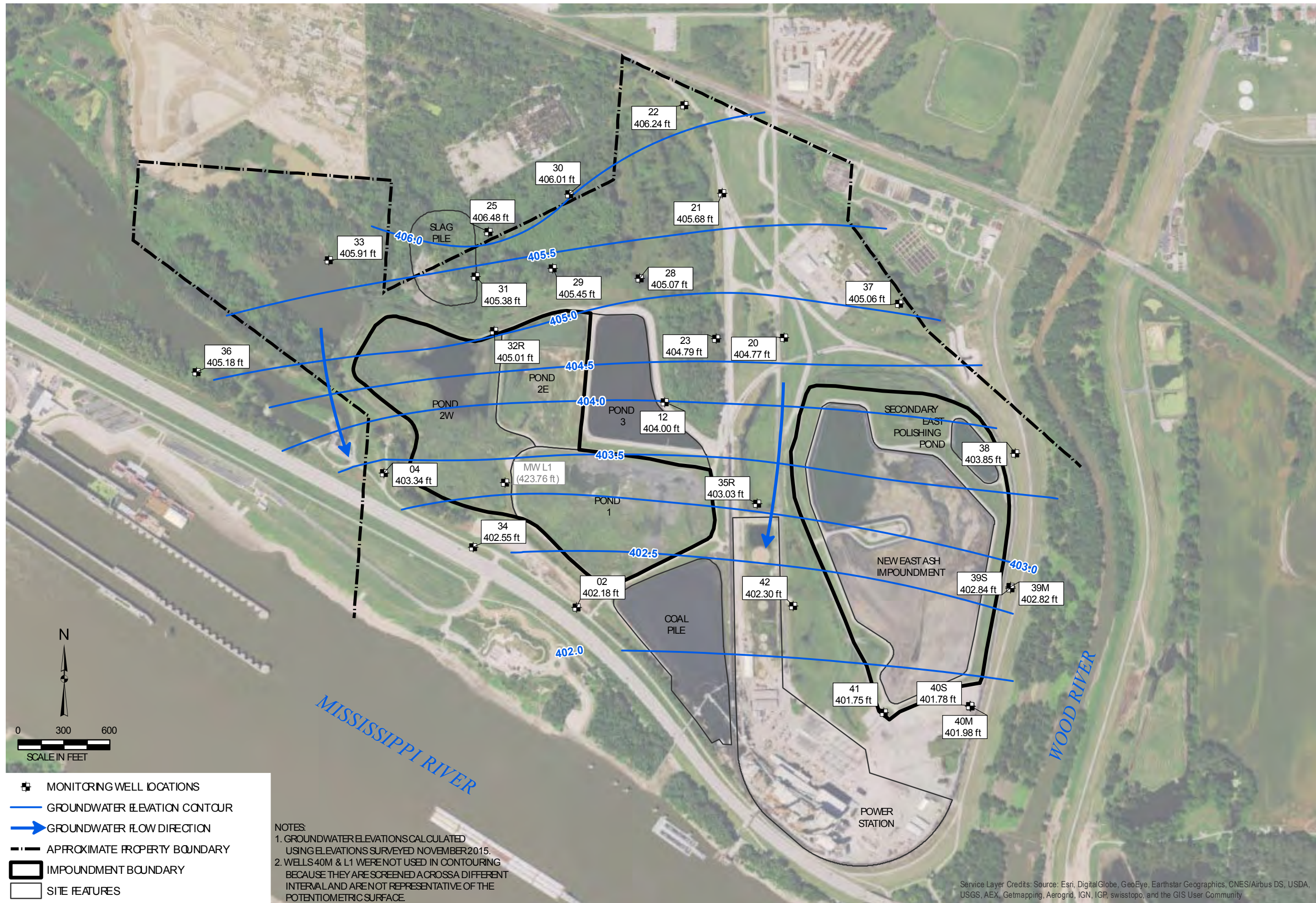


\\Mapping\Projects\2376\MXD\Hydrogeologic_CRA\Figure 8_Potentiometric_Surface_Novem ber_2015.mxd Author:stobz Date:7/15/2016 3:20:49 PM



- MONITORING WELL LOCATIONS
- GROUNDWATER ELEVATION CONTOUR
- ➔ GROUNDWATER FLOW DIRECTION
- - - APPROXIMATE PROPERTY BOUNDARY
- ▭ IMPOUNDMENT BOUNDARY
- SITE FEATURES

NOTES:
 1. GROUNDWATER ELEVATIONS CALCULATED USING ELEVATIONS SURVEYED NOVEMBER 2015.
 2. WELLS 40M & L1 WERE NOT USED IN CONTOURING BECAUSE THEY ARE SCREENED A CROSS A DIFFERENT INTERNAL AND ARE NOT REPRESENTATIVE OF THE POTENTIOMETRIC SURFACE.

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

DRAWN BY/DATE:
 SDS 7/15/16
 REVIEWED BY/DATE:
 NRK 7/15/16
 APPROVED BY/DATE:
 SJC 7/28/16

POTENTIOMETRIC CONTOUR MAP AT NORMAL RIVER STAGE - NOVEMBER 2015

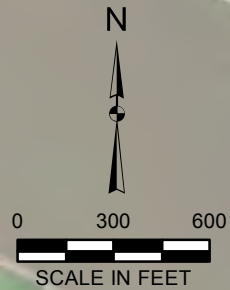
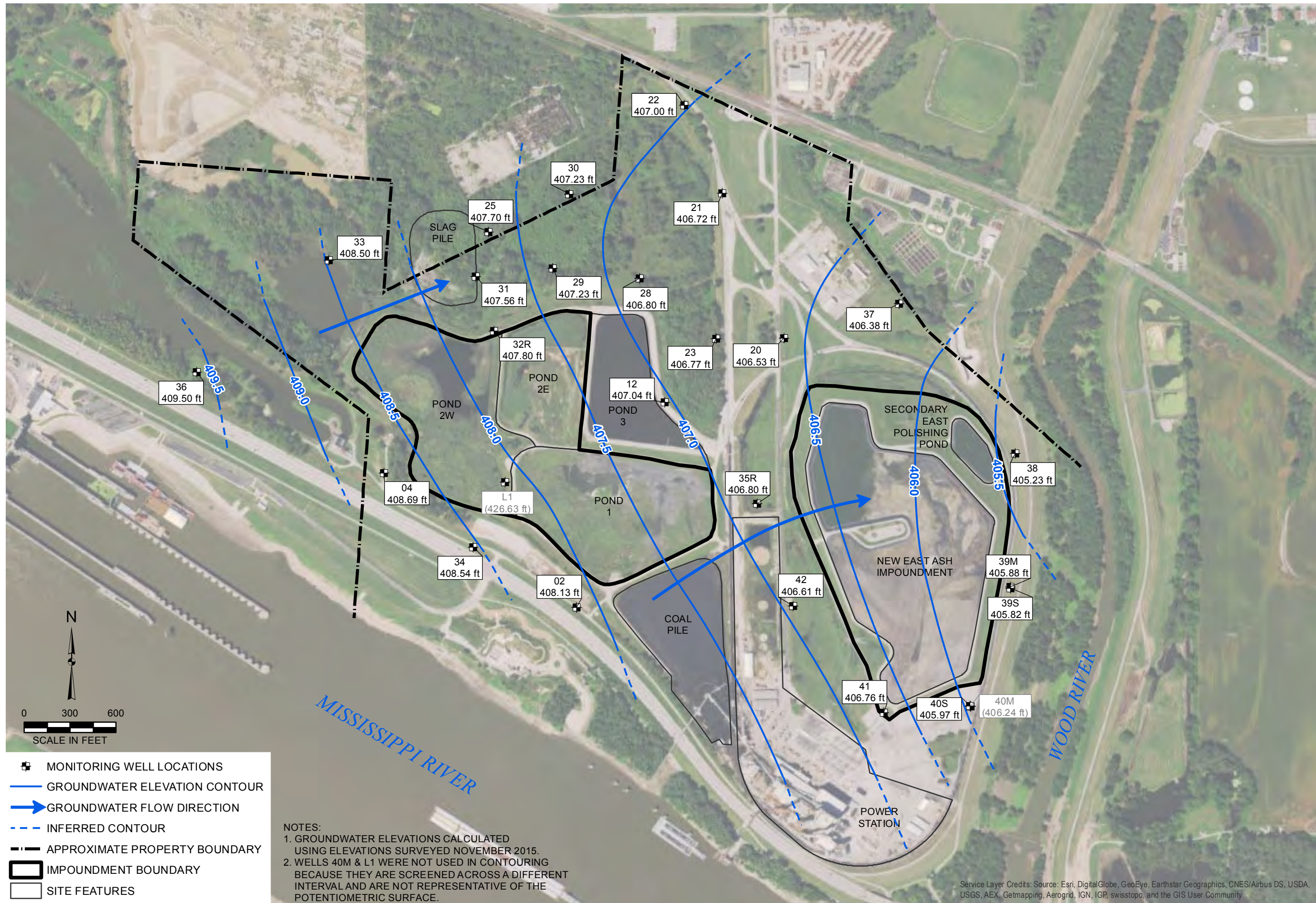
HYDROGEOLOGIC CHARACTERIZATION REPORT
 DYNEGY MIDWEST GENERATION, LLC
 WOOD RIVER POWER STATION
 ALTON, ILLINOIS

PROJECT NO: 2376

FIGURE NO: 3



Y:\Mapping\Projects\232376\MXD\Hydrogeologic_CRF\Figure 9_Potentiometric_Surface_May_2015.mxd Author: sstolz Date/Time: 7/15/2016 3:13:41 PM



- MONITORING WELL LOCATIONS
- GROUNDWATER ELEVATION CONTOUR
- ➔ GROUNDWATER FLOW DIRECTION
- INFERRED CONTOUR
- APPROXIMATE PROPERTY BOUNDARY
- IMPOUNDMENT BOUNDARY
- SITE FEATURES

NOTES:
 1. GROUNDWATER ELEVATIONS CALCULATED USING ELEVATIONS SURVEYED NOVEMBER 2015.
 2. WELLS 40M & L1 WERE NOT USED IN CONTOURING BECAUSE THEY ARE SCREENED ACROSS A DIFFERENT INTERVAL AND ARE NOT REPRESENTATIVE OF THE POTENTIOMETRIC SURFACE.

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

DRAWN BY/DATE:
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 NRK 7/15/16
 APPROVED BY/DATE:
 SJC 7/28/16

**POTENTIOMETRIC CONTOUR MAP AT RIVER FLOOD STAGE -
 MAY 2015**

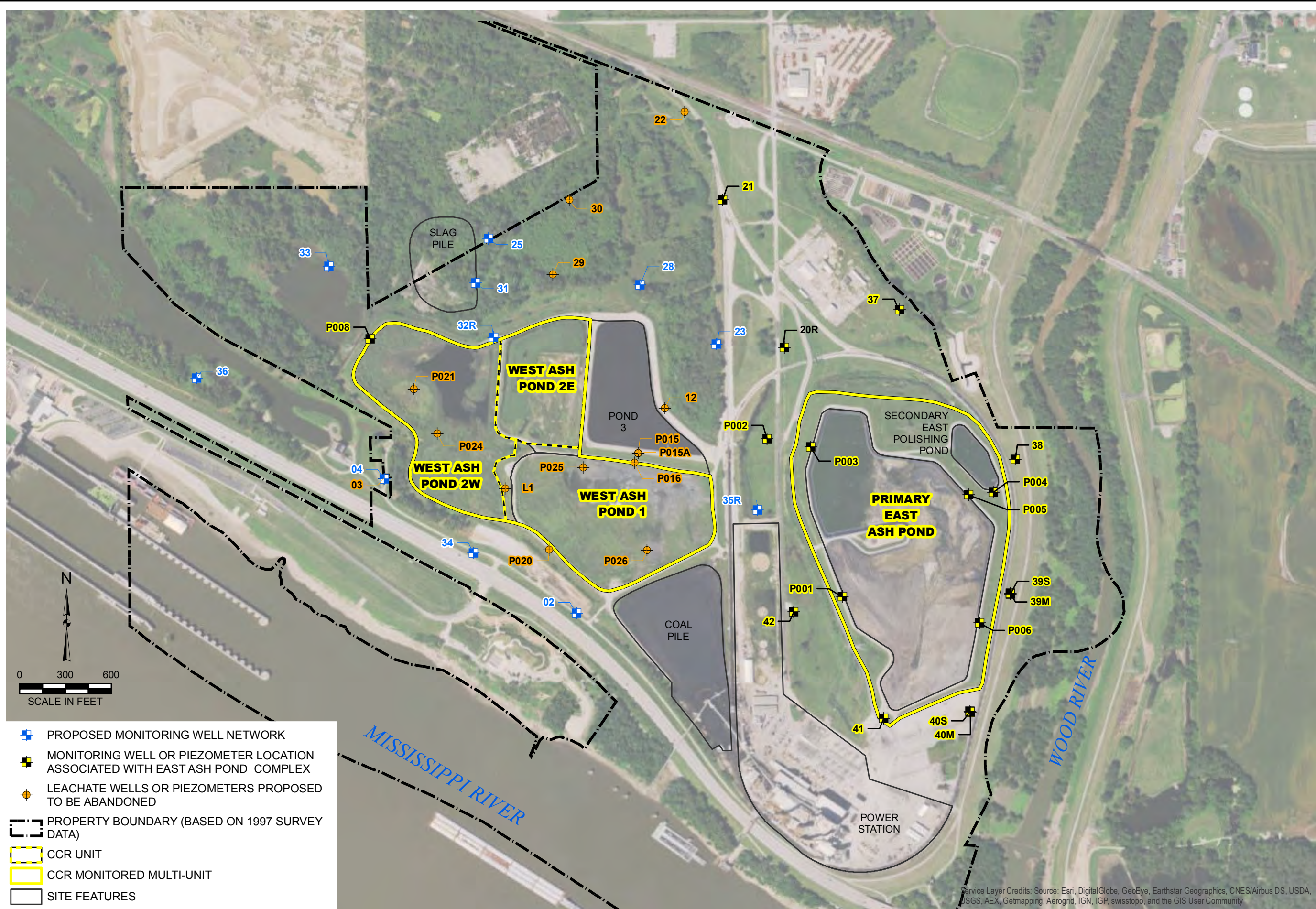
HYDROGEOLOGIC CHARACTERIZATION REPORT
 DYNEGY MIDWEST GENERATION, LLC
 WOOD RIVER POWER STATION
 ALTON, ILLINOIS

PROJECT NO: 2376

FIGURE NO: 4



Y:\Mapping\Projects\2376\MXD\GW_Monitoring\Figure 5_Monitoring Well Network.mxd Author: tcushman Date/Time: 9/16/2016 10:21:35 AM



- PROPOSED MONITORING WELL NETWORK
- MONITORING WELL OR PIEZOMETER LOCATION ASSOCIATED WITH EAST ASH POND COMPLEX
- LEACHATE WELLS OR PIEZOMETERS PROPOSED TO BE ABANDONED
- PROPERTY BOUNDARY (BASED ON 1997 SURVEY DATA)
- CCR UNIT
- CCR MONITORED MULTI-UNIT
- SITE FEATURES

DRAWN BY/DATE:
TDC 9/16/16
REVIEWED BY/DATE:
NRK 9/16/16
APPROVED BY/DATE:
SJC 9/16/16

PROPOSED MONITORING WELL NETWORK

GROUNDWATER MONITORING PLAN
WEST ASH POND COMPLEX
WOOD RIVER POWER STATION
ALTON, ILLINOIS

PROJECT NO: 2376

FIGURE NO: 5



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

TABLES

Table 1
Summary of Existing Monitoring Well Network
Groundwater Monitoring Plan - West Ash Pond Complex
Wood River Power Station

Boring/Well ID	Ground Surface at Time of Install	Measuring Point Elevation (2015)	Top of Screen Elevation	Bottom of Screen Elevation	Screen length	Monitoring Program	Analysis
Monitoring Wells							
2	432.9	435.04	397.7	395.7	2	IEPA, CCR	Groundwater Quality, Groundwater Elevation
4	417.4	419.56	396.4	394.4	2	IEPA, CCR	
12	426.9	428.79	370.9	368.9	2	IEPA	
20R	425.2	427.22	406.3	386.7	20	IEPA	
21	433.1	434.82	414.0	393.6	20	IEPA	
22	433.3	435.02	410.0	394.8	15	IEPA	
23	431.2	432.27	413.2	392.8	20	IEPA	
25	430.5	432.23	412.4	392.0	20	IEPA, CCR	
28	420.4	422.61	400.0	385.0	15	IEPA	
29	428.0	429.90	407.6	392.6	15	IEPA	
30	430.5	432.34	410.1	395.1	15	IEPA	Groundwater Elevation
31	433.8	435.76	413.4	398.4	15	IEPA, CCR	Groundwater Quality, Groundwater Elevation
32R	427.1	429.02	410.1	400.1	10	IEPA, CCR	Groundwater Quality - CCR, Groundwater Elevation - CCR, IEPA
33	409.8	411.82	399.8	389.8	10	IEPA	Groundwater Elevation
34	429.3	430.19	394.3	389.3	5	IEPA, CCR	Groundwater Quality, Groundwater Elevation
35R	422.6	424.70	399.6	394.6	5	None	None
36	413.5	416.32	393.5	388.5	5	IEPA, CCR	Groundwater Quality, Groundwater Elevation
L1	433.9	437.49	416.9	411.9	5	None	None
Piezometers							
P008	426.5	426.48	406.5	396.5	10.0		Groundwater Elevation
P015	428.4	428.45	393.4	383.4	10.0		
P016	442.2	442.23	422.2	412.2	10.0		
P020	444.0	444.05	404.5	394.5	10.0		
P021	422.7	425.33	408.7	393.7	15.0		
P024	423.0	425.46	408.0	393.0	15.0		
P025	433.5	435.98	418.5	408.5	10.0		
P026	431.4	433.81	415.4	405.4	10.0		

Table 2
Proposed Monitoring Well Network and Analyses
Groundwater Monitoring Plan - West Ash Pond Complex
Wood River Power Station

Boring/W ell ID	Ground Surface at Time of Install	Measuring Point Elevation (2015)	Top of Screen Elevation	Bottom of Screen Elevation	Screen length	Screen Top	Screen Bottom	Monitoring Program	Analysis
Monitoring Wells									
2	432.9	435.04	397.7	395.7	2	35.2	37.2	IEPA, CCR	Groundwater Quality, Groundwater Elevation
4	417.4	419.56	396.4	394.4	2	21.0	23.0	IEPA, CCR	Groundwater Quality, Groundwater Elevation
23	431.2	432.27	413.2	392.8	20	18.0	38.4	IEPA	Groundwater Elevation
25	430.5	432.23	412.4	392.0	20	18.1	38.5	IEPA, CCR	Groundwater Quality, Groundwater Elevation
28	420.4	422.61	400.0	385.0	15	20.4	35.4	IEPA	Groundwater Elevation
31	433.8	435.76	413.4	398.4	15	20.4	35.4	IEPA, CCR	Groundwater Quality, Groundwater Elevation
32R	427.1	429.02	410.1	400.1	10	17.0	27.0	IEPA, CCR	Groundwater Quality, Groundwater Elevation
33	409.8	411.82	399.8	389.8	10	10.0	20.0	IEPA	Groundwater Elevation
34	429.3	430.19	394.3	389.3	5	35.0	40.0	IEPA, CCR	Groundwater Quality, Groundwater Elevation
35R	422.6	424.70	399.6	394.6	5	23.0	28.0	IEPA	Groundwater Elevation
36	413.5	416.32	393.5	388.5	5	20.0	25.0	IEPA, CCR	Groundwater Quality, Groundwater Elevation

Notes:

Groundwater quality analyses including methods and sampling details are included in Table 4.

Table 3
Background Groundwater Quality and Applicable Groundwater Quality Standards
Groundwater Monitoring Plan - West Ash Pond Complex
Wood River Power Station

Parameters (totals)	IL Class I Std ¹ (mg/L)	Background Concentration ² (mg/L)	Applicable Groundwater Standard ³ (mg/L)	Maximum ⁴ (mg/L)	Minimum ⁴ (mg/L)
Antimony	0.006	tbd	tbd	0.0009	0.0003
Arsenic	0.01	tbd	tbd	0.0496	0.0005
Barium	2.0	tbd	tbd	0.359	0.0576
Beryllium	0.004	tbd	tbd	<0.0003	<0.0003
Boron	2.0	tbd	tbd	9.06	0.134
Calcium	NS	tbd	tbd	253	62.3
Cadmium	0.005	tbd	tbd	0.0003	<0.0001
Chloride	200	tbd	tbd	543	6
Chromium	0.1	tbd	tbd	0.0008	0.0004
Cobalt	1.0	tbd	tbd	0.0006	<0.0001
Fluoride	4	tbd	tbd	0.33	0.12
Lead	0.0075	tbd	tbd	<0.0001	<0.0001
Lithium	NS	tbd	tbd	0.0512	0.0023
Mercury	0.002	tbd	tbd	<0.00003	<0.00003
Molybdenum	NS	tbd	tbd	0.0092	<0.0001
Selenium	0.05	tbd	tbd	0.017	<0.0005
Sulfate	400	307	400	242	5
Thallium	0.002	tbd	tbd	<0.0001	<0.0001
TDS (d)	1200	7,712	7,712	2,140	364
Field pH	6.5 - 9.0	6.00-7.71	6.00-7.71	7.27	6.95
Radium 226/228*	20/20	tbd	tbd	<1.00	<1.00

Notes:

All parameters are totals unless noted. Standards apply to dissolved or total concentrations

(d) Dissolved

tbd = To Be Determined for Illinois EPA monitoring program; based on future monitoring, started in November 2015

Bold = Background Concentration exceeds Class I Groundwater Standard

Red = Exceeds Applicable Groundwater Standard

na = not applicable; parameter [dissolved and total] not proposed for monitoring program

NS = No Class II Groundwater Standard

USEPA (t) = background concentration for parameter [total] required under USEPA program (40 CFR Part 257)

¹ IPCB 620 Class I: Potable Resource Groundwater Standard

² Background Concentration obtained from Appendix X - Statistical Procedure for Calculation of Background (Table X Tolerance Limits for Background Monitoring Wells 25, 31, and 36 using the Upper and Lower Limits)

³ Applicable Groundwater Standard is the higher of the Background Concentration and the Class I Groundwater Standard (or the lower if compared to the pH lower limit).

⁴ Groundwater concentrations based on the November, 2015 sampling event, except for boron, chloride, total dissolved solids, sulfate, and pH which are based on historical results

* Radium 226 and 228 reported separately for IPCB Class I Groundwater Standard, reported combined for USEPA 40 CFR Part 257.

Table 4.
Sampling and Analysis Summary
Groundwater Monitoring Plan - West Ash Pond Complex
Wood River Power Station

Parameter	Analytical Method ⁵	Number of Samples	Field Duplicates ¹	Field Blanks ²	Equipment Blanks ²	MS/MSD ³	Total	Container Type	Minimum Volume ⁴	Preservation (Cool to 4 °C for all samples)	Sample Hold Time from Collection Date
Metals - Appendix III⁽¹⁾											
Boron and Calcium	6020	7	1	0	0	1	9	plastic	600 mL	HNO ₃ to pH<2	6 months
Metals - Appendix IV⁽²⁾											
Other Metals ⁽³⁾	6020	7	1	0	0	1	9	plastic	600 mL	HNO ₃ to pH<2	6 months
Mercury	7470A or 6020	7	1	0	0	1	9	plastic	400 mL	HNO ₃ to pH<2	28 days
Inorganic Parameters - Appendix III⁽¹⁾											
Fluoride	9214	7	1	0	0	1	9	plastic	300 mL	Cool to 4 °C	28 days
Chloride	9251	7	1	0	0	1	9	plastic	100 mL	Cool to 4 °C	28 days
Sulfate	9036	7	1	0	0	1	9	plastic	50 mL	Cool to 4 °C	28 days
Total Dissolved Solids	SM 2540 C	7	1	0	0	1	9	plastic	200 mL	Cool to 4 °C	7 days
Radium - Appendix IV⁽²⁾											
Radium 226	9315 or EPA 903	7	0	0	0	1	8	plastic	1000 mL	HNO ₃ to pH<2	6 months
Radium 228	9320 or EPA 904	7	0	0	0	1	8	plastic	1000 mL	HNO ₃ to pH<2	6 months
Field Parameters											
pH ⁽¹⁾	SM 4500-H+ B	7	NA	NA	NA	NA	7	flow-through cell	NA	none	immediately
Dissolved Oxygen	SM 4500-O/405.1	7	NA	NA	NA	NA	7	flow-through cell	NA	none	immediately
Temperature	SM 2550	7	NA	NA	NA	NA	7	flow-through cell	NA	none	immediately
Oxidation/Reduction Potential	SM 2580 B	7	NA	NA	NA	NA	7	flow-through cell	NA	none	immediately
Specific Conductivity	SM 2510 B	7	NA	NA	NA	NA	7	flow-through cell	NA	none	immediately
Turbidity ⁽⁴⁾	SM 2130 B	7	NA	NA	NA	NA	7	flow-through cell or hand-held turbidity meter	NA	none	immediately

Notes:

⁽¹⁾ USEPA Appendix III Parameters (boron, calcium, chloride, fluoride, pH, sulfate, total dissolved solids (TDS))

⁽²⁾ USEPA Appendix IV Parameters

(antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, selenium, thallium, radium 226 and 228 combined)

⁽³⁾ Other Metals = antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, lead, lithium, molybdenum, selenium, thallium

⁽⁴⁾ If turbidity exceeds 10 NTUs, a duplicate sample filtered through a .45 micron filter may be collected for metals analysis in addition to the unfiltered sample. Both samples would be submitted for analysis.

NA = not applicable

HNO₃ = nitric acid

°C = degrees Celsius

mL = milliliter

1. Field duplicates will be collected at a frequency of one per group of 10 or fewer investigative water sample. Field duplicates will not be collected for radium analysis.

2. Field blanks will be collected at the discretion of the project manager; Equipment blanks will be collected at a rate of 1 per sampling event if non-dedicated equipment is used.

3. Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples will be collected at a frequency of one per group of 20 or fewer investigative water samples per CCR unit/multi-unit. Additional volume to be determined by laboratory.

4. Sample volume is estimated and will be determined by the laboratory.

5. Analytical method numbers are from SW-846 unless otherwise indicated. Analytical methods may be updated with more recent versions as appropriate.

Table 5
Summary of Detection Limits for Proposed Monitoring Program Class I Groundwater Standards
Groundwater Monitoring Plan - West Ash Pond Complex
Wood River Power Station

Constituent	Unit	Analytical Methods ¹	USEPA MCL ²	IL Class I Std ¹ (mg/L)	RL ⁴	MDL ⁴
Metals						
Antimony	µg/L	6020	6	6	1	0.25
Arsenic	µg/L	6020	10	10	1	0.25
Barium	µg/L	6020	2000	2000	1	0.4
Beryllium	µg/L	6020	4	4	1	0.5
Boron	µg/L	6020	NS	2000	25	10
Cadmium	µg/L	6020	5	5	1	0.25
Calcium	µg/L	6020	NS	NS	125	100
Chromium	µg/L	6020	100	100	1	0.3
Cobalt	µg/L	6020	NS	1,000	1	0.25
Lead	µg/L	6020	15	7.5	1	0.25
Lithium	µg/L	6020	NS	NS	1	0.5
Mercury	µg/L	6020 or 7470A	2	2	0.2	0.051
Molybdenum	µg/L	6020	NS	NS	1	0.25
Selenium	µg/L	6020	50	50	1	0.9
Thallium	µg/L	6020	2	2	1	0.25
Inorganics						
Fluoride	mg/L	9214	4	4	0.1	0.05
Chloride	mg/L	9251	250 ³	200	5	1
Sulfate	mg/L	9036	250 ³	400	10	5
Total Dissolved Solids	mg/L	SM 2540 C	500 ³	1200	20	10
Other						
Combined Radium 226/228	pCi/L	9315/9320 or EPA 903/904	5	20/20	-- ⁵	-- ⁶
Field						
pH	SU	SM 4500-H+	NS	6.5-9.0	NA	NA
Oxidation/Reduction Potential	mV	SM 2580 B	NS	NS	NA	NA
Dissolved Oxygen	mg/L	SM 4500-O/40	NS	NS	NA	NA
Temperature	°C	SM 2550	NS	NS	NA	NA
Specific Conductivity	µS/cm	SM 2510 B	NS	NS	NA	NA
Turbidity	NTU	SM 2130 B	NS	NS	NA	NA

Notes:

NS = No standard

RL = Reporting limit as established by the laboratory

MDL = Method detection limit as established by the laboratory

SM = Standard Methods for the Examination of Water and Wastewater

µg/L = micrograms per liter

mg/L = milligrams per liter

pCi/L = picoCuries per liter

µS/cm = microSiemens per centimeter

NTU = nephelometric turbidity unit

CAS = Chemical Abstract Number

1. Analytical method numbers are from SW-846 unless otherwise indicated.
2. USEPA MCL = United States Environmental Protection Agency Maximum Contaminant Level.
3. USEPA SMCL = United States Environmental Protection Agency Secondary Maximum Contaminant Level.
4. Reporting limits and method detection limits will vary depending on the laboratory performing the work.
5. All radium results will be reported (values may be positive or negative) and will include uncertainty and the calculated MDC.
6. Laboratories calculate a minimum detectable concentration (MDC) based on the sample.

APPENDIX A

MONITORING WELL NETWORK BORING LOGS AND MONITORING WELL CONSTRUCTION REPORTS

APPENDIX A1

AECOM LOGS

Date(s) Drilled: 09/09/2015 12:00 AM to 09/09/2015 12:00 AM	Logged By: C.Dicke	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 80.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 451.08 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 801420.9 E 2306193.3 (ft NAD83)	Groundwater Level(s): First encountered at 22.5 ft bgs (perched) and 47.5 ft on 9/9/2015 22.5 ft on 9/10/2015	

Report: 12/29/15 GEO_SOIL_K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGS\IDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core ROD (%)	Recovery (%)											
451.1	0.0														
450.4	0.7					Crushed LIMESTONE GRAVEL (8")									
449.8	1.3	SS-1	38 50/5"	100		Soft, moist, brown, lean CLAY (CL) trace gravel [FILL]					0.25				
						Very dense, moist, dark brown to black, poorly-graded fine SAND (SP) [BOTTOM ASH] becomes dense									
	5	SS-2	12 20 21	45											
445.1	6.0	SS-3	4 6 12	78		Medium dense, moist, dark brown to black, sandy SILT (ML), trace coal fragments [FLY ASH]									%G=8 %S=25 %M=52 %C=15
	10	SS-4	12 15 12	50											
	15	SS-5	10 11 13	22											
	20	SS-6	4 4 2	78		becomes loose									%G=0 %S=25 %F=75
	25	SS-7	1 7 8	78		Loose, wet, dark gray SILT (ML) with sand [FILL]									Driller noted a change near 22.5 ft bgs
						Medium dense, moist, dark gray with brown grains, poorly-graded medium to coarse SAND (SP), trace silt [BOTTOM ASH]									
	30	SS-8	13 14 12	50		becomes fine sand with silt (SP-SM)									

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B001

Sheet 2 of 3

Report: 12/29/15 GEO_SOIL K:\PROJECTS\ID\DYNEGY\60428794_WOODRIVER\DOCS\LOGS\ID\DYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
	Depth (feet)	Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)										
30														
420														Driller noted a change near 32-33 ft bgs
35		SS-9	8 11 13	89		Hard, moist to dry, dark gray with brown staining, lean CLAY (CL) trace sand and root fragments [POSSIBLE FILL]					4.0 4.5+ 4.5+			
415														
40		SS-10	3 2 4	100		Stiff to very stiff, moist, gray, fat CLAY (CH) trace organics and fine sand seams [ALLUVIUM]					1.75 2.0 2.0			
410		ST-1		88		becomes stiff	30 29.3 34.1	119.8 113.0	82	60	1.25			%G=0 %S=0 %M=58 %C=42 UU=19.8 psi, k=2.9E-07
45		SS-11	4 6 8	100		Medium dense, moist to wet, brown, poorly-graded SAND (SP), trace silt [ALLUVIUM]					1.25 1.25			
405														Water on rods at 47.5 ft bgs %G=0 %S=97 %F=4%
50		SS-12	4 4 5	100		becomes loose, wet								Switched to wash rotary at 50 ft bgs
55		SS-13	7 17 17	78		becomes dense								
60		SS-14	7 8 10	72		becomes medium dense								
65		SS-15	10 29 20	100		becomes dense, gray 4" coarse sand layer at 64.5' bgs								

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B001

Sheet 3 of 3

Report: 12/29/15 GEO_SOIL K:\PROJECTS\ID\DYNEGY\60428794_WOODRIVER\DOCS\LOGS\ID\DYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS	
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)												
385																
	70	SS-16	12 17 18	78	[Stippled Pattern]	becomes medium dense										
380																
	75	SS-17	8 7 7	80												
375																
	80	SS-18	8 9 10	44			371.1	80.0							%G=1 %S=98 %F=1	
370							End of Boring at 80 ft									
365	85															
360	90															
355	95															
350																
345																
340																
335																
330																
325																
320																
315																
310																
305																
300																
350	100															

Date(s) Drilled: 09/15/2015 12:00 AM to 09/15/2015 12:00 AM	Logged By: N.Sanna	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 60.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 422.3 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 802453.5 E 2305700 (ft NAD83)	Groundwater Level(s): First encountered at 9.5 ft on 9/15/2015 Measured 3 ft bgs on 10/29/2015 and 0.5 ft on 11/19/2015	

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGS\IDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
422.3	0					TOPSOIL (2")									
420		SS-1	2 1 2	89		Very loose, moist, gray SILTY SAND (SM) [FILL]									
418.8	5	SS-2	1 1 2	100		Very loose, moist, brown SILT (ML) with sand, trace roots [Possible Ash Fill]									
415		ST-1		100		becomes stiff	25.0	31	8	2.0 1.6 1.7	0.28 0.28 0.3			GUS sampler used %G=0 %S=1 %M=88 %C=11	
413.8	10	SS-3	1 1 1	100		Very loose, wet, gray and brown SILTY SAND (SM) [Possible Ash Fill]									
410															
408.8	15	SS-4 WOH/12"	2	100		Very soft to soft, wet, gray with brown mottling, SILTY CLAY (CL-ML)									
405															
403.8	20	SS-5 WOH/6"	1 2	100		Soft, wet, gray fat CLAY (CH) [ALLUVIUM]		80	44						
400															
395	25	SS-6 WOH/18"		100		becomes very soft					0.5 0.25 0.25				
390															
385	30	SS-7 WOH/18"		100											

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

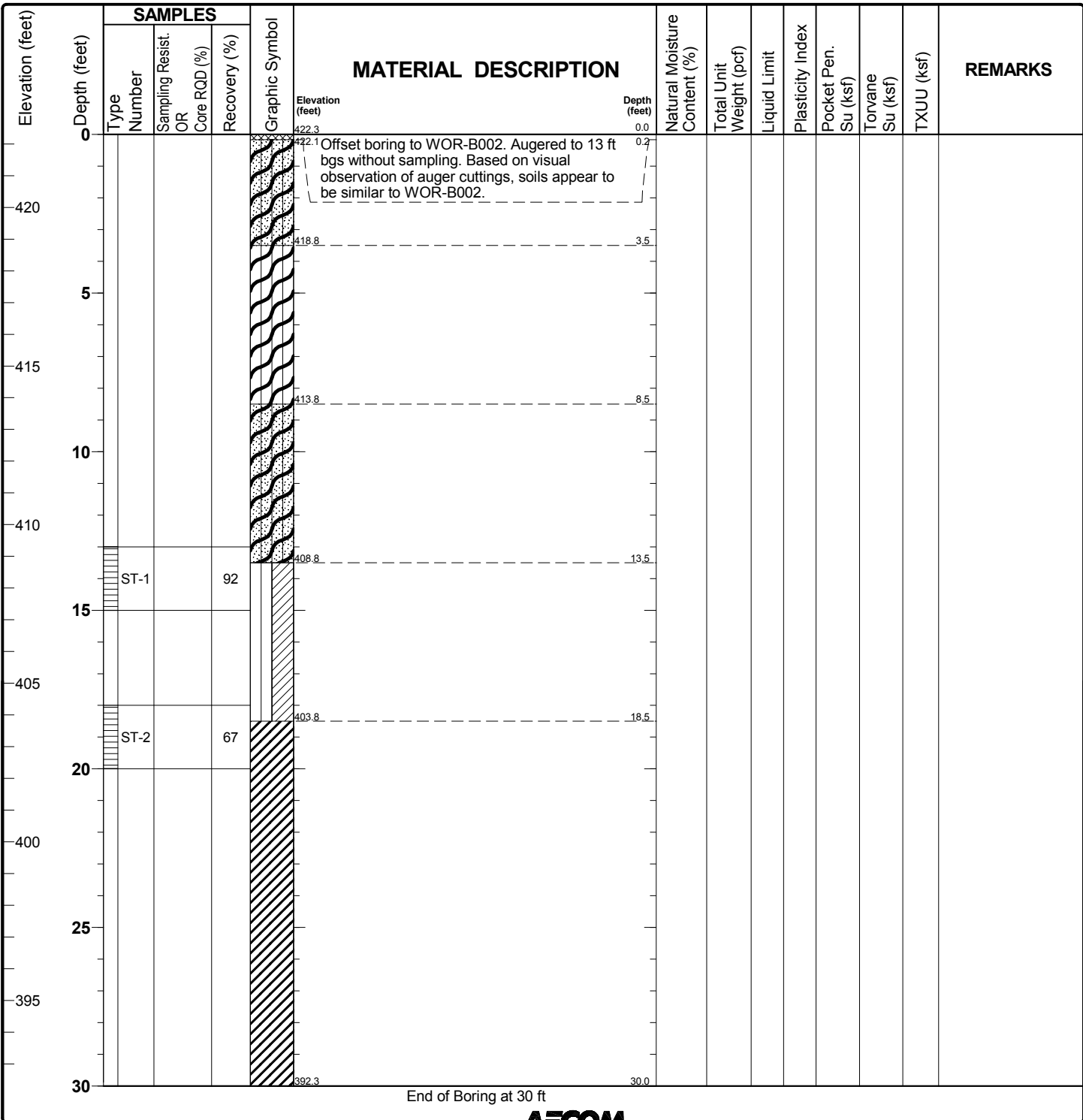
Log of Boring WOR-B002

Sheet 2 of 2

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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
30															
35		SS-8	WOH/18"	100											
		ST-2		96			60.8	101.1							
							62.7	100.3	86	52	0.5	0.18			%G=0 %S=0 %M=29 %C=71 UU=12.3 psi
40		SS-9	WOH/12" 1	100											
45		SS-10	7 6 5	100											
50		SS-11	5 5 10	72											
55		SS-12	8 12 14	67											
60		SS-13	11 12 14	33											
65															

Date(s) Drilled: 09/21/2015 12:00 AM to 09/22/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 30.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 422.3 ft NAVD88
Borehole Backfill: Well WOR-P002 Installed	Sampling Method(s): Shelby Tube (ST)	Hammer Data: Automatic Hammer
Boring Location: N 802453.4 E 2305700.5 (ft NAD83)	Groundwater Level(s): First encountered at 9.5 ft on 9/15/2015 Measured 3 ft bgs on 10/29/2015 and 0.5 ft on 11/19/2015	



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Date(s) Drilled: 09/09/2015 12:00 AM to 09/10/2015 12:00 AM	Logged By: C.Dicke	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 80.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 451.0 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 802400.4 E 2305984.4 (ft NAD83)	Groundwater Level(s): First Encountered at 38 ft on 9/10/2015 Measured 29.5 on 10/29/2015 and 29.4 ft on 11/19/2015	

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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core ROD (%)	Recovery (%)											
451.0	0					Crushed LIMESTONE GRAVEL (8")	0.7								
450.3						Dry to moist, brown lean CLAY (CL) [FILL]	1.3								
449.7		SS-1	40 50/4"	100		Very dense, moist, black, poorly-graded SAND (SP) trace silt, trace gravel [BOTTOM ASH]									
447.5		SS-2	7 10 12	94		Medium dense, gray SILT (ML) with sand [FLY ASH] 2" wet sand layer									
445		SS-3	5 9 11	83		3" coarse sand layer									
444.0						Medium dense, moist, brown, poorly-graded fine to medium SAND (SP), trace silt [FILL]									
441.8		SS-4	8 15 19	89		Dense, moist to dry, black to dark gray, poorly-graded SAND (SP) with silt, trace coal fragments [BOTTOM ASH]									
437.5		SS-5	10 10 13	78		Medium dense, moist to dry, gray silty SAND (SM) [FLY ASH]									%G=12 %S=35 %F=54
435						becomes dense									
430		SS-6	11 22 20	56											GUS sampler used
		ST-1		0											
						becomes loose									
425		SS-7	2 2 3	56											%G=3 %S=24 %F=74 Water inside augers at 24.5' bgs on 9/10 @ 0900
		ST-2		96											GUS sampler used
424.0						Very stiff, moist, dark gray, lean CLAY (CL) with trace organics, with to trace fine sand seams interbedded									
		SS-8	3 3 6	89							2.25 2.75 2.75				
	30														

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B003

Sheet 2 of 3

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGS\IDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
	Depth (feet)	Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)										
30														
420														
35		SS-9	WOH 2 3	100		becomes medium stiff with interbedded fine sand seams, trace organics [ALLUVIUM]					0.5 0.7 0.5	0.4 0.45 0.4		
415		ST-3		100			27.3 27.8	122.5 121.3	28	8	1.0			%G=0 %S=7 %M=65 %C=28 SG=2.60, Organic Content = 2.6%
412.5														
40		SS-10	1 2 2	100		Soft to medium stiff, wet, gray with brown oxidation staining, SILTY CLAY (CL-ML) to SILT (ML), trace sand [ALLUVIUM]					0.5 0.5 0.5	0.4 0.4 0.35		Water on rods near 38 ft bgs
410														
408.0														
45		SS-11	WOH/12" 1	100		Soft, moist, gray fat CLAY (CH) with interbedded fine sand seams [ALLUVIUM]					0.0 0.0 0.0	0.15 0.2 0.15		
405		ST-4		88			56.7		94	64	0.5	0.4		%G=0 %S=0 %M=44 %C=56 UU = 7.1 psi
50		SS-12	WOH 2 2	100		becomes without sand seams					0.25 0.25 0.25	0.2 0.3 0.15		
55		SS-13	WOH 1 2	100							0.25 0.25 0.25	0.3 0.35 0.3		
60		SS-14	WOH/12" 2	100		becomes dark gray with trace organics 1" silt layer 1" silt layer					0.25 0.25 0.0	0.2 0.2 0.15		Switched to washed rotary at 60 ft bgs
65		SS-15	WOH 1 2	89		becomes interbedded with dark gray clay seams interbedded	58.7		85	57	0.25 0.25 0.0	0.3 0.35 0.3		%G=0 %S=1 %M=32 %C=67




Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B003

Sheet 3 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
385															
	70	SS-16	12 12 14	78		Medium dense, wet, gray, poorly-graded fine to medium SAND (SP), trace silt [ALLUVIUM]									
380															
	75	SS-17	14 15 17	56		becomes dense									%G=0 %S=94 %F=6
375															
	80	SS-18	13 19 29												
370															
	85														
365															
	90														
360															
	95														
355															
	100														

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Date(s) Drilled: 09/15/2015 12:00 AM to 09/15/2015 12:00 AM	Logged By: N.Sanna	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 60.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 433.8 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 802104.7 E 2307178.8 (ft NAD83)	Groundwater Level(s): First Encountered at 8 ft on 9/15/2015 Measured at 12.2 ft bgs on 10/29/2015 and 12 ft on 11/19/2015	

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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
433.8	0					433.45" TOPSOIL									
		SS-1	489	56		Medium dense, moist, gray SILTY SAND (SM) [ASH]									
430		SS-2	433	89		becomes loose 3" brown silt layer									
	5	ST-1		100			57.0		NP	NP	<0.5				%G=0 %S=33 %M=63 %C=4 GUS sampler used
425		SS-3	WOH/18"	100		becomes very loose, wet 4" coal layer									
	10														
420		SS-4	WOH/12" 1	100		Very loose, wet, gray SILT (ML) with sand [FILL - POSSIBLE ASH FILL]	28.8								%G=0 %S=18 %M=53 %C=17 Organic Content=1.4%
	15														
415		SS-5	WOH/12" 1	100		becomes gray and brown									
	20														
410		SS-6	WOH/18"	100		Very soft, wet, gray and brown SILTY CLAY (CL-ML) with sand [POSSIBLE FILL]									
	25														
405		SS-7	WOH/6" 1 2	100		Medium stiff to stiff, wet, gray lean CLAY (CL) [ALLUVIUM]					1.0	1.25	1.0		
	30														

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B004

Sheet 2 of 2

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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
30		ST-2		83		becomes stiff	51.1 46.3	106.4 106.3	45	29	1.5 1.75 1.6			%G=0 %S=1 %M=69 %C=30 k=4.6E-07, Organic Content = 3.8%	
400		SS-8	WOH/12" 1	100		becomes very soft									
395		SS-9	WOH/18"	100			43.8		44	22					
40		SS-10	WOH/12" 1	100		become with light gray mottling and trace organics									
390		SS-11	3 2 3	100		Loose, wet, gray, SILTY SAND (SM) [ALLUVIUM]	385.3							%G=0 %S=55 %F=45	
50		SS-12	3 3 8	100		becomes medium dense								%G=0 %S=77 %F=23	
380		SS-13	4 7 7	6		becomes with trace coal fragments and organics									
60						End of Boring at 60 ft	373.8								
65							60.0								

Project: Dynegy	Log of Boring WOR-B004A
Project Location: Wood River Power Station, Alton, IL	Sheet 1 of 1
Project Number: 60440115	

Date(s) Drilled: 09/21/2015 12:00 AM to 09/21/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 30.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 433.8 ft NAVD88
Borehole Backfill: Well WOR-P004 Installed	Sampling Method(s): Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 802104.7 E 2307178.8 (ft NAD83)	Groundwater Level(s): 8 ft on 9/15/2015 12.5 ft on 11/19/2015	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
433.8	0.0														
433.4	0.4					Offset boring to WOR-B004. Augered to 21 ft bgs without sampling. Based on visual observation of auger cuttings, soils appear to be similar to WOR-B004.									
430	5														
425	10														
420	15														
415	20														
410	25	ST-1	96												GUS sampler used
410	25	ST-2	100												GUS sampler used
405	30														
403.8	30.0														

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End of Boring at 30 ft



Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B005

Sheet 1 of 3

Date(s) Drilled	09/10/2015 12:00 AM to 09/11/2015 12:00 AM	Logged By	C.Dicke	Checked By	V. Gautam
Drilling Method	Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type	3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth	80.0 ft
Drill Rig Type	CME-550 ATV	Drilling Contractor	Terracon	Surface Elevation	451.2 ft NAVD88
Borehole Backfill	Cement Grout	Sampling Method(s)	2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data	Automatic Hammer
Boring Location	N 802087.1 E 2307018.7 (ft NAD83)	Groundwater Level(s)	First Encountered at 30 ft on 9/11/2015 Measured 29 ft bgs on 10/29/2015 and 29.2 ft on 11/19/2015		

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core ROD (%)	Recovery (%)											
451.2	0					Crushed LIMESTONE GRAVEL (10")									
450.4	0.8					Dry to moist, brown, lean CLAY (CL) trace sand [FILL]									
450.0	1.3	SS-1	4 50/2"	63		Very dense, dry, black, poorly-graded SAND (SP) with silt, trace coal fragments as gravel [BOTTOM ASH] becomes dense									
445.2	6.0	SS-2	20 37 24	78											
445.2	6.0	SS-3	6 7 8	83		Medium dense, dark gray SILTY SAND (SM) trace coal fragments as coarse sand and fine gravel [BOTTOM ASH]	22.9								%G=7 %S=36 %M=45 %C=12
445.2	6.0	SS-4	6 17 20	89		becomes dense, dry to moist									
445.2	6.0	SS-5	10 15 14	78		becomes medium dense, moist									
431.2	20.0	SS-6	7 8 9	94											
431.2	20.0	SS-7	WOH 1 1	44		Very loose, moist to wet dark gray SILT (ML) with sand [FLY ASH] becomes very loose, moist to wet									
425.2	25.0	ST-1		92			64.2		NP	NP					GUS sampler used %G=0 %S=4 %M=93 %C=3
425.2	25.0	ST-2		0											
421.2	30.0	SS-8	3 5 4	94											GUS sampler used Stopped @ 25 ft bgs on 9/10/15 @ 1600, Started 9/11/15 at 0815 Driller noted harder drilling at 27'-28' bgs, possible cobble

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Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B005

Sheet 2 of 3

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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
420	30	ST-3		100		Very soft, wet, gray lean CLAY (CL) with sand [ALLUVIUM]	25.4 26.8 26.9	115.1 117.9 118.9	30	10	0.0			Water on rods at 30' GUS sampler used %G=0 %S=17 %M=74 %C=9	
		SS-9	WOH 2 3	100		becomes gray with brown mottling					0.0 0.0 0.0				
415	35					Very soft, wet, brown with gray mottling and oxidation staining, SILTY CLAY (CL-ML) with sand [ALLUVIUM]								Switched to washed rotary at 35'	
		SS-10	2 1 1	100		becomes brown with oxidation staining			23	7	0.0 0.0 0.0	0.15 0.1 0.1		%G=0 %S=26 %F=74	
410	40														
405	45	SS-11	WOH/12" 3	100		Very soft, wet, gray, lean CLAY (CL) with interbedded silt seams [ALLUVIUM] becomes stiff, moist to wet					0.0 0.0 1.0	0.15 0.1 0.15			
		SS-12	WOH/12" 2	100		becomes soft to medium stiff, without silt seams					0.25 0.5 0.5	0.5 0.45 0.3			
400	50	ST-4		0										Shelby tube was discarded due to low recovery	
		SS-13	2 1 2	100		becomes moist, dark gray, with trace organics					0.5 0.5 0.5	0.55 0.6 0.45			
395	55	ST-5		92			47.2 45	109.6 112.8 109.0	47	27	- - 0.5	- - 0.55		%G=0 %S=2 %M=61 %C=37	
		SS-14	2 2 4	100							0.25 0.5 0.5				
390	60					Medium dense, wet, gray, SILTY SAND (SM) [ALLUVIUM]									
		SS-15	6 10 16	78										%G=0 %S=63 %F=37	
65	65														

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B005

Sheet 3 of 3

Report: 12/29/15 GEO_SOIL K:\PROJECTS\ID\DYNEGY\60428794_WOODRIVER\DOCS\LOGS\ID\DYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
385															
	70	SS-16	8 12 16	56											
380															
	75	SS-17	15 32 35	89		becomes dense									
375															
	80	SS-18	12 13 12	67		becomes medium dense, poorly-graded SAND (SP), trace silt									%G=0 %S=93 %F=7
370							End of Boring at 80 ft								
	85														
365															
	90														
360															
	95														
355															
100															

Project: Dynegy	Log of Boring WOR-B006
Project Location: Wood River Power Station, Alton, IL	Sheet 1 of 3
Project Number: 60440115	

Date(s) Drilled: 09/14/2015 12:00 AM to 09/14/2015 12:00 AM	Logged By: N.Sanna	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 80.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 451.3 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 801250.9 E 2307088.8 (ft NAD83)	Groundwater Level(s): First Encountered at 47.5 ft on 9/14/2015 Measured 49.4 ft bgs on 10/29/2015 and 48.1 ft on 11/19/2015	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core ROD (%)	Recovery (%)											
451.3	0					Crushed LIMESTONE GRAVEL									
449.5	1.8	SS-1	18 50/4"	80		Very dense, moist, gray, sandy SILT (ML), trace gravel [FLY ASH]									
	5	SS-2	8 13 16	67		becomes medium dense									
445		SS-3	4 4 11	61											%G=8 %S=20 %F=72
	10	SS-4	11 14 15	89											
440															
	15	SS-5	6 9 9	61											
435															
	20	SS-6	1 1 1			Very loose, moist, gray with black streaks SILT (ML) with sand [FLY ASH]									
430		ST-1		96		Dense, moist, dark brown SILTY SAND (SM), trace gravel [POSSIBLE FILL]					2.8 3.5 2.8	0.22 0.25			GUS sampler used
	25	SS-7	18 13 21	78		becomes gray, with gravel									
425															
	30	SS-8	5 7 10	100		Hard, moist, dark gray lean CLAY (CL), trace sand [ALLUVIUM]									>4.5 4.5

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGSIDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B006

Sheet 2 of 3

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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
30															
420		ST-2		67		becomes very stiff	22.5 22.1	124.5	43	22	2.75 2.75 3.0	0.72 0.72 0.8		%G=0 %S=1 %M=65 %C=32	
35		SS-9	3 3 5	100											
415															
40		SS-10	4 6 6	67		Medium dense, moist, gray, poorly-graded fine SAND (SP) [ALLUVIUM]									
410															
45		SS-11	2 2 3	94		becomes loose, with brown mottling								%G=0 %S=9 %F=91	
405															
50		SS-12	4 7 11	94		becomes medium dense, wet, fine to coarse sand								Switched to wash rotary at 50' bgs	
400															
55		SS-13	9 8 10	61		becomes gray								%G=0 %S=95 %F=5	
395															
60		SS-14	10 12 14	61		becomes fine to medium sand									
390															
65		SS-15	8 11 15	61											

Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B006
 Sheet 3 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS	
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)												
385																
70		SS-16	6 10 17	56	[Dotted Pattern]											
380																
75		SS-17	11 17 20	56		becomes dense										
375																
80		SS-18	8 10 14	56	[Dotted Pattern]	becomes medium dense										
370							End of Boring at 80 ft									
85																
365																
90																
360																
95																
355																
100																

Report: 12/29/15 GEO_SOIL K:\PROJECTS\ID\DYNEGY\60428794_WOODRIVER\DOCS\LOGSIDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Date(s) Drilled: 09/15/2015 12:00 AM to 09/15/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 70.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 426.5 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 802111.4 E 2303395 (ft NAD83)	Groundwater Level(s): 23 ft on 9/15/2015	

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGS\IDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
426.5	0					Very stiff to hard, moist, gray lean CLAY (CL) [FILL]									
425		SS-1	6 7 9	83							4.5 4.0 4.0				
	5	ST-1		71											
420		SS-2	4 7 8	78		becomes stiff with silt lenses					2.0 2.0 2.0				
	10	ST-2		50											
415		SS-3	6 5 9	78		becomes very stiff					4.0 4.5 4.0				
	15	SS-4	5 5 9	94							4.0 4.5 4.5				
410		SS-5	4 5 9	72		Very stiff, moist, gray with brown mottling, lean CLAY (CL) [ALLUVIUM]	410.5	16.0			4.0 4.0 2.5				
	20	SS-6	4 4 8	78							4.0 4.0 4.0				
405		ST-3		71											
	25	SS-7	4 5 9	100		Loose, wet, gray, poorly-graded medium SAND (SP), trace clay lenses interbedded [ALLUVIUM]	404.0	22.5							
400		SS-8	4 2 6	72											
	30	SS-9	6 6 6	89		becomes medium dense with fine sand									

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B007


Sheet 2 of 3

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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
30															
395															
		SS-10	4 4 8	89		becomes with wood fragments									
35															
390															
		SS-11	5 6 8	78											
40															
385															
		SS-12	4 5 7	72		becomes with trace wood fragments									
45															
380															
		SS-13	2 2 2	61		Soft to medium stiff, moist, dark gray CLAY (CL-CH) [ALLUVIUM]	378.0				0.5 1.0 0.75				
50															
375															
		SS-14	2 3 2	50		Loose, wet, gray, poorly-graded medium SAND (SP) [ALLUVIUM]	373.0								
55															
370															
		SS-15	5 6 7	50		becomes medium dense									
60															
365															
		SS-16	9 11 12	67		becomes with trace coarse sand									
65															

Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B007
 Sheet 3 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
360															
70		SS-17	5 5 8	39		becomes medium to coarse sand									
	70					End of Boring at 70 ft									
355															
75															
350															
80															
345															
85															
340															
90															
335															
95															
330															
100															

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Date(s) Drilled: 09/11/2015 12:00 AM to 09/14/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 70.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 426.5 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 803106.7 E 2303105.1 (ft NAD83)	Groundwater Level(s): First Encountered at 23 ft on 9/11/2015 Measured 21.8 ft bgs on 10/29/2015 and 19 ft on 11/19/2015	

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGSIDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
426.5	0					Very stiff, moist, dark brown, lean CLAY (CL), trace gravel [FILL]									
425		SS-1	3 4 5	83							3.5 4.0 3.5				
	5	SS-2	7 8 10	0											
420		ST-1		46											
	10	SS-3	3 4 5	83		becomes stiff					1.5 2.5 1.5				
415		SS-4	3 5 9	100		becomes very stiff, gray					3.0 2.0 2.5				
	15	ST-2		75											
410		SS-5	4 5 5	89		Very stiff, moist, gray, lean CLAY (CL) [ALLUVIUM]					3.25 3.0 3.0				
	20	ST-3		75											
405															
	25	SS-6	2 3 2			Loose, wet, gray, poorly-graded medium SAND (SP) [ALLUVIUM]									
400		SS-7	3 4 8			becomes medium dense, brown									
	30	SS-8	3 6 11												

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B008

Sheet 2 of 3

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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
30															
395															
	35	SS-9	6 8 8	61											
390															
	40	SS-10	5 5 7	50											
385															
	45	SS-11	9 9 12	89											
380															
	50	SS-12	8 9 10	44											
375															
	55	SS-13	6 7 7	61		becomes with trace coarse sand									
370															
	60	SS-14	5 6 5	39		becomes with trace fine gravel and coarse sand									
365															
	65	SS-15	8 8 12	50		becomes with gravel									

Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B008
 Sheet 3 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
360															
70		SS-16	14 16 19			becomes dense									
						End of Boring at 70 ft									
355															
75															
350															
80															
345															
85															
340															
90															
335															
95															
330															
100															

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Date(s) Drilled: 09/14/2015 12:00 AM to 09/15/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 70.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 426.2 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 802638.5 E 2303193.6 (ft NAD83)	Groundwater Level(s): 21 ft on 9/14/2015	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
0						Very stiff, moist, gray, lean CLAY (CL) [FILL]									
425		SS-1	6 7 8	67							3.5 3.5 3.0				
	5	ST-1		96											
420		SS-2	5 7 8	100		becomes with root fibers					2.5 2.5 2.0				
	10	ST-2		94			16.2	130.6	32	17				%G=0 %S=6 %M=73 %C=21	
415		SS-3	7 9 10	89		becomes hard without root fibers					4.5 4.5 4.5				
	15	SS-4	7 8 11	78		becomes very stiff					3.5 3.5 3.5				
410		SS-5	6 6 9	83							3.5 3.0 3.5				
	20	SS-6	3 3 4	72		Stiff, moist, gray lean CLAY (CL) [ALLUVIUM]	18.5				1.5 1.5 1.75				
405		SS-7	4 4 4	50		Loose, wet, brown, poorly-graded medium SAND (SP) [ALLUVIUM]	21.7								
	25	SS-8	4 4 5	89		becomes with fine-grained sand									
400		SS-9	4 6 6	100		becomes medium dense, trace fine-grained sand									
	30	SS-10	3 4 4	100		becomes loose									

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Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B009
 Sheet 2 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS	
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)												
30																
395		SS-11	6 10 12	61		becomes medium dense										
		SS-12	3 5 7	56												
35																
390																
		SS-13	6 8 9	50												
40																
385																
		SS-14	11 13 15	56			becomes gray									
45																
380																
		SS-15	9 9 10	67												
50																
375																
		SS-16	4 6 8	67												
55																
370																
		SS-17	6 8 9	61			becomes with trace coarse sand									
60																
365																
		SS-18	10 10 6	50												
65																

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Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B009
 Sheet 3 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Elevation (feet)										
360															
70		SS-19	10 12 12	50		356.2	End of Boring at 70 ft	70.0							
355															
75															
350															
80															
345															
85															
340															
90															
335															
95															
330															
100															

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGSIDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Date(s) Drilled: 09/11/2015 12:00 AM to 09/11/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 70.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 426.1 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 803174.2 E 2303445.3 (ft NAD83)	Groundwater Level(s): 28 ft on 9/11/2015	

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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
426.1	0					Stiff, moist, brown fat CLAY (CH), trace sand [FILL]									
425		SS-1	6 6 9	56											
		SS-2	5 8 10	89		becomes very stiff									
420	5	ST-1		83		becomes gray			58	39	3.5 3.75 4.25				ST-1 Upper Portion %G=0 %S=2 %M=59 %C=39
		ST-2		88		becomes hard			29	15					ST-1 Lower Portion %G=0 %S=24 %M=50 %C=26
415	10	SS-3	6 5 6	78		becomes stiff			15.9	29	4.5 4.5 4.5				ST-2 Upper Portion %G=0 %S=19 %M=63 %C=18
		ST-3		83		becomes stiff				43	27				ST-2 Lower Portion %G=0 %S=14 %M=65 %C=21
413.1	15	ST-3		83		Very stiff, moist, brown lean CLAY (CL), trace to with silty fine sand lenses interbedded [ALLUVIUM]					3.0 3.0 3.0				
410		SS-4	8 8 7	72											
		ST-4		71		becomes stiff					2.0 2.0 2.5				
406.1	20	SS-5	3 3 4	100		Stiff, moist, dark gray fat CLAY (CH) [ALLUVIUM]									
405		ST-5		58					41.6	73	39				
401.1	25	ST-5		58		Very loose, moist, gray, poorly-graded medium SAND (SP)									
400															
		SS-6	1 1 2	17		becomes wet									
30	30														

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B010

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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS										
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)																					
30																									
395		SS-7	12 9 9	50		becomes medium dense	16.9																		
		SS-8	6 6 6	61													NP	NP					%G=0 %S=91 %F=9		
35																									
390																									
		SS-9	6 6 9	50																					
40																									
385																									
		SS-10	13 16 17	56												becomes dense									
45																									
380																									
		SS-11	7 8 9	44												becomes medium dense			NP	NP				%G=2 %S=95 %F=2	
50																									
375																									
		SS-12	5 7 8	50																					
55																									
370																									
		SS-13	5 6 8	11		becomes with gravel																			
60																									
365																									
		SS-14	8 5 6	50		becomes with coarse sand			NP	NP				%G=6 %S=91 %F=4											
65																									

Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B010
 Sheet 3 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Elevation (feet)										
360															
70		SS-15	7 8 9	61		End of Boring at 70 ft									
355															
75															
350															
80															
345															
85															
340															
90															
335															
95															
330															
100															

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Date(s) Drilled: 09/10/2015 12:00 AM to 09/10/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 70.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 430.9 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 803201.5 E 2304163.2 (ft NAD83)	Groundwater Level(s): 18.5 ft on 9/10/2015	

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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
430	0					Very stiff, moist, brown lean CLAY (CL) [FILL]									
		SS-1	3 8 10	44			18.8	32	16					%G=0 %S=5 %M=68 %C=27	
	5	SS-2	5 3 7	33											
425		SS-3	4 4 5	17		becomes stiff, gray					1.75				
	10	SS-4	4 5 8	72		becomes very stiff with wood fragments					2.25 2.5 2.0				
420		SS-5	3 4 6	100			22.6	42	20		2.5 2.5 2.5			%G=0 %S=25 %M=45 %C=30	
	15	SS-6	5 5 7	61		becomes stiff with sand					1.5 1.5 1.75				
415		SS-7	4 4 5	67		Loose, moist, brown, poorly-graded fine grained SAND (SP) [POSSIBLE FILL]									
	20	SS-8	3 3 3	56											
410		ST-1		96		Medium stiff, moist, gray lean CLAY (CL) with sand seams [ALLUVIUM]	28.2 34.7 40.5	115.4 113.0	NP	NP				%G=0 %S=3 %M=88 %C=10	
	25	SS-9	0 5 9	89							1.0 0.5 0.5				
405						Medium dense, wet, brown, poorly-graded medium SAND (SP) [ALLUVIUM]									
	30	SS-10	3 3 3	100		becomes loose									

Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B012
 Sheet 2 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
400	30	SS-11	10 10 12	61		becomes medium dense									
		SS-12	10 10 10	50											
395															
		SS-13	7 9 10	44											
390	40														
		SS-14	8 9 9	50			becomes gray								
385	45														
		SS-15	11 11 10	50											
380	50														
		SS-16	7 8 9	44											
375	55														
		SS-17	12 15 18	50			becomes dense								
370	60														
		SS-18	1 2 1	61			Organic clay layer from 64 to 65 ft bgs								
65	65														

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Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B012
 Sheet 3 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
365		SS-19	4 4 8	44	[Dotted Pattern]	becomes medium dense									
70		SS-20	7 7 8	72											
	70	End of Boring at 70 ft													
360															
75															
355															
80															
350															
85															
345															
90															
340															
95															
335															
100															

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Date(s) Drilled: 09/09/2015 12:00 AM to 09/09/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 70.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 427.9 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 802940.4 E 2304969.1 (ft NAD83)	Groundwater Level(s): 16 ft on 9/9/2015	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
0						Stiff, moist, brown sandy lean CLAY (CL) [FILL]									
	3	SS-1	3 6 10	67							2.0 2.5 2.25				
425						becomes very stiff to hard, gray, trace sand	20.4		38	19	2.5 3.0 3.0				%G=2 %S=7 %M=58 %C=34
	5	SS-2	3 8 7	89											
		SS-3	6 6 7	94							4.0 4.0 4.25				
420															
	10	SS-4	3 5 10	78							2.5 2.5 2.5				
415															
	15	SS-5	2 2 3	67		becomes stiff					1.5 1.5 2.0				
		SS-6	1 1 2	83		Soft, wet, brown and gray lean CLAY (CL) [POSSIBLE FILL]									
410															
	20	ST-1		88			28.9	117.5	44	26					%G=0 %S=1 %M=81 %C=18
		SS-7	1 1 2	100		Soft, moist, gray, fat CLAY (CH) [ALLUVIUM]					0.75 0.75 1.0				
405															
	25	SS-8	1 2 1	100							<0.5	0.3			
		SS-9	0 1 1	100											
400															
		SS-10	1 1 1	61			44.5		58	30					%G=0 %S=2 %M=58 %C=40
30															

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Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B013


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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
30															
		SS-11	2 1 2	100		396.9	Very loose, wet, gray, sandy SILT (ML)								%G=0 %S=14 %F=86
395		SS-12	1 1 2	78											
35		SS-13	1 1 1	100											
390		SS-14	0 1 1	100		389.4	Soft, moist to wet, gray, lean CLAY (CL)					0.3			
40		SS-15	1 1 1	44		386.9	Very loose, wet, gray poorly-graded medium SAND (SP) [ALLUVIUM]								%G=0 %S=93 %F=7
385															
45															
380		SS-16	6 7 7	56			becomes medium dense								
50															
375		SS-17	3 3 3	50			becomes loose								
55															
370		SS-18	6 7 9	67			becomes medium dense with coarse sand								%G=0 %S=96 %F=4
60															
365		SS-19	9 10 11	72			becomes trace gravel								
65															

Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B013
 Sheet 3 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Elevation (feet)										
360															
70		SS-20	9 12 16	50		becomes trace to with gravel									
						End of Boring at 70 ft									
355															
75															
350															
80															
345															
85															
340															
90															
335															
95															
330															
100															

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Date(s) Drilled: 08/26/2015 12:00 AM to 08/26/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 70.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 431.8 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST)	Hammer Data: Automatic Hammer
Boring Location: N 802115.2 E 2305092.8 (ft NAD83)	Groundwater Level(s): 6 ft on 8/26/2015	

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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
431.8	0					Very loose, moist, black, SILT (ML) with sand [FLY ASH]									
430															
425	5	SS-1	WOH/18"	11		becomes loose to very loose, wet									
		SS-2	2 3 1	56											
		SS-3	1 1 1	44											
420	10	SS-4	WOH/18"	89											
		SS-5	1 1 1	72											
415	15	SS-6	1 1 0	83											
		SS-7	0 1 0	61											
410	20	SS-8	WOH/18"	56		Very loose to loose, moist, gray SILT (ML) [ALLUVIUM]	412.3	19.5	51.4	NP	NP				
		SS-9	2 1 2	78											
405	25	ST-1		12								<0.50	0.325		
		ST-2		100		becomes elastic SILT (MH)			72.1 68.1 68.7	98.4 98.7	74	35	<0.50	0.325	%G=1 %S=19 %M=45 %C=35
30	30														

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B014

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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
30															
						400.8	Loose, wet, gray SILTY SAND (SM) [ALLUVIUM]								
400															
		SS-10	2 3 3	67											%G=0 %S=74 %F=26
35															
							becomes dense, poorly-graded medium SAND								
395															
		SS-11	15 16 24	67											
40															
							becomes medium dense								
390		SS-12	9 9 10	78											
45		SS-13	6 9 14	89											
385		SS-14	8 11 14	89		385.8	Medium dense, wet, gray, poorly-graded fine SAND (Sm) with silt								%G=0 %S=93 %F=7
50		SS-15	10 16 12	56			becomes medium dense								
380		SS-16	12 20 26	67			becomes dense								
55		SS-17	9 24 26	89											
375		SS-18	13 21 23	100											
60		SS-19	8 10 7	78											%G=1 %S=93 %F=6
370		SS-20	6 6 8	33											
65		SS-21	9 9 10	67											

Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B014
 Sheet 3 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Elevation (feet)										
365		SS-22	8 11 10	50	[Stippled Pattern]	becomes with fine gravel									
70		SS-23	6 7 9	56											
	70	End of Boring at 70 ft													
360															
75															
355															
80															
350															
85															
345															
90															
340															
95															
335															
100															

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGSIDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Date(s) Drilled: 09/03/2015 12:00 AM to 09/04/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 50.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 428.4 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 802361.9 E 2304856 (ft NAD83)	Groundwater Level(s): 18.5 ft on 9/3/2015 Measured 25.3 ft bgs on 10/29/2015 and 23.3 ft on 11/19/2015	

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGSIDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
428.4	0														
	0-4	SS-1	3 4 6	44		Very stiff, gray and brown, lean CLAY (CL) with sand [FILL]					2.5 2.5 2.5				
425	4-5	SS-2	3 3 4	100							2.0 2.0 2.0				
	5-7	SS-3	6 7 7	56							3.5 3.5 3.0				
420	7-10	SS-4	6 9 8	39		becomes hard, brown, without sand					4.5 4.0 4.5				
	10-15	SS-5	6 7 9	56		becomes gray					4.0 4.5 4.5				
415	15-18	SS-6	8 8 10	100		becomes dark gray, with root fibers									
	18-20	SS-7	3 3 5	100		becomes stiff, gray and brown					1.5 1.5 1.5				
410	20-21	SS-8	3 2 2	33		Very loose, wet, gray, poorly-graded medium SAND (SP) [POSSIBLE FILL]	409.9	18.7							
	21-23	SS-9	1 1 1	89		Very loose, wet, gray SILT (ML) with root fibers	407.4	21.0							
405	23-25	SS-10	WOH/6" 1 1	100		Soft to very soft, moist, gray fat CLAY (CH) [ALLUVIUM]	404.9	23.5			<0.5	0.05			
	25-30	SS-11	1 1 2	100								0.1			
400	30	ST-1		100				73.9 82.6 72.6	92.3 93.2 93.9	103	71			%G=0 %S=1 %M=63 %C=36 GUS sampler used	

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B015

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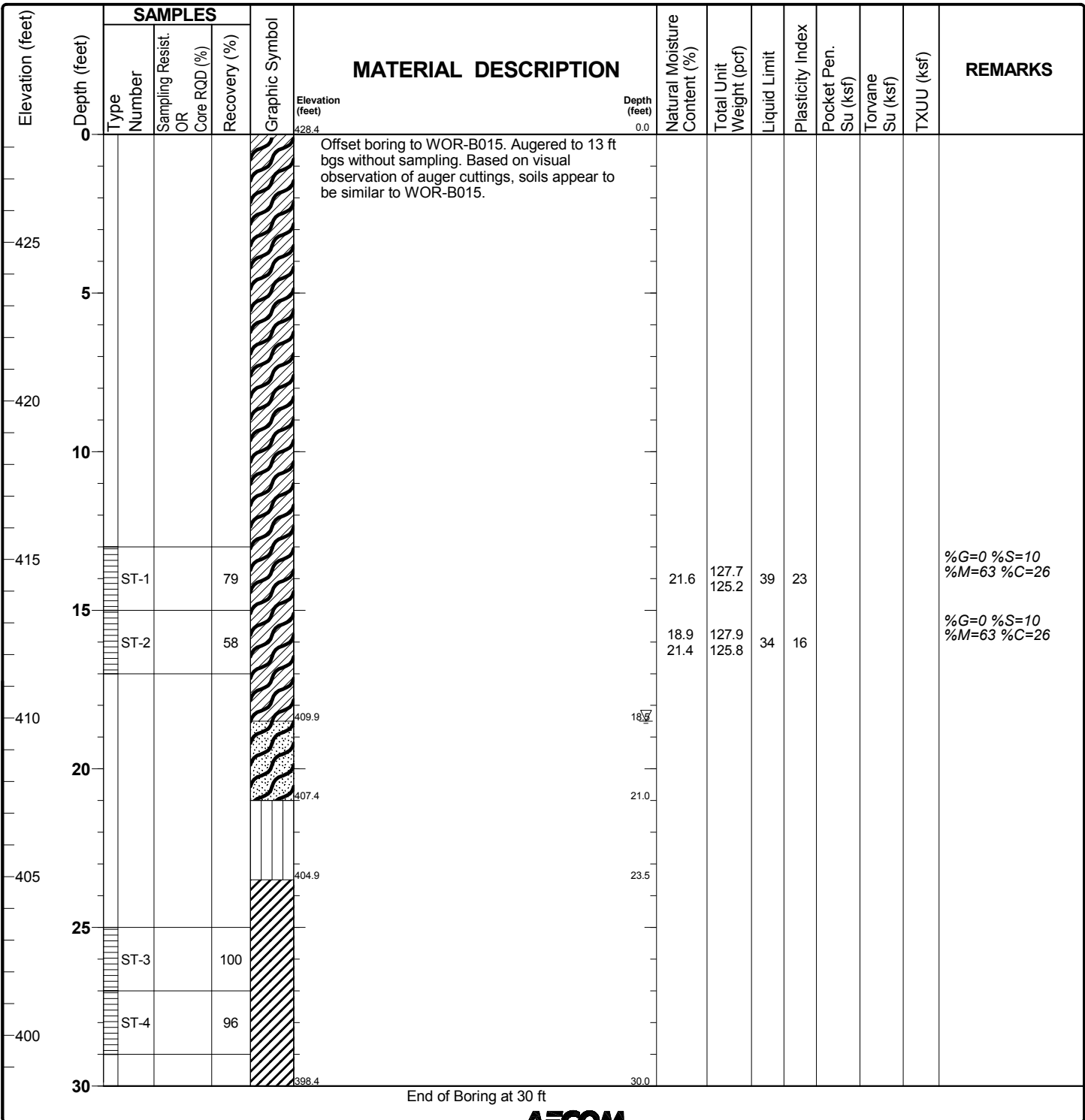
Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGS\IDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
30		ST-1		100						71					
		SS-12	1 1 2	100								0.15			
395		SS-13	WOH/18"	100		becomes with trace shell fragments						0.2			
35															
		SS-14	8 9 9	44		Medium dense, wet, gray, poorly-graded medium SAND (SP) [ALLUVIUM]	392.4							36.0	
390		SS-15	12 14 16	39		becomes dense with fine sand									
40		SS-16	8 8 8	33		becomes medium dense									
385		SS-17	6 5 6	72											
45		SS-18	7 9 13	100											
380		SS-19	10 10 11	67											
50						End of Boring at 50 ft	378.4							50.0	
375															
55															
370															
60															
365															
65															

Project: Dynegy	Log of Boring WOR-B015A
Project Location: Wood River Power Station, Alton, IL	Sheet 1 of 1
Project Number: 60440115	

Date(s) Drilled: 09/23/2015 12:00 AM to 09/23/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 30.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 428.4 ft NAVD88
Borehole Backfill: Well WOR-P015 Installed	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST)	Hammer Data: Automatic Hammer
Boring Location: N 802361.9 E 2304856 (ft NAD83)	Groundwater Level(s): 18.5 ft on 9/3/2015 Measured 25.3 ft bgs on 10/29/2015 and 23.3 ft on 11/19/2015	

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Date(s) Drilled: 09/02/2015 12:00 AM to 09/03/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 70.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 442.2 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 802298.6 E 2304833.3 (ft NAD83)	Groundwater Level(s): 21 ft on 9/2/2015 Measured 17.7ft bgs on 10/29/2015 and 16.2 ft on 11/19/2015	

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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core ROD (%)	Recovery (%)	Graphic Symbol										
442.2	0						Stiff to very stiff, moist to dry, brown lean CLAY (CL) [FILL]								
440		SS-1	6 9 8	50											
	5	SS-2	9 7 14	78					31	11					%G=0 %S=14 %F=86
435		SS-3	10 11 19	72											
	10	SS-4	13 15 18	89			becomes hard and gray								
430		SS-5	8 8 12	61			becomes very stiff								
	15	SS-6	7 8 7	44											
425		SS-7	3 3 2	78			becomes medium stiff				1.5 1.5 1.5				
	20	SS-8	1 1 1	67			becomes soft								
420		SS-9 WOH/18"		89			Very loose, moist to wet, gray SILT (ML) [FLY ASH]								
	25	ST-1		4											GUS sampler used
		ST-2		100											GUS sampler used
415															
	30	SS-10 WOH/18"		33											

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B016

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Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
30															
410		SS-11	WOH/18"	78		becomes with trace sand	39.0		NP	NP				%G=0 %S=0 %F=95 Organic Content = 2.8%	
35		SS-12	WOH/18"	100											
405		SS-13	1 2 2	89		Medium stiff, moist, gray fat CLAY (CL) [ALLUVIUM]					1.0 1.0 0.75				
40		ST-3		96											
400		SS-14	0 1 2	100											
45		SS-15	2 1 2	100			68.8		86	59					
395		SS-16	11 12 15	100		Medium dense, wet, gray, poorly-graded SAND (SP) [ALLUVIUM]					0.75 0.75 -				
50		SS-17	10 11 13	61											
390		SS-18	13 14 15	50											
55		SS-19	10 13 14	11											
385		SS-20	15 21 33	72		becomes very dense									
60		SS-21	18 19 23	67		becomes dense									
380		SS-22	9 17 18	72											
65		SS-23	16 19 22	89											

Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B016
 Sheet 3 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Elevation (feet)										
375		SS-24	12 17 22	89	[Dotted Pattern]	End of Boring at 70 ft									
70		SS-25	12 15 15	89											
370															
75															
365															
80															
360															
85															
355															
90															
350															
95															
345															
100															

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGSIDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Date(s) Drilled: 09/16/2015 12:00 AM to 09/16/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 70.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 431.7 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 801904.6 E 2305465.1 (ft NAD83)	Groundwater Level(s): 16 ft on 9/16/2015	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
0	0						Very stiff, moist, gray lean CLAY (CL) [FILL]								
430	3	SS-1	2 2 3	39							2.0 2.5 2.0				
5	3	SS-2	2 3 4	44		becomes stiff					0.75 1.25 1.75				
425	4	SS-3	3 2 4	39		becomes moist to dry					3.0 3.5 3.0				
10	4	SS-4	3 4 5	33							2.5 2.0 2.0				
420	5	ST-1		46											
15	5	SS-5	3 4 4	94		becomes stiff, moist					1.0 1.5 1.0				
415	6	ST-2		92											
20	6	SS-6	2 1 1	100			Very loose, wet, brown, poorly-graded medium SAND (SP) [POSSIBLE FILL]								
410	7	SS-7	1 1 1	100			Soft moist, gray lean CLAY (CL) [ALLUVIUM]								
25	7	ST-3		100							0.5 0.5 0.5				
405	8	SS-8	1 2 2	100		becomes medium stiff					1.0 0.75 1.0				
30	9	SS-9	6 7 9	89			Medium dense, wet, gray, poorly-graded fine SAND (SP) with silt [ALLUVIUM]								

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGS\IDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B017

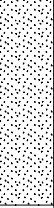
Sheet 2 of 3

Report: 12/29/15 GEO_SOIL K:\PROJECTS\ID\DYNEGY\60428794_WOODRIVER\DOCS\LOGS\ID\DYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
	Depth (feet)	Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)										
30														
35	SS-10	9 9 12	44											
40	SS-11	12 12 18	56	becomes fine to medium sand										
45	SS-12	7 13 13	72											
50	SS-13	16 16 17	78	becomes dense										
55	SS-14	12 13 16	67	becomes medium dense										
60	SS-15	15 16 13	78	becomes medium sand, trace fine sand										
65	SS-16	10 13 16												

Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B017
 Sheet 3 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
365															
70		SS-17	23 25 18	61		becomes dense with coarse sand and gravel									
						End of Boring at 70 ft									
360															
75															
355															
80															
350															
85															
345															
90															
340															
95															
335															
100															

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGSIDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Date(s) Drilled: 09/04/2015 12:00 AM to 09/04/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 70.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 443.9 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 801895.2 E 2305355.3 (ft NAD83)	Groundwater Level(s): 17 ft on 9/4/2015	

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGS\IDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core ROD (%)	Recovery (%)	Graphic Symbol										
443.9	0														
		SS-1	6 5 5	61		Loose, moist, brown, poorly-graded fine SAND (SP), trace to with clay [FILL]				30	9				%G=0 %S=4 %F=96
440		SS-2	9 6 9	28		becomes medium dense									
	5	SS-3	9 14 23	61		becomes dense									
435		SS-4	13 14 20	50											
	10	SS-5	9 12 15	39		becomes medium dense				NP	NP				%G=0 %S=57 %F=43
430		SS-6	13 15 15	61											
	15	SS-7	11 12 12	33											
426.9		SS-8	4 5 4	28		Medium dense, wet, gray, poorly-graded medium SAND (SP) with gravel and coal, with layers of bottom ash interbedded [ASH]									
425		SS-9	1 1 2	67											
	20	SS-10	WOH/18"	11											
420		SS-11	6 6 9	22		wood railroad tie									
	25	SS-12	3 4 4	6											
415															
	30														

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B018

Sheet 2 of 3

Report: 12/29/15 GEO_SOIL K:\PROJECTS\ID\DYNEGY\60428794_WOODRIVER\DOCS\LOGS\DYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
30		SS-13	1 1 1	100		Very loose, wet, brown and gray, poorly graded fine to medium SAND (SP) [ALLUVIUM]	27.4							%G=0 %S=19 %F=81	
410		SS-14	2 2 3	22		becomes loose									
35		SS-15	5 5 6	22		becomes medium dense									
405		SS-16	4 3 3	28		becomes loose								%G=0 %S=83 %F=17	
40		SS-17	6 9 8	72		becomes medium dense									
400		SS-18	6 7 8	61											
45		SS-19	6 7 11	50		becomes light gray with clay									
395		SS-20	9 11 15	56											
50		SS-21	9 6 11	61											
390		SS-22	9 11 16	33											
55		SS-23	9 11 16	89										%G=0 %S=94 %F=6	
385		SS-24	8 12 10	72											
60		SS-25	10 15 16	89		becomes dense									
380		SS-26	11 12 14	56		becomes medium dense									
65															

Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B018
 Sheet 3 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
		SS-27	14 22 25	72	[Stippled Pattern]	becomes dense									
375	70	SS-28	16 15 16	67											
		End of Boring at 70 ft													
370	75														
365	80														
360	85														
355	90														
350	95														
345															
100															

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGS\IDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Date(s) Drilled: 09/08/2015 12:00 AM to 09/09/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 70.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 444.0 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 801731.3 E 2304276.8 (ft NAD83)	Groundwater Level(s): 15 ft on 9/8/2015 Measured 40.5 ft bgs on 10/29/2015 and 38 ft on 11/19/2015	

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGSIDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
444.0	0														
		SS-1	11 12 14	78		Medium dense, moist, brown, poorly-graded fine to medium SAND (SP), trace silt [FILL]									
440	5	SS-2	4 7 9	72			19.6								%G=0 %S=11 %M=55 %C=34
		SS-3	8 14 22	83		becomes dense									
435	10	SS-4	8 10 10	72		becomes with silt									%G=0 %S=13 %M=51 %C=36
430	15	SS-5	10 11 12	61		becomes gray									
						Very loose, wet, gray SILT(ML) with slag [FLY ASH]	15.7								
425	20	SS-6	1 WOH/12"	100			42.6								%G=0 %S=19 %M=66 %C=14
						Very loose, wet, gray poorly-graded medium-grained SAND (SP) [BOTTOM ASH]	20.0								
420	25	SS-7	1 WOH/12"	89											
		SS-8	2 1 2	100			42.9								%G=8 %S=62 %M=23 %C=7
418.0	26.0	SS-9	WOH/18"	89		Very loose, wet, gray, SILTY SAND (SM) [POSSIBLE FILL]	26.0								
415	30	SS-10	1 1 1	100											

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B020


Sheet 2 of 3

Report: 12/29/15 GEO_SOIL K:\PROJECTS\ID\DYNEGY\60428794_WOODRIVER\DOCS\LOGS\ID\DYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
30		SS-11	1 1 1	100										%G=1 %S=19 %F=81	
410		SS-12	WOH/12" 1	100											
35		SS-13	2 2 4	100											
						407.0	Medium stiff, moist, gray, fat CLAY (CL) [ALLUVIUM]								
405		ST-1		100										GUS sampler used	
40															
400		ST-2		44										%G=0 %S=2 %M=49 %C=49	
45						399.0	Medium dense, wet, light gray, poorly-graded fine to medium SAND (SP) [ALLUVIUM]	54.8 33.3	103.6	60	39				
395		SS-14	13 13 15	100										%G=0 %S=93 %F=7	
50								19.6							
390		SS-15	8 11 15	67			becomes with coarse sand								
55															
385		SS-16	13 14 19	50			becomes dense								
60															
380		SS-17	16 20 22	50											
65															

Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B020
 Sheet 3 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
375	70	SS-18	8 8 11	61		becomes medium dense									
						End of Boring at 70 ft									
370	75														
365	80														
360	85														
355	90														
350	95														
345															
100	100														

Report: 12/29/15 GEO_SOIL K:\PROJECTS\ID\DYNEGY\60428794_WOODRIVER\DOCS\LOGS\ID\DYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Date(s) Drilled: 08/28/2015 12:00 AM to 08/28/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 70.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 422.7 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 802779.5 E 2303390.7 (ft NAD83)	Groundwater Level(s): Frist Encountered at 6 ft bgs and 19 ft on 8/28/2015 Measured 19 ft bgs on 10/29/2015 and 18.4 ft on 11/19/2015	

Report: 12/29/15 GEO_SOIL K:\PROJECTS\ID\DYNEGY\60428794_WOODRIVER\DOCS\LOGSIDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
422.7	0					Very loose, moist to wet, gray sandy SILT (ML) [FLY ASH]									
420															
415	5	SS-1	2 1 1	67		becomes wet									%G=0 %S=29 %M=63 %C=5
		SS-2	WOH/18"	78											
		ST-1		0											
	10	ST-2		100											GUS sampler used
		SS-3	WOH/18"	0											
410															
	15					Stiff, moist, gray lean CLAY (CL) [ALLUVIUM]	15.0								
		SS-4	3 5 6	89				26.9	47	23					%G=0 %S=0 %F=100
		ST-3		0											
405															
	20					Loose, wet, gray SILTY SAND (SM) [ALLUVIUM]	19.0								
		SS-5	3 4 4	89											
400						6" clay layer									
	25	SS-6	4 5 5	100											%G=0 %S=56 %F=44
		SS-7	7 7 8	56		becomes medium dense									
395															
	30	SS-8	6 7 8												

Project: Dynegy

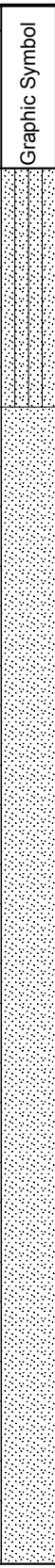
Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B021

Sheet 2 of 3

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGS\IDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS		
	Depth (feet)	Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)												
30																
		SS-9	7 8 9	61		Elevation (feet) 386.7 --- 36.0										
390		SS-10	7 8 8	50												
35		SS-11	3 4 5	67											Loose, wet, gray, poorly-graded SAND (SP) [ALLUVIUM]	%G=1 %S=96 %F=3
		SS-12	5 4 4	72												
385		SS-13	5 13 13	67												
40		SS-14	6 5 8	89												
		SS-15	3 3 5	61												
380		SS-16	3 6 7	56											becomes trace to with coal fragments as gravel	
45		SS-17	5 6 6	67												
		SS-18	6 6 10	44											becomes medium to coarse sand	
375		SS-19	5 5 7	33												
		SS-20	4 9 10	28												
370		SS-21	15 12 11	50											becomes with fine gravel	
365		SS-22	10 15 16													
60																
65																

Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B021
 Sheet 3 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
355		SS-23	7 7 7	56	[Stippled Pattern]	End of Boring at 70 ft									
70		SS-24	7 7 9												
350															
75															
345															
80															
340															
85															
335															
90															
330															
95															
325															
100															

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Project: Dynegy	Log of Boring WOR-B022
Project Location: Wood River Power Station, Alton, IL	Sheet 1 of 2
Project Number: 60440115	

Date(s) Drilled: 09/01/2015 12:00 AM to 09/01/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 50.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 430.6 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 802021.8 E 2303775.5 (ft NAD83)	Groundwater Level(s): 6 ft on 9/1/2015	

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Graphic Symbol										
430	0														
	5	SS-1	4 5 5			Loose, moist, gray, SILT (ML) with sand [FLY ASH]									
425		SS-2	4 3 3	61		becomes wet with bottom ash									
	10	SS-3	1 3 1	83		becomes very loose									
420		SS-4	WOH/6" 1 1	72		becomes trace sand									
	15	ST-1		42			122.7 113.5 65.0	85.7	NP	NP					GUS sampler used %G=0 %S=6 %M=83 %C=11
415		ST-2		100			58.3 73.6 73.7 24.3	93.2 86.6 -	NP	NP					GUS sampler used Upper: %G=0 %S=11 %F=89 Lower: %G=0 %S=4 %M=67 %C=30 SG=2.50, k=1.2E-06
	20					Stiff, moist, gray, lean CLAY (CL) [ALLUVIUM]	412.1 18.5 23 120.6 25	122.3	39	23					
410		SS-5	4 5 5	89							2.0 2.0 1.75				
	25	SS-6	3 4 4	94		becomes with sand					2.0 2.0 2.0				
405		SS-7	2 3 3	89							1.25 1.50 1.50				
	30	SS-8	2 3 2	100		becomes medium stiff to stiff					1.0 1.25 1.0				

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGSIDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B022

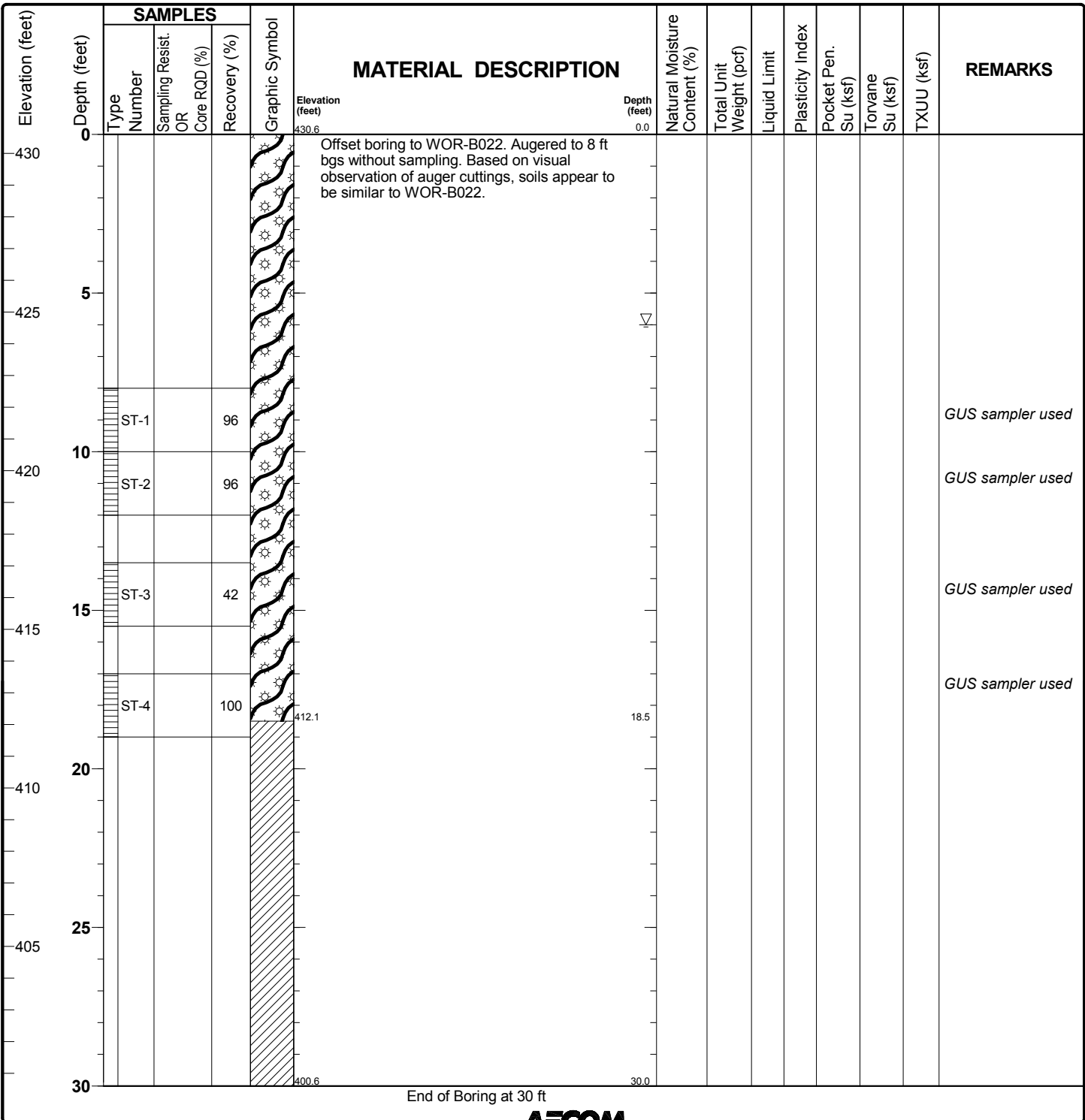
Sheet 2 of 2

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGS\IDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
400	30	SS-9		100		becomes medium stiff	38.5	46	21	0.5 0.75 0.5					
396.6	35	SS-10	2 3 4	72		Loose, wet, dark gray, SILTY SAND (SM) [ALLUVIUM]	34.0								
395		SS-11	5 7 10	89		becomes medium dense								%G=0 %S=81 %F=19	
390	40	SS-12	4 8 9	56		becomes interbedded with clay lenses									
385	45	SS-14	5 9 10	72											
		SS-15	4 4 6	61											
380	50	SS-16	5 5 7	72		End of Boring at 50 ft	50.0								
375	55														
370	60														
65															

Project: Dynegy	Log of Boring WOR-B022A
Project Location: Wood River Power Station, Alton, IL	Sheet 1 of 1
Project Number: 60440115	

Date(s) Drilled: 09/01/2015 12:00 AM to 09/01/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 30.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 430.6 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 802021.8 E 2303775.5 (ft NAD83)	Groundwater Level(s): 6 ft on 9/1/2015	



Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGSIDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Date(s) Drilled: 08/31/2015 12:00 AM to 08/31/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 70.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 423.0 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 802489.4 E 2303542.5 (ft NAD83)	Groundwater Level(s): 21 ft on 8/31/2015 Measured 20.3 ft bgs on 10/29/2015 and 18.9 ft on 11/19/2015	

Report: 12/29/15 GEO_SOIL K:\PROJECTS\ID\DYNEGY\60428794_WOODRIVER\DOCS\LOGSIDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core ROD (%)	Recovery (%)	Graphic Symbol										
423.0	0					Very loose, moist, gray, SILT (ML) with sand [ASH]									
420															
	5	SS-1	WOH/18"	0											
		SS-2	WOH/18"	100		becomes with trace sand									%G=1 %S=9 %F=91
415															
	10	ST-1		100											
		ST-2		100											
							412.0								
						Stiff to medium stiff, moist, gray fat CLAY (CH) with rock fragments [FILL]	11.0								
410															
	15	SS-5	2 3 3	78				36.1	58	29	1.25 1.25 1.0				
		SS-6	1 1 0	67		Stiff to medium stiff, moist, gray fat CLAY (CH) [ALLUVIUM]	407.0				1.0 1.0 1.25				
		SS-7	1 1 1	89							0.5 0.5 0.75				
405															
	20	SS-8	3 2 3	78		Loose, wet, gray SILTY SAND (SM), trace organics [ALLUVIUM]	402.0								
		SS-9	2 2 2	89											
400															
	25	SS-10	3 2 2	56											
		SS-11	1 2 3	89		Loose, wet, gray poorly-graded medium grained SAND (SP) [ALLUVIUM]	394.5								%G=0 %S=64 %F=36 Organic Content = 2.8%
395															
	30						28.5								

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B024

Sheet 2 of 3

Report: 12/29/15 GEO_SOIL K:\PROJECTS\ID\DYNEGY\60428794_WOODRIVER\DOCS\LOGSIDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR	Core RQD (%)	Recovery (%)										
390	30	SS-12	4 4 5		44	[Pattern: Dotted]									
385	35	SS-13	3 2 4		56	[Pattern: Diagonal Lines]	Soft to medium stiff, gray fat CLAY (CH) [ALLUVIUM]				0.5 0.5 0.5				%G=0 %S=96 %F=4
384.5		SS-14	2 2 2		100										
385	40	SS-15	1 1 1		56	[Pattern: Dotted]	Very loose, wet, gray poorly-graded fine SAND (SP) [ALLUVIUM]								
380		SS-16	10 19 16		89	[Pattern: Dotted]	becomes dense, poorly-graded medium SAND								
375	45	SS-17	8 8 9		94	[Pattern: Dotted]	becomes medium dense								
377.0		SS-18	1 1 1		89	[Pattern: Diagonal Lines]	Soft, moist to wet, lean CLAY (CL)								
370	50	SS-19	10 12 10		89	[Pattern: Dotted]	Medium dense, wet, gray, poorly-graded fine SAND (SP) [ALLUVIUM]								
365	55	SS-20	8 5 2		61	[Pattern: Dotted]	becomes loose, poorly-graded medium SAND								
365		SS-21	8 7 9		44	[Pattern: Dotted]	becomes medium dense								
360	60	SS-22	7 8 8		56	[Pattern: Dotted]									
360		SS-23	8 9 10		50	[Pattern: Dotted]	becomes interbedded with clay lenses								
65	65														

Project: Dynegy
 Project Location: Wood River Power Station, Alton, IL
 Project Number: 60440115

Log of Boring WOR-B024
 Sheet 3 of 3

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)	Elevation (feet)										
355		SS-24	6 9 10	39	[Dotted Pattern]	End of Boring at 70 ft									
70		SS-25	6 7 8	50											
350															
75															
345															
80															
340															
85															
335															
90															
330															
95															
325															
100															

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGS\IDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Date(s) Drilled: 09/02/2015 12:00 AM to 09/02/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 60.0 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 433.5 ft NAVD88
Borehole Backfill: Cement Grout	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 802267.5 E 2304498.5 (ft NAD83)	Groundwater Level(s): 6 ft on 9/2/2015 Measured 8 ft bgs on 10/29/2015 and 8.2 ft on 11/19/2015	

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGS\IDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
433.5	0						Loose, moist, gray, SILT (SM) with sand [FLY ASH]								
430	5	SS-1	3 4 2	100											
425	10	SS-2	WOH/18"	100		becomes very loose, wet									
		ST-1		100											GUS sampler used
420	15	SS-3	WOH/18"	100											
		SS-4	WOH/18"	56											
415	20	SS-5	WOH/6" 1 WOH/6"	72											
		SS-6	WOH/18"	17											
410	25	SS-7	WOH/18"	0											
		SS-8	WOH/18"	100											
407.5	26.0	SS-9	WOH/12" 1	61		Very soft, moist, gray fat CLAY (CH) [ALLUVIUM]									
405	30	ST-2		0											

Project: Dynegy

Project Location: Wood River Power Station, Alton, IL

Project Number: 60440115

Log of Boring WOR-B025

Sheet 2 of 2

Report: 12/29/15 GEO_SOIL K:\PROJECTS\ID\DYNEGY\60428794_WOODRIVER\DOCS\LOGS\ID\DYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS	
	Depth (feet)	Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
30		ST-3		83			64 66.6 63.3	- 99 99.8	94	56	0.35			%G=0 %S=0 %M=15 %C=85	
400		SS-10	WOH/6" 0	100											
35		SS-11	1 2 2	100		becomes soft to medium stiff, lean to fat CLAY (CL-CH)						0.5 0.5 0.75			%G=0 %S=0 %F=100
395		SS-12	5 9 12	67		Medium dense, wet, gray poorly-graded SAND (SP) [ALLUVIUM]									
40		SS-13	12 15 21	44		becomes dense									
390		SS-14	9 15 16	72											%G=1 %S=90 %F=9
45		SS-15	19 21 24	67											
385		SS-16	8 8 8	61		becomes medium dense									%G=0 %S=93 %F=7
50		SS-17	6 10 7	78											
380		SS-18	2 2 4	50		becomes loose									
55															
375															
60															
65															

Date(s) Drilled: 09/16/2015 12:00 AM to 09/16/2015 12:00 AM	Logged By: B. Clayton	Checked By: V. Gautam
Drilling Method: Hollow Stem Auger / Mud Rotary	Drill Bit Size/Type: 3 1/4" ID HSA, 3 3/8" Tricone	Borehole Depth: 28.5 ft
Drill Rig Type: CME-550 ATV	Drilling Contractor: Terracon	Surface Elevation: 431.4 ft NAVD88
Borehole Backfill: Well WOR-P026 Installed	Sampling Method(s): 2" ID Split Spoon (SS), Shelby Tube (ST), Gregory Undisturbed Sampler (GUS)	Hammer Data: Automatic Hammer
Boring Location: N 801728.8 E 2304914.5 (ft NAD83)	Groundwater Level(s): 5 ft on 9/16/2015 Measured 7.6 ft bgs on 10/29/2015 and 6.9 ft on 11/19/2015	

Report: 12/29/15 GEO_SOIL K:\PROJECTS\IDYNEGY\60428794_WOODRIVER\DOCS\LOGSIDYNEGY_WOOD RIVER REV.0.GPJ DYNEGY LIBRARY.GLB

Elevation (feet)	Depth (feet)	SAMPLES				Graphic Symbol	MATERIAL DESCRIPTION	Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	Pocket Pen. Su (ksf)	Torvane Su (ksf)	TXUU (ksf)	REMARKS
		Type Number	Sampling Resist. OR Core RQD (%)	Recovery (%)											
431.4	0						Loose, moist, dark gray SILT (ML) [FLY ASH]								
430		SS-1	2 6 3	72			becomes very loose								
	5	SS-2	WOH/18"	100			becomes wet								
425		ST-1		75			Very loose, wet, light gray, poorly-graded medium SAND (SP) [BOTTOM ASH]								
	10	SS-3	1 1 1	89											
420		SS-4	1 1 1	94											
	15	SS-5	1 1 1	100			Very loose, wet, dark gray SILT (ML) [FLY ASH]								
415		SS-6	WOH/6" 1 WOH/6"	100											
	20	SS-7	1 1 1	100											
410		ST-2		92											
	25	SS-8	1 2 3	100			Medium stiff, moist, gray lean to fat CLAY (CL-CH) [ALLUVIUM]				1.0 1.0 1.0				
405		SS-9	3 5 8	89			Medium dense, wet, brown, poorly-graded medium SAND (SP)								
	30						End of Boring at 28.5 ft								

APPENDIX A2
HISTORICAL BORING LOGS

B-1: Illinois State Water Survey: 1982 Boring and
Piezometer Logs (Hampton and O'Hearn, 1984)

RECORD OF SUBSURFACE EXPLORATION

PROJECT Illinois Power - Wood River
Power Plant Monitoring Wells
 JOB NO. 82-1344

BORING M-7
 SHEET 1 OF 2

DEPTH (ft)	SAMPLE			SEE REMARK #	DESCRIPTION OF MATERIALS (Color Modifier MATERIAL. Classification) Soil Classification System <u>Unified</u> Surface Elevation <u> </u>	BLOWS (per 6 in)	DRY UNIT WEIGHT (pcf)	Shear Strength, tsf		
	NUMBER	INTERVAL AND TYPE	ADVANCED / RECOVERED (in)					SV Δ	QP/2 \square	QU/2 \circ
-5-	1	SS	24/15	1	Gray Fine Sand and Fly Ash, FILL	2-3-4				
-10-	2	SS	24/19			1/12-2				
-15-	3	SS	24/20		Fly Ash with Clay Seams and Fine to Medium Sand, FILL	3-8-7				
-20-	4	SS	24/24			13-8-9				
-25-	5	SS	24/18		Grayish Brown Fine SAND, Trace Silty Clay, and Fly Ash, Fill	6-2-1				
-30-	6	SS	24/16		Gray CLAY	3-4-6				
-35-	7	SS	24/21			3-5-6				

DRILLING METHOD Hollow Augers
 DATE DRILLED 12-20-82
 DRILLED BY Bignall
 LOGGED BY Hileman
 PIEZOMETER See Sketch

GROUNDWATER LEVELS
 Encountered at 40.0 Feet
 _____ Hours after completion _____ Feet
 _____ after completion _____ et
 _____ after completion _____ et

NOTE: Refer to the attached GENERAL NOTES and NOTATION USED ON RECORDS OF SUBSURFACE EXPLORATION for abbreviations, explanations, and qualifications relative to this log.



RECORD OF SUBSURFACE EXPLORATION

PROJECT Illinois Power - Wood River
Power Plant Monitoring Wells
 JOB NO. 82-1344

BORING M-7
 SHEET 2 OF 2

DEPTH (ft)	SAMPLE			SEE REMARK #	DESCRIPTION OF MATERIALS (Color Modifier MATERIAL. Classification) Soil Classification System <u>Unified</u> Surface Elevation <u> </u>	BLOWS (per 6 in)	DRY UNIT WEIGHT (pcf)	Shear Strength, tsf											
	NUMBER	INTERVAL AND TYPE	ADVANCED / RECOVERED (in)					SV Δ	QP/2 \square	QU/2 \circ	PL +	NMC •	LL x						
40	8	SS	24/24		Gray CLAY	2-2-5													
45	9	SS	24/16		Brown to Gray Fine to Medium SAND Trace Silt and Clay	12-11-16													
50	10	SS	24/14		Brown Fine to Medium SAND, Trace Coarse Sand	10-11-15													
55																			
60	11	SS	42/20			10-12-14													
65					TOB														
70					REMARKS: 1. Two-foot Long Split-spoon Used Entire Boring, Blow Counts Shown For First 18 Inches.														

DRILLING METHOD Hollow Augers
 DATE DRILLED 12-20-82
 DRILLED BY Bignall
 LOGGED BY Hileman
 PIEZOMETER See Sketch

GROUNDWATER LEVELS
 Encountered at _____ Feet
 _____ Hours after completion _____ Feet
 _____ after completion _____ Feet
 _____ after completion _____ Feet

NOTE: Refer to the attached GENERAL NOTES and NOTATION USED ON RECORDS OF SUBSURFACE EXPLORATION for abbreviations, explanations, and qualifications relative to this log.



John Mathes & Associates, Inc.

RECORD OF SUBSURFACE EXPLORATION

PROJECT Illinois Power - Wood River
Power Plant Monitoring Wells
 JOB NO. 82-1344

BORING M-8
 SHEET 1 OF 1

DEPTH (ft)	SAMPLE			SEE REMARK #	DESCRIPTION OF MATERIALS (Color Modifier MATERIAL. Classification) Soil Classification System <u>Unified</u> Surface Elevation <u> </u>	BLOWS (per 6 in)	DRY UNIT WEIGHT (pcf)	Shear Strength, tsf												
	NUMBER	INTERVAL AND TYPE	ADVANCED / RECOVERED (in)					SV Δ	QP/2 \square	QU/2 \circ	PL	NMC	LL	Rock Quality Designation						
40	1	SS	24/24	2	1	1-2-3														
45	2	SS	24/24	3	2	4-13-16														
50																				
55																				
60																				
65																				
70																				

REMARKS:
 1. Drilled Down to 41' Took First Sample.
 2. Two-foot Long Split-spoon Used Entire Boring, Blow Counts for First 18 Inches.
 3. Ten Inches Blow-in, Drove Split-spoon, Washed Out, Drilled Down to 47'.

DRILLING METHOD Hollow Augers
 DATE DRILLED 12-21-82
 DRILLED BY Bignall
 LOGGED BY Hileman
 PIEZOMETER See Sketch

GROUNDWATER LEVELS
 Encountered at 34.1 Feet
 _____ Hours after completion _____ Feet
 _____ after completion _____ Feet
 _____ after completion _____ Feet

NOTE: Refer to the attached GENERAL NOTES and NOTATION USED ON RECORDS OF SUBSURFACE EXPLORATION for abbreviations, explanations, and qualifications relative to this log.



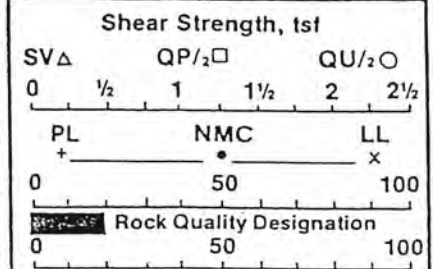
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RECORD OF SUBSURFACE EXPLORATION

PROJECT Illinois Power - Wood River
Power Plant Monitoring Wells
 JOB NO. 82-1344

BORING M-10
 SHEET 1 OF 2

DEPTH (ft)	SAMPLE			SEE REMARK #	DESCRIPTION OF MATERIALS (Color Modifier MATERIAL. Classification) Soil Classification System <u>Unified</u> Surface Elevation <u>-</u>	BLOWS (per 6 in)	DRY UNIT WEIGHT (pcf)	Shear Strength, tsf									
	NUMBER	INTERVAL AND TYPE	ADVANCED / RECOVERED (in)					SV Δ	QP/2 \square	QU/2 \circ	PL	NMC	LL				
5	1	SS	18/16	1	Gray to Brown Silty CLAY	3-5-8											
10	2	SS	18/18		Gray Clayey SILT, Trace Fine Sand	4-7-10											
15	3	SS	18/18		Gray Silty CLAY	2-3-3											
20	4	SS	18/18	2	Trace Fine Sand	1/12-2											
25	5	SS	18/6		Brown Fine SAND, Trace Clay	1-1-2											
30	6	SS	18/18		Gray Silty CLAY, Trace Fine Sand	1-2-2											
35	7	SS	18/18		Gray CLAY, Trace Silt	WH-1-2											



DRILLING METHOD Hollow Augers
 DATE DRILLED 12-21-82
 DRILLED BY Roberts
 LOGGED BY Schaefer
 PIEZOMETER See Sketch

GROUNDWATER LEVELS
 Encountered at 19.3 Feet
 _____ Hours after completion _____ Feet
 _____ after completion _____ Feet
 _____ after completion _____ Feet

NOTE: Refer to the attached GENERAL NOTES and NOTATION USED ON RECORDS OF SUBSURFACE EXPLORATION for abbreviations, explanations, and qualifications relative to this log.



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RECORD OF SUBSURFACE EXPLORATION

PROJECT Illinois Power - Wood River
Power Plant Monitoring Wells
 JOB NO. 82-1344

BORING M-10
 SHEET 2 OF 2

DEPTH (ft)	SAMPLE			SEE REMARK #	DESCRIPTION OF MATERIALS (Color Modifier MATERIAL. Classification)	BLOWS (per 6 in)	DRY UNIT WEIGHT (pcf)	Shear Strength, tsf											
	NUMBER	INTERVAL AND TYPE	ADVANCED / RECOVERED (in)					SV Δ	QP/2 \square	QU/2 \circ	PL	NMC	LL	Rock Quality Designation					
-40	8	SS	18/18		Gray CLAY, Trace Silt Soil Classification System <u>Unified</u> Surface Elevation <u>-</u>	WH-1-2													
-45	9	SS	18/18			WH-WH-2													
-50	10	SS	18/18			WH-1-2													
-55	11	SS	18/18			WH-WH-3													
-60					TOB														
-65					REMARKS: 1. Approx. 6" Fly Ash at Surface 2. Pulled SS, 18" Blow-in, Added Water, Continued Drilling.														
-70																			

DRILLING METHOD Hollow Augers
 DATE DRILLED 12-21-82
 DRILLED BY Roberts
 LOGGED BY Schaefer
 PIEZOMETER See Sketch

GROUNDWATER LEVELS
 Encountered at _____ Feet
 _____ Hours after completion _____ Feet
 _____ after completion _____ Feet
 _____ after completion _____ ft

NOTE: Refer to the attached GENERAL NOTES and NOTATION USED ON RECORDS OF SUBSURFACE EXPLORATION for abbreviations, explanations, and qualifications relative to this log.



RECORD OF SUBSURFACE EXPLORATION

PROJECT Illinois Power - Wood River
Power Plant Monitoring Wells
 JOB NO. 82-1344

BORING M-11
 SHEET 1 OF 1

DEPTH (ft)	SAMPLE			SEE REMARK #	DESCRIPTION OF MATERIALS (Color Modifier MATERIAL. Classification) Soil Classification System <u>Unified</u> Surface Elevation <u> </u>	BLOWS (per 6 in)	DRY UNIT WEIGHT (pcf)	Shear Strength, tsf												
	NUMBER	INTERVAL AND TYPE	ADVANCED / RECOVERED (in)					SV Δ	QP/2 \square	QU/2 \circ	PL	NMC	LL							
-5																				
-10																				
-15																				
-20	1	SS	18/14	1	Gray Silty CLAY	1-1-4														
-25	2	SS	18/16		Gray Fine SAND	1-1-0														
-30	3	SS	18/18		- with Gray Clay TOB	1-1-2														
-35					REMARKS: 1. Drilled Down to 19', Took First Sample.															

DRILLING METHOD Hollow Auger
 DATE DRILLED 12-22-82
 DRILLED BY Roberts
 LOGGED BY Schaefer
 PIEZOMETER See Sketch

GROUNDWATER LEVELS
 Encountered at Feet
 Hours after completion Feet
 after completion Feet
 after completion Feet

NOTE: Refer to the attached GENERAL NOTES and NOTATION USED ON RECORDS OF SUBSURFACE EXPLORATION for abbreviations, explanations, and qualifications relative to this log.

