	C	3	60.2	51.9	52.0	56.0	5.2	46.7	46.8	
5/1/2015	8:27	A	4	58.8	53.8	N/A	58.5	3.8	50.0		
5/1/2015	8:27	B	5	58.7	53.9	57.1	58.4	3.7	50.2	53.4	
5/1/2015	8:27	C	6	58.7	54.0	N/A	58.5	3.7	50.3		
5/1/2015	2:32	A	7	58.9	50.7	N/A	59.7	3.9	46.8		
5/1/2015	2:34	B	8	58.9	52.5	N/A	59.2	3.9	48.6		
5/1/2015	2:32	C	9	58.9	53.6	N/A	59.2	3.9	49.7		
5/1/2015	2:10	A	10	59.3	51.1	54.2	55.4	4.3	46.8	49.9	
5/1/2015	2:09	B	11	59.1	53.2	57.8	58.8	4.1	49.1	53.7	
5/1/2015	2:08	C	12	59.3	53.5	54.6	55.6	4.3	49.2	50.3	
5/1/2015	13:43	A	13	60.1	54.4	N/A	60.2	5.1	49.3		
5/1/2015	13:43	B	14	60.1	54.0	N/A	60.3	5.1	48.9		
5/1/2015	13:43	C	15	60.1	51.6	56.2	60.3	5.1	46.5	51.1	
5/1/2015	8:13	A	16	58.5	52.3	N/A	58.1	3.5	48.8		
5/1/2015	8:13	B	17	58.5	51.5	56.8	57.7	3.5	48.0	53.3	
5/1/2015	8:13	C	18	58.5	51.4	56.8	58.1	3.5	47.9	53.3	
5/1/2015	2:46	A	19	58.6	51.6	N/A	59.1	3.6	48.0		
5/1/2015	2:43	B	20	58.6	52.3	53.5	54.5	3.6	48.7	49.9	
5/1/2015	2:43	C	21	58.6	52.2	57.3	59.0	3.6	48.6	53.7	
5/1/2015	1:57	A	22	59.5	51.9	56.6	56.5	4.5	47.4	52.1	
5/1/2015	1:57	B	23	59.4	55.3	57.2	59.8	4.4	50.9	52.8	
5/1/2015	1:57	C	24	59.5	54.5	57.0	58.0	4.5	50.0	52.5	
4/30/2015	22:14	A	25	61.5	54.1	N/A	61.3	6.5	47.6		
4/30/2015	22:12	B	26	61.5	55.5	58.2	59.3	6.5	49.0	51.7	
4/30/2015	22:12	C	27	61.5	55.2	N/A	61.2	6.5	48.7		
5/1/2015	14:00	A	28	59.7	53.0	N/A	60.0	4.7	48.3		
5/1/2015	14:00	B	29	59.7	57.5	N/A	59.8	4.7	52.8		
5/1/2015	14:00	C	30	59.7	52.7	N/A	60.0	4.7	48.0		
5/1/2015	7:58	A	31	58.2	51.4	52.2	53.4	3.2	48.2	49.0	
5/1/2015	7:58	B	32	58.2	51.7	54.3	55.3	3.2	48.5	51.1	
5/1/2015	7:58	C	33	58.2	51.1	N/A	57.7	3.2	47.9		
5/1/2015	3:03	A	34	58.3	52.8	57.1	58.1	3.3	49.5	53.8	
5/1/2015	3:03	B	35	58.3	53.2	53.6	54.6	3.3	49.9	50.3	
5/1/2015	3:02	C	36	58.3	53.3	N/A	58.7	3.3	50.0		
5/1/2015	1:45	A	37	59.8	53.5	59.4	60.0	4.8	48.7	54.6	
5/1/2015	1:44	B	38	59.8	53.3	56.8	57.8	4.8	48.5	52.0	
5/1/2015	1:44	C	39	59.8	53.9	55.5	56.6	4.8	49.1	50.7	
4/30/2015	22:29	A	40	61.6	56.3	60.4	61.4	6.6	49.7	53.8	
4/30/2015	22:29	B	41	61.6	57.1	N/A	61.4	6.6	50.5		
4/30/2015	22:29	C	42	61.6	57.6	N/A	61.5	6.6	51.0		
5/1/2015	17:58	A	43	56.2	49.8	N/A	56.5	1.2	48.6		
5/1/2015	17:58	B	44	56.2	47.6	49.0	50.2	1.2	46.4	47.8	
5/1/2015	17:58	C	45	56.2	45.5	49.0	50.6	1.2	44.3	47.8	
5/1/2015	16:22	A	46	57.4	46.5	47.5	53.0	2.4	44.1	45.1	
5/1/2015	16:22	B	47	57.5	49.2	53.1	57.7	2.5	46.7	50.6	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/1/2015	16:22	C	48	57.4	49.1	50.6	55.9	2.4	46.7	48.2	
5/1/2015	14:12	A	49	59.5	51.4	52.4	55.7	4.5	46.9	47.9	
5/1/2015	14:12	B	50	59.5	47.7	48.0	49.1	4.5	43.2	43.5	
5/1/2015	14:12	C	51	59.5	48.9	52.4	54.4	4.5	44.4	47.9	
5/1/2015	6:26	A	52	56.1	47.1	48.5	49.5	1.1	46.0	47.4	
5/1/2015	6:24	B	53	56.1	49.5	N/A	56.1	1.1	48.4		
5/1/2015	6:24	C	54	56.1	50.5	N/A	56.1	1.1	49.4		
5/1/2015	3:33	A	55	57.9	48.8	50.3	51.4	2.9	45.9	47.4	
5/1/2015	3:31	B	56	57.9	48.8	49.2	52.0	2.9	45.9	46.3	
5/1/2015	3:30	C	57	57.9	48.5	50.0	51.3	2.9	45.6	47.1	
5/1/2015	1:33	A	58	59.9	49.8	51.2	54.4	4.9	44.9	46.3	
5/1/2015	1:32	B	59	59.9	51.1	52.1	53.1	4.9	46.2	47.2	
5/1/2015	1:32	C	60	59.9	52.7	N/A	60.5	4.9	47.8		
4/30/2015	22:42	A	61	61.6	54.0	N/A	61.8	6.6	47.4		
4/30/2015	22:42	B	62	61.6	55.1	N/A	61.5	6.6	48.5		
4/30/2015	22:42	C	63	61.6	55.6	N/A	61.5	6.6	49.0		
5/1/2015	20:52	A	64	59.6	52.5	N/A	59.4	4.6	47.9		
5/1/2015	20:50	B	65	59.6	49.8	50.4	51.4	4.6	45.2	45.8	
5/1/2015	20:49	C	66	59.6	49.9	53.5	54.6	4.6	45.3	48.9	
5/1/2015	16:10	A	67	57.6	47.0	48.2	54.7	2.6	44.4	45.6	
5/1/2015	16:10	B	68	57.6	49.0	55.0	55.5	2.6	46.4	52.4	
5/1/2015	16:10	C	69	57.6	48.2	51.0	53.8	2.6	45.6	48.4	
5/1/2015	14:26	A	70	59.4	50.8	52.2	54.0	4.4	46.4	47.8	
5/1/2015	14:26	B	71	59.4	50.8	50.9	53.0	4.4	46.4	46.5	
5/1/2015	14:26	C	72	59.4	54.9	N/A	58.4	4.4	50.5		
5/1/2015	6:15	A	73	56.0	50.5	N/A	58.1	1.0	49.5		
5/1/2015	6:13	B	74	56.0	50.6	N/A	57.6	1.0	49.6		
5/1/2015	6:13	C	75	56.0	50.6	N/A	56.2	1.0	49.6		
5/1/2015	3:45	A	76	57.7	50.6	N/A	58.1	2.7	47.9		
5/1/2015	3:43	B	77	57.7	48.4	52.3	53.3	2.7	45.7	49.6	
5/1/2015	3:43	C	78	57.7	48.3	53.0	54.2	2.7	45.6	50.3	
5/1/2015	1:19	A	79	60.2	51.5	57.5	58.9	5.2	46.3	52.3	
5/1/2015	1:19	B	80	60.2	51.9	52.8	54.8	5.2	46.7	47.6	
5/1/2015	1:19	C	81	60.2	53.2	N/A	60.6	5.2	48.0		
4/30/2015	22:52	A	82	61.7	53.4	N/A	61.8	6.7	46.7		
4/30/2015	22:53	B	83	61.7	53.4	N/A	61.6	6.7	46.7		
4/30/2015	22:52	C	84	61.7	54.1	N/A	61.8	6.7	47.4		
4/30/2015	21:41	A	85	61.1	52.1	57.2	58.1	6.1	46.0	51.1	
4/30/2015	21:39	B	86	61.1	54.2	57.5	60.8	6.1	48.1	51.4	
4/30/2015	21:38	C	87	61.1	55.4	N/A	61.1	6.1	49.3		
4/30/2015	17:35	A	88	56.1	48.5	N/A	56.1	1.1	47.4		
4/30/2015	17:35	B	89	56.1	48.7	N/A	56.3	1.1	47.6		
4/30/2015	17:35	C	90	56.1	46.5	N/A	56.2	1.1	45.4		
5/1/2015	21:04	A	91	59.9	52.6	N/A	59.6	4.9	47.7		
5/1/2015	21:04	B	92	60.0	51.9	N/A	59.7	5.0	46.9		
5/1/2015	21:04	C	93	59.9	52.1	58.4	59.6	4.9	47.2	53.5	
5/1/2015	15:58	A	94	57.8	47.5	56.7	57.9	2.8	44.7	53.9	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/1/2015	15:58	B	95	57.8	49.1	50.2	51.7	2.8	46.3	47.4	
5/1/2015	15:58	C	96	57.8	47.6	49.2	50.9	2.8	44.8	46.4	
5/1/2015	14:40	A	97	58.9	48.3	49.6	55.1	3.9	44.4	45.7	
5/1/2015	14:40	B	98	58.9	49.1	49.1	52.3	3.9	45.2	45.2	
5/1/2015	14:40	C	99	58.9	50.5	N/A	59.1	3.9	46.6		
5/1/2015	6:03	A	100	56.1	49.3	N/A	56.4	1.1	48.2		
5/1/2015	6:02	B	101	56.1	48.7	N/A	56.3	1.1	47.6		
5/1/2015	6:02	C	102	56.1	48.5	52.8	55.6	1.1	47.4	51.7	
5/1/2015	3:56	A	103	57.6	48.2	48.7	49.9	2.6	45.6	46.1	
5/1/2015	3:55	B	104	57.6	48.6	51.7	54.7	2.6	46.0	49.1	
5/1/2015	3:55	C	105	57.6	48.6	54.4	55.5	2.6	46.0	51.8	
5/1/2015	1:10	A	106	60.5	51.1	51.9	53.0	5.5	45.6	46.4	
5/1/2015	1:09	B	107	60.3	52.8	58.1	59.1	5.3	47.5	52.8	
5/1/2015	1:09	C	108	60.5	53.5	N/A	60.7	5.5	48.0		
4/30/2015	23:04	A	109	61.7	53.5	60.5	61.7	6.7	46.8	53.8	
4/30/2015	23:04	B	110	61.7	54.2	58.5	61.1	6.7	47.5	51.8	
4/30/2015	23:03	C	111	61.7	53.5	58.8	60.2	6.7	46.8	52.1	
4/30/2015	21:27	A	112	60.9	51.8	55.3	56.9	5.9	45.9	49.4	
4/30/2015	21:26	B	113	60.9	54.6	57.3	58.5	5.9	48.7	51.4	
4/30/2015	21:26	C	114	60.9	55.5	N/A	61.3	5.9	49.6		
4/30/2015	17:47	A	115	56.0	49.3	N/A	56.2	1.0	48.3		
4/30/2015	17:47	B	116	56.0	47.9	N/A	56.6	1.0	46.9		
4/30/2015	17:47	C	117	56.0	49.3	N/A	56.1	1.0	48.3		
5/1/2015	21:35	A	118	60.7	54.8	N/A	60.5	5.7	49.1		
5/1/2015	21:36	B	119	60.7	54.0	N/A	60.5	5.7	48.3		
5/1/2015	21:36	C	120	60.7	56.7	N/A	60.4	5.7	51.0		
5/1/2015	15:45	A	121	57.9	52.4	55.2	57.4	2.9	49.5	52.3	
5/1/2015	15:45	B	122	57.9	49.9	53.3	56.0	2.9	47.0	50.4	
5/1/2015	15:45	C	123	57.9	49.3	55.6	56.7	2.9	46.4	52.7	
5/1/2015	14:53	A	124	58.7	49.8	52.0	58.9	3.7	46.1	48.3	
5/1/2015	14:53	B	125	58.7	52.0	54.2	59.0	3.7	48.3	50.5	
5/1/2015	14:53	C	126	58.7	52.9	56.8	58.9	3.7	49.2	53.1	
5/1/2015	5:51	A	127	56.1	47.0	N/A	56.2	1.1	45.9		
5/1/2015	5:50	B	128	56.1	46.9	N/A	56.3	1.1	45.8		
5/1/2015	5:50	C	129	56.1	48.1	48.2	49.2	1.1	47.0	47.1	
5/1/2015	4:08	A	130	57.4	48.1	49.2	50.2	2.4	45.7	46.8	
5/1/2015	4:07	B	131	57.4	48.9	52.0	53.0	2.4	46.5	49.6	
5/1/2015	4:07	C	132	57.4	48.3	49.4	51.8	2.4	45.9	47.0	
5/1/2015	0:57	A	133	60.7	53.2	57.6	60.4	5.7	47.5	51.9	
5/1/2015	0:56	B	134	60.7	52.3	52.9	53.9	5.7	46.6	47.2	
5/1/2015	0:56	C	135	60.7	51.6	57.5	59.1	5.7	45.9	51.8	
4/30/2015	23:20	A	136	61.7	53.4	54.8	57.2	6.7	46.7	48.1	
4/30/2015	23:21	B	137	61.7	54.2	55.5	59.6	6.7	47.5	48.8	
4/30/2015	23:21	C	138	61.7	57.5	N/A	61.8	6.7	50.8		
4/30/2015	21:13	A	139	60.7	54.4	57.2	58.2	5.7	48.7	51.5	
4/30/2015	21:12	B	140	60.7	54.1	N/A	60.3	5.7	48.4		
4/30/2015	21:12	C	141	60.7	54.6	56.2	57.3	5.7	48.9	50.5	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/30/2015	18:02	A	142	56.1	50.3	N/A	56.3	1.1	49.2		
4/30/2015	18:02	B	143	56.1	49.9	N/A	57.8	1.1	48.8		
4/30/2015	18:02	C	144	56.1	48.2	53.0	54.3	1.1	47.1	51.9	
5/1/2015	21:48	A	145	60.9	56.4	N/A	61.0	5.9	50.5		
5/1/2015	21:47	B	146	60.9	54.1	N/A	60.8	5.9	48.2		
5/1/2015	21:47	C	147	60.9	53.5	N/A	60.7	5.9	47.6		
5/1/2015	15:30	A	148	58.2	52.2	N/A	58.4	3.2	49.0		
5/1/2015	15:30	B	149	58.2	52.2	N/A	58.4	3.2	49.0		
5/1/2015	15:30	C	150	58.2	52.4	N/A	58.5	3.2	49.2		
5/1/2015	15:15	A	151	58.5	52.2	N/A	58.9	3.5	48.7		
5/1/2015	15:15	B	152	58.5	53.8	N/A	58.5	3.5	50.3		
5/1/2015	15:15	C	153	58.5	52.3	N/A	58.6	3.5	48.8		
5/1/2015	5:40	A	154	56.1	51.5	N/A	58.1	1.1	50.4		
5/1/2015	5:34	B	155	56.2	49.8	N/A	56.5	1.2	48.6		
5/1/2015	5:34	C	156	56.3	50.3	N/A	54.7	1.3	49.0		
5/1/2015	4:21	A	157	57.2	47.5	53.0	54.5	2.2	45.3	50.8	
5/1/2015	4:20	B	158	57.2	47.4	50.7	51.7	2.2	45.2	48.5	
5/1/2015	4:20	C	159	57.2	47.0	N/A	57.4	2.2	44.8		
5/1/2015	0:44	A	160	60.8	56.3	59.9	61.3	5.8	50.5	54.1	
5/1/2015	0:44	B	161	60.8	55.2	58.2	60.8	5.8	49.4	52.4	
5/1/2015	0:44	C	162	60.8	55.2	56.7	59.3	5.8	49.4	50.9	
4/30/2015	23:34	A	163	61.7	54.1	58.6	60.2	6.7	47.4	51.9	
4/30/2015	23:32	B	164	61.7	51.5	52.1	53.1	6.7	44.8	45.4	
4/30/2015	23:32	C	165	61.7	57.1	60.0	61.7	6.7	50.4	53.3	
4/30/2015	21:00	A	166	60.5	55.0	57.4	59.7	5.5	49.5	51.9	
4/30/2015	20:59	B	167	60.5	54.2	59.7	60.1	5.5	48.7	54.2	
4/30/2015	20:59	C	168	60.5	55.5	58.6	60.1	5.5	50.0	53.1	
4/30/2015	18:15	A	169	56.2	54.1	55.8	56.3	1.2	52.9	54.6	
4/30/2015	18:15	B	170	56.2	49.8	52.5	53.5	1.2	48.6	51.3	
4/30/2015	18:15	C	171	56.2	48.8	N/A	56.4	1.2	47.6		
5/1/2015	5:21	A	172	56.4	51.4	N/A	57.9	1.4	50.0		
5/1/2015	5:19	B	173	56.4	51.5	N/A	56.7	1.4	50.1		
5/1/2015	5:20	C	174	56.4	51.9	N/A	56.6	1.4	50.5		
5/1/2015	4:35	A	175	57.0	50.0	N/A	57.3	2.0	48.0		
5/1/2015	4:34	B	176	56.9	51.2	N/A	57.4	1.9	49.3		
5/1/2015	4:33	C	177	57.0	54.1	N/A	57.7	2.0	52.1		
5/1/2015	0:22	A	178	61.2	56.0	N/A	61.5	6.2	49.8		
5/1/2015	0:22	B	179	61.1	56.3	60.0	60.9	6.1	50.2	53.9	
5/1/2015	0:32	C	180	61.0	57.5	N/A	61.3	6.0	51.5		
4/30/2015	23:46	A	181	61.6	55.8	60.6	61.7	6.6	49.2	54.0	
4/30/2015	23:46	B	182	61.7	55.1	56.8	57.7	6.7	48.4	50.1	
4/30/2015	23:45	C	183	61.6	56.6	58.0	59.3	6.6	50.0	51.4	
4/30/2015	20:46	A	184	60.1	55.7	N/A	60.0	5.1	50.6		
4/30/2015	20:45	B	185	60.2	56.0	58.8	59.8	5.2	50.8	53.6	
4/30/2015	20:45	C	186	60.1	54.5	N/A	63.5	5.1	49.4		
4/30/2015	20:05	A	187	59.1	51.0	N/A	60.6	4.1	46.9		
4/30/2015	19:57	B	188	59.1	52.3	N/A	58.8	4.1	48.2		

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
4/30/2015	19:59	C	189	59.1	50.9	56.0	57.8	4.1	46.8	51.9	
5/1/2015	4:46	A	190	56.9	51.0	N/A	57.4	1.9	49.1		
5/1/2015	4:44	B	191	56.9	54.3	N/A	57.2	1.9	52.4		
5/1/2015	4:44	C	192	56.9	51.8	N/A	57.3	1.9	49.9		
5/1/2015	0:13	A	193	61.3	54.4	N/A	61.7	6.3	48.1		
5/1/2015	0:11	B	194	61.5	55.0	58.0	59.3	6.5	48.5	51.5	
5/1/2015	0:10	C	195	61.3	52.2	52.6	53.8	6.3	45.9	46.3	
5/1/2015	13:00	A	1000	60.7	53.2	57.8	59.1	5.7	47.5	52.1	
5/1/2015	13:00	B	1001	60.9	55.9	N/A	60.6	5.9	50.0		
5/1/2015	13:00	C	1002	60.7	54.2	57.1	59.2	5.7	48.5	51.4	Driller didn't put L1002
5/1/2015	17:38	A	1003	56.5	48.6	N/A	56.1	1.5	47.1		
5/1/2015	17:38	B	1004	56.5	44.7	N/A	56.5	1.5	43.2		
5/1/2015	17:38	C	1005	56.5	46.3	51.9	53.2	1.5	44.8	50.4	
5/1/2015	17:00	A	1006	57.0	50.7	53.6	54.9	2.0	48.7	51.6	
5/1/2015	17:00	B	1007	56.9	51.5	55.2	56.9	1.9	49.6	53.3	
5/1/2015	17:00	C	1008	56.9	49.9	N/A	57.0	1.9	48.0		
5/1/2015	18:15	A	1009	56.1	49.4	N/A	56.2	1.1	48.3		
5/1/2015	18:15	B	1010	56.1	51.2	54.0	56.2	1.1	50.1	52.9	
5/1/2015	18:15	C	1011	56.1	48.4	49.2	51.3	1.1	47.3	48.1	
5/1/2015	20:14	A	1012	58.7	55.7	N/A	58.4	3.7	52.0		
5/1/2015	20:12	B	1013	58.7	53.0	N/A	58.4	3.7	49.3		
5/1/2015	20:25	C	1014	58.9	52.0	57.2	58.8	3.9	53.3	54.9	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/2/2015	3:52	A	1	58.6	48.6	56.9	58.2	3.6	45.0	53.3	
5/2/2015	3:51	B	2	58.6	48.4	52.3	53.3	3.6	44.8	48.7	
5/2/2015	3:52	C	3	58.6	48.7	55.2	56.0	3.6	45.1	51.6	
5/2/2015	3:25	A	4	59.3	50.4	54.0	56.0	4.3	46.1	49.7	
5/2/2015	3:25	B	5	59.0	52.1	54.7	55.7	4.0	48.1	50.7	
5/2/2015	3:25	C	6	59.0	47.3	47.7	48.7	4.0	43.3	43.7	
5/2/2015	0:01	A	7	62.1	50.0	52.3	53.6	7.1	42.9	45.2	
5/2/2015	0:01	B	8	62.1	52.6	53.3	56.4	7.1	45.5	46.2	
5/2/2015	0:01	C	9	62.1	50.7	53.6	54.8	7.1	43.6	46.5	
5/1/2015	23:31	A	10	62.0	51.4	55.1	56.3	7.0	44.4	48.1	
5/1/2015	23:31	B	11	62.0	51.5	60.6	61.6	7.0	44.5	53.6	
5/1/2015	23:31	C	12	62.0	49.6	49.7	50.7	7.0	42.6	42.7	
5/2/2015	4:09	A	13	58.5	53.7	57.3	58.3	3.5	50.2	53.8	
5/2/2015	4:07	B	14	58.5	55.7	57.1	58.5	3.5	52.2	53.6	
5/2/2015	4:07	C	15	58.5	56.3	N/A	58.5	3.5	52.8		
5/2/2015	3:13	A	16	59.4	54.1	55.2	56.3	4.4	49.7	50.8	
5/2/2015	3:13	B	17	59.4	54.2	N/A	59.6	4.4	49.8		
5/2/2015	3:13	C	18	59.4	53.2	57.3	58.5	4.4	48.8	52.9	
5/2/2015	0:18	A	19	62.1	55.8	N/A	62.1	7.1	48.7		
5/2/2015	0:17	B	20	62.0	57.2	57.6	58.6	7.0	50.2	50.6	
5/2/2015	0:17	C	21	62.0	57.2	N/A	62.1	7.0	50.2		
5/1/2015	22:19	A	22	62.0	57.0	N/A	61.9	7.0	50.0		
5/1/2015	22:19	B	23	62.0	59.9	N/A	61.9	7.0	52.9		
5/1/2015	22:18	C	24	62.0	57.6	N/A	61.9	7.0	50.6		
5/2/2015	4:28	A	25	58.1	53.9	N/A	58.4	3.1	50.8		
5/2/2015	4:25	B	26	58.1	56.5	57.5	58.3	3.1	53.4	54.4	
5/2/2015	4:26	C	27	58.1	53.3	53.9	56.8	3.1	50.2	50.8	
5/2/2015	3:01	A	28	59.6	53.1	53.2	54.5	4.6	48.5	48.6	
5/2/2015	3:00	B	29	59.5	53.4	N/A	59.9	4.5	48.9		
5/2/2015	3:00	C	30	59.5	53.5	54.0	55.0	4.5	49.0	49.5	
5/2/2015	0:30	A	31	62.0	57.1	59.6	61.5	7.0	50.1	52.6	
5/2/2015	0:30	B	32	61.9	60.2	N/A	62.0	6.9	53.3		
5/2/2015	0:30	C	33	61.9	56.9	60.9	62.0	6.9	50.0	54.0	
5/1/2015	23:07	A	34	61.8	56.8	61.4	61.7	6.8	50.0	54.6	
5/1/2015	23:07	B	35	61.9	57.7	59.1	61.8	6.9	50.8	52.2	
5/1/2015	23:07	C	36	61.9	55.1	59.0	60.8	6.9	48.2	52.1	
5/2/2015	4:44	A	37	58.0	54.7	56.3	58.0	3.0	51.7	53.3	
5/2/2015	4:43	B	38	57.9	53.1	54.3	55.5	2.9	50.2	51.4	
5/2/2015	4:43	C	39	57.9	52.6	53.0	54.0	2.9	49.7	50.1	
5/2/2015	2:50	A	40	59.8	53.0	54.3	55.3	4.8	48.2	49.5	
5/2/2015	2:50	B	41	59.7	54.8	N/A	60.0	4.7	50.1		
5/2/2015	2:49	C	42	59.7	55.3	57.2	58.2	4.7	50.6	52.5	
5/2/2015	0:41	A	43	61.9	54.9	56.1	57.1	6.9	48.0	49.2	
5/2/2015	0:41	B	44	61.8	56.3	61.6	62.0	6.8	49.5	54.8	
5/2/2015	0:41	C	45	61.8	56.0	57.1	59.3	6.8	49.2	50.3	
5/1/2015	22:56	A	46	61.8	56.5	61.2	61.7	6.8	49.7	54.4	
5/1/2015	22:56	B	47	61.8	59.9	N/A	61.7	6.8	53.1		

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/1/2015	22:56	C	48	61.8	57.4	59.4	60.5	6.8	50.6	52.6	
5/2/2015	4:56	A	49	57.8	53.5	56.8	57.9	2.8	50.7	54.0	
5/2/2015	4:55	B	50	57.6	53.9	N/A	57.9	2.6	51.3		
5/2/2015	4:55	C	51	57.6	52.2	52.8	53.9	2.6	49.6	50.2	
5/2/2015	2:40	A	52	60.2	53.8	N/A	60.5	5.2	48.6		
5/2/2015	2:38	B	53	60.1	54.9	58.0	59.0	5.1	49.8	52.9	
5/2/2015	2:37	C	54	60.1	58.1	N/A	60.4	5.1	53.0		
5/2/2015	0:52	A	55	61.8	55.0	56.2	57.3	6.8	48.2	49.4	
5/2/2015	0:52	B	56	61.7	56.8	60.3	61.4	6.7	50.1	53.6	
5/2/2015	0:51	C	57	61.7	56.1	57.0	60.0	6.7	49.4	50.3	
5/1/2015	22:45	A	58	61.6	58.7	N/A	61.6	6.6	52.1		
5/1/2015	22:45	B	59	61.6	58.9	N/A	61.7	6.6	52.3		
5/1/2015	22:44	C	60	61.6	56.9	58.5	61.7	6.6	50.3	51.9	
5/2/2015	5:10	A	61	57.5	53.1	56.3	57.5	2.5	50.6	53.8	
5/2/2015	5:10	B	62	57.4	53.9	N/A	57.5	2.4	51.5		
5/2/2015	5:09	C	63	57.4	51.3	52.4	57.6	2.4	48.9	50.0	
5/2/2015	2:27	A	64	60.3	54.2	N/A	61.1	5.3	48.9		
5/2/2015	2:25	B	65	60.3	54.4	N/A	60.6	5.3	49.1		
5/2/2015	2:25	C	66	60.3	54.2	57.1	58.8	5.3	48.9	51.8	
5/2/2015	1:03	A	67	61.7	55.6	60.9	61.7	6.7	48.9	54.2	
5/2/2015	1:02	B	68	61.7	56.6	58.4	59.3	6.7	49.9	51.7	
5/2/2015	1:02	C	69	61.7	56.7	N/A	61.8	6.7	50.0		
5/1/2015	22:30	A	70	61.5	57.3	N/A	61.7	6.5	50.8		
5/1/2015	22:30	B	71	61.5	60.1	N/A	61.4	6.5	53.6		
5/1/2015	22:30	C	72	61.5	57.0	57.7	61.4	6.5	50.5	51.2	
5/2/2015	5:23	A	73	57.4	52.8	N/A	57.4	2.4	50.4		
5/2/2015	5:23	B	74	57.3	52.6	N/A	57.4	2.3	50.3		
5/2/2015	5:22	C	75	57.3	50.8	52.1	53.4	2.3	48.5	49.8	
5/2/2015	2:15	A	76	60.4	54.1	60.3	60.8	5.4	48.7	54.9	
5/2/2015	2:14	B	77	60.4	54.9	58.8	60.1	5.4	49.5	53.4	
5/2/2015	2:14	C	78	60.4	55.5	58.3	59.3	5.4	50.1	52.9	
5/2/2015	1:13	A	79	61.6	57.7	61.1	61.6	6.6	51.1	54.5	
5/2/2015	1:12	B	80	61.4	58.6	N/A	61.6	6.4	52.2		
5/2/2015	1:12	C	81	61.4	55.3	N/A	61.9	6.4	48.9		
5/1/2015	22:17	A	82	61.4	54.8	56.9	58.4	6.4	48.4	50.5	
5/1/2015	22:15	B	83	61.4	56.8	N/A	61.2	6.4	50.4		
5/1/2015	22:15	C	84	61.3	56.3	N/A	61.3	6.3	50.0		
5/2/2015	5:41	A	85	57.3	54.5	N/A	57.4	2.3	52.2		
5/2/2015	5:41	B	86	56.9	54.8	N/A	57.5	1.9	52.9		
5/2/2015	5:44	C	87	56.9	53.9	N/A	57.1	1.9	52.0		
5/2/2015	2:04	A	88	60.8	53.3	53.6	54.4	5.8	47.5	47.8	
5/2/2015	2:03	B	89	60.6	55.0	58.8	60.0	5.6	49.4	53.2	
5/2/2015	2:03	C	90	60.7	53.3	53.6	54.6	5.7	47.6	47.9	
5/2/2015	1:25	A	91	61.4	54.8	60.0	61.4	6.4	48.4	53.6	
5/2/2015	1:23	B	92	61.3	54.9	59.3	60.3	6.3	48.6	53.0	
5/2/2015	1:23	C	93	61.3	54.4	56.5	57.7	6.3	48.1	50.2	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/2/2015	6:21	A	94	56.9		N/A	56.9	1.9	-1.9		material very soft? Sensors did not stop drill rods
5/2/2015	6:21	B	95	56.5		N/A	56.9	1.5	-1.5		material very soft? Sensors did not stop drill rods
5/2/2015	6:21	C	96	56.5		N/A	57.2	1.5	-1.5		material very soft? Sensors did not stop drill rods
5/2/2015	1:52	A	97	61.0	55.9	N/A	61.2	6.0	49.9		
5/2/2015	1:52	B	98	60.8	56.8	57.1	58.3	5.8	51.0	51.3	
5/2/2015	1:51	C	99	61.0	56.7	56.8	57.8	6.0	50.7	50.8	
5/2/2015	1:35	A	100	61.2	56.5	57.0	57.9	6.2	50.3	50.8	
5/2/2015	1:35	B	101	61.1	58.1	60.2	61.2	6.1	52.0	54.1	
5/2/2015	1:35	C	102	61.1	60.0	60.3	61.3	6.1	53.9	54.2	

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AREA N

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/1/2015	9:45	A	3	60.7	50.6	56.9	58.4	5.7	44.9	51.2	
5/1/2015	10:05	A	4	60.9	51.0	56.1	58.8	5.9	45.1	50.2	
5/1/2015	10:20	A	5	61.1	51.1	59.8	60.6	6.1	45.0	53.7	
5/1/2015	10:39	A	6	61.2	49.8	55.5	56.6	6.2	43.6	49.3	
5/1/2015	10:55	A	7	61.3	50.2	54.2	55.1	6.3	43.9	47.9	
5/1/2015	11:10	A	8	61.4	52.4	N/A	61.4	6.4	46.0		
5/1/2015	9:45	B	11	60.7	51.5	55.5	56.5	5.7	45.8	49.8	
5/1/2015	10:05	B	12	60.9	51.1	55.0	56.1	5.9	45.2	49.1	
5/1/2015	10:20	B	13	61.1	51.6	57.5	60.6	6.1	45.5	51.4	
5/1/2015	10:39	B	14	61.2	54.5	N/A	61.2	6.2	48.3		
5/1/2015	10:55	B	15	61.3	56.5	N/A	61.3	6.3	50.2		
5/1/2015	11:10	B	16	61.4	61.0	N/A	61.5	6.4	54.6		
5/1/2015	9:45	C	19	60.7	50.0	53.8	54.7	5.7	44.3	48.1	
5/1/2015	10:05	C	20	60.9	52.8	53.1	54.8	5.9	46.9	47.2	
5/1/2015	10:20	C	21	61.1	56.3	59.0	60.6	6.1	50.2	52.9	
5/1/2015	10:39	C	22	61.2	61.7	N/A	61.7	6.2	55.5		
5/1/2015	10:55	C	23	61.3	55.2	N/A	61.4	6.3	48.9		
5/1/2015	11:10	C	24	61.4	62.8	N/A	62.8	6.4	56.4		
5/1/2015	11:58	A	1000	61.2	55.2	56.7	57.8	6.2	49.0	50.5	
5/1/2015	11:58	B	1001	61.2	58.0	N/A	61.3	6.2	51.8		
5/1/2015	11:58	C	1002	61.2	61.3	N/A	61.3	6.2	55.1		

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AREA O

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/2/2015	8:58	C	1	58.7	50.7	N/A	59.1	3.7	47.0		
5/2/2015	9:24	C	2	59.2	50.3	N/A	59.3	4.2	46.1		
5/2/2015	9:38	C	3	59.6	50.0	N/A	60.0	4.6	45.4		
5/2/2015	10:03	C	4	60.0	54.3	N/A	59.9	5.0	49.3		
5/2/2015	10:17	A	6	60.4	46.0	52.2	53.2	5.4	49.1	51.1	
5/2/2015	10:30	A	7	60.6	52.2	N/A	60.4	5.6	46.6		
5/2/2015	10:57	A	8	61.0	49.5	N/A	60.8	6.0	43.5		
5/2/2015	11:12	A	9	61.1	52.3	N/A	60.9	6.1	46.2		
5/2/2015	8:58	B	10	58.8	58.6	N/A	58.7	3.8	54.8		
5/2/2015	9:24	B	11	59.2	N/A	N/A	59.3	4.2			
5/2/2015	9:37	B	12	59.5	49.9	N/A	59.7	4.5	45.4		
5/2/2015	10:03	B	13	60.0	53.3	N/A	59.9	5.0	48.3		
5/2/2015	10:17	B	14	60.4	52.3	51.8	54.1	5.4	46.9	46.4	
5/2/2015	10:30	B	15	60.6	53.6	58.1	60.0	5.6	48.0	52.5	
5/2/2015	10:57	B	16	61.0	55.1	57.1	58.3	6.0	49.1	51.1	
5/2/2015	11:11	B	17	61.1	54.5	N/A	61.2	6.1	48.4		
5/2/2015	9:04	A	18	58.8	51.4	N/A	58.7	3.8	47.6		
5/2/2015	9:24	A	19	59.2	52.5	N/A	59.4	4.2	48.3		
5/2/2015	9:38	A	21	59.5	51.6	N/A	59.4	4.5	47.1		
5/2/2015	10:04	A	22	60.0	47.2	N/A	59.9	5.0	42.2		
5/2/2015	10:17	C	23	60.4	54.5	56.5	58.3	5.4	40.6	46.8	
5/2/2015	10:30	C	24	60.6	N/A	N/A	60.0	5.6			
5/2/2015	11:00	C	25	61.0	55.8	N/A	61.5	6.0	49.8		
5/2/2015	11:12	C	26	61.1	53.4	N/A	61.1	6.1	47.3		
5/2/2015	11:43	A	1000	61.3	55.3	N/A	60.9	6.3	49.0		
5/2/2015	11:43	B	1001	61.3	59.4	N/A	61.3	6.3	53.1		
5/2/2015	11:43	C	1002	61.3	54.9	N/A	61.6	6.3	48.6		Hole Reads 1003 should be 1002

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/3/2015	5:29	A	4	57.3	40.6	N/A	57.3	2.3	38.3		
5/3/2015	5:29	B	5	57.3	40.9	N/A	57.3	2.3	38.6		
5/3/2015	5:29	C	6	57.3	43.4	N/A	57.6	2.3	41.1		
5/3/2015	4:35	A	7	58.3	41.5	56.4	58.3	3.3	38.2	53.1	
5/3/2015	4:35	B	8	58.1	40.6	N/A	58.3	3.1	37.5		
5/3/2015	4:35	C	9	58.1	40.2	51.5	52.0	3.1	37.1	48.4	
5/2/2015	14:55	A	10	58.9	36.1	44.0	45.4	3.9	32.2	40.1	
5/2/2015	14:55	B	11	58.9	36.9	38.0	39.0	3.9	33.0	34.1	
5/2/2015	14:55	C	12	58.9	40.6	49.5	51.4	3.9	36.7	45.6	
5/2/2015	14:40	A	13	59.1	41.9	46.0	47.5	4.1	37.8	41.9	
5/2/2015	14:40	B	14	59.1	42.7	49.8	50.9	4.1	38.6	45.7	
5/2/2015	14:40	C	15	59.1	47.6	48.4	49.8	4.1	43.5	44.3	
5/3/2015	15:13	A	16	59.0	47.2	50.5	52.0	4.0	43.2	46.5	
5/3/2015	15:13	B	17	59.0	47.6	55.0		4.0	43.6	51.0	
5/3/2015	15:13	C	18	59.0	46.8	50.0		4.0	42.8	46.0	
5/3/2015	5:50	A	19	57.1	45.1	N/A	57.4	2.1	43.0		
5/3/2015	5:50	B	20	57.0	46.0	N/A	58.0	2.0	44.0		
5/3/2015	5:50	C	21	57.0	44.6	46.1	47.1	2.0	42.6	44.1	
5/3/2015	4:17	A	22	59.1	46.3	53.6	54.6	4.1	42.2	49.5	
5/3/2015	4:17	B	23	58.4	46.0	53.8	54.8	3.4	42.6	50.4	
5/3/2015	4:17	C	24	58.4	46.4	53.2	53.3	3.4	43.0	49.8	
5/2/2015	15:16	A	25	58.6	49.2	51.3	53.0	3.6	45.6	47.7	
5/2/2015	15:16	B	26	58.6	47.5	51.0	52.5	3.6	43.9	47.4	
5/2/2015	15:16	C	27	58.6	48.4	49.4	51.2	3.6	44.8	45.8	
5/2/2015	14:24	A	28	59.5	48.1	48.8	50.7	4.5	43.6	44.3	
5/2/2015	14:24	B	29	59.5	48.1	48.8	50.0	4.5	43.6	44.3	
5/2/2015	14:24	C	30	59.5	45.5	55.3	57.0	4.5	41.0	50.8	
5/3/2015	23:53	A	31	61.3	49.9	52.9	60.9	6.3	43.6	46.6	
5/3/2015	23:53	B	32	61.3	50.5	57.6	58.6	6.3	44.2	51.3	
5/3/2015	23:53	C	33	61.3	50.3	58.0	60.9	6.3	44.0	51.7	
5/3/2015	22:02	A	34	58.8	47.2	53.8	55.2	3.8	43.4	50.0	
5/3/2015	22:02	B	35	58.9	47.5	52.4	58.6	3.9	43.6	48.5	
5/3/2015	22:02	C	36	58.9	47.5	56.5	57.8	3.9	43.6	52.6	
5/3/2015	15:35	A	37	58.5	46.0	N/A	58.9	3.5	42.5		
5/3/2015	15:35	B	38	58.5	46.5	50.0	52.6	3.5	43.0	46.5	
5/3/2015	15:35	C	39	58.5	47.2	49.4	51.5	3.5	43.7	45.9	
5/3/2015	14:57	A	40	59.1	49.6	55.0	59.5	4.1	45.5	50.9	
5/3/2015	14:57	B	41	59.1	48.8	56.0	59.0	4.1	44.7	51.9	
5/3/2015	14:57	C	42	59.1	47.4	50.0	52.3	4.1	43.3	45.9	
5/3/2015	6:10	A	43	56.9	45.7	N/A	57.2	1.9	43.8		
5/3/2015	6:10	B	44	56.8	46.1	55.2	56.2	1.8	44.3	53.4	
5/3/2015	6:10	C	45	56.8	44.7	49.5	50.5	1.8	42.9	47.7	
5/3/2015	3:33	A	46	59.2	46.7	46.9	47.9	4.2	42.5	42.7	
5/3/2015	3:33	B	47	59.1	48.1	55.4	59.3	4.1	44.0	51.3	
5/3/2015	3:33	C	48	59.2	48.5	53.3	54.3	4.2	44.3	49.1	
5/2/2015	21:36	A	49	60.0	50.6	57.8	60.1	5.0	45.6	52.8	
5/2/2015	21:35	B	50	60.2	51.8	57.8	58.8	5.2	46.6		

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/2/2015	21:35	C	51	60.2	50.4	55.7	57.3	5.2	45.2	52.6	
5/2/2015	15:29	A	52	58.3	47.4	51.8	53.5	3.3	44.1	48.5	
5/2/2015	15:29	B	53	58.4	48.8	57.0	58.5	3.4	45.4	53.6	
5/2/2015	15:29	C	54	58.3	47.1	47.1	48.5	3.3	43.8	43.8	
5/2/2015	14:11	A	55	59.7	48.1	49.9	52.6	4.7	43.4	45.2	
5/2/2015	14:11	B	56	59.7	51.1	56.5	57.7	4.7	46.4	51.8	
5/2/2015	14:11	C	57	59.7	49.8	N/A	60.4	4.7	45.1		
5/4/2015	1:08	A	58	61.7	49.5	56.7	57.9	6.7	42.8	50.0	
5/4/2015	1:08	B	59	61.7	51.2	54.3	59.1	6.7	44.5	47.6	
5/4/2015	1:08	C	60	61.7	51.9	53.4	56.6	6.7	45.2	46.7	
5/3/2015	21:46	A	61	58.8	47.7	48.0	49.0	3.8	43.9	44.2	
5/3/2015	21:49	B	62	58.8	50.2	54.9	58.3	3.8	46.4	51.1	
5/3/2015	21:40	C	63	58.7	46.8	N/A	58.3	3.7	43.1		
5/3/2015	15:48	A	64	58.3	46.0	53.3	56.1	3.3	42.7	50.0	
5/3/2015	15:48	B	65	58.3	47.0	52.2	58.5	3.3	43.7	48.9	
5/3/2015	15:48	C	66	58.3	47.7	51.0	54.9	3.3	44.4	47.7	
5/3/2015	14:30	A	67	59.5	49.5	52.0	53.1	4.5	45.0	47.5	Drilled twice, driller said layers of clay in rock
5/3/2015	14:30	B	68	59.8	50.4	51.5	53.1	4.8	45.6	46.7	
5/3/2015	14:30	C	69	59.8	47.1	48.5	51.4	4.8	42.3	43.7	
5/3/2015	6:23	A	70	56.6	44.9	51.3	52.3	1.6	43.3	49.7	
5/3/2015	6:23	B	71	56.6	46.0	49.7	50.7	1.6	44.4	48.1	
5/3/2015	6:23	C	72	56.6	44.4	50.9	52.4	1.6	42.8	49.3	
5/3/2015	3:12	A	73	59.8	46.7	47.8	48.7	4.8	41.9	43.0	
5/3/2015	3:12	B	74	59.7	48.4	50.5	51.5	4.7	43.7	45.8	
5/3/2015	3:12	C	75	59.7	48.0	53.3	59.9	4.7	43.3	48.6	
5/2/2015	22:01	A	76	60.6	50.1	N/A	60.5	5.6	44.5		
5/2/2015	22:00	B	77	60.6	52.3	55.3	56.4	5.6	46.7	49.7	
5/2/2015	21:57	C	78	60.5	49.5	N/A	60.5	5.5	44.0		
5/2/2015	21:23	A	79	59.6	49.3	57.2	58.2	4.6	44.7	52.6	
5/2/2015	21:23	B	80	59.9	49.6	N/A	59.4	4.9	44.7		
5/2/2015	21:23	C	81	59.9	49.4	50.0	52.1	4.9	44.5	45.1	
5/2/2015	15:43	A	82	58.1	48.5	54.5	57.2	3.1	45.4	51.4	
5/2/2015	15:43	B	83	58.1	48.4	56.8	57.9	3.1	45.3	53.7	
5/2/2015	15:43	C	84	58.1	48.1	54.5	57.8	3.1	45.0	51.4	
5/2/2015	13:56	A	85	59.9	50.2	N/A	60.3	4.9	45.3		
5/2/2015	13:56	B	86	59.9	49.8	N/A	60.3	4.9	44.9		
5/2/2015	13:56	C	87	59.9	48.8	N/A	60.2	4.9	43.9		
5/4/2015	1:24	A	88	61.7	50.2	53.9	61.7	6.7	43.5	47.2	
5/4/2015	1:24	B	89	61.6	52.8	54.4	61.7	6.6	46.2	47.8	
5/4/2015	1:24	C	90	61.6	50.0	50.4	51.4	6.6	43.4	43.8	
5/3/2015	21:26	A	91	57.7	47.7	48.3	49.3	2.7	45.0	45.6	
5/3/2015	21:26	B	92	58.1	49.0	56.5	57.5	3.1	45.9	53.4	
5/3/2015	21:25	C	93	58.1	46.8	N/A	57.5	3.1	43.7		
5/3/2015	16:32	A	94	57.5	45.8	56.1	57.8	2.5	43.3	53.6	
5/3/2015	16:32	B	95	57.5	46.4	N/A	57.8	2.5	43.9		
5/3/2015	16:32	C	96	57.5	46.5	48.8	49.9	2.5	44.0	46.3	
5/3/2015	14:17	A	97	59.9	50.0	51.5	53.5	4.9	45.1	46.6	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/3/2015	14:17	B	98	59.9	50.0	51.8	58.6	4.9	45.1	46.9	
5/3/2015	14:17	C	99	59.9	48.5	49.4	50.6	4.9	43.6	44.5	
5/3/2015	9:56	A	100	58.9	48.7	48.7	52.9	3.9	44.8	44.8	
5/3/2015	9:56	B	101	58.9	44.7	50.2	51.5	3.9	40.8	46.3	
5/3/2015	9:56	C	102	58.9	46.7	47.7	49.3	3.9	42.8	43.8	
5/3/2015	2:54	A	103	60.2	48.4	48.9	49.9	5.2	43.2	43.7	
5/3/2015	2:54	B	104	59.9	49.7	52.6	53.6	4.9	44.8	47.7	
5/3/2015	2:54	C	105	59.9	49.8	57.3	58.3	4.9	44.9	52.4	
5/2/2015	22:14	A	106	61.0	51.0	57.9	59.5	6.0	45.0	51.9	
5/2/2015	22:13	B	107	61.0	51.1	58.5	59.5	6.0	45.1	52.5	
5/2/2015	22:13	C	108	61.0	51.0	N/A	60.8	6.0	45.0		
5/2/2015	21:12	A	109	59.4	49.4	53.5	54.5	4.4	45.0	49.1	
5/2/2015	21:13	B	110	59.4	49.4	54.0	55.0	4.4	45.0	49.6	
5/2/2015	21:11	C	111	59.4	48.7	N/A	59.2	4.4	44.3		
5/2/2015	15:58	A	112	57.9	46.6	54.2	55.2	2.9	43.7	51.3	
5/2/2015	15:58	B	113	58.0	48.2	N/A	58.1	3.0	45.2		
5/2/2015	15:58	C	114	57.9	47.8	N/A	58.1	2.9	44.9		
5/2/2015	13:40	A	115	60.3	49.7	59.8	60.6	5.3	44.4	54.5	
5/2/2015	13:40	B	116	60.3	49.6	N/A	60.6	5.3	44.3		
5/2/2015	13:40	C	117	60.3	49.1	N/A	60.8	5.3	43.8		
5/3/2015	21:13	A	118	57.5	47.5	55.0	56.0	2.5	45.0	52.5	
5/3/2015	21:13	B	119	57.5	54.0	N/A	55.0	2.5	51.5		
5/3/2015	21:13	C	120	57.5	46.3	N/A	57.7	2.5	43.8		
5/3/2015	16:47	A	121	57.4	46.6	53.6	57.5	2.4	44.2	51.2	
5/3/2015	16:47	B	122	57.4	47.9	57.2	57.5	2.4	45.5	54.8	
5/3/2015	16:47	C	123	57.4	47.0	49.5	51.0	2.4	44.6	47.1	
5/3/2015	14:02	A	124	60.2	50.6	54.5	57.6	5.2	45.4	49.3	
5/3/2015	14:02	B	125	60.2	51.3	53.0	54.8	5.2	46.1	47.8	
5/3/2015	14:02	C	126	60.2	49.6	54.1	56.1	5.2	44.4	48.9	
5/3/2015	10:12	A	127	59.4	49.5	49.5	52.2	4.4	45.1	45.1	
5/3/2015	10:12	B	128	59.2	49.7	52.7	53.7	4.2	45.5	48.5	
5/3/2015	10:12	C	129	59.2	49.0	51.4	53.3	4.2	44.8	47.2	
5/3/2015	2:39	A	130	60.6	48.9	57.7	58.8	5.6	43.3	52.1	
5/3/2015	2:39	B	131	60.4	49.9	59.7	60.6	5.4	44.5	54.3	
5/3/2015	2:39	C	132	60.4	50.1	56.8	58.1	5.4	44.7	51.4	
5/2/2015	22:29	A	133	61.1	49.7	N/A	61.1	6.1	43.6		
5/2/2015	22:28	B	134	61.3	52.5	59.4	60.4	6.3	46.2	53.1	
5/2/2015	22:28	C	135	61.3	51.4	54.7	56.4	6.3	45.1	48.4	
5/2/2015	21:00	A	136	58.9	50.0	54.7	57.2	3.9	46.1	50.8	
5/2/2015	21:00	B	137	59.3	50.2	N/A	58.8	4.3	45.9		
5/2/2015	21:00	C	138	59.3	51.1	N/A	58.9	4.3	46.8		
5/2/2015	16:12	A	139	57.6	46.7	N/A	57.9	2.6	44.1		
5/2/2015	16:12	B	140	57.6	47.5	N/A	58.1	2.6	44.9		
5/2/2015	16:12	C	141	57.6	46.4	N/A	57.8	2.6	43.8		
5/2/2015	13:22	A	142	60.6	50.6	N/A	61.2	5.6	45.0		
5/2/2015	13:22	B	143	60.6	50.6	N/A	60.8	5.6	45.0		
5/2/2015	13:22	C	144	60.6	50.0	N/A	59.9	5.6	44.4		

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/3/2015	21:02	A	145	57.2	47.1	N/A	57.0	2.2	44.9		
5/3/2015	21:02	B	146	57.4	47.6	49.4	57.1	2.4	45.2	47.0	
5/3/2015	21:02	C	147	57.4	49.0	N/A	56.9	2.4	46.6		
5/3/2015	17:02	A	148	57.1	47.5	48.5	51.4	2.1	45.4	46.4	
5/3/2015	17:02	B	149	57.1	47.7	49.1	50.0	2.1	45.6	47.0	
5/3/2015	17:02	C	150	57.1	47.6	48.8	50.3	2.1	45.5	46.7	
5/3/2015	13:47	A	151	60.7	51.0	59.0	60.8	5.7	45.3	53.3	
5/3/2015	13:47	B	152	60.7	49.9	53.7	54.9	5.7	44.2	48.0	
5/3/2015	13:47	C	153	60.7	48.6	50.1	51.6	5.7	42.9	44.4	
5/3/2015	10:44	A	154	59.8	48.9	49.0	50.3	4.8	44.1	44.2	
5/3/2015	10:44	B	155	59.8	49.5	56.0	57.2	4.8	44.7	51.2	
5/3/2015	10:44	C	156	59.9	48.2	56.5	57.3	4.9	43.3	51.6	
5/3/2015	2:15	A	157	60.9	49.4	56.0	56.9	5.9	43.5	50.1	
5/3/2015	2:15	B	158	60.6	50.3	55.6	57.7	5.6	44.7	50.0	
5/3/2015	2:15	C	159	60.6	50.4	59.4	60.4	5.6	44.8	53.8	
5/2/2015	22:42	A	160	61.4	52.4	56.1	57.2	6.4	46.0	49.7	
5/2/2015	22:41	B	161	61.4	54.7	59.3	60.4	6.4	48.3	52.9	
5/2/2015	22:41	C	162	61.4	53.4	55.5	56.7	6.4	47.0	49.1	
5/2/2015	20:45	A	163	58.8	50.2	53.6	55.4	3.8	46.4	49.8	
5/2/2015	20:46	B	164	58.9	50.0	N/A	58.6	3.9	46.1		
5/2/2015	20:46	C	165	58.9	48.3	N/A	58.6	3.9	44.4		
5/2/2015	16:35	A	166	57.3	46.1	48.6	49.7	2.3	43.8	46.3	
5/2/2015	16:35	B	167	57.3	47.5	N/A	57.7	2.3	45.2		
5/2/2015	16:35	C	168	57.3	46.5	N/A	57.9	2.3	44.2		
5/3/2015	20:50	A	169	56.7	46.7	N/A	56.9	1.7	45.0		
5/3/2015	20:50	B	170	56.9	48.0	N/A	56.8	1.9	46.1		
5/3/2015	20:49	C	171	56.9	47.6	53.9	55.0	1.9	45.7	52.0	
5/3/2015	17:18	A	172	57.0	46.0	52.0	53.6	2.0	44.0	50.0	
5/3/2015	17:18	B	173	57.0	46.7	51.3	53.6	2.0	44.7	49.3	
5/3/2015	17:18	C	174	57.0	46.4	51.4	52.6	2.0	44.4	49.4	
5/3/2015	13:34	A	175	60.8	50.4	51.9	53.2	5.8	44.6	46.1	
5/3/2015	13:34	B	176	60.8	50.8	53.2	54.5	5.8	45.0	47.4	
5/3/2015	13:34	C	177	60.8	48.6	55.8	57.4	5.8	42.8	50.0	
5/3/2015	11:01	A	178	60.3	49.1	56.7	58.5	5.3	43.8	51.4	
5/3/2015	11:01	B	179	60.3	49.5	57.9	59.0	5.3	44.2	52.6	
5/3/2015	11:01	C	180	60.3	48.2	54.4	55.5	5.3	42.9	49.1	
5/3/2015	2:00	A	181	61.1	51.1	54.2	55.5	6.1	45.0	48.1	
5/3/2015	2:00	B	182	61.0	53.2	N/A	61.2	6.0	47.2		
5/3/2015	2:00	C	183	61.0	52.0	57.5	58.5	6.0	46.0	51.5	
5/2/2015	22:57	A	184	61.5	53.2	N/A	61.5	6.5	46.7		
5/2/2015	22:58	B	185	61.7	55.2	58.1	59.1	6.7	48.5	51.4	
5/2/2015	22:57	C	186	61.7	49.5	49.7	50.9	6.7	42.8	43.0	
5/2/2015	20:25	A	187	58.2	50.4	57.0	58.2	3.2	47.2	53.8	
5/2/2015	20:24	B	188	58.2	50.2	51.5	53.1	3.2	47.0	48.3	
5/2/2015	20:24	C	189	58.2	48.5	52.7	54.0	3.2	45.3	49.5	
5/2/2015	17:03	A	190	56.9	46.1	N/A	57.2	1.9	44.2		
5/2/2015	17:03	B	191	56.9	48.1	53.5	54.6	1.9	46.2	51.6	

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/2/2015	17:03	C	192	56.9	47.1	N/A	57.2	1.9	45.2		
5/3/2015	20:41	A	193	56.2	46.6	N/A	56.7	1.2	45.4		
5/3/2015	20:40	B	194	56.7	47.1	N/A	56.3	1.7	45.4		
5/3/2015	20:40	C	195	56.7	46.9	N/A	56.4	1.7	45.2		
5/3/2015	17:32	A	196	56.8	45.6	55.3	56.0	1.8	43.8	53.5	
5/3/2015	17:32	B	197	56.8	46.1	46.8	47.8	1.8	44.3	45.0	
5/3/2015	17:32	C	198	56.8	45.6	55.0	56.1	1.8	43.8	53.2	
5/3/2015	13:19	A	199	61.0	51.2	53.4	55.0	6.0	45.2	47.4	
5/3/2015	13:19	B	200	61.0	51.5	56.2	57.2	6.0	45.5	50.2	
5/3/2015	13:19	C	201	61.0	50.1	55.6	56.7	6.0	44.1	49.6	
5/3/2015	11:12	A	202	60.5	50.0	56.7	58.1	5.5	44.5	51.2	
5/3/2015	11:12	B	203	60.5	50.1	55.8	56.9	5.5	44.6	50.3	
5/3/2015	11:12	C	204	60.5	50.2	53.6	55.1	5.5	44.7	48.1	
5/3/2015	1:51	A	205	61.3	54.3	54.2	55.2	6.3	48.0	47.9	
5/3/2015	1:47	B	206	61.3	53.5	58.1	59.8	6.3	47.2	51.8	
5/3/2015	1:47	C	207	61.3	53.0	59.6	60.6	6.3	46.7	53.3	
5/2/2015	23:12	A	208	61.8	54.4	58.5	59.4	6.8	47.6	51.7	
5/2/2015	23:11	B	209	61.9	54.1	54.2	55.2	6.9	47.2	47.3	
5/2/2015	23:11	C	210	61.9	54.6	54.4	56.9	6.9	47.7	47.5	
5/2/2015	20:14	A	211	58.0	47.9	48.0	49.0	3.0	44.9	45.0	
5/2/2015	20:14	B	212	58.0	50.1	50.2	51.2	3.0	47.1	47.2	
5/2/2015	20:13	C	213	58.0	50.9	N/A	57.7	3.0	47.9		
5/2/2015	17:19	A	214	56.7	48.4	N/A	56.9	1.7	46.7		
5/2/2015	17:19	B	215	56.7	49.9	N/A	57.0	1.7	48.2		
5/2/2015	17:19	C	216	56.7	48.8	N/A	56.9	1.7	47.1		
5/3/2015	20:31	A	217	55.8	47.1	N/A	56.6	0.8	46.3		
5/3/2015	20:31	B	218	56.0	48.5	N/A	56.7	1.0	47.5		
5/3/2015	20:30	C	219	56.0	48.6	N/A	55.9	1.0	47.6		
5/3/2015	17:48	A	220	56.6	48.5	52.8	54.9	1.6	46.9	51.2	
5/3/2015	17:48	B	221	56.6	48.7	N/A	57.0	1.6	47.1		
5/3/2015	17:48	C	222	56.6	48.0	55.8	56.7	1.6	46.4	54.2	
5/3/2015	13:06	A	223	61.1	52.8	57.1	58.4	6.1	46.7	51.0	
5/3/2015	13:06	B	224	61.1	53.5	59.8	61.2	6.1	47.4	53.7	
5/3/2015	13:06	C	225	61.1	52.0	58.5	59.6	6.1	45.9	52.4	
5/3/2015	11:28	A	226	60.6	51.7	58.2	59.4	5.6	46.1	52.6	
5/3/2015	11:28	B	227	60.6	52.2	N/A	60.6	5.6	46.6		
5/3/2015	11:28	C	228	60.6	51.7	58.0	59.1	5.6	46.1	52.4	
5/3/2015	3:45	A	229	62.0	54.6	55.9	57.1	7.0	47.6	48.9	
5/3/2015	1:15	B	230	61.9	54.9	57.2	58.2	6.9	48.0	50.3	
5/3/2015	1:14	C	231	61.9	54.7	55.1	56.1	6.9	47.8	48.2	
5/2/2015	23:26	A	232	61.9	56.0	61.1	61.9	6.9	49.1	54.2	
5/2/2015	23:26	B	233	61.9	57.5	N/A	61.9	6.9	50.6		
5/2/2015	23:25	C	234	61.9	59.1	N/A	62.1	6.9	52.2		
5/2/2015	18:21	A	235	56.0	52.0	N/A	56.2	1.0	51.0		
5/2/2015	18:21	B	236	56.0	51.7	N/A	56.0	1.0	50.7		
5/2/2015	18:21	C	237	56.0	49.0	N/A	56.3	1.0	48.0		
5/2/2015	17:34	A	238	56.6	52.8	N/A	57.2	1.6	51.2		

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Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/2/2015	17:34	B	239	56.6	55.2	N/A	59.3	1.6	53.6		
5/2/2015	17:34	C	240	56.6	51.0	N/A	57.8	1.6	49.4		
5/3/2015	20:20	A	241	55.6	52.2	N/A	59.9	0.6	51.6		
5/3/2015	20:20	B	242	55.8	52.3	N/A	56.0	0.8	51.5		
5/3/2015	20:20	C	243	55.8	51.9	N/A	56.1	0.8	51.1		
5/3/2015	18:05	A	244	56.3	53.5	N/A	56.5	1.3	52.2		
5/3/2015	18:05	B	245	56.3	50.2	54.3	55.3	1.3	48.9	53.0	
5/3/2015	18:05	C	246	56.3	50.7	N/A	56.8	1.3	49.4		
5/3/2015	12:50	A	247	61.2	54.5	N/A	61.2	6.2	48.3		
5/3/2015	12:50	B	248	61.2	53.6	58.2	59.4	6.2	47.4	52.0	
5/3/2015	12:50	C	249	61.2	53.5	56.0	57.3	6.2	47.3	49.8	
5/3/2015	11:43	A	250	60.9	52.9	N/A	60.7	5.9	47.0		
5/3/2015	11:43	B	251	60.9	54.1	59.1	60.7	5.9	48.2	53.2	
5/3/2015	11:43	C	252	60.9	52.0	52.0	53.2	5.9	46.1	46.1	
5/3/2015	1:02	A	253	62.1	53.3	54.5	54.5	7.1	46.2	47.4	
5/3/2015	1:01	B	254	62.1	56.9	59.0	60.0	7.1	49.8	51.9	
5/3/2015	1:01	C	255	62.1	58.1	N/A	62.6	7.1	51.0		
5/2/2015	23:38	A	256	62.0	60.7	N/A	63.4	7.0	53.7		
5/2/2015	23:38	B	257	62.0	N/A	N/A	62.7	7.0			
5/2/2015	23:37	C	258	62.0	N/A	N/A	62.4	7.0			
5/2/2015	18:08	A	259	56.2	N/A	N/A	56.6	1.2			
5/2/2015	18:08	B	260	56.2	N/A	N/A	56.7	1.2			
5/2/2015	18:08	C	261	56.2	N/A	N/A	56.3	1.2			
5/2/2015	17:47	A	262	56.4	N/A	N/A	56.8	1.4			
5/2/2015	17:47	B	263	56.4	N/A	N/A	56.9	1.4			
5/2/2015	17:47	C	264	56.4	N/A	N/A	57.2	1.4			
5/3/2015	12:36	A	265	61.2	54.4	N/A	61.4	6.2	48.2		
5/3/2015	12:36	B	266	61.2	55.5	60.2	61.1	6.2	49.3	54.0	
5/3/2015	12:36	C	267	61.2	54.0	58.3	59.4	6.2	47.8	52.1	
5/3/2015	11:56	A	268	61.0	54.1	58.9	60.2	6.0	48.1	52.9	
5/3/2015	11:56	B	269	61.0	55.6	55.9	57.2	6.0	49.6	49.9	
5/3/2015	11:56	C	270	61.0	55.1	59.5	60.9	6.0	49.1	53.5	
5/3/2015	0:50	A	271	62.2	56.8	N/A	62.3	7.2	49.6		
5/3/2015	0:49	B	272	62.1	57.5	N/A	62.2	7.1	50.4		
5/3/2015	0:49	C	273	62.1	57.4	N/A	62.2	7.1	50.3		
5/2/2015	23:51	A	274	62.1	N/A	N/A	62.1	7.1			
5/2/2015	23:48	B	275	62.2	N/A	N/A	62.4	7.2			
5/2/2015	23:53	C	276	62.2	N/A	N/A	62.1	7.2			
5/3/2015	12:11	A	277	61.0	58.7	N/A	61.1	6.0	52.7		
5/3/2015	12:11	B	278	61.0	N/A	N/A	61.4	6.0			
5/3/2015	12:11	C	279	61.0	58.5	N/A	61.0	6.0	52.5		
5/3/2015	0:38	A	280	62.2	59.7	N/A	62.7	7.2	52.5		
5/3/2015	0:32	B	281	62.2	61.6	N/A	62.2	7.2	54.4		
5/3/2015	0:32	C	282	62.2	57.9	N/A	62.2	7.2	50.7		
5/3/2015	9:11	A	1000	57.8	46.6	51.9	57.5	2.8	43.8	49.1	
5/3/2015	9:11	B	1001	57.6	46.9	N/A	57.4	2.6	44.3		
5/3/2015	9:11	C	1002	57.6	46.7	55.0	55.9	2.6	44.1	52.4	

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AREA P

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/3/2015	8:51	A	1003	57.2	48.0	51.0	56.7	2.2	45.8	48.8	
5/3/2015	8:51	B	1004	57.2	48.6	51.3	54.1	2.2	46.4	49.1	
5/3/2015	8:51	C	1005	57.2	45.3	46.2	48.7	2.2	43.1	44.0	
5/3/2015	9:27	A	1006	58.3	47.0	52.5	58.0	3.3	43.7	49.2	
5/3/2015	9:27	B	1007	58.3	47.7	55.8	58.0	3.3	44.4	52.5	
5/3/2015	9:27	C	1008	58.3	46.9	54.0	55.4	3.3	43.6	50.7	
5/3/2015	23:23	A	1009	60.9	46.8	59.9	60.7	5.9	40.9	54.0	
5/3/2015	23:22	B	1010	60.9	47.4	N/A	60.7	5.9	41.5		
5/3/2015	23:22	C	1011	60.9	48.3	54.5	60.6	5.9	42.4	48.6	
5/3/2015	20:33	A	1012	59.8	45.9	54.0	59.7	4.8	41.1	49.2	
5/3/2015	20:33	B	1013	59.8	44.4	54.2	56.0	4.8	39.6	49.4	
5/3/2015	20:32	C	1014	59.8	44.9	N/A	57.0	4.8	40.1		
5/4/2015	0:45	A	1015	61.7	46.4	50.7	51.7	6.7	39.7	44.0	
5/4/2015	0:45	B	1016	61.7	47.6	48.3	49.3	6.7	40.9	41.6	
5/4/2015	0:45	C	1017	61.7	46.7	53.7	54.7	6.7	40.0	47.0	
5/4/2105	1:54	A	1018	61.3	51.5	54.5	55.0	6.3	45.2	48.2	
5/4/2015	1:52	B	1019	61.3	53.7	55.8	61.5	6.3	47.4	49.5	
5/4/2015	1:52	C	1020	61.3	51.9	53.0	54.3	6.3	45.6	46.7	
5/4/2015	2:16	A	1021	61.0	51.2	54.0	57.5	6.0	45.2	48.0	
5/4/2015	2:16	B	1022	60.8	53.5	56.8	61.1	5.8	47.7	51.0	
5/4/2015	2:16	C	1023	60.8	53.1	56.9	61.1	5.8	47.3	51.1	
5/4/2015	2:38	A	1024	60.3	49.6	N/A	60.8	5.3	44.3		
5/4/2015	2:38	B	1025	60.6	50.6	59.5	60.8	5.6	45.0	53.9	
5/4/2015	2:38	C	1026	60.6	49.9	57.4	60.8	5.6	44.3	51.8	

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AREA Q

Date	Time	Frame	Hole	Target Depth	Initial Depth	Rock	Final depth	Tide	Top of Hole Elev.	Top of Rock Elev.	Notes
5/4/2015	4:23	A	1	58.4	42.9	51.3	52.8	3.4	39.5	47.9	
5/4/2015	4:22	B	2	58.3	43.1	52.1	53.1	3.3	39.8	48.8	
5/4/2015	4:22	C	3	55.0	41.7	50.5	54.4	3.3	38.4	47.2	
5/4/2015	4:07	A	4	59.1	43.1	51.0	52.8	4.1	39.0	46.9	
5/4/2015	4:06	B	5	58.8	43.5	49.0	49.2	3.8	39.7	45.2	
5/4/2015	4:06	C	6	58.8	44.9	48.2	49.3	3.8	41.1	44.4	
5/4/2015	4:42	A	7	58.2	46.3	54.8	58.2	3.2	43.1	51.6	
5/4/2015	4:42	B	8	58.1	47.4	55.0	58.2	3.1	44.3	51.9	
5/4/2015	4:42	C	9	58.1	45.6	51.5	53.0	3.1	42.5	48.4	
5/4/2015	3:38	A	10	59.3	47.1	50.0	51.1	4.3	42.8	45.7	
5/4/2015	3:37	B	11	59.2	47.1	48.0	48.9	4.2	42.9	43.8	
5/4/2015	3:37	C	12	59.2	48.5	54.3	55.1	4.2	44.3	50.1	
5/4/2015	4:55	A	13	58.0	47.1	56.4	57.8	3.0	44.1	53.4	
5/4/2015	4:55	B	14	57.8	47.3	52.7	53.8	2.8	44.5	49.9	
5/4/2015	4:55	C	15	57.8	46.7	52.5	55.2	2.8	43.9	49.7	
5/4/2015	3:20	A	16	59.7	48.0	52.9	54.5	4.7	43.3	48.2	
5/4/2015	3:15	B	17	59.9	48.5	52.9	53.9	4.9	43.6	48.0	
5/4/2015	3:15	C	18	59.9	47.3	51.7	52.7	4.9	42.4	46.8	
5/4/2015	5:19	C	1000	57.5	46.4	53.0	54.7	2.5	43.9	50.5	
5/4/2015	5:19	B	1001	57.5	46.9	49.2	49.7	2.5	44.4	46.7	
5/4/2015	5:19	A	1002	57.5	48.0	52.2	49.3	2.5	45.5	49.7	
5/4/2015	5:42	C	1006	57.1	47.1	52.2	54.9	2.1	45.0	50.1	
5/4/2015	5:42	B	1007	57.1	47.3	53.4	56.9	2.1	45.2	51.3	
5/4/2015	5:42	A	1008	57.3	46.8	56.0	57.5	2.3	44.5	53.7	

APPENDIX D
Top of Rock XYZ Files

AREA A

Hole	Easting	Northing	Depth MLLW (Feet)
1	259513.13	371630.43	39.4
2	259588.10	371632.55	38.1
3	259663.07	371634.68	35.8
4	259740.02	371625.81	34.1
6	259890.38	371616.01	37.9
7	259960.12	371610.72	41.0
8	260035.11	371609.57	37.9
9	259514.03	371560.14	42.8
10	259588.24	371559.18	41.2
11	259663.98	371556.17	39.1
12	259734.83	371547.77	35.9
13	259809.72	371543.74	42.8
14	259884.62	371539.71	40.8
15	259960.58	371534.69	43.9
16	260036.19	371532.86	39.6
17	259511.27	371484.36	48.1
18	259586.26	371483.20	48.8
19	259661.25	371482.05	46.1
20	259726.49	371465.19	46.6
21	259801.49	371464.45	45.6
22	259876.49	371463.70	45.2
23	259954.70	371461.99	46.0
24	260029.68	371460.42	47.2
25	259060.16	371419.82	55.0
26	259135.16	371419.48	55.0
27	259210.16	371419.15	41.9
28	259286.47	371420.29	55.0
29	259361.29	371415.01	55.0
30	259436.88	371408.72	55.0
31	259507.69	371407.30	50.3
32	259582.64	371404.50	50.2
33	259655.74	371402.04	48.3
34	259733.04	371400.17	50.4
35	259807.85	371397.94	48.7
36	259882.78	371394.74	47.1
37	259951.81	371388.44	44.3
38	260026.80	371389.33	46.4
39	259060.10	371344.89	55.0
40	259135.73	371344.70	55.0
41	259210.09	371343.39	55.0
42	259284.94	371343.63	53.6
43	259359.90	371341.25	51.1
44	259434.86	371338.86	53.4
45	259500.65	371333.49	50.0
46	259575.58	371330.27	55.0
47	259650.51	371327.06	48.8
48	259732.33	371321.50	48.2
49	259807.33	371321.17	47.6
50	259882.33	371320.83	44.4

Hole	Easting	Northing	Depth MLLW (Feet)
51	259945.73	371317.13	46.2
52	260020.54	371314.11	54.1
54	259053.55	371271.97	53.8
55	259128.52	371269.99	54.9
56	259203.50	371268.01	45.1
57	259272.68	371259.09	47.5
58	259347.68	371259.57	45.9
59	259422.67	371260.06	51.3
60	259497.83	371255.68	51.0
61	259572.79	371253.29	55.0
62	259647.75	371250.89	50.4
63	259727.33	371253.34	48.1
64	259802.20	371248.90	48.8
65	259877.07	371244.47	46.8
66	259948.23	371237.50	45.0
67	260022.44	371236.76	55.0
68	260097.44	371236.02	55.0
69	259048.89	371191.07	55.0
70	259123.87	371189.09	55.0
71	259198.85	371188.11	55.0
72	259272.00	371195.83	52.6
73	259346.84	371190.97	48.4
74	259421.68	371186.11	47
75	259490.50	371180.19	51.2
76	259565.50	371181.10	53.6
77	259640.49	371182.00	51.0
78	259718.67	371179.45	47.8
79	259793.48	371174.20	46.9
80	259868.30	371168.95	46.7
81	259947.80	371164.47	51.5
82	260023.54	371162.08	55.0
83	260098.64	371159.54	55.0
84	260095.56	371309.92	55.0
85	260101.80	371390.22	55.0
86	260104.66	371458.86	46.4
87	260111.01	371530.92	50.3
88	260110.10	371608.42	52.3
1000	259065.42	371566.51	44.1
1001	259140.27	371566.70	42.3
1002	259215.42	371565.83	44.4
1003	259287.80	371560.44	46.5
1004	259361.23	371560.51	45.5
1005	259436.23	371560.59	50.1
1006	259058.54	371491.93	48.0
1007	259133.52	371493.64	45.6
1008	259208.50	371495.36	47.7
1009	259286.23	371489.84	49.9
1010	259359.58	371487.09	46.0
1011	259434.53	371484.34	47.3

AREA B

Hole	Easting	Northing	Depth MLLW (Feet)
1	259423.22	371104.36	54.3
2	259494.27	371109.00	51.7
3	259569.24	371107.02	52.9
5	259717.91	371100.82	43
6	259792.87	371098.43	45.3
7	259867.83	371096.05	48.5
8	259950.21	371088.58	53
9	260025.31	371085.61	54.5
10	260099.36	371083.79	55
11	259420.91	371034.49	55
12	259488.77	371035.16	54.1
13	259563.73	371032.78	54.4
14	259638.69	371030.39	52.4
15	259719.51	371026.62	50.4
16	259795.07	371019.96	50.7
17	259869.85	371014.28	51.4
18	259948.31	371016.47	55
19	260023.99	371011.43	55
20	259416.65	370955.05	54
21	259480.72	370958.96	54.1
22	259555.73	370955.04	54.8
23	259630.51	370950.96	50.3
24	259724.64	370951.86	43.8
25	259799.54	370947.83	50.6
26	259874.30	370943.97	52.3
27	259939.99	370946.50	55
28	259422.71	370884.80	50.2
29	259481.94	370886.48	53.7
30	259556.75	370882.64	50.2
32	259720.07	370878.01	46
33	259794.96	370873.99	47.5
34	259869.85	370869.96	55
35	259559.92	370804.69	50.5
36	259634.87	370801.89	50.1
37	259709.70	370799.40	50.4
38	259783.35	370799.24	52
39	259858.24	370795.21	55
40	259558.66	370733.63	51.2
41	259633.50	370728.79	50.5
42	259716.78	370720.65	50
43	259791.94	370721.17	54.5
44	259866.94	370721.65	53.9
45	260013.11	370944.32	55
46	260089.41	370932.78	53.2
47	260098.60	371006.79	53
48	259483.73	370738.42	55
49	259484.97	370807.49	51.1
50	259347.76	370887.60	55

Hole	Easting	Northing	Depth MLLW (Feet)
51	259341.93	370961.55	49
52	259346.10	371039.76	52
53	259348.25	371107.16	50.9
54	259272.82	370890.39	50.8
55	259267.22	370968.05	50.1
56	259271.29	371045.04	55
57	259273.30	371109.96	55

AREA C

Hole	Easting	Northing	Depth MLLW (Feet)
2	257749.91	371089.07	55.0
3	257819.83	371124.39	55.0
4	257901.24	371161.00	52.8
5	258039.23	371218.45	40.6
6	258094.46	371252.31	54.1
7	257970.00	371189.60	55.0
8	258231.83	371312.55	39.4
9	258374.92	371373.04	40.0
10	258163.14	371282.43	43.3
11	258304.46	371344.98	38.0
12	258444.15	371401.89	45.0
13	257727.87	370996.34	55.0
14	257782.52	371018.65	55.0
15	257852.70	371046.93	55.0
16	257931.79	371080.32	55.0
17	258132.90	371183.67	43.6
18	257998.37	371114.85	55.0
19	258065.01	371148.33	43.7
20	258269.25	371246.19	38.8
22	258201.07	371214.93	39.4
23	258332.29	371278.50	39.8
24	258472.88	371332.23	48.1
25	257764.11	370931.06	55.0
26	257817.41	370956.37	55.0
27	257886.12	370987.93	55.0
28	257956.52	371015.36	55.0
29	258024.53	371046.99	55.0
30	258092.44	371078.79	55.0
31	258161.22	371103.83	47.8
32	258225.91	371142.45	45.9
33	258295.95	371169.77	44.8
34	258363.08	371207.06	49.5
35	258432.50	371235.44	50.5
36	258501.90	371263.83	47.5
37	257792.00	370862.66	55.0
38	257844.80	370887.18	54.4
39	257914.18	370917.76	55.0
40	257999.44	370952.94	55.0
41	258069.36	370981.35	55.0
42	258139.04	371009.24	55.0
43	258192.15	371043.69	51.4
44	258261.38	371072.54	48.8
45	258330.61	371101.39	50.9
46	258394.32	371137.19	50.4
47	258462.81	371167.78	49.8
48	258531.29	371198.36	49.1
49	257823.25	370796.95	51.5
50	257877.28	370820.65	55.0

Hole	Easting	Northing	Depth MLLW (Feet)
51	257946.03	370850.32	55.0
52	258047.76	370892.09	55.0
53	258103.16	370914.13	55.0
54	257861.93	370723.51	53.9
55	257916.27	370746.48	44.5
56	257985.36	370775.67	55.0
57	258067.92	370814.79	55.0
58	258122.75	370845.25	55.0
59	258191.29	370875.71	55.0
60	258172.43	370942.97	55.0
1000	258540.75	371361.70	47.9
1001	258564.21	371307.63	48.9
1002	258594.54	371238.70	49.1
1003	258234.52	370977.51	52.9
1004	258286.85	371004.77	50.6
1005	258353.36	371039.43	55.0
1006	257899.20	370647.02	55.0
1007	257953.45	370671.84	55.0
1008	258020.91	370703.09	55.0
1009	258584.58	371145.79	49.0
1010	258654.00	371174.18	47.4
1011	258708.61	371196.51	53.0
1012	258671.43	371263.74	45.6
1013	258638.91	371331.33	53.5
1014	258613.33	371384.49	50.5
1015	258678.99	371420.83	55.0
1016	258703.23	371367.52	55.0
1017	258735.14	371299.16	55.0
1018	258599.08	371070.74	55.0
1019	258668.15	371098.12	55.0
1020	258722.49	371121.09	55.0

AREA D

Hole	Easting	Northing	Depth MLLW (Feet)
1	255006.51	369886.16	51.6
2	255074.64	369917.53	55.0
3	255142.76	369948.91	53.7
4	255203.63	369986.81	42.0
5	255271.38	370018.90	37.0
6	255339.13	370051.15	34.6
7	255428.06	370090.95	37.5
8	255482.78	370112.99	37.2
9	255552.35	370141.02	35.0
10	255619.98	370180.11	35.3
11	255673.27	370205.41	35.6
12	255740.89	370236.63	34.7
13	255026.43	369819.69	55.0
14	255049.19	369852.05	55.0
15	255161.67	369883.83	54.8
16	255235.39	369922.47	39.8
17	255303.51	369953.85	39.0
18	255371.64	369985.22	39.4
19	255459.28	370020.53	39.9
20	255513.62	370043.49	41.4
21	255582.77	370072.68	42.3
22	255651.27	370108.98	40.6
23	255711.92	370137.69	41.0
24	255772.32	370166.46	39.3
25	255052.68	369748.12	55.0
26	255120.59	369779.95	55.0
27	255188.50	369811.79	49.5
28	255278.43	369857.84	39.6
29	255333.13	369881.79	40.1
30	255400.89	369912.15	40.1
31	255482.20	369954.91	39.3
32	255537.69	369974.93	38.5
33	255608.24	370000.39	41.5
34	255678.62	370042.64	39.0
35	255732.78	370066.05	40.3
36	255801.62	370094.82	45.2
37	255086.95	369680.28	55.0
38	255154.92	369711.99	53.5
39	255222.89	369743.70	46.5
40	255305.38	369786.41	45.4
41	255360.20	369810.09	45.5
42	255428.89	369869.36	47.6
43	255524.54	369882.75	47.9
44	255578.73	369906.19	47.8
45	255647.37	369936.30	46.6
46	255715.39	369975.26	47.1
47	255769.14	369999.58	48.8
48	255837.47	370030.50	55.0
49	255120.53	369609.59	55.0
50	255189.00	369640.16	55.0

Hole	Easting	Northing	Depth MLLW (Feet)
51	255257.50	369670.74	52.7
52	255339.41	369719.27	46.6
53	255392.10	369745.81	50.8
54	255459.16	369779.54	46.0
55	255553.18	369812.86	47.6
56	255607.60	369837.31	47.0
57	255675.99	369868.10	44.7
58	255749.66	369905.36	51.0
59	255803.25	369929.85	55.0
60	255871.85	369960.38	55.0
61	255151.45	369541.79	55.0
62	255219.57	369573.16	55.0
63	255287.70	369604.53	55.0
64	255367.41	369649.79	55.0
65	255421.78	369675.47	55.0
66	255490.70	369705.81	47.0
67	255570.97	369747.13	50.0
68	255625.05	369772.30	44.5
69	255693.01	369804.02	51.3
70	255785.26	369840.93	55.0
71	255839.18	369864.88	55.0
72	255402.00	369575.07	55.0
73	255453.62	369603.64	55.0
74	255519.24	369639.96	49.0
75	255603.66	369675.23	50.8
76	255657.13	369700.18	53.0
77	255725.27	369731.81	55.0
78	255816.58	369770.80	55.0
79	255870.49	369794.76	55.0
80	255443.37	369511.15	55.0
81	255496.96	369537.31	55.0
82	255564.34	369570.27	51.0
83	255653.21	369615.16	55.0
84	255707.24	369638.84	55.0
85	255775.93	369668.95	55.0
86	255851.81	369702.36	55.0
87	255905.10	369727.66	55.0
88	255972.85	369759.83	55.0
89	255939.03	369825.21	55.0
90	255907.72	369895.34	55.0
1000	255851.88	370195.84	46.0
1001	255912.99	370065.70	55.0
1003	255881.37	370133.72	55.0
1006	255910.33	370070.55	55.0
1007	255979.10	370102.64	55.0
1008	256032.40	370128.10	55.0

AREA E

Hole	Easting	Northing	Depth MLLW (Feet)
1	252872.61	368749.23	49.6
2	252949.21	368803.83	55
3	252993.77	368842.37	50.8
4	253050.89	368891.23	47.2
5	253121.17	368946.50	46.5
6	253170.17	368982.90	40.2
7	253233.76	369034.06	39.3
8	253307.15	369094.59	35
9	253363.40	369141.10	37.5
10	253416.50	369185.18	37.7
11	253472.14	369228.32	38.6
12	252925.93	368684.89	54.8
13	253000.86	368749.41	53.4
14	253045.93	368787.49	55
15	253103.22	368835.89	48.4
16	253171.87	368885.09	54
17	253218.92	368920.54	45.7
18	253285.10	368970.77	41.6
19	253352.50	369032.16	41.1
20	253398.75	369069.48	41.7
21	253462.17	369121.96	36.3
22	253520.26	369170.15	43
23	253567.78	369206.77	47.6
24	253626.84	369253.00	54.3
25	253692.71	369305.61	51.1
26	253738.91	369342.47	49
27	253798.19	369388.97	53
28	252694.75	368404.73	55
29	252739.48	368443.32	55
30	252795.89	368491.97	55
31	252861.78	368544.51	52.2
32	252907.99	368581.19	55
33	252966.87	368626.90	55
34	253050.31	368696.00	55
35	253097.00	368732.00	55
36	253156.39	368777.86	51.1
37	253218.22	368829.99	55
38	253263.13	368868.15	44.8
39	253326.31	368921.97	39.6
40	253396.40	368976.07	40.4
41	253442.13	369013.39	43
42	253500.22	369060.84	42.4
43	253558.44	369104.77	43.5
44	253620.24	369150.44	50.1
45	253685.50	369198.69	55
46	253738.81	369245.49	53.6
47	253783.10	369285.36	55
48	253839.51	369334.79	55
49	252598.93	368241.49	50.1
50	252659.20	368286.56	55

Hole	Easting	Northing	Depth MLLW (Feet)
51	252731.44	368349.86	55
52	252777.93	368386.40	55
53	252836.38	368433.26	49.8
54	252917.14	368495.50	50.6
55	252965.30	368529.58	51.6
56	253026.53	368572.90	53.8
57	253085.00	368622.00	52.3
58	253146.60	368673.60	50.4
59	253204.90	368721.66	50.8
60	253253.11	368771.52	47.5
61	253299.56	368807.61	47.6
62	253364.92	368858.72	48.1
63	253434.62	368905.69	47.8
64	253493.22	368952.35	50.3
65	253552.90	368997.80	48.4
66	253608.65	369053.65	49.1
67	253668.19	369098.29	55
68	253735.00	369147.00	55
69	253787.14	369179.59	55
70	253832.09	369225.44	55
71	253894.74	369279.88	55
72	252658.14	368182.03	55
73	252718.07	368227.36	55
74	252786.03	368282.68	48.7
75	252830.54	368321.40	45.2
76	252887.12	368370.63	47
77	252959.00	368431.79	51.4
78	253005.60	368469.11	51.5
79	253063.68	368516.56	48.5
80	253146.33	368589.10	51
81	253192.00	368626.64	51.5
82	253249.60	368674.64	49.8
83	253305.71	368713.33	44.9
84	253350.27	368749.58	44.8
85	253415.76	368800.57	49.4
86	253482.80	368857.40	45.8
87	253530.30	368892.30	45.5
88	253590.70	368936.75	45.6
89	253642.75	368986.00	51.2
90	253704.86	369029.10	55
91	253772.98	369076.42	50.9
92	253839.65	369133.63	55
93	253884.32	369172.10	50.9
94	253941.40	369220.10	55
95	252707.71	368126.48	55
96	252766.61	368172.90	50
97	252831.48	368220.03	47.1
98	252875.99	368258.75	46.4
99	252933.71	368307.67	44.7
100	253003.21	368374.69	52.5

AREA E

Hole	Easting	Northing	Depth MLLW (Feet)
101	253049.90	368410.55	52.4
102	253109.90	368455.56	51.6
103	253193.50	368519.56	49.9
104	253239.50	368555.79	47.8
105	253297.99	368602.00	45.5
106	253350.58	368653.07	44.3
107	253395.71	368689.46	50.7
108	253461.03	368742.51	47.3
109	253513.44	368782.25	45.5
110	253571.20	368830.10	47.5
111	253629.50	368877.50	55
112	253691.48	368924.21	55
113	253749.85	368971.11	49.7
114	253815.10	369022.45	54.2
115	253887.55	369077.80	53.9
116	253931.00	369117.70	55
117	253986.24	369168.44	54.2
118	252756.45	368067.55	55
119	252813.38	368116.38	46
120	252870.70	368162.87	46.4
121	252916.57	368199.90	52.4
122	252975.15	368246.73	55
123	253049.81	368315.53	52
124	253096.51	368351.57	52.7
125	253156.05	368397.40	51
126	253227.79	368458.88	50.3
127	253278.46	368496.33	46.7
128	253330.98	368544.36	47.8
129	253399.18	368594.32	46.5
130	253446.68	368629.41	47.7
131	253506.68	368674.41	44.4
132	253574.72	368732.53	55
133	253620.00	368770.45	55
134	253678.35	368819.33	55
135	253742.10	368865.80	55
136	253799.02	368913.45	54.1
137	253862.94	368966.40	52
138	253936.64	369023.56	51.8
139	253982.34	369060.89	51.3
140	254040.42	369108.34	52.5
141	252800.81	368004.64	55
142	252859.52	368051.32	55
143	252917.07	368100.58	55
144	252958.99	368139.88	55
145	253017.56	368189.26	55
146	253099.87	368257.14	55
147	253145.31	368294.15	55
148	253203.72	368341.15	52.9
149	253277.67	368401.14	46
150	253324.91	368438.02	45.2

Hole	Easting	Northing	Depth MLLW (Feet)
151	253381.84	368487.08	46.2
152	253444.62	368534.18	47.4
153	253499.20	368574.90	47.2
154	253552.03	368614.28	51.3
155	253622.65	368675.37	55
156	253669.36	368711.42	55
157	253800.18	368816.88	55
158	253847.38	368853.56	55
159	253906.12	368900.20	55
160	253981.80	368954.61	55
161	254029.24	369005.82	54.5
162	252848.39	367948.77	55
163	252907.10	367995.45	53.1
164	252960.97	368049.31	55
165	253006.53	368086.79	55
166	253064.46	368134.43	53.1
167	253145.90	368200.55	55
168	253192.71	368236.38	55
169	253252.20	368282.14	50.6
170	253325.48	368330.89	47.1
171	253371.81	368368.64	43.5
172	253429.85	368414.94	45.2
173	253501.48	368483.25	51.2
174	253548.19	368519.29	49
175	253607.56	368565.11	55
176	253673.56	368618.85	55
177	252841.83	367855.39	55
178	252894.90	367895.70	55
179	252948.43	367936.60	55
180	253017.11	367990.92	50
181	253068.31	368036.33	55
182	253117.34	368079.97	53.6
183	253188.60	368144.50	52.1
184	253238.43	368177.19	55
185	253301.12	368218.33	55
186	253362.62	368273.80	51.5
187	253414.30	368315.50	52.4
188	253471.60	368363.89	54.6
189	253534.06	368414.36	49.8
190	253580.99	368450.17	54.6
191	253640.45	368495.99	55
192	253732.57	368567.51	55
193	252886.41	367799.12	55
194	252939.98	367839.00	55
195	252993.56	367879.59	55
196	253060.92	367934.34	55
197	253107.38	367972.64	50.9
198	253165.44	368020.17	44.7
199	253233.59	368081.85	48.4
200	253282.66	368115.94	52.6

AREA E

Hole	Easting	Northing	Depth MLLW (Feet)
201	253343.36	368160.92	54.1
202	253461.38	368252.60	55
203	253521.19	368296.82	52.8
204	253593.17	368362.33	55
205	253640.10	368398.14	55
206	252928.49	367731.02	55
207	252982.46	367772.95	55
208	253034.30	367813.23	55
209	253114.99	367873.85	50.6
210	253158.02	367914.21	45.9
211	253216.17	367961.87	42.9
212	253287.20	368020.60	44
213	253334.16	368056.29	45.7
214	253394.12	368102.71	55
215	252983.76	367679.30	55
216	253029.18	367716.97	55
217	253086.90	367764.85	50
218	253148.10	367819.19	46.6
219	253206.05	367866.63	47.1
220	253263.80	367915.10	44.8
221	253336.61	367966.47	45.8
222	253384.13	367999.89	52.4
223	253444.22	368047.63	55
224	253048.00	367632.00	55
225	253083.04	367660.89	54
226	253140.10	367709.56	49.7
227	253215.29	367762.82	51
228	253260.79	367800.01	48.5
229	253319.24	367846.29	51.1
230	253392.02	367909.71	51.4
231	253438.50	367946.33	53.5
232	253497.85	367992.41	55
233	253365.53	367788.76	55
234	253435.88	367848.93	55
235	253479.66	367887.81	55
236	253536.00	367937.22	55
237	253575.78	369313.17	41.9
238	253517.84	369265.64	42.2
239	253728.74	368757.24	55
240	252866.77	368638.99	53.4
241	252820.98	368601.57	55
242	252765.42	368668.62	55
243	252812.44	368704.26	50.4
244	253414.84	368215.97	53.1
245	253307.57	367740.71	55
246	253261.87	367703.38	55
247	252802.21	367912.05	55
248	252755.15	367966.32	55
249	252711.67	368029.13	55
250	252661.93	368089.46	55
251	252610.36	368147.64	55

Hole	Easting	Northing	Depth MLLW (Feet)
252	252552.20	368206.10	55
253	253717.61	368656.91	55
254	253781.16	368710.17	55
255	253776.39	368607.14	55
256	253837.53	368663.29	55
257	254089.44	369050.40	55
258	253698.05	368445.75	55

AREA F

Hole	Easting	Northing	Depth MLLW (Feet)
1	251609.23	367624.95	55
2	251668.02	367682.16	55
3	251713.71	367719.48	55
4	251771.80	367766.93	54.2
5	251843.24	367820.85	55
6	251889.19	367857.86	53.5
7	251947.60	367904.91	49.7
8	252021.22	367963.61	55
9	252067.77	367999.86	55
10	252126.45	368045.94	53.2
11	252193.98	368106.08	47.9
12	252240.84	368141.18	45.1
13	252301.03	368185.80	54.6
14	251544.15	367488.34	55
15	251589.58	367525.80	55
16	251648.00	367572.83	50
17	251719.75	367624.42	52.4
18	251766.61	367660.25	55
19	251826.18	367705.82	53.9
20	251882.86	367767.24	50.9
21	251931.49	367800.65	51.6
22	251993.30	367843.12	53.5
23	252064.55	367908.54	50
24	252112.30	367944.65	45.6
25	252171.75	367988.94	45.3
26	252238.32	368049.10	52.5
27	252285.19	368084.50	49.5
28	252344.96	368129.91	55
29	251592.74	367426.56	55
30	251640.27	367461.85	55
31	251699.64	367507.68	55
32	251762.95	367569.62	54.1
33	251809.57	367605.79	51.9
34	251868.82	367651.77	45.4
35	251933.88	367702.35	46
36	251981.08	367737.75	49
37	252041.08	367782.75	45.5
38	252113.37	367852.40	45.3
39	252159.57	367889.09	45.3
40	252218.31	367935.74	45.5
41	252279.08	367983.74	48.3
42	252325.77	368025.50	53.5
43	252387.29	368079.14	55
44	251814.49	367506.45	50.3
45	251860.44	367543.47	48.3
46	251918.85	367590.50	47.1
47	251978.03	367641.03	46.4
48	252023.65	367679.11	45.5
49	252080.94	367727.51	45.6
50	252154.93	367793.34	50.8

Hole	Easting	Northing	Depth MLLW (Feet)
51	252199.77	367830.64	53
52	252256.51	367875.80	43
53	252344.23	367931.15	55
54	252390.43	367967.84	51.5
55	252449.17	368014.89	55
56	251862.60	367444.98	55
57	251908.45	367482.12	53.4
58	251966.73	367529.32	53
59	252027.27	367583.80	53.5
60	252073.73	367620.17	52.4
61	252132.78	367666.41	55
62	252214.62	367739.68	55
63	252260.31	367777.01	55
64	252318.39	367824.46	45.3
65	252375.52	367870.64	52.7
66	252422.23	367906.97	55
67	252481.60	367952.52	55
68	251907.68	367388.90	55
69	251954.44	367425.75	55
70	252012.62	367472.24	55
71	252071.27	367526.24	55
72	252118.87	367561.11	55
73	252179.37	367605.43	55
74	252263.69	367683.30	53.1
75	252312.51	367722.14	55
76	252368.08	367766.36	44.2
77	252438.88	367818.11	55
78	252484.51	367855.38	45.5
79	252542.50	367903.23	55
80	251501.80	367543.81	55
81	251549.54	367579.53	55

AREA G

Hole	Easting	Northing	Depth MLLW (Feet)
1	251955.51	367329.15	55
2	252000.04	367367.85	55
3	252056.66	367417.04	55
4	252121.08	367472.55	55
5	252169.90	367505.78	53.5
6	252231.52	367548.44	50
7	252323.08	367630.69	51.6
8	252371.12	367664.74	53.8
9	252432.83	367707.37	49.6
10	252479.69	367764.68	50.6
11	252532.26	367804.46	55
12	252587.45	367844.34	55
13	252000.02	367273.93	55
14	252054.93	367315.71	55
15	252106.67	367355.07	55
16	252170.81	367413.71	46.4
17	252218.54	367450.86	44
18	252275.48	367497.09	45.7
19	252358.41	367557.63	55
20	252406.38	367591.03	55
21	252465.61	367638.03	55
22	252042.13	367217.39	55
23	252088.93	367253.32	55
24	252148.40	367298.99	55
25	252209.01	367359.24	44
26	252256.90	367393.83	45.7
27	252317.31	367438.15	46
28	252401.12	367506.35	55
29	252448.23	367541.23	55
30	252508.11	367587.03	55
31	252091.04	367144.71	55
32	252135.57	367192.51	55
33	252192.19	367232.19	55
34	252272.04	367292.55	44.5
35	252318.44	367329.88	45.8
36	252377.82	367375.71	55
37	252437.53	367439.75	55
38	252483.12	367477.09	55
39	252541.07	367524.81	55
40	252145.00	367099.49	55
41	252192.19	367135.06	48.7
42	252251.65	367180.63	50.2
43	252311.51	367240.12	55
44	252371.30	367286.43	54.5
45	252430.50	367332.29	55
46	252494.75	367382.85	55
47	252541.02	367421.73	55
48	252599.33	367467.62	55
49	252178.70	367033.00	54.5
50	252235.08	367076.43	52.1

Hole	Easting	Northing	Depth MLLW (Feet)
51	252292.50	367123.47	55
52	252359.43	367182.41	55
53	252419.10	367228.60	55
54	252478.42	367274.58	55
55	252546.54	367321.47	55
56	252591.87	367359.74	55
58	252648.42	367408.38	55
59	252234.70	366980.80	51.8
60	252281.90	367014.90	53.2
61	252343.75	367058.49	55
62	252418.97	367125.53	55
63	252464.46	367162.27	55
64	252523.55	367209.31	55
65	252589.82	367268.87	55
66	252638.48	367303.23	55
67	252699.70	367346.55	55

AREA H

Hole	Easting	Northing	Depth MLLW (Feet)
1	248999.90	365600.90	54.9
2	249050.64	365646.00	54.6
3	249109.26	365694.92	48.1
4	249183.64	365748.35	47.6
5	249229.10	365785.99	40.7
6	249286.83	365833.83	41.7
7	249353.21	365887.02	43.9
8	249406.66	365926.98	41.4
9	249460.11	365966.94	48.4
10	249526.33	366028.84	49.1
11	249572.29	366065.84	52.7
12	249630.70	366112.88	48.8
13	249701.59	366169.34	43.7
14	249748.57	366203.92	44.3
15	249808.75	366249.92	48.2
16	249884.32	366318.06	54.6
17	249931.37	366353.66	51.4
18	249991.17	366398.92	48.2
19	250055.90	366448.19	55
20	250102.00	366484.55	55
21	250161.00	366530.78	55
22	250229.66	366590.45	55
23	250276.50	366626.14	55
24	250336.87	366670.84	53.8
25	250412.23	366734.41	51.4
28	250584.60	366878.41	55
29	250631.47	366914.26	53
30	250691.00	366959.82	41.2
31	250755.61	367021.03	45
32	250803.30	367055.77	37.4
33	250863.92	367099.93	32.5
34	250936.30	367163.46	36.4
35	250982.15	367200.59	41.5
36	251040.43	367247.79	40.1
37	251109.89	367299.24	38.4
38	251154.59	367337.75	42.4
39	251211.40	367386.70	46.9
40	251277.96	367441.65	55
41	251326.36	367475.40	55
42	251388.24	367517.99	55
43	249048.20	365540.31	53.5
44	249106.60	365587.65	55
45	249165.12	365635.22	53.4
46	249229.54	365692.20	50.2
47	249276.50	365728.39	46.7
48	249336.00	365773.79	47.1
49	249402.05	365828.60	45.6
50	249448.66	365864.56	46.9

Hole	Easting	Northing	Depth MLLW (Feet)
51	249508.09	365910.72	45.4
52	249576.40	365969.39	51.3
53	249621.83	366006.07	48.4
54	249681.35	366052.71	50.2
55	249754.09	366112.35	44.8
56	249800.66	366149.81	51.4
57	249859.03	366195.69	48.4
58	249935.73	366254.58	47.6
59	249981.68	366291.40	44.7
60	250040.09	366338.63	43.8
61	250096.80	366379.10	50.2
62	250149.94	366423.96	51.5
63	250207.90	366471.56	43.6
64	250275.06	366527.82	45.8
65	250320.39	366565.58	49.7
66	250378.02	366613.58	55
67	250457.36	366680.33	55
68	250503.58	366718.20	53.1
69	250561.49	366764.66	55
70	250630.94	366822.26	54.9
71	250677.55	366858.73	48.7
72	250736.80	366904.71	52.3
73	250806.67	366952.69	46.5
74	250852.57	366989.18	45.8
75	250911.46	367035.55	47.6
76	250983.66	367100.28	46.2
77	251030.09	367136.79	43.6
78	251088.80	367183.60	43.9
79	251151.47	367232.20	49.9
80	251197.32	367269.34	47.9
81	251255.60	367316.54	49.2
82	251324.53	367379.19	55
83	251372.93	367412.94	55
84	251434.45	367455.84	55
85	249094.67	365487.50	55
86	249153.20	365533.60	55
87	249213.03	365579.66	50.6
88	249275.20	365632.77	46.6
89	249322.56	365667.95	47.1
90	249383.44	365712.71	46.2
91	249444.08	365769.79	45
92	249491.00	365805.67	46.7
94	249622.47	365914.10	49.7
95	249668.12	365951.30	48.6
96	249726.33	365997.60	44
97	249804.23	366060.66	45.8
98	249849.39	366097.55	49.3
99	249907.02	366146.57	46.2
100	249979.06	366194.29	44.4

AREA H

Hole	Easting	Northing	Depth MLLW (Feet)
101	250024.23	366232.24	44.6
102	250081.66	366280.48	45.7
103	250147.00	366336.20	50.9
104	250193.50	366373.70	43.3
105	250251.26	366421.55	43.7
106	250320.57	366474.82	43.6
107	250365.31	366512.93	48.6
108	250423.53	366560.52	44.1
109	250503.25	366626.25	45.5
110	250549.46	366662.94	49.3
111	250608.19	366709.58	52.8
112	250674.62	366755.42	54.4
113	250720.57	366792.43	50.2
114	250778.99	366839.47	47.9
115	250847.67	366897.90	47.3
116	250891.94	366936.90	44.9
117	250948.22	366986.48	44.7
118	251025.70	367043.52	46.8
119	251073.63	367077.93	45.2
120	251134.55	367121.68	52.9
121	251206.05	367175.74	55
122	251250.16	367215.36	55
123	251307.72	367267.30	55
124	251369.53	367316.40	55
125	251417.13	367351.27	55
126	251477.64	367395.58	55
127	249141.37	365427.22	55
128	249200.11	365473.85	50.7
129	249258.85	365520.49	47
130	249317.63	365574.76	47.7
131	249363.33	365612.10	46.8
132	249421.42	365659.53	47.8
133	249497.10	365711.36	45.8
134	249542.50	365748.96	48.6
135	249600.00	365796.40	48.5
136	249666.47	365851.88	48.3
137	249712.93	365888.24	49.5
138	249770.64	365936.39	47
139	249851.26	366002.88	47.3
140	249897.71	366039.24	45.1
141	249956.77	366085.47	44.8
142	250023.87	366141.52	44.9
143	250068.42	366179.78	44.5
144	250125.88	366227.42	47.1
145	250199.41	366268.10	52.7
146	250244.21	366306.44	47.6
147	250301.20	366355.24	50
148	250371.63	366417.56	47.9
149	250418.34	366453.61	46.8
150	250477.72	366499.43	46.1

Hole	Easting	Northing	Depth MLLW (Feet)
151	250550.06	366567.14	49.9
152	250597.26	366602.54	53
153	250657.26	366647.53	55
154	250728.29	366703.95	55
155	250775.20	366740.24	45.6
156	250834.12	366786.39	43.5
157	250898.57	366835.94	48
158	250945.44	366871.79	52.7
159	251005.01	366917.35	50.4
160	251073.75	366984.81	47.1
161	251119.86	367021.45	49.1
162	251179.26	367067.41	53.3
163	249185.12	365367.93	53
164	249243.96	365414.31	50.3
165	249303.94	365460.38	46.5
166	249365.00	365516.13	46.7
167	249411.35	365553.00	50.8
168	249469.21	365601.37	47
169	249542.87	365646.92	47.2
170	249589.10	365683.60	46.6
171	249647.82	365730.24	48.8
172	249712.80	365789.24	46.8
173	249758.76	365826.25	45.8
174	249816.49	365873.26	46.9
175	249898.29	365943.75	46.1
176	249944.75	365980.12	46.4
177	250003.81	366026.35	43.5
178	250051.20	366070.66	45.3
179	250123.95	366116.76	51.4
180	250184.27	366161.34	53.2
181	250248.18	366212.07	47.2
182	250293.41	366249.96	49
183	250350.90	366298.12	53.9
184	250418.85	366361.45	52.1
185	250466.21	366396.64	53.8
186	250526.41	366442.34	50.3
187	250599.57	366509.72	50.9
188	250646.03	366546.08	52.8
189	250705.09	366592.31	55
190	250773.11	366644.44	54.7
191	250817.60	366682.20	49.2
192	250876.16	366730.21	45
193	250946.25	366775.22	54.1
194	250990.79	366813.92	54.3
195	251047.40	366863.10	55
196	251122.45	366925.17	51.9
197	251168.63	366961.30	55
198	251226.10	367008.60	53.9
199	251290.09	367065.15	55
200	251336.70	367101.32	52.2

AREA H

Hole	Easting	Northing	Depth MLLW (Feet)
201	251395.90	367147.30	55
202	251473.55	367212.49	55
203	251520.66	367247.05	55
204	251581.66	367291.40	55
205	251649.10	367345.77	54.6
206	251696.31	367381.17	55
207	251756.31	367426.17	55
208	249228.68	365304.63	55
209	249287.30	365351.42	53
210	249345.91	365398.21	46.7
211	249411.35	365455.17	49.8
212	249458.30	365490.89	51.9
213	249518.00	365536.29	53.2
214	249586.98	365593.44	49.1
215	249633.25	365631.40	48.2
216	249691.87	365678.18	50.2
217	249766.51	365734.05	49.3
218	249812.11	365771.49	46.7
219	249870.07	365819.09	46.1
220	249944.90	365883.57	44.6
221	249991.91	365920.54	48.3
222	250049.62	365967.18	43.1
223	250120.54	366023.94	44.3
224	250165.53	366061.45	44.9
225	250223.97	366109.14	51.2
226	250291.90	366158.28	54.2
227	250338.61	366194.33	48.5
228	250397.98	366240.15	52.3
229	250466.85	366300.89	43.4
230	250514.17	366336.14	52.3
231	250573.33	366382.15	55
232	250646.10	366451.66	55
233	250691.53	366489.30	55
234	250749.29	366537.17	55
235	250820.75	366584.74	53
236	250866.00	366621.87	50.9
237	250924.88	366669.10	54.3
238	250988.92	366726.11	55
239	251034.23	366763.12	55
240	251092.44	366810.15	55
241	251171.11	366870.80	54.7
242	251217.26	366907.92	54.1
243	251275.41	366955.10	48.4
244	251338.20	367000.73	55
245	251385.40	367036.13	55
246	251445.40	367081.13	55
247	251521.66	367145.42	55
248	251568.56	367181.10	55
249	251628.66	367226.09	55
250	251697.41	367285.70	55

Hole	Easting	Northing	Depth MLLW (Feet)
251	251744.62	367321.10	55
252	251804.62	367366.09	55
253	249280.20	365249.78	49.3
254	249339.60	365296.42	51.3
255	249398.33	365343.10	50.9
256	249460.16	365397.03	55
257	249506.11	365434.03	49.8
258	249564.53	365481.07	51.6
259	249634.84	365542.80	51.1
260	249682.10	365579.33	47.9
261	249741.43	365624.15	47.5
262	249815.32	365683.98	47.3
263	249862.28	365719.70	52.5
264	249921.97	365765.10	49.3
265	249979.31	365824.66	44.4
266	250024.75	365862.30	44.8
267	250082.51	365910.14	47.1
268	250168.91	365969.22	46
269	250215.10	366005.26	48.2
270	250274.47	366051.08	50.4
271	250335.29	366105.46	55
272	250389.34	366146.40	55
273	250443.20	366187.20	55
274	250512.66	366251.54	47
275	250560.11	366286.60	55
276	250620.42	366331.18	55
277	250698.25	366392.78	52.5
278	250743.79	366430.29	53
279	250801.67	366477.98	55
280	250872.97	366525.55	55
281	250918.66	366563.45	55
282	250976.75	366610.90	51.6
283	251039.52	366662.17	55
284	251084.80	366700.00	55
285	251143.86	366746.94	55
286	251216.00	366815.24	55
287	251263.07	366850.85	54.2
288	251322.88	366896.00	51.3
289	251377.95	366933.79	55
290	251437.70	366981.80	55
291	251495.17	367027.89	55
292	251559.70	367085.10	55
293	251618.17	367129.27	55
294	251679.10	367175.30	53.7
295	251749.15	367236.15	50.4
296	251796.26	367270.73	51.4
297	251856.76	367315.05	55
298	249503.92	365337.38	53.2
299	249550.38	365373.75	55
300	249609.44	365419.97	55

AREA H

Hole	Easting	Northing	Depth MLLW (Feet)
301	249675.21	365474.85	54.5
302	249722.17	365510.57	53.8
303	249781.19	365555.98	51.5
304	249868.79	365623.80	52.2
305	249914.74	365660.81	52.9
306	249973.16	365707.85	55
307	250042.21	365774.38	45.9
308	250088.76	365810.74	47.4
309	250147.94	365858.00	47.5
310	250214.24	365907.10	46.1
311	250261.30	365942.51	47.6
312	250321.19	365987.00	48.4
313	250387.00	366047.65	55
314	250433.31	366083.68	55
315	250492.37	366129.89	55
316	250570.89	366187.74	55
317	250616.45	366224.01	55
318	250675.06	366270.80	50.1
319	250746.69	366338.82	50.1
320	250792.28	366376.27	55
321	250850.24	366423.87	55
322	250914.00	366476.00	55
323	250961.72	366509.61	49.7
324	251022.84	366553.08	49.7
325	251082.60	366602.50	52.4
326	251128.83	366639.19	54.3
327	251187.57	366685.83	52.8
328	251260.23	366743.58	52.4
329	251305.03	366781.96	54
330	251361.99	366830.76	55
331	251438.61	366891.75	55
332	251485.57	366927.47	55
333	251545.26	366972.88	55
334	251619.72	367032.04	55
335	251667.93	367066.15	48.9
336	251728.08	367109.90	45.8
337	251801.35	367170.29	47.4
338	251847.29	367207.45	48.2
339	251907.08	367255.96	51.5
340	249550.75	365273.26	51
341	249596.78	365310.30	55
342	249654.87	365357.74	55
343	249731.22	365418.23	55
344	249776.65	365455.86	50.7
345	249834.40	365503.70	52.7
347	249917.48	365567.95	55
348	249962.80	365604.50	55
349	250020.46	365651.71	55
350	250089.96	365715.28	48.4

Hole	Easting	Northing	Depth MLLW (Feet)
351	250136.77	365751.20	45.5
352	250196.26	365796.86	44.2
353	250261.20	365837.00	45.7
354	250306.13	365875.96	49.4
355	250363.22	365924.60	49.6
356	250445.62	365988.32	54.6
357	250492.03	366024.43	55
358	250549.59	366070.96	55
359	250615.88	366129.37	55
360	250662.44	366165.51	53.9
361	250721.62	366211.69	46.3
362	250791.46	366279.45	48.9
363	250838.66	366314.85	55
364	250898.67	366359.84	55
365	250959.00	366413.60	55
366	251007.80	366450.55	51.1
367	251066.23	366496.75	48.4
368	251134.41	366544.58	50.1
369	251180.36	366581.59	51.9
370	251238.77	366628.63	55
371	251312.16	366688.50	51.4
372	251358.40	366726.36	52.7
373	251416.62	366773.65	55
374	251490.44	366834.09	55
375	251537.46	366870.61	55
376	251596.63	366916.69	55
377	251659.63	366974.67	44.8
378	251705.58	367011.68	50
379	251764.83	367058.72	49.7
380	251838.63	367122.45	46.4
381	251885.83	367157.85	47.9
382	251945.83	367202.84	51.9
383	249968.40	365507.84	55
384	250013.72	365544.39	55
385	250071.38	365591.60	49.1
386	250141.07	365653.10	48.3
387	250186.87	365690.30	51
388	250245.08	365737.58	55
389	250305.20	365786.80	50
390	250351.62	365823.26	54
391	250411.32	365868.67	52.7
392	250482.36	365930.54	55
393	250535.17	365970.71	55
394	250591.00	366008.00	55
395	250660.17	366071.25	55
396	250706.38	366107.94	55
397	250765.11	366154.58	54.1
398	250833.72	366210.79	53.2
399	250879.74	366248.11	55
400	250937.83	366295.56	55

AREA H

Hole	Easting	Northing	Depth MLLW (Feet)
401	251010.41	366345.84	55
402	251055.10	366384.41	55
403	251111.81	366433.44	55
404	251176.94	366492.12	52.3
405	251222.38	366529.76	48
406	251280.74	366576.82	50.3
407	251363.56	366634.20	55
408	251410.76	366669.60	54.6
409	251470.76	366714.59	55
410	251541.43	366778.11	55
411	251588.45	366814.63	55
412	251648.00	366859.59	54.4
413	251715.43	366924.67	49.3
414	251764.58	366957.41	47.4
415	251827.06	366998.89	45.4
416	251892.96	367065.35	44.1
417	251938.91	367102.52	46.8
418	251997.32	367149.57	50.7
419	250011.93	365447.66	55
420	250057.25	365484.21	55
421	250114.91	365532.44	52
422	250179.73	365589.43	52.2
423	250225.68	365626.43	55
424	250284.09	365673.47	55
425	250344.70	365715.07	55
426	250391.27	365751.76	55
427	250449.80	365798.38	55
428	250532.72	365862.98	55
429	250579.38	365898.98	55
430	250639.00	365944.38	55
431	250704.89	366009.36	55
432	250751.21	366047.14	55
433	250809.43	366093.41	55
434	250884.51	366162.96	55
435	250931.53	366198.73	55
436	250990.91	366244.55	55
437	251052.35	366292.13	55
438	251098.55	366328.82	55
439	251157.29	366375.45	55
440	251227.68	366435.20	55
441	251273.88	366471.85	52.5
442	251332.62	366518.20	51.4
443	251410.54	366572.01	55
444	251457.75	366607.41	55
445	251517.75	366652.41	55
446	251579.11	366715.00	55
447	251626.84	366750.50	48.1
448	251686.66	366795.20	51.2
449	251761.02	366861.89	49.8
450	251807.82	366897.82	49.3

Hole	Easting	Northing	Depth MLLW (Feet)
451	251867.31	366943.51	47.6
452	251936.98	367005.46	45.5
453	251986.15	367036.36	48.4
454	252045.49	367083.59	54.4
455	251814.49	366811.30	53.2
456	251862.41	366844.72	49
457	251923.33	366889.46	47.6
458	251987.20	366947.98	47.5
459	252033.92	366983.38	55
460	252093.92	367028.38	55
461	251858.30	366748.91	50.9
462	251897.40	366777.20	49.6
463	251970.37	366822.49	52.7
464	252020.50	366871.70	55
465	252079.90	366920.70	55
466	252132.30	366967.60	55
1000	251738.54	366747.27	48.7
1001	251680.33	366699.98	45.8
1002	251634.53	366655.27	50.3
1003	251785.52	366685.19	49.6
1004	251726.35	366639.11	54
1005	251672.54	366596.91	51.7
1006	249323.99	365193.72	47.4
1007	249382.73	365240.35	53.9
1008	249441.47	365289.99	46.4
1009	249370.35	365132.74	55
1010	249428.77	365179.78	48.2
1011	249487.18	365226.82	55
1015	249194.86	364990.70	55
1016	249253.96	365036.80	55
1017	249312.35	365083.83	54.4
1018	249149.03	365047.24	55
1019	249206.79	365095.08	55
1020	249264.55	365142.92	55
1021	249104.23	365106.68	55
1022	249161.04	365155.86	55
1023	249217.67	365207.06	55

AREA I

Hole	Easting	Northing	Depth MLLW (Feet)
1	247542.37	364362.91	51.6
2	247600.66	364410.1	45.4
3	247658.95	364457.29	46.3
4	247716.26	364498.81	46.6
5	247775.53	364545.03	47.6
6	247830.46	364588.17	55
7	247892.98	364644.49	51.9
8	247952.68	364689.89	50.8
9	248008.39	364732.31	45.8
10	248076.99	364786.75	49.1
11	248133.97	364836.72	52.5
12	248190.4	364885.11	50.1
13	247587.62	364303.25	47
14	247647.63	364348.24	46.1
15	247707.64	364393.22	50
16	247767.22	364441.8	46.5
17	247825.16	364489.47	45.2
18	247879.26	364533.89	47
19	247934	364586.75	49.6
20	247993.06	364632.97	52.7
21	248048.19	364676.11	51.4
22	248180.76	364778.89	49
23	248240.77	364824.16	55
24	248120.75	364733.76	54.3
25	247633.66	364245.12	55
26	247692.92	364291.09	47.9
27	247752.18	364337.05	46.7
28	247810.11	364386.31	50.2
29	247867.88	364434.1	45.9
30	247921.79	364478.8	45.9
31	247983.8	364529.1	46
32	248042.8	364575.24	49.9
33	248102.8	364621.1	47.6
34	248162.16	364669.89	47.3
35	248222.47	364714.46	49.6
36	248282.79	364759.05	55
37	247677.05	364187.36	52.6
38	247735.11	364234.17	47.2
39	247793.5	364280.96	51.1
40	247857.02	364325.22	51.2
41	247913.62	364374.25	50.5
42	247967.08	364419.54	48.9
43	248033.29	364473.2	50.2
44	248092.99	364518.36	55
45	248152.87	364563.92	50.3
46	248213.1	364613.21	51.6
47	248272.6	364659.18	49.3
48	248332.1	364704.83	54.2
49	247897.66	364263.11	49.8
50	247956.97	364310.08	45.2

Hole	Easting	Northing	Depth MLLW (Feet)
51	248011.8	364353.6	51.6
52	248082.89	364414.28	54.8
53	248141.96	364460.5	55
54	248201.02	364506.72	51.8
55	248260.72	364555.42	53.5
56	248319.46	364602.05	51.2
57	248378.2	364648.68	52.7
58	248439.1	364693.38	55
59	248496.2	364743.06	55
60	248553.29	364790.54	55
61	247954.76	364207	55
62	248013.18	364254.47	47
63	248067.71	364298.37	50.2
64	248129.68	364356.83	52.6
65	248189.38	364402.24	55
66	248249.08	364447.64	54.9
67	248308.82	364500.68	47.7
68	248366.91	364548.12	47.3
69	248425.01	364595.56	45.4
70	248483.38	364638.4	51.9
71	248542.57	364684.47	55
72	248601.75	364730.53	55
73	248002.44	364155	55
74	248059	364203	52.2
75	248116	364252	53
76	248174.58	364297.22	45.8
77	248234.47	364342.55	52.4
78	248294.36	364387.5	51.7
79	248353.78	364443.86	49.6
80	248413.16	364489.68	46.1
81	248472.38	364535.49	42.2
82	248529.5689	364578.174	44.9
83	248588.05	364624.73	48.5
84	248646.8	364671.36	55
85	248044.82	364095.1	55
86	248103.57	364141.7	48.3
87	248162.31	364188.33	51.8
88	248217.08	364241.14	52.7
89	248275.82	364285.73	51.8
90	248334.56	364332.36	46.1
91	248400.32	364382.52	48.1
92	248460.35	364428.11	52.3
93	248519.99	364473.36	47.1
94	248575.55	364519.98	45.8
95	248634.95	364566.61	49.7
96	248693.8	364612.25	53.3
97	248094.29	364031.29	48.7
98	248151.58	364079.69	47.7
99	248208.88	364128.08	47.6
100	248272.4	364173.57	48.4

AREA I

Hole	Easting	Northing	Depth MLLW (Feet)
101	248329.83	364221.81	54.6
102	248387.26	364270.04	49
103	248445.66	364322.55	51.6
104	248505.79	364367.39	50.3
105	248564.61	364413.9	46.1
106	248623.53	364457.21	48.2
107	248682.53	364504.16	52.5
108	248742.13	364550.04	55
109	248141.02	363973.78	52.5
110	248198.99	364021.37	50.7
111	248256.95	364068.97	47.3
112	248311.09	364119.79	48.2
113	248369.83	364166.42	55
114	248428.58	364213.08	55
115	248499.93	364263.67	50.4
116	248558.86	364309.15	55
117	248618.93	364354.99	51.4
118	248664.08	364400.9	52.9
119	248726.5	364452.6	55
120	248787.5	364501.8	55
121	248188.7	363909.26	55
122	248246.13	363957.5	55
123	248303.56	364005.73	50.2
124	248359.45	364046.34	55
125	248416.27	364095.67	55
126	248473.16	364143.7	55
127	248551.37	364212.1	51.3
128	248611.8	364256.36	50.5
129	248672.23	364300.94	53.1
130	248706.61	364343.84	55
131	248765.03	364390.88	55
132	248823.45	364437.91	55

AREA J

Hole	Easting	Northing	Depth MLLW (Feet)
1	246142.81	362476.16	48
2	246203.4	362521.87	55
3	246263.53	362566.71	52
4	246327.9	362615.73	51.1
5	246386.34	362661.87	50.8
6	246444.89	362709.2	55
7	246491.18	362744.66	55
8	246550.89	362790.05	54.6
9	246610.59	362835.45	55
10	246194.15	362410.67	48.2
11	246252.34	362458.35	48.6
12	246310.11	362506.33	48.6
13	246374.65	362557.58	54
14	246433.09	362603.72	49.7
15	246491.64	362651.05	55
16	246534.92	362691.31	55
17	246595.25	362735.87	54.2
18	246655.57	362780.44	54.6
19	246237.42	362354.2	47.1
20	246295.85	362401.23	50.1
21	246354.27	362448.26	48.1
22	246417.79	362499.5	53.2
23	246477.49	362545.56	55
24	246537.2	362590	55
25	246590.97	362624.76	55
26	246648.1	362673.38	55
27	246705.18	362722.01	55
28	246289.13	362293.28	48.3
29	246346.43	362341.66	54.3
30	246403.74	362390.05	48.9
31	246463.49	362439.67	55
32	246522.56	362485.88	55
33	246581.62	362532.1	55
34	246635.3	362571.54	55
35	246690.29	362622.48	55
36	246745.9	362672	55

AREA K

Hole	Easting	Northing	Depth MLLW (Feet)
1	244116.90	361673.80	39.4
2	244180.20	361718.30	36.6
3	244202.63	361742.96	35.5
4	244262.19	361787.94	36.3
5	244322.21	361832.91	33.2
6	244375.33	361870.46	37.3
7	244423.36	361923.16	42.9
8	244731.87	362177.80	39.9
9	244784.13	362234.25	35.5
10	244836.20	362283.30	36.5
11	244900.10	362305.00	39.3
12	244956.90	362355.50	37.3
13	245013.40	362404.40	36.3
14	245064.00	362440.65	35.6
15	245125.80	362482.00	43.5
16	245187.80	362524.80	46.5
18	244158.00	361610.40	53.9
19	244243.50	361657.00	52.6
20	244246.53	361681.47	53.3
21	244305.28	361728.09	49
22	244364.04	361774.71	51.6
23	244430.03	361819.14	47.8
24	244480.12	361874.14	45.3
25	244789.31	362129.25	46.6
26	244839.03	362183.16	46.4
27	244891.45	362232.59	46.3
28	244952.70	362250.70	48.3
29	245011.30	362296.60	48.6
30	245071.00	362342.52	46
31	245121.00	362378.00	45.7
32	245179.00	362424.00	44.6
33	245238.50	362471.00	48.5
35	244199.10	361547.00	55
36	244266.45	361595.61	47.1
37	244298.14	361620.21	51.7
38	244355.13	361668.83	48.9
39	244412.36	361717.45	46.9
40	244484.72	361767.82	44.5
41	244536.62	361824.71	44.5
42	244846.75	362081.02	44.4
43	244893.93	362132.06	47.1
44	244946.71	362181.87	46.7
45	244996.00	362192.50	48.2
46	245055.10	362239.94	46.2
47	245113.20	362287.40	46.5
48	245167.90	362322.60	46.2
49	245227.00	362369.00	50.5
50	245286.00	362415.00	45.3
51	245334.00	362454.60	45.6

Hole	Easting	Northing	Depth MLLW (Feet)
52	245391.28	362503.40	43.7
53	245448.40	362552.50	51.5
54	245515.58	362610.26	48
55	245577.33	362652.87	46.4
56	245639.16	362695.47	46.1
57	245697.81	362753.27	45.1
58	245756.68	362799.74	46.8
59	245815.55	362846.21	49
60	244242.16	361474.88	48.9
61	244306.81	361526.68	48.5
62	244343.05	361565.83	48.5
63	244401.25	361613.10	53.7
64	244460.08	361660.37	47.8
65	244491.72	361660.92	45.5
66	244544.75	361718.67	44.8
67	244588.21	361774.91	43.5
68	244903.50	362019.90	45.4
69	244957.60	362086.80	52
70	245044.80	362130.50	46.9
71	245102.50	362178.40	46.5
72	245160.40	362226.20	47.2
73	245213.60	362264.77	46.4
74	245272.00	362311.80	48.4
75	245330.60	362359.13	47.1
76	245389.82	362406.00	45.3
77	245448.00	362453.00	44.1
78	245506.50	362500.10	53.2
79	245565.39	362553.26	48.8
80	245623.49	362600.69	55
81	245681.59	362648.12	45.5
82	245742.58	362691.29	45.1
83	245802.15	362737.63	46.4
84	245861.85	362783.08	49.7
85	244283.24	361412.30	53.2
86	244347.34	361463.45	50.8
87	244393.08	361501.30	50.8
88	244450.48	361550.70	53.4
89	244506.92	361600.10	45.7
90	244549.16	361612.69	46.1
91	244597.95	361665.41	46.7
92	244642.41	361724.06	45.8
93	244961.00	361971.70	45.3
94	245013.60	362035.50	46.5
95	245089.70	362072.10	45.1
96	245147.60	362120.40	47.1
97	245204.43	362168.20	47.7
98	245263.70	362206.00	46.7
99	245322.20	362253.40	45.1
100	245381.00	362299.99	45.4

AREA K

Hole	Easting	Northing	Depth MLLW (Feet)
101	245438.50	362352.40	45.6
102	245498.20	362398.20	48.2
103	245557.00	362444.00	45.3
104	245613.97	362489.30	50.6
105	245670.94	362538.08	48.3
106	245727.91	362586.86	49.9
107	245792.23	362644.93	53.7
108	245851.83	362690.09	48.8
109	245911.84	362735.07	51.4
110	244324.32	361349.37	49.3
111	244388.10	361400.60	48.4
112	244440.92	361444.96	53.4
113	244497.70	361493.97	55
114	244554.47	361542.98	48.5
115	244606.60	361564.46	44.4
116	244650.35	361612.14	45.1
117	244696.60	361672.21	54.6
118	245018.45	361923.38	43.3
119	245086.10	361985.40	46.3
120	245137.50	362014.50	45.9
121	245196.50	362060.00	48.5
122	245252.00	362106.90	51.1
123	245305.00	362145.00	45.5
124	245362.00	362193.00	46.2
125	245419.00	362241.80	43.8
126	245487.80	362289.70	51.3
127	245546.20	362336.70	50.5
128	245604.60	362383.70	46
129	245659.13	362432.56	45.9
130	245717.88	362479.18	49.3
131	245776.63	362525.80	46.7
132	245834.44	362580.42	50.9
133	245893.51	362626.63	50.7
134	245952.58	362672.85	55
135	244358.50	361290.90	52
136	244422.00	361340.00	49.9
137	244482.48	361387.47	48.3
138	244539.63	361435.70	46.6
139	244597.07	361483.92	43.7
140	244668.29	361511.40	44.4
141	244715.54	361567.38	45.5
142	244763.75	361622.63	47.2
143	245085.60	361876.90	44.9
144	245124.51	361925.19	45.3
145	245178.13	361955.60	44.8
146	245237.00	362003.20	44.9
147	245295.87	362050.80	48.4
148	245354.00	362085.00	48.1
149	245412.20	362133.70	50.2
150	245469.85	362181.40	51.3

Hole	Easting	Northing	Depth MLLW (Feet)
151	245526.40	362234.00	49.3
152	245586.40	362279.80	51
153	245646.60	362324.50	46.7
155	244398.30	361227.30	53.1
156	244460.00	361275.40	53.4
157	244528.49	361326.62	50.6
158	244584.78	361376.18	48
159	244641.07	361425.73	45.7
160	244722.98	361460.08	49.6
161	244772.75	361518.76	44.6
162	244819.63	361572.61	44.9
163	245138.50	361823.30	45.1
164	245182.61	361878.16	44
165	245229.40	361892.60	46.7
166	245287.60	361940.60	50.2
167	245344.66	361988.60	54.2
168	245403.00	362028.00	47
169	245460.00	362076.54	52.6
170	245517.00	362124.50	55
171	245578.70	362172.60	55
172	245637.11	362219.22	55
173	245695.53	362266.50	55
175	244438.13	361163.79	53.4
176	244498.13	361210.77	48.9
177	244577.00	361274.11	49.5
178	244636.39	361319.91	47.5
180	244777.67	361408.08	55
181	244829.75	361470.14	46.2
182	244875.52	361522.59	51.6
183	245190.70	361769.70	52.1
184	245240.71	361830.73	45
185	245276.00	361833.80	55
186	245333.80	361881.60	51
187	245391.60	361929.40	55
188	245449.50	361970.30	55
189	245506.30	362019.00	55
190	245563.00	362068.30	55
191	245621.90	362115.80	55
192	245680.60	362162.60	55
193	245739.30	362209.40	55
195	244482.90	361100.34	48.4
196	244539.10	361142.26	49.5
197	244603.78	361190.77	47
198	244627.50	361213.43	47.3
199	244685.93	361260.45	49
200	244743.84	361307.48	48
201	244780.93	361309.08	54.7
202	244832.97	361365.34	47.6
203	244877.97	361414.89	47.2
204	244935.31	361470.96	53.9

AREA K

Hole	Easting	Northing	Depth MLLW (Feet)
205	245245.25	361727.23	55
206	245299.07	361785.95	55
207	245325.00	361780.00	55
208	245383.80	361826.70	55
209	245442.50	361873.40	55
211	244520.58	361035.47	51.3
212	244579.50	361079.10	54.2
213	244643.37	361127.07	55
214	244679.70	361163.08	53.1
215	244737.86	361204.04	55
216	244794.27	361252.26	53.6
217	244837.22	361259.52	55
218	244889.54	361315.94	55
219	244933.57	361364.82	53.4
220	244993.72	361423.69	55
221	245302.02	361677.23	55
222	245354.72	361734.60	55
223	244558.23	360970.61	55
224	244619.95	361015.94	55
225	244682.92	361063.37	55
226	244718.47	361106.15	55
227	244779.11	361150.29	55
228	244839.74	361194.43	53.8
229	244893.51	361209.96	53.2
230	244945.82	361269.50	55
231	244988.78	361314.12	55
232	245051.76	361376.42	55
233	245358.78	361628.71	53
234	245409.98	361684.52	55
1000	245295.66	362524.15	48.6
1001	245354.41	362570.77	52.3
1002	245413.16	362617.40	46.2
1003	245474.98	362669.12	43.7
1004	245533.73	362715.74	44.1
1005	245592.48	362762.36	43.7
1006	245663.89	362811.73	44.4
1007	245720.04	362861.46	48
1008	245776.19	362911.18	41.4
1009	245708.24	362370.86	49.3
1010	245766.79	362417.73	51.9
1011	245825.34	362464.60	51.3
1012	245756.43	362316.42	55
1013	245814.86	362363.60	55
1014	245873.28	362410.48	55

Area L

Hole	Easting	Northing	Depth MLLW (Feet)
1	241869.99	360001.45	55
2	241933.98	360040.57	55
3	241997.97	360079.68	47
4	242061.80	360120.10	51.7
5	242126.10	360159.70	52.4
6	242190.60	360198.30	55
7	242243.25	360230.32	55
8	242306.60	360270.46	55
9	242369.95	360310.60	55
10	242436.37	360355.74	49.8
11	242500.27	360395.00	53.3
12	242564.00	360434.30	49.2
13	241906.27	359935.57	55
14	241969.27	359976.00	53.9
15	242032.44	360016.44	50.9
16	242102.60	360056.60	52.9
17	242166.20	360096.30	53.2
18	242229.80	360136.00	53.1
19	242292.70	360178.30	55
20	242355.60	360219.10	48.9
21	242418.77	360259.50	49.5
22	242478.13	360296.13	51.9
23	242542.75	360334.20	54.8
24	242607.36	360372.30	52.5
25	242667.73	360411.69	47.9
26	242730.90	360452.13	50
27	242794.07	360492.92	51.8
28	241942.90	359869.52	48.7
29	242006.07	359909.85	54
30	242069.24	359950.28	52.4
31	242140.43	359995.00	48.8
32	242205.37	360035.67	50.9
33	242269.80	360073.10	55
34	242331.45	360105.60	54
35	242394.90	360145.30	50.2
36	242458.40	360185.30	55
37	242520.17	360229.43	53.4
38	242584.10	360268.70	51.5
39	242647.97	360307.96	49.4
40	242709.43	360350.99	53
41	242773.34	360390.26	54.4
42	242837.24	360429.52	55
43	241613.88	359576.18	55
44	241675.42	359619.04	46.9
45	241736.97	359661.91	48
46	241795.16	359687.56	43.5
47	241857.36	359725.73	49.6
48	241918.84	359772.44	47.8
49	241983.61	359810.14	48
50	242047.33	359849.70	43.4

Hole	Easting	Northing	Depth MLLW (Feet)
51	242111.02	359889.25	47
52	242176.96	359930.13	46.1
53	242241.40	359968.51	55
54	242305.83	360006.88	55
55	242367.42	360043.12	46
56	242431.10	360085.56	46
57	242491.21	360128.00	45.7
58	242557.40	360167.00	45.2
59	242621.60	360206.40	45.9
60	242685.90	360244.94	52.8
61	242752.90	360284.85	55
62	242815.60	360326.00	55
63	242878.30	360367.16	55
64	241650.14	359512.15	55
65	241711.91	359553.88	45.3
66	241774.22	359595.61	46.6
67	241840.67	359623.84	44.9
68	241903.05	359665.04	51.5
69	241965.88	359706.34	49.4
70	242026.66	359747.92	48
71	242090.67	359787.03	46.1
72	242154.64	359826.16	55
73	242217.17	359866.80	55
74	242281.26	359905.73	55
75	242345.34	359944.69	55
76	242409.20	359978.43	55
77	242471.52	360020.16	49.4
78	242533.84	360061.89	50.1
79	242599.00	360103.50	46.6
80	242663.20	360142.60	47
81	242727.10	360181.70	55
82	242790.82	360224.46	55
83	242853.42	360265.76	55
84	242916.02	360307.06	55
85	242979.15	360345.77	50.9
86	243042.59	360385.77	53.9
87	243106.03	360425.76	55
88	243175.30	360459.00	55
89	243239.28	360498.12	55
90	243303.27	360537.25	55
91	241694.44	359440.94	55
92	241757.33	359481.80	55
93	241820.22	359522.67	53.4
94	241876.45	359557.23	54
95	241938.87	359598.60	46.4
96	242001.28	359639.22	46.1
97	242065.13	359685.44	49.8
98	242130.84	359721.41	45.3
99	242196.55	359757.38	55
100	242256.10	359804.00	55

Area L

Hole	Easting	Northing	Depth MLLW (Feet)
101	242320.00	359843.30	55
102	242383.90	359882.55	51.7
103	242443.53	359918.90	45.6
104	242506.98	359958.99	46.6
105	242570.42	359998.20	51.5
106	242639.30	360042.15	45.7
107	242702.92	360081.89	52.1
108	242766.55	360121.56	55
109	242830.55	360157.83	53.9
110	242892.10	360199.84	52
111	242954.11	360241.86	52
112	243023.17	360279.08	48.2
113	243087.07	360318.35	50.9
114	243150.97	360357.61	55
115	243213.08	360395.66	55
116	243275.51	360436.82	55
117	243338.21	360477.97	55
118	241732.72	359378.03	55
119	241794.49	359419.76	55
120	241856.80	359461.49	51.6
121	241914.12	359495.04	51.9
122	241977.91	359534.16	49.6
123	242042.63	359573.28	52.5
124	242108.95	359617.66	47.7
125	242170.78	359660.10	51
126	242232.62	359702.54	52.9
127	242299.32	359743.24	55
128	242364.32	359780.90	55
129	242429.18	359818.55	47.1
130	242488.58	359855.85	46.7
131	242533.20	359893.92	49.7
132	242617.82	359932.00	46.1
133	242680.40	359979.25	50.7
134	242745.60	360015.98	46.8
135	242810.99	360052.72	46.6
136	242871.49	360092.24	48.1
138	242996.12	360175.71	55
139	243064.80	360216.17	50.7
140	243127.87	360256.75	55
141	243190.94	360297.33	50
142	243253.91	360335.33	55
143	243316.23	360377.06	55
144	243378.54	360418.80	50.7
145	241770.19	359318.05	55
146	241833.17	359358.77	55
147	241896.16	359399.49	53
148	241953.00	359430.00	55
149	242016.83	359468.80	55
150	242081.51	359508.24	55
151	242147.32	359548.75	55
152	242210.21	359589.61	55
153	242273.10	359630.48	55

Hole	Easting	Northing	Depth MLLW (Feet)
154	242336.77	359679.63	55
155	242401.21	359718.00	55
156	242465.65	359756.38	52.4
157	242528.18	359792.20	49.9
158	242591.44	359832.90	48.6
159	242654.14	359874.57	53.7
160	242719.35	359912.68	54.2
161	242784.05	359951.50	51.3
162	242848.22	359990.00	49.7
163	242910.86	360027.43	51.9
164	242972.00	360070.45	48.8
165	243033.80	360113.50	52.7
166	243096.89	360160.81	52
167	243161.32	360199.19	53.2
168	243225.76	360237.57	53.2
169	243294.50	360273.91	54.1
170	243357.67	360314.34	48.7
171	243420.83	360354.78	55
172	242364.23	359608.75	55
173	242427.00	359648.00	55
174	242491.48	359688.11	55
175	242566.48	359718.62	55
176	242629.37	359759.50	55
177	242692.00	359800.40	55
178	242756.94	359850.10	55
179	242821.82	359887.71	53.9
180	242886.70	359925.34	52.7
181	242952.64	359963.24	54
182	243015.10	360004.80	44.8
183	243077.40	360046.40	51.4
184	243149.14	360089.66	51.3
185	243212.40	360129.89	53.8
186	243275.10	360171.01	55
187	243341.96	360205.04	55
188	243404.94	360245.76	55
189	243467.93	360286.49	52
190	242611.33	359667.87	55
191	242675.50	359706.69	55
192	242739.68	359745.51	55
193	242794.40	359787.00	55
194	242856.00	359826.50	48.6
195	242920.50	359866.97	45.8
1000	242402.45	360422.16	51.7
1001	242466.44	360461.29	55
1002	242530.43	360500.50	51.2
1003	241825.60	360064.16	55
1004	241890.04	360102.54	53.3
1005	241954.47	360140.91	46.1
1006	241756.62	359747.42	51.7
1007	241819.04	359789.00	53.2
1008	241881.46	359830.59	55
1009	241570.65	359638.11	55

Area L

Hole	Easting	Northing	Depth MLLW (Feet)
1010	241634.64	359677.42	52.7
1011	241698.63	359716.34	48.4
1012	241533.07	359705.26	55
1013	241597.06	359744.38	53.6
1014	241661.05	359783.50	53.3

AREA M

Hole	Easting	Northing	Depth MLLW (Feet)
1	239902.2	359064.3	53.2
2	239965.1	359105.1	48.7
3	240027.95	359145.95	51.2
4	240082.1	359175.1	46.2
5	240146	359214.3	48.1
6	240209.9	359253.6	43.6
7	240277.6	359299.32	44.4
8	240342.57	359336.8	45.7
9	240407.53	359374.29	45
10	240466.46	359422.8	47.5
11	240531.34	359460.42	44.7
12	240595.78	359499.74	42.2
13	239924.9	358988.8	50.9
14	239989.1	359027	52.3
15	240053.2	359065.02	55
16	240121.4	359112.3	50.7
17	240184.22	359153.31	55
18	240247	359194.3	52.7
19	240317.6	359230.5	55
20	240381.2	359270.2	50.4
21	240444.8	359309.9	54.7
22	240505.54	359361.5	52.6
23	240570.42	359399.12	55
24	240635.3	359436.79	52.4
25	239975.76	358933.95	51
26	240038.65	358974.8	54.6
27	240101.5	359015.67	50.4
28	240159.4	359048.7	48.5
29	240223.6	359086.6	55
30	240287.1	359125.4	49.5
31	240356.5	359166.7	52.6
32	240419.2	359206.71	55
33	240483.37	359246.7	52.2
34	240547.61	359292.96	50.3
35	240611.24	359332.65	51.2
36	240674.87	359372.34	52.1
37	240010.9	358867.6	53.1
38	240074.4	358907.6	51.6
39	240137.8	358947.6	49.9
40	240200.4	358985.2	48.3
41	240263	359022	55
42	240328	359064	52.5
43	240391.7	359101.6	49.2
44	240455.2	359141.6	54.8
45	240518.6	359181.6	49.3
46	240585.24	359228.89	51.9
47	240648.59	359269.03	55
48	240711.95	359309.17	50.9
49	240050.9	358796.7	53.9
50	240113.5	358838	55
51	240176.13	358879.28	50.1

Hole	Easting	Northing	Depth MLLW (Feet)
52	240241	358915	55
53	240303.3	358957	50
54	240364.94	358998.75	55
55	240428.5	359036.6	48.3
56	240490.5	359078.5	53.6
57	240552.9	359121.3	50.4
58	240622.69	359167.15	54.4
59	240684.23	359210.01	55
60	240745.78	359252.88	51.8
61	240090.2	358738.2	52.6
62	240155.2	358775.4	53.4
63	240220.6	358812.6	49.1
64	240277.9	358852.8	55
65	240341.6	358893.6	49.1
66	240404.81	358934.8	49.2
67	240471.6	358972.2	54
68	240535.3	359011.8	51
69	240599	359051.3	55
70	240660.46	359109.6	55
71	240724.36	359148.86	53.9
72	240788.26	359188.12	50.9
73	240132.25	358677.96	55
74	240196.51	358716.63	54.1
75	240260.77	358755.3	49.9
76	240319.33	358794	54.9
77	240381.9	358835.3	49.7
78	240444.55	358876.6	53
79	240513.1	358909.9	53.8
80	240575.95	358950.15	52.3
81	240639.3	358990.14	55
82	240702.36	359034.58	49.7
83	240766.35	359073.7	55
84	240830.04	359112.81	55
85	240171.9	358610.8	55
86	240237.54	358647.1	55
87	240303.2	358683.4	55
88	240360.1	358734.1	47.7
89	240424.3	358772.9	53.1
90	240488.5	358811.7	47.8
91	240553.9	358846.1	51.5
92	240617	358886.5	48.8
93	240680.2	358926.97	50.4
94	240214.6	358541.3	55
95	240278.5	358580.6	55
96	240343	358619.8	55
97	240393.15	358673.1	55
98	240455.2	358715.23	51.3
99	240517.2	358757.4	50.7
100	240589.7	358782.5	50.6
101	240652.4	358823.6	54.2
102	240715.12	358864.8	54.3

AREA N

Hole	Easting	Northing	Depth MLLW (Feet)
3	232873.47	354666.76	50.7
4	232936.33	354705.14	50.2
5	232998.38	354745.36	53.5
6	233065.70	354789.90	49.2
7	233130.90	354828.00	47.8
8	233196.50	354866.70	55
11	232902.50	354597.53	49.4
12	232975.66	354641.30	47.9
13	233040.69	354683.44	51.3
14	233104.40	354725.70	55
15	233171.10	354764.70	55
16	233232.80	354801.00	55
19	232931.20	354528.30	47.9
20	233015.00	354576.90	46.9
21	233082.00	354621.50	52.8
22	233143.20	354661.40	55
23	233211.30	354701.40	55
24	233269.20	354735.20	55
1000	232964.30	354449.92	50.5
1001	232993.42	354380.81	55
1002	233022.57	354311.69	55

AREA O

Hole	Easting	Northing	Depth MLLW (Feet)
1	229038.10	352251.80	55
2	229103.99	352300.96	55
3	229171.40	352355.20	55
4	229575.60	352599.40	55
6	229669.44	352666.90	46.4
7	229737.58	352702.00	51.2
8	229796.60	352737.80	54.7
9	229861.00	352779.00	55
10	229079.52	352189.31	55
11	229144.20	352237.70	55
12	229230.00	352308.40	55
13	229634.70	352553.20	55
14	229708.60	352603.00	47.1
15	229778.60	352639.40	52.4
16	229837.22	352674.70	51.4
17	229901.00	352717.00	55
18	229120.98	352126.81	55
19	229184.40	352174.30	55
21	229288.64	352261.60	55
22	229693.70	352507.00	55
23	229747.70	352539.00	51.3
24	229819.70	352576.60	55
25	229877.90	352611.70	55
26	229939.00	352655.00	55
1000	229791.26	352467.20	55
1001	229853.41	352509.17	55
1002	229915.60	352551.14	55

AREA P

Hole	Easting	Northing	Depth MLLW (Feet)
4	224530.90	349376.30	53.3
5	224593.80	349417.12	53.7
6	224656.70	349457.90	55
7	224727.73	349496.32	52.7
8	224788.90	349539.70	46.1
9	224850.10	349583.10	45.1
10	225300.82	349871.16	44.6
11	225364.39	349910.36	33.1
12	225427.98	349949.64	46
13	225489.05	349982.35	42.1
14	225554.54	350018.89	45.7
15	225620.00	350055.40	44.3
16	224387.57	349195.03	46.2
17	224446.61	349234.91	48.5
18	224509.20	349276.30	50.5
19	224580.60	349321.98	52.7
20	224645.25	349360.00	52.5
21	224709.90	349398.00	45.5
22	224762.80	349439.97	46.9
23	224826.69	349479.17	48.1
24	224890.60	349518.40	48.7
25	225346.62	349802.12	47.9
26	225410.56	349841.33	45.2
27	225474.50	349880.50	45.9
28	225530.05	349914.33	43.7
29	225593.63	349954.64	44.4
30	225656.40	349995.70	50.3
31	223857.97	348781.59	49.5
32	223920.33	348823.26	47.2
33	223982.70	348864.90	48.5
34	224042.74	348905.10	46.9
35	224107.21	348943.42	47.2
36	224171.70	348981.70	51.8
37	224234.99	349019.89	55
38	224299.01	349058.95	46.9
39	224363.00	349098.10	45.4
40	224420.50	349134.43	48.7
41	224484.00	349174.37	47.4
42	224547.50	349214.30	45.9
43	224614.10	349259.60	44
44	224678.00	349298.61	50.8
45	224742.00	349337.80	45.8
46	224801.66	349379.14	42.7
47	224865.70	349418.20	44.1
48	224929.70	349457.30	48.6
49	225183.23	349611.78	48.5
50	225247.88	349650.09	48.1
51	225312.60	349688.10	48.5
52	225382.19	349741.91	48.7
53	225447.74	349777.38	50.1
54	225513.80	349812.80	44
55	225568.37	349852.44	44.7

Hole	Easting	Northing	Depth MLLW (Feet)
56	225632.67	349892.29	51.7
57	225695.90	349932.70	55
58	223897.90	348720.50	48.8
59	223962.13	348759.30	47.4
60	224026.40	348798.10	45.5
61	224083.19	348841.30	44.1
62	224147.48	348879.92	49.7
63	224211.80	348918.50	55
64	224268.70	348957.86	50.1
65	224332.45	348997.36	48.8
66	224396.20	349036.90	47.8
67	224462.81	349072.35	48.6
68	224526.02	349112.77	46.4
69	224589.20	349153.10	43.7
70	224652.13	349192.51	46.3
71	224716.16	349231.57	45.3
72	224780.20	349270.60	45.6
73	224842.14	349316.90	42.1
74	224908.10	349352.70	45.4
75	224974.00	349388.50	47.8
76	225034.69	349442.77	45.6
77	225099.18	349481.69	49.1
78	225163.10	349521.60	51.8
79	225227.73	349560.89	52.5
80	225292.35	349598.01	49.2
81	225357.50	349635.10	44.6
82	225417.91	349682.02	50.7
83	225482.65	349719.61	53.9
84	225547.50	349757.50	51.4
85	225613.70	349793.17	55
86	225676.58	349831.77	55
87	225740.00	349870.60	55
88	223938.70	348659.54	47.1
89	224002.35	348699.18	48.2
90	224066.00	348738.80	43.6
91	224124.62	348775.02	45.7
92	224189.18	348813.20	53.3
93	224253.80	348851.40	55
94	224308.39	348893.19	53.6
95	224371.69	348933.41	49.3
96	224435.00	348973.60	45.7
97	224506.25	349008.95	45.3
98	224571.41	349046.08	47
99	224636.60	349083.20	44.5
100	224699.80	349132.10	45
101	224762.50	349173.20	46.3
102	224825.30	349214.30	44
103	224879.12	349252.70	43.4
104	224941.60	349294.20	47.5
105	225004.00	349335.80	52.2
106	225071.96	349373.87	51.7
107	225136.16	349412.64	51.4

AREA P

Hole	Easting	Northing	Depth MLLW (Feet)
108	225200.40	349451.40	52.6
109	225268.91	349489.34	49
110	225331.61	349528.99	49.7
111	225395.70	349568.60	55
112	225458.87	349610.36	50.5
113	225520.85	349652.60	55
114	225582.80	349694.80	55
115	225656.33	349726.37	54.3
116	225718.21	349768.75	55
117	225780.10	349811.10	55
118	224162.41	348707.51	51.6
119	224226.88	348745.83	55
120	224291.40	348784.20	55
121	224354.75	348827.43	49.4
122	224418.50	348866.93	45.8
123	224482.30	348906.40	46
124	224551.91	348948.58	46.3
125	224614.37	348990.10	47.3
126	224676.80	349031.60	48.8
127	224742.60	349071.62	45.1
128	224804.90	349113.00	48.5
129	224866.90	349154.10	46.3
130	224919.10	349192.10	49.9
131	224984.40	349229.40	50
132	225050.10	349266.10	51
133	225110.27	349307.55	52.3
134	225175.00	349345.42	52.7
135	225239.70	349383.30	48.3
136	225309.07	349428.89	50.5
137	225373.80	349466.77	55
138	225438.50	349504.70	55
139	225496.73	349544.07	55
140	225559.93	349584.45	55
141	225623.10	349624.80	55
142	225691.83	349673.84	55
143	225756.31	349712.17	55
144	225820.60	349750.50	55
145	224200.02	348646.21	55
146	224265.27	348683.19	55
147	224330.50	348720.20	55
148	224394.46	348766.82	46.4
149	224457.78	348807.01	46.8
150	224521.10	348847.20	46.8
151	224589.85	348890.95	49.8
152	224655.35	348927.49	48
153	224720.90	348964.00	44.4
154	224781.37	349012.04	44.4
155	224845.40	349051.10	51
156	224909.40	349090.20	51.2
157	224964.40	349120.30	50
158	225028.70	349158.40	50.1
159	225093.00	349197.60	53.4

Hole	Easting	Northing	Depth MLLW (Feet)
160	225147.82	349237.56	49.3
161	225211.76	349276.77	52.9
162	225275.70	349316.00	48.4
163	225347.26	349363.51	49.8
164	225410.46	349403.88	53.2
165	225473.70	349444.30	55
166	225536.73	349485.35	45.9
167	225599.47	349526.02	55
168	225662.21	349566.69	55
169	224233.98	348586.96	55
170	224299.15	348623.99	55
171	224364.30	348661.10	52.2
172	224437.03	348705.72	50
173	224498.56	348747.82	49.4
174	224560.60	348789.90	48.8
175	224635.00	348823.53	46.3
176	224698.48	348863.47	46.6
177	224762.00	348903.40	49.6
178	224823.70	348939.95	51.5
179	224885.28	348982.76	52.7
180	224946.90	349025.60	49.1
181	225001.40	349060.40	48.2
182	225064.20	349102.00	52.7
183	225126.80	349143.30	51.4
184	225192.54	349187.93	55
185	225257.53	349225.65	51.3
186	225322.50	349263.10	42.8
187	225384.29	349307.99	50.6
188	225449.63	349345.73	48.3
189	225514.30	349383.50	49.3
190	225578.23	349418.22	55
191	225641.46	349458.62	51.5
192	225704.20	349500.40	55
193	224274.67	348521.68	55
194	224339.83	348559.47	55
195	224405.20	348596.90	55
196	224475.35	348645.86	52.6
197	224539.02	348684.44	45
198	224603.90	348723.10	53
199	224672.58	348756.45	47.7
200	224735.79	348796.82	46.7
201	224799.00	348837.20	49.7
202	224858.30	348882.64	51.2
203	224923.13	348921.26	50.4
204	224987.40	348959.90	48.2
205	225047.70	348996.90	47.5
206	225111.40	349036.50	51.8
207	225175.00	349076.10	53.3
208	225235.29	349119.54	50.3
209	225299.31	349158.60	47.2
210	225363.30	349197.70	47.9
211	225422.92	349243.00	44.6

AREA P

Hole	Easting	Northing	Depth MLLW (Feet)
212	225488.59	349279.23	47.2
213	225554.30	349315.30	55
214	225614.15	349354.60	55
215	225677.35	349394.98	55
216	225740.60	349435.40	55
217	224318.99	348454.72	55
218	224383.46	348493.24	55
219	224447.90	348531.60	55
220	224520.71	348577.74	51.4
221	224584.47	348617.24	55
222	224648.40	348656.70	54.1
223	224709.13	348696.35	50.9
224	224772.61	348736.73	53.5
225	224835.80	348777.10	52.3
226	224898.80	348812.70	52.7
227	224961.99	348853.10	55
228	225025.18	348893.50	52.4
229	225085.60	348940.97	48.4
230	225151.30	348977.20	48.2
231	225216.90	349013.40	47.9
232	225276.95	349049.72	54
233	225341.94	349087.15	55
234	225406.90	349124.60	55
235	225464.90	349171.60	55
236	225528.29	349211.69	55
237	225591.70	349251.80	55
238	225656.25	349282.14	55
239	225720.01	349321.64	55
240	225783.80	349361.10	55
241	224369.65	348390.51	55
242	224433.73	348430.91	55
243	224496.60	348470.10	55
244	224562.44	348508.29	55
245	224625.83	348548.38	52.8
246	224689.20	348588.50	55
247	224742.12	348633.89	55
248	224810.41	348672.51	52.2
249	224874.70	348711.10	49.8
250	224937.12	348753.33	55
251	224999.31	348795.32	53.1
252	225061.50	348837.30	45.9
253	225120.80	348874.90	46.4
254	225185.90	348912.10	51.9
255	225251.10	348949.20	55
256	225313.03	348991.78	55
257	225377.50	349030.11	55
258	225442.00	349068.40	55
259	225505.33	349106.74	55
260	225568.81	349146.68	55

Hole	Easting	Northing	Depth MLLW (Feet)
261	225632.30	349186.60	55
262	225701.60	349229.60	55
263	225764.61	349270.27	55
264	225827.60	349310.60	55
265	224793.43	348565.72	55
266	224856.26	348606.67	54.8
267	224919.10	348647.60	52.1
268	224980.35	348687.69	52.9
269	225044.82	348726.01	49.8
270	225109.30	348764.30	53.4
271	225163.40	348800.60	55
272	225226.30	348844.50	55
273	225289.20	348882.50	55
274	225350.50	348927.93	55
275	225414.50	348967.10	55
276	225478.50	349006.20	55
277	225018.81	348624.56	55
278	225082.19	348665.12	55
279	225145.50	348705.10	55
280	225203.30	348740.70	55
281	225266.50	348781.04	54.4
282	225329.70	348821.40	55
1000	224963.50	349562.37	49.3
1001	225027.60	349602.20	45.9
1002	225091.20	349641.70	52.4
1003	225156.41	349677.72	48.7
1004	225220.10	349717.50	48.9
1005	225283.70	349757.00	44.9
1006	225001.30	349499.65	48.9
1007	225064.80	349539.60	52.4
1008	225128.20	349579.50	50.1
1009	224191.43	349084.18	53.8
1010	224256.93	349120.93	55
1011	224322.40	349157.50	48.7
1012	224000.89	348956.61	47
1013	224064.92	348995.67	49
1014	224129.00	349034.70	50.8
1015	223804.10	348834.12	43.8
1016	223865.60	348877.80	41.5
1017	223927.20	348921.00	45.8
1018	223979.17	348589.88	45.7
1019	224042.10	348630.70	47.2
1020	224105.00	348671.50	46.5
1021	224007.57	348529.20	48.1
1022	224069.64	348571.30	50.9
1023	224131.70	348613.40	52.9
1024	224045.41	348460.44	55
1025	224109.90	348500.38	53.5
1026	224173.40	348540.30	53.8

AREA Q

Hole	Easting	Northing	Depth MLLW (Feet)
1	223480.40	348603.10	48.1
2	223543.90	348643.00	48.3
3	223607.40	348683.00	45.5
4	223681.60	348732.60	46.1
5	223744.80	348773.00	44.1
6	223808.10	348813.30	44.3
7	223532.10	348547.90	51
8	223595.60	348587.90	49.3
9	223659.10	348627.80	47
10	223721.50	348667.40	45.7
11	223784.80	348707.80	43.9
12	223848.00	348748.10	44.6
13	223570.30	348483.30	48.7
14	223633.10	348524.40	48.8
15	223695.90	348565.50	47.1
16	223761.70	348602.00	46.1
17	223824.90	348641.90	47.4
18	223888.50	348682.00	46.1
1000	223923.10	348620.90	46.4
1001	223859.90	348580.50	46
1002	223796.70	348540.10	49.3
1006	223959.00	348552.70	49.7
1007	223895.90	348512.30	48.7
1008	223832.70	348471.90	47.2