



**Illinois Environmental Protection Agency**

**Field Boring Log**

Site ID No. 0798085001 Federal ID No. \_\_\_\_\_

County: Jasper

Site Name: Newton Power Station Landfill Phase II

Boring No. B208 Monitoring Well No. G208

Quadrangle: Latona Sec. 27 T. 6N R. 8E

Surface Elevation: 533.06 Completion Depth: 95'

UTM (or State Plane) Coord. N. (X) 6208.18 E. (Y) 4417.18

Auger Depth: 95' Rotary Depth: NA

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

Date: Start: 10/11/11 Finish: 10/13/11

Boring Location: South side of Area 3

Drilling Equipment: CME 550

Elev.	Description of Material	Graphic Log	Depth In Feet	SAMPLES					Personnel	REMARKS
				Sample No.	Sample Type	Sample Recovery (%)	Penetrometer	N Values (Blow Counts)	OVA or HNU Readings	
528.06	Clayey fill Brown mottled gray silty clay (ML-CL); Trace sand & gravel; Moist; Firm		5	1	5' CS	100%				
523.06			10	2	5' CS	100%				
518.06	Gray silty clay (ML-CL); Trace sand & gravel; Dry; Very firm to hard		15	3	5' CS	100%				
513.06	Brown silty sand (SM) to sand (SW); Some gravel; Moist		20	4	5' CS	100%				
508.06	Med. gray silty clay (ML-CL) w/ gravel; Trace sand; Moist; Very firm to hard		25	5	5' CS	100%				
503.06			30	6	5' CS	100%				
498.06			35	7	5' CS	60%				
493.06			40	8	5' CS	80%				Fe staining
488.06	Gray fine sand (SP); Wet		45	9	2' SS	100%				Drove split spoon to remove obstruction
				10	5' CS	30%				
				11	5' CS	100%				



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Site Name: Newton Power Station Landfill Phase II

Quadrangle: Latona Sec. 27 T. 6N R. 8E

UTM (or State Plane) Coord. N. (X) 6208.18 E. (Y) 4417.18

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

Boring Location: South side of Area 3

Drilling Equipment: CME 550

County: Jasper

Boring No. B208 Monitoring Well No. G208

Surface Elevation: 533.06 Completion Depth: 95'

Auger Depth: 95' Rotary Depth: NA

Date: Start: 10/11/11 Finish: 10/13/11

Elev.	Description of Material	Graphic Log	Depth In Feet	SAMPLES						REMARKS
				Sample No.	Sample Type	Sample Recovery (%)	Penetrometer	N Values (Blow Counts)	OVA or HNU Readings	
	Med. gray silty clay (ML-CL) w/ gravel; Trace sand; Moist; Very firm to hard									
478.06			55	12	5' CS	100%				
473.06			60	13	5' CS	100%				
468.06			65	14	5' CS	60%				
463.06	*Softer		70	15	5' CS	100%				
458.06			75	16	2' SS	100%				Drove split spoon to remove obstruction
453.06			75	17	5' CS	100%				
448.06	Large wood pieces & plant debris		85	18	5' CS	100%				
443.06			90	19	5' CS	100%				
438.06	EOB @ 95' BGS		95	20	5' CS	100%				
				21	5' CS	100%				

**Personnel**  
 G - Ken Miller  
 D - Todd Skinner  
 H - Justin Lance  
 H - Scott Walsh

# RAPPS

## BORING LOG

ENGINEERING &amp; APPLIED SCIENCE

821 S. DURKIN DRIVE-SPRINGFIELD IL 62704 - (217) 787-2118

Client: CIPS Project: Newton LF Monitoring Wells Boring No: G217  
 Drilling Firm: PSI Drilling Method: 4 1/4 HSA Surface Elev: 535.67  
 Logged By: MSS Checked By: --- Date Started: 8/26/97 Completed: 8/26/97

D E P T H	Material Description Classification System (Unified)	Sampling			Tests		Comments	D E P T H
		Tube No.	Type	% Rec.	Pocket Pen Cu Usf	% Moist		
	Brown silty CLAY (CL): Fill Material 3.0	1	S		4.0 2.0			
			F	100		dry		
			o		3.0			
-5-			o		2.5			-5-
	Gray-Brown silty CLAY (CL) w/coarse sand 8.2	2	C	100	2.0	mst	Gray, medium SAND (SM) w/silt from 8.2 to 8.6	
	see comments 8.6		o		1.75			
-10-			n		2.5			-10-
	Gray, mottled brown CLAY (CH-CL) w/silt 14.0	3	i	100	3.0	mst		
			o		4.5+			
			u		4.5+			
-15-	Brown silty CLAY (CL) w/pebbles 15.0		s		4.0			-15-
		4	a	100	4.5+	dry	very weathered	
			m		4.5+			
-20-			p		4.5+			-20-
	Gray, mottled Brown silty CLAY (CL) w/ pebbles	5	i	100	4.5+	dry		
			e		4.5+			
			r		4.5+			
-25-					4.5+		End Boring at 25.0	-25-

Water Level NA at NA Hrs.  
 Water Level NA at NA Hrs.



**Illinois Environmental Protection Agency**

**Field Boring Log**

Site ID No. 0798085001 Federal ID No. \_\_\_\_\_

County: Jasper

Site Name: Newton Power Station Landfill Phase II

Boring No. B222 Monitoring Well No. G222

Quadrangle: Latona Sec. 27 T. 6N R. 8E

Surface Elevation: 532.12 Completion Depth: 80'

UTM (or State Plane) Coord. N. (X) 5322.24 E. (Y) 3989.08

Auger Depth: 80' Rotary Depth: NA

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

Date: Start: 10/24/11 Finish: 10/25/11

Boring Location: South side of Area 3

Drilling Equipment: CME 550

Elev.	Description of Material	Graphic Log	Depth In Feet	SAMPLES						Personnel
				Sample No.	Sample Type	Sample Recovery (X)	Penetrometer	N Values (Blow Counts)	OVA or HNU Readings	REMARKS
527.12			5							G - Ken Miller D - Todd Skinner H - Justin Lance H - Tim Skinner
522.12			10							
517.12			15							
512.12			20							
507.12	Blind drill to 50'		25							
502.12			30							
497.12			35							
492.12			40							
487.12			45							



**Illinois Environmental Protection Agency**

**Field Boring Log**

Site ID No. 0798085001 Federal ID No. \_\_\_\_\_

County: Jasper

Site Name: Newton Power Station Landfill Phase II

Boring No. B222 Monitoring Well No. G222

Quadrangle: Latona Sec. 27 T. 6N R. 8E

Surface Elevation: 532.12 Completion Depth: 80'

UTM (or State Plane) Coord. N. (X) 5322.24 E. (Y) 3989.08

Auger Depth: 80' Rotary Depth: NA

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

Date: Start: 10/24/11 Finish: 10/25/11

Boring Location: South side of Area 3

Drilling Equipment: CME 550

Elev.	Description of Material	Graphic Log	Depth In Feet	SAMPLES					REMARKS
				Sample No.	Sample Type	Sample Recovery (%)	Penetrometer	N Values (Blow Counts)	
477.12	Dk. gray to black silt (ML); Thinly laminated; Fissile; Hard		55	1	5' CS	100%			
	Med. gray silty clay (ML-CL) w/ gravel; Trace sand; Moist; Firm to hard			2	5' CS	100%			
472.12			60						
				3	5' CS	100%			
467.12	Coarse sand (SP) w/ gravel; Wet		65						
				4	5' CS	30%			Poor recovery
462.12	Med. gray silty clay (ML-CL) w/ gravel; Trace sand; Moist; Firm to hard		70	5	2' SS	100%			Drove split spoon to remove obstruction
				6	5' CS	100%			
457.12			75						
				7	5' CS	100%			
452.12	EOB @ 80' BGS		80						

**Personnel**  
 G - Ken Miller  
 D - Todd Skinner  
 H - Justin Lance  
 H - Tim Skinner



**Illinois Environmental Protection Agency**

**Field Boring Log**

Site ID No. 0798085001 Federal ID No. \_\_\_\_\_

County: Jasper

Site Name: Newton Power Station Landfill Phase II

Boring No. B224 Monitoring Well No. G224

Quadrangle: Latona Sec. 26 T. 6N R. 8E

Surface Elevation: 532.26 Completion Depth: 74'

UTM (or State Plane) Coord. N. (X) 6976.66 E. (Y) 6067.30

Auger Depth: 74' Rotary Depth: NA

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

Date: Start: 10/04/11 Finish: 10/04/11

Boring Location: South side of Area 3

Drilling Equipment: Diedrich D-50

Elev.	Description of Material	Graphic Log	Depth In Feet	SAMPLES						REMARKS
				Sample No.	Sample Type	Sample Recovery (%)	Penetrometer	N Values (Blow Counts)	OVA or HNU Readings	
	Brown silty clay (ML-CL); Moist; Firm			1	5' CS	10 %				
527.26			5							
	Reddish brown mottled gray silty clay (ML-CL); Trace sand & gravel; Moist; Firm			2	5' CS	90 %				
522.26			10							
	*Softer, less mottling			3	5' CS	10 %				
617.26			15							
	Dark gray silty clay (ML-CL) w/ sand; Moist to wet; Soft			4	5' CS	60 %				
512.26			20							Plant debris
	Medium to coarse sand (SP); Wet			5	5' CS	100 %				
	Brown mottled gray silty clay (ML-CL) w/ sand & gravel; Dry; Hard			6	5' CS	60 %				
507.26			25							
	Med. gray silty clay (ML-CL) w/ gravel; Trace sand; Dry to moist; Hard			7	5' CS	0 %				
502.26			30							
497.26			35							
	No recovery			8	5' CS	0 %				
492.26			40							Hard drilling
				9	5' CS	0 %				
487.26			45							
				10	2' SS	0 %				
				11	2' SS	0 %				
				12	2' SS	100 %				Drove split spoons to remove possible obstruction

**Personnel**  
 G - Ken Miller  
 D - Tim Fuhl  
 H - Eric Sievers  
 H - Clifford Ohman



**Illinois Environmental Protection Agency**

**Field Boring Log**

Site ID No. 0798085001 Federal ID No. \_\_\_\_\_

County: Jasper

Site Name: Newton Power Station Landfill Phase II

Boring No. B224 Monitoring Well No. G224

Quadrangle: Latona Sec. 26 T. 6N R. 8E

Surface Elevation: 532.26 Completion Depth: 74'

UTM (or State Plane) Coord. N. (X) 6976.66 E. (Y) 6067.30

Auger Depth: 74' Rotary Depth: NA

Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

Date: Start: 10/04/11 Finish: 10/04/11

Boring Location: South side of Area 3

Drilling Equipment: CME 550

Elev.	Description of Material	Graphic Log	Depth In Feet	SAMPLES					REMARKS
				Sample No.	Sample Type	Sample Recovery (%)	Penetrometer	N Values (Blow Counts)	
477.26	Med. gray silty clay (ML-CL) w/ gravel; Trace sand; Moist; Very firm to hard		55	13	5' CS	100%			
472.26			60	14	5' CS	100%			
467.26	Gray silt (ML), silty sand (SM) and sand (SP); Wet		65	15	5' CS	100%			Large wood pieces
462.26	*w/ gravel		70	16	5' CS	60%			
	No recovery		75	17	5' CS	0%			Trace sand & gravel in tube; Harder drilling @ 72.5'
457.26	EOB @ 74' BGS								

**Personnel**  
 G - Ken Miller  
 D - Tim Fuhl  
 H - Eric Slevers  
 I - Clifford Ohman



# TEST BORING REPORT

**Boring No. HAB-N-1**

Project Ash Pond, Newton, Illinois  
 Client Dynegy  
 Contractor CEC & Strata

File No. 129673-005  
 Sheet No. 1 of 1  
 Start 25 April 2017  
 Finish 26 April 2017  
 Driller J. Cooley  
 H&A Rep. J. Gerger

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		SS	--	Rig Make & Model: Diedrich D-25
Inside Diameter (in.)		1.375	--	Bit Type: Cutting Head
Hammer Weight (lb)		140	-	Drill Mud:
Hammer Fall (in.)		30	-	Casing:
				Hoist/Hammer: /
				PID Make & Model: N/A
				Elevation 535.0
				Datum
				Location See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION
						(Density/consistency, color, GROUP NAME, max. particle size <sup>†</sup> , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)
40						Water from 0 to 41.5 ft (El. 535)
	WOR	SS1	41.5	493.5		Very loose gray SILT/FLYASH  -FILL-
	WOR	6	43.5	41.5		
	WOR					
	WOR					
	WOR					
	WOR					
	WOR	SS2	43.5	490.0		CL Very soft black CLAY (CL)
	WOR	10	45.5	45.0		
	WOR					
	WOR					
	WOR	SS3	45.5	488.5		CL Very soft gray CLAY (CL), with trace roots (very fine small roots)
	WOR	24	47.5	46.5		
	WOR					
	2	SS4	47.5	486.7		CL Very soft gray and brown mottled silty CLAY (CL), trace sand, moist
	2	24	49.5	48.3		
	3					
	WOH	SS5	49.5			Similar to above, except not as soft, trace fine gravel
	WOH	22	51.5			
	1					
	3					
	1	SS6	51.5			SP-SC Medium dense brown coarse SAND (SP-SC), moist
	3	20	53.5			
	3					
	2	SS7	53.5	480.0		Similar to above, except gray
	5	21	55.5	55.0		
	5					
	8					
	2	SS8	55.5			BOTTOM OF EXPLORATION 57.5 FT
	1	21	57.5			
	1					
	1					
				477.5		
				57.5		

Water Level Data				Sample ID	Well Diagram	Summary		
Date	Time	Elapsed Time (hr.)	Depth (ft) to:			O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample S - Split Spoon Sample		Overburden (ft) 16.0 Rock Cored (ft) 0.0 Samples 8SS
			Bottom of Casing	Bottom of Hole	Water			

**Field Tests:** Dilatancy: R - Rapid S - Slow N - None Toughness: L - Low M - Medium H - High Plasticity: N - Nonplastic L - Low M - Medium H - High Dry Strength: N - None L - Low M - Medium H - High V - Very High

<sup>†</sup>Note: Maximum particle size is determined by direct observation within the limitations of sampler size.  
 Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

10 May 17 129673-005\_HA-LIB07-1-WATER 129673-005\_HA-LIB07-1-CEZ.GLB HA-TB-CORE-WELL-07-1.GDT \\HALEYALDRICH.COM\SHARE\POR\_COMMON\GINT\OHIO OFFICES\129673-005\129673-005\_TB.GPJ





# TEST BORING REPORT

**Boring No. HAB-N-2**

Project Ash Pond, Newton, Illinois  
 Client Dynegy  
 Contractor CEC & Strata

File No. 129673-005  
 Sheet No. 1 of 1  
 Start 27 April 2017  
 Finish 27 April 2017  
 Driller J. Cooley  
 H&A Rep. J. Gerger

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		SS	--	Rig Make & Model: Diedrich D-25
Inside Diameter (in.)		1.375	--	Bit Type: Roller Bit
Hammer Weight (lb)		140	-	Drill Mud:
Hammer Fall (in.)		30	-	Casing:
				Hoist/Hammer: /
				PID Make & Model: N/A
				Elevation 535.2
				Datum
				Location See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION
						(Density/consistency, color, GROUP NAME, max. particle size <sup>†</sup> , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)
40						Water from 0 to 41.0 ft (El. 535.2) [2.2 ft on Dynegy water level gauge]
	WOR	SS1	41.0	494.2		Dark gray SILT/ASH, wet
	WOR	4	43.0	41.0		
	WOR					-FILL-
	WOR	SS2	43.0			
	WOR	4	45.0			
45	WOR	SS3	45.0			
	WOR	12	47.0			
	WOR			488.9		CL Very soft black CLAY (CL)
	WOR			46.3		
	WOR			488.5		CL Similar to above, except gray/light gray
	WOR			46.7		
	WOR	SS4	47.0			CL Very soft dark gray CLAY (CL), trace sand, moist, organics present
	WOR	15	49.0	488.2		
	WOR			47.0		
	WOR					
50	WOR	SS5	49.0			CL Dark brown sandy CLAY (CL), trace organics
	WOR	12	51.0	485.2		
	WOR			50.0		
	WOR					
	WOH	SS6	51.0			SP-SC Brown medium clayey SAND (SP-SC)
	WOH	16	53.0	484.2		
	WOH			51.0		SC Brown clayey SAND (SC)
	WOH			483.2		
	WOH			52.0		
	WOH					
				482.2		BOTTOM OF EXPLORATION 53.0 FT
				53.0		

Water Level Data				Sample ID		Well Diagram		Summary				
Date	Time	Elapsed Time (hr.)	Depth (ft) to:			O - Open End Rod	T - Thin Wall Tube	U - Undisturbed Sample	S - Split Spoon Sample	Overburden (ft) 12.0	Rock Cored (ft) 0.0	Samples 6SS
			Bottom of Casing	Bottom of Hole	Water							

**Field Tests:** Dilatancy: R - Rapid S - Slow N - None Plasticity: N - Nonplastic L - Low M - Medium H - High  
 Toughness: L - Low M - Medium H - High Dry Strength: N - None L - Low M - Medium H - High V - Very High

<sup>†</sup>Note: Maximum particle size is determined by direct observation within the limitations of sampler size.  
 Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

10 May 17  
 H&A-TEST BORING-07-1 WATER 129673-005\_HA-LIB07-1-CEZ.GLB HA-TB-CORE-WELL-07-1.GDT \\HALEY\ALDRICH\COM\SHARE\POR\_COMMON\GINT\OHIO OFFICES\129673-005\129673-005\_TB.GPJ



# TEST BORING REPORT

**Boring No. HAB-N-4**

Project Ash Pond, Newton, Illinois  
 Client Dynegy  
 Contractor CEC & Strata

File No. 129673-005  
 Sheet No. 1 of 1  
 Start 27 April 2017  
 Finish 27 April 2017  
 Driller J. Cooley  
 H&A Rep. J. Gerger

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		SS	--	Rig Make & Model: Diedrich D-25
Inside Diameter (in.)		1.375	--	Bit Type:
Hammer Weight (lb)		140	-	Drill Mud:
Hammer Fall (in.)		30	-	Casing:
				Hoist/Hammer: /
				PID Make & Model: N/A

Elevation 535.2  
 Datum  
 Location See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size <sup>†</sup> , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)
40						Water from 0 to 40.5 ft (El. 535.2) [2.2 ft on Dynegy water level gauge]
	WOR	SS1	40.5	494.7		Dark gray ASH  -FILL-  Similar to above  Similar to above, except darker black in color
	WOR	4	42.5	40.5		
	WOR	SS2	42.5			
	WOR	8	44.5			
45	WOR	SS3	44.5			
	WOR	19	46.5			
	WOR	SS4	46.5	488.7	CL	Soft black CLAY (CL)
	WOR	4	48.5	486.5	ML	Gray clayey SILT (ML)
	WOR			47.0		
	WOR	SS5	48.5	486.7	SM	Gray silty SAND (SM), trace organics and very fine gravel
	WOR	24	50.5	48.5		
50				485.7	CL	Medium dense grayish-brown mottled sandy CLAY (CL), moist
	2	SS6	50.5	49.5		
	2	10	52.5			
	3					
	3					
	2	SS7	52.5	482.0	SP	Gray-brown SAND (SP)
	3	24	54.5	53.3	CL	Dense grayish-brown silty CLAY (CL), trace organics
	2			481.7		
	3			53.5		
				480.7		
55				54.5		BOTTOM OF EXPLORATION 54.5 FT

Water Level Data				Sample ID	Well Diagram	Summary		
Date	Time	Elapsed Time (hr.)	Depth (ft) to:			O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample S - Split Spoon Sample		Overburden (ft) 14.0 Rock Cored (ft) 0.0 Samples 7SS
			Bottom of Casing	Bottom of Hole	Water			
							<b>Boring No. HAB-N-4</b>	

**Field Tests:** Dilatancy: R - Rapid S - Slow N - None Plasticity: N - Nonplastic L - Low M - Medium H - High  
 Toughness: L - Low M - Medium H - High Dry Strength: N - None L - Low M - Medium H - High V - Very High

<sup>†</sup>Note: Maximum particle size is determined by direct observation within the limitations of sampler size.  
 Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

10 May 17  
 H&A-TEST BORING-07-1 WATER 129673-005\_HA-LIB07-1-CE2.GLB HA-TB-CORE-WELL-07-1.GDT \\HALEYALDRICH.COM\SHARE\POR\_COMMON\GINT\OHIO OFFICES\129673-005\129673-005\_TB.GPJ



# TEST BORING REPORT

**Boring No. HAB-N-5**

Project Ash Pond, Newton, Illinois  
 Client Dynegy  
 Contractor CEC & Strata

File No. 129673-005  
 Sheet No. 1 of 1  
 Start 27 April 2017  
 Finish 27 April 2017  
 Driller J. Cooley  
 H&A Rep. J. Gerger

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		SS	--	Rig Make & Model: Diedrich D-25
Inside Diameter (in.)		1.375	--	Bit Type: Roller Bit
Hammer Weight (lb)		140	-	Drill Mud:
Hammer Fall (in.)		30	-	Casing: Hoist/Hammer: / PID Make & Model: N/A
				Elevation 535.2 Datum Location See Plan

Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION
						(Density/consistency, color, GROUP NAME, max. particle size <sup>†</sup> , structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)
						Water from 0 to 34.5 ft (El. 535.2) [2.2 ft on Dynegy water level gauge]
35	WOR WOR WOR WOR	SS1 11	34.5 36.5	500.7 34.5		Gray SILT/ASH
						-FILL-
	WOR WOR WOR 1	SS2 22	36.5 38.5	497.7 37.5 497.5 38.0	CL	Black CLAY (CL)
					CL	Medium stiff grayish-brown sandy CLAY (CL), trace gravel, moist
	2 4 3 2	SS3 13	38.5 40.5	496.2 39.0	CL	Stiff gray sandy CLAY (CL), trace gravel, moist
40				495.2 40.0	CL	Hard brown sandy CLAY (CL), trace gravel, moist
	1 3 3 4	SS4 16	40.5 42.5			
	2 2 4 6	SS5 21	42.5 44.5	492.2 43.0 491.7 43.5	SP	Well graded coarse brown SAND (SP)
					CL	Stiff brown sandy CLAY (CL), trace gravel, moist
45				490.7 44.5		BOTTOM OF EXPLORATION 44.5 FT

Water Level Data				Sample ID	Well Diagram	Summary
Date	Time	Elapsed Time (hr.)	Depth (ft) to:	O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample S - Split Spoon Sample		Overburden (ft) 10.0
			Bottom of Casing			Rock Cored (ft) 0.0
			Bottom of Hole			Samples 5SS
			Water			<b>Boring No. HAB-N-5</b>

**Field Tests:** Dilatancy: R - Rapid S - Slow N - None Plasticity: N - Nonplastic L - Low M - Medium H - High  
 Toughness: L - Low M - Medium H - High Dry Strength: N - None L - Low M - Medium H - High V - Very High

<sup>†</sup>Note: Maximum particle size is determined by direct observation within the limitations of sampler size.  
 Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

10 May 17 129673-005\_HA-LIB07-1-CLEZ.GLB HA-TB-CORE-WELL-07-1.GDT \\HALEYALDRICH.COM\SHARE\POR\_COMMON\GINT\OHIO OFFICES\129673-005\129673-005\_TB.GPJ

# FIELD BORING LOG



**CLIENT:** Illinois Power Generating Co.  
**Site:** Newton Power Station  
**Location:** 6725 N 500th St, Newton, IL 62448  
**Project:** 16E0044A  
**DATES: Start:** 9/25/2017  
**Finish:** 9/26/2017  
**WEATHER:** Sunny, warm (lo-80's)

**CONTRACTOR:** Bulldog Drilling  
**Rig mfg/model:** CME-750 ATV Drill  
**Drilling Method:** Mud Rotary w/split spoon  
**FIELD STAFF: Driller:** J. Dittmaier  
**Helper:** M. Hill  
**Eng/Geo:** R. Hasenyager

**BOREHOLE ID:** R217D  
**Well ID:** R217D  
**Surface Elev:** 535.91 ft. MSL  
**Completion:** 65.24 ft. BGS  
**Station:** 7,126.90N  
 6,712.16E

SAMPLE			TESTING				TOPOGRAPHIC MAP INFORMATION:				
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value RQD	Moisture (%)	Dry Den. (lb/ft <sup>3</sup> )	Qu (tsf) Qp (tsf) Failure Type	TOPOGRAPHIC MAP INFORMATION:				
							Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks
1	0/60 0%	BD					2	FILL - Brown, silty CLAY.		534	
2	0/60 0%	BD					4	Gray-brown, silty CLAY with coarse sand.		532	
							6	Gray, medium SAND with silt.		530	
							8	Gray, mottled brown, CLAY with silt.		528	
3	0/60 0%	BD					10	Gray, mottled brown, CLAY with silt.		526	
							12	Brown, silty CLAY with pebbles.		524	
							14	Brown, silty CLAY with pebbles.		522	
4	0/60 0%	BD					16	Gray, mottles brown, silty CLAY with pebbles.		520	
							18	Gray, mottles brown, silty CLAY with pebbles.		518	
							20			516	

6"Ø permanent, PVC casing set to 20'

**NOTE(S):** R217D drilled 15.5 feet west of G217D.  
 Borehole reamed to 6" diameter to set well.  
 Lithology description to 25 ft. taken from G217 boring log as prepared by Rapps Engineering & Applied Science (1997).

# FIELD BORING LOG



**CLIENT:** Illinois Power Generating Co.  
**Site:** Newton Power Station  
**Location:** 6725 N 500th St, Newton, IL 62448  
**Project:** 16E0044A  
**DATES: Start:** 9/25/2017  
**Finish:** 9/26/2017  
**WEATHER:** Sunny, warm (lo-80's)

**CONTRACTOR:** Bulldog Drilling  
**Rig mfg/model:** CME-750 ATV Drill  
**Drilling Method:** Mud Rotary w/split spoon  
**FIELD STAFF: Driller:** J. Dittmaier  
**Helper:** M. Hill  
**Eng/Geo:** R. Hasenyager

**BOREHOLE ID:** R217D  
**Well ID:** R217D  
**Surface Elev:** 535.91 ft. MSL  
**Completion:** 65.24 ft. BGS  
**Station:** 7,126.90N  
 6,712.16E

SAMPLE		TESTING					TOPOGRAPHIC MAP INFORMATION:				
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value RQD	Moisture (%)	Dry Den. (lb/ft <sup>3</sup> )	Q <sub>u</sub> (tsf) Q <sub>p</sub> (tsf) Failure Type	TOPOGRAPHIC MAP INFORMATION:				
							Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks
5	0/60 0%	BD					22	Gray, mottles brown, silty CLAY with pebbles. [Continued from previous page]		514	
6A	24/24 100%	ss	12-19 27-34 N=46			11.2	24			512	
7A	22/24 92%	ss	10-24 31-35 N=55			9.8	26	Gray (10YR5/1), moist, hard, SILT with some clay, few very fine- to very coarse-grained sand, and trace small gravel.		510	
8A	24/24 100%	ss	9-16 24-25 N=40			11.2	28			508	
9A	24/24 100%	ss	11-16 28-28 N=44			11.0	30			506	
10A	24/24 100%	ss	11-16 24-32 N=40			11.5	32			504	
11A	24/24 100%	ss	11-17 26-34 N=43			15.0	34	Gray (10YR5/1), moist, hard, SILT with some clay, few very fine- to very coarse-grained sand, and trace small to medium gravel.		502	
12A	24/24 100%	ss	10-17 27-34 N=44			11.8	36			500	
	24/24		9-23				38	Gray (10YR5/1), moist, hard, CLAY, with some silt, few very fine- to very coarse-grained sand, and trace small to medium gravel.		498	
							40			496	

**NOTE(S):** R217D drilled 15.5 feet west of G217D.  
 Borehole reamed to 6" diameter to set well.  
 Lithology description to 25 ft. taken from G217 boring log as prepared by Rapps Engineering & Applied Science (1997).

# FIELD BORING LOG



**CLIENT:** Illinois Power Generating Co.  
**Site:** Newton Power Station  
**Location:** 6725 N 500th St, Newton, IL 62448  
**Project:** 16E0044A  
**DATES: Start:** 9/25/2017  
**Finish:** 9/26/2017  
**WEATHER:** Sunny, warm (lo-80's)

**CONTRACTOR:** Bulldog Drilling  
**Rig mfg/model:** CME-750 ATV Drill  
**Drilling Method:** Mud Rotary w/split spoon  
**FIELD STAFF: Driller:** J. Dittmaier  
**Helper:** M. Hill  
**Eng/Geo:** R. Hasenyager

**BOREHOLE ID:** R217D  
**Well ID:** R217D  
**Surface Elev:** 535.91 ft. MSL  
**Completion:** 65.24 ft. BGS  
**Station:** 7,126.90N  
 6,712.16E

SAMPLE			TESTING				TOPOGRAPHIC MAP INFORMATION:						
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value <b>RQD</b>	Moisture (%)	Dry Den. (lb/ft <sup>3</sup> )	Q <sub>u</sub> (tsf) / Q <sub>p</sub> (tsf) Failure Type	TOPOGRAPHIC MAP INFORMATION:						
							Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks		
13A	100%	ss	33-35 N=56	10.9									
14A	24/24 100%	ss	8-18 22-29 N=40	13.1									
15A	24/24 100%	ss	9-15 17-22 N=32	14.1									
16A	24/24 100%	ss	6-15 20-30 N=35	13.2									
17A	24/24 100%	ss	8-14 20-25 N=34	14.8									
18A	24/24 100%	ss	5-12 17-20 N=29	14.9									
19A	6/24 25%	ss	9-14 19-24 N=33	23.3									
20A	24/24 100%	ss	5-11 15-20 N=26	16.6									
21A	24/24 100%	ss	6-10 14-20 N=24	19.7									
22A	24/24 100%	ss	7-10 12-14 N=22	19.3									
23A	24/24		5-8	22.1									

Gray (10YR5/1), moist, hard, CLAY, with some silt, few very fine- to very coarse-grained sand, and trace small to medium gravel.  
 [Continued from previous page]

Gray (10YR5/1), moist, hard, CLAY, with some silt, few very fine- to very coarse-grained sand, and trace small to medium gravel, trace wood fragments.

Olive gray (5Y4/2) with 10% gray (10YR5/1) mottles, moist, hard, CLAY with some silt, little very fine- to very coarse-grained sand, and trace small to medium gravel.

**NOTE(S):** R217D drilled 15.5 feet west of G217D.  
 Borehole reamed to 6" diameter to set well.  
 Lithology description to 25 ft. taken from G217 boring log as prepared by Rapps Engineering & Applied Science (1997).

# FIELD BORING LOG



**CLIENT:** Illinois Power Generating Co.

**CONTRACTOR:** Bulldog Drilling

**Site:** Newton Power Station

**Rig mfg/model:** CME-750 ATV Drill

**Location:** 6725 N 500th St, Newton, IL 62448

**Drilling Method:** Mud Rotary w/split spoon

**Project:** 16E0044A

**BOREHOLE ID:** R217D

**Well ID:** R217D

**DATES: Start:** 9/25/2017

**FIELD STAFF: Driller:** J. Dittmaier

**Surface Elev:** 535.91 ft. MSL

**Completion:** 65.24 ft. BGS

**Finish:** 9/26/2017

**Helper:** M. Hill

**Station:** 7,126.90N

**WEATHER:** Sunny, warm (lo-80's)

**Eng/Geo:** R. Hasenyager

6,712.16E

SAMPLE			TESTING				TOPOGRAPHIC MAP INFORMATION:						
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value RQD	Moisture (%)	Dry Den. (lb/ft <sup>3</sup> )	Qu (tsf) Qp (tsf) Failure Type	TOPOGRAPHIC MAP INFORMATION:						
							Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks		
23B	100%	SS	16-20 N=24	18.8									
24A			8-9 22-27 N=31	19.5									
24B	24/24 100%	SS		14.6									
25A	24/24 100%	SS	13-19 27-35 N=46	13.2									
	0/3 0%	BD											

End of Boring = 65.24 feet

**NOTE(S):** R217D drilled 15.5 feet west of G217D.  
 Borehole reamed to 6" diameter to set well.  
 Lithologic description to 25 ft. taken from G217 boring log as prepared by Rapps Engineering & Applied Science (1997).

# RAPPS

## BORING LOG

ENGINEERING &amp; APPLIED SCIENCE

821 S. DURKIN DRIVE-SPRINGFIELD IL 62704 - (217) 787-2118

Client: CIPS Project: Newton LF Monitoring Wells Boring No: G217  
 Drilling Firm: PSI Drilling Method: 4 1/4 HSA Surface Elev: 535.67  
 Logged By: MSS Checked By: --- Date Started: 8/26/97 Completed: 8/26/97

D E P T H	Material Description Classification System (Unified)	Sampling			Tests		Comments	D E P T H
		Tube No.	Type	% Rec.	Pocket Pen Cu Ust	% Moist		
	Brown silty CLAY (CL): Fill Material 3.0	1	S		4.0 2.0			
			F	100		dry		
			o		3.0			
-5-			o		2.5			-5-
	Gray-Brown silty CLAY (CL) w/coarse sand 8.2	2	C	100	2.0	mst	Gray, medium SAND (SM) w/silt from 8.2 to 8.6	
	see comments 8.6		o		1.75			
			n					-10-
-10-			t		2.5			
	Gray, mottled brown CLAY (CH-CL) w/silt 14.0	3	i	100	3.0	mst		
			n		4.5+			
			o		4.5+			
-15-	Brown silty CLAY (CL) w/pebbles 15.0		u		4.0			-15-
			s		4.5+			
					4.5+			
		4	S	100	4.5+	dry	very weathered	
			a		4.5+			
			m		4.5+			-20-
-20-	Gray, mottled Brown silty CLAY (CL) w/ pebbles		p		4.5+			
			i		4.5+			
		5	e	100	4.5+	dry		
			r		4.5+			
					4.5+			
-25-					4.5+		End Boring at 25.0	-25-

Water Level NA at NA Hrs.  
 Water Level NA at NA Hrs.



## WELL CONSTRUCTION LOGS

Facility/Project Name Newton Power Station		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name <b>APW11</b>	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input checked="" type="checkbox"/> Lat. <u>38° 55' 58.1"</u> Long. <u>-88° 16' 31.6"</u> or			
Facility ID		St. Plane <u>825,195</u> ft. N, <u>1,000,718</u> ft. E. <input checked="" type="checkbox"/> W		Date Well Installed 01/23/2021	
Type of Well Well Code 72/dp		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. <u>25</u> , T. <u>6</u> N, R. <u>8</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Dave Gordon	
Distance from Waste/Source ft. State IL		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Gov. Lot Number _____	
				Cascade Drilling	

<p>A. Protective pipe, top elevation <u>539.11</u> ft. (NAVD88)</p> <p>B. Well casing, top elevation <u>538.63</u> ft. (NAVD88)</p> <p>C. Land surface elevation <u>536.0</u> ft. (NAVD88)</p> <p>D. Surface seal, bottom <u>534.0</u> ft. (NAVD88) or <u>2.0</u> ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen:                  GP <input checked="" type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input checked="" type="checkbox"/>                  SM <input checked="" type="checkbox"/> SC <input checked="" type="checkbox"/> ML <input checked="" type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/>                  Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/>                  Hollow Stem Auger <input type="checkbox"/>                  Mini-Sonic <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 0.2 Air <input type="checkbox"/>                  Drilling Mud <input type="checkbox"/> 0.3 None <input type="checkbox"/></p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required):                  Potable Plant Water</p> </div> <p>E. Bentonite seal, top <u>481.0</u> ft. (NAVD88) or <u>55.0</u> ft.</p> <p>F. Fine sand, top _____ ft. (NAVD88) or _____ ft.</p> <p>G. Filter pack, top <u>478.0</u> ft. (NAVD88) or <u>58.0</u> ft.</p> <p>H. Screen joint, top <u>476.0</u> ft. (NAVD88) or <u>60.0</u> ft.</p> <p>I. Well bottom <u>471.0</u> ft. (NAVD88) or <u>65.0</u> ft.</p> <p>J. Filter pack, bottom <u>469.0</u> ft. (NAVD88) or <u>67.0</u> ft.</p> <p>K. Borehole, bottom <u>436.0</u> ft. (NAVD88) or <u>100.0</u> ft.</p> <p>L. Borehole, diameter <u>6.0</u> in.</p> <p>M. O.D. well casing <u>2.38</u> in.</p> <p>N. I.D. well casing <u>2.07</u> in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe:                  a. Inside diameter: <u>4.0</u> in.                  b. Length: <u>5.0</u> ft.                  c. Material: Steel <input checked="" type="checkbox"/>                  Other <input type="checkbox"/>                  d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                  If yes, describe: <u>Bollards</u></p> <p>3. Surface seal: Bentonite <input type="checkbox"/>                  Concrete <input checked="" type="checkbox"/>                  Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe:                  Bentonite <input type="checkbox"/>                  Sand <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input type="checkbox"/>                  b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/>                  c. <u>9.6</u> Lbs/gal mud weight . . . Bentonite slurry <input checked="" type="checkbox"/>                  d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/>                  e. <u>9.250</u> Ft<sup>3</sup> volume added for any of the above                  f. How installed: Tremie <input type="checkbox"/>                  Tremie pumped <input checked="" type="checkbox"/>                  Gravity <input type="checkbox"/></p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/>                  b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/>                  c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name &amp; mesh size                  a. <u>Not Applicable</u>                  b. Volume added <u>0</u> Ft<sup>3</sup></p> <p>8. Filter pack material: Manufacturer, product name &amp; mesh size                  a. <u>Filter Sil, Industrial Quartz</u>                  b. Volume added <u>1.614</u> Ft<sup>3</sup></p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/>                  Flush threaded PVC schedule 80 <input type="checkbox"/>                  _____ Other <input type="checkbox"/></p> <p>10. Screen material: <u>Schedule 40 PVC</u>                  a. Screen Type: Factory cut <input checked="" type="checkbox"/>                  Continuous slot <input type="checkbox"/>                  _____ Other <input type="checkbox"/>                  b. Manufacturer <u>Johnson Screens</u>                  c. Slot size: <u>0.010</u> in.                  d. Slotted length: <u>5.0</u> ft.</p> <p>11. Backfill material (below filter pack): None <input type="checkbox"/>  <u>Benoite Slurry Grout</u> Other <input checked="" type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge. Date Modified: 5/3/2021

Signature 	Firm <b>Ramboll</b> 234 W. Florida Street, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608
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Facility/Project Name Newton Power Station		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name <b>APW12</b>	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input checked="" type="checkbox"/> Lat. <u>38° 55' 47.1"</u> Long. <u>-88° 16' 19.4"</u> or			
Facility ID		St. Plane <u>824,081</u> ft. N, <u>1,001,683</u> ft. E. <input checked="" type="checkbox"/> W		Date Well Installed 01/21/2021	
Type of Well Well Code 72/dp		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. <u>25</u> , T. <u>6</u> N, R. <u>8</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Russ Gordon	
Distance from Waste/Source ft. _____		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Gov. Lot Number _____	
State IL				Cascade Drilling	

<p>A. Protective pipe, top elevation <u>546.68</u> ft. (NAVD88)</p> <p>B. Well casing, top elevation <u>546.29</u> ft. (NAVD88)</p> <p>C. Land surface elevation <u>543.3</u> ft. (NAVD88)</p> <p>D. Surface seal, bottom <u>541.3</u> ft. (NAVD88) or <u>2.0</u> ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen:              GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input checked="" type="checkbox"/>              SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input checked="" type="checkbox"/> MH <input type="checkbox"/> CL <input checked="" type="checkbox"/> CH <input type="checkbox"/>              Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/>              Hollow Stem Auger <input type="checkbox"/>              Mini-Sonic <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 0.2 Air <input type="checkbox"/>              Drilling Mud <input type="checkbox"/> 0.3 None <input type="checkbox"/></p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required):              Potable Plant Water</p> </div> <p>E. Bentonite seal, top <u>541.3</u> ft. (NAVD88) or <u>2.0</u> ft.</p> <p>F. Fine sand, top _____ ft. (NAVD88) or _____ ft.</p> <p>G. Filter pack, top <u>525.3</u> ft. (NAVD88) or <u>18.0</u> ft.</p> <p>H. Screen joint, top <u>523.3</u> ft. (NAVD88) or <u>20.0</u> ft.</p> <p>I. Well bottom <u>513.3</u> ft. (NAVD88) or <u>30.0</u> ft.</p> <p>J. Filter pack, bottom <u>511.3</u> ft. (NAVD88) or <u>32.0</u> ft.</p> <p>K. Borehole, bottom <u>456.3</u> ft. (NAVD88) or <u>87.0</u> ft.</p> <p>L. Borehole, diameter <u>6.0</u> in.</p> <p>M. O.D. well casing <u>2.38</u> in.</p> <p>N. I.D. well casing <u>2.07</u> in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe:              a. Inside diameter: <u>4.0</u> in.              b. Length: <u>5.0</u> ft.              c. Material: Steel <input checked="" type="checkbox"/>              Other <input type="checkbox"/>              d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No              If yes, describe: <u>Bollards</u></p> <p>3. Surface seal: Bentonite <input type="checkbox"/>              Concrete <input checked="" type="checkbox"/>              Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe:              Bentonite <input type="checkbox"/>              Sand <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/>              b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/>              c. _____ Lbs/gal mud weight . . . Bentonite slurry <input type="checkbox"/>              d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/>              e. <u>0.000</u> Ft<sup>3</sup> volume added for any of the above              f. How installed: Tremie <input type="checkbox"/>              Tremie pumped <input type="checkbox"/>              Gravity <input checked="" type="checkbox"/></p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/>              b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/>              c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name &amp; mesh size              a. <u>Not Applicable</u>              b. Volume added <u>0</u> ft<sup>3</sup></p> <p>8. Filter pack material: Manufacturer, product name &amp; mesh size              a. <u>Filter Sil, Industrial Quartz</u>              b. Volume added <u>2.487</u> ft<sup>3</sup></p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/>              Flush threaded PVC schedule 80 <input type="checkbox"/>              _____ Other <input type="checkbox"/></p> <p>10. Screen material: <u>Schedule 40 PVC</u>              a. Screen Type: Factory cut <input checked="" type="checkbox"/>              Continuous slot <input type="checkbox"/>              _____ Other <input type="checkbox"/>              b. Manufacturer <u>Johnson Screens</u>              c. Slot size: <u>0.010</u> in.              d. Slotted length: <u>10.0</u> ft.</p> <p>11. Backfill material (below filter pack): None <input type="checkbox"/>  <u>Benoite Slurry Grout</u> Other <input checked="" type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge. Date Modified: 5/3/2021

Signature <u>S.A. White</u>	Firm <b>Ramboll</b> 234 W. Florida Street, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608
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Facility/Project Name Newton Power Station		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name <b>APW13</b>	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input checked="" type="checkbox"/> Lat. <u>38° 55' 32.4"</u> Long. <u>-88° 16' 27.9"</u> or			
Facility ID		St. Plane <u>822,591</u> ft. N, <u>1,001,013</u> ft. E. <input checked="" type="checkbox"/> W		Date Well Installed 01/23/2021	
Type of Well Well Code 72/dp		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. <u>25</u> , T. <u>6</u> N, R. <u>8</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Russ Gordon	
Distance from Waste/Source ft. IL		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Gov. Lot Number _____	
				Cascade Drilling	

<p>A. Protective pipe, top elevation <u>538.33</u> ft. (NAVD88)</p> <p>B. Well casing, top elevation <u>537.99</u> ft. (NAVD88)</p> <p>C. Land surface elevation <u>535.2</u> ft. (NAVD88)</p> <p>D. Surface seal, bottom <u>533.2</u> ft. (NAVD88) or <u>2.0</u> ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen:              GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/>              SM <input checked="" type="checkbox"/> SC <input type="checkbox"/> ML <input checked="" type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/>              Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/>              Hollow Stem Auger <input type="checkbox"/>              Mini-Sonic <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 0.2 Air <input type="checkbox"/>              Drilling Mud <input type="checkbox"/> 0.3 None <input type="checkbox"/></p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required):              Potable Plant Water</p> </div> <p>E. Bentonite seal, top <u>481.2</u> ft. (NAVD88) or <u>54.0</u> ft.</p> <p>F. Fine sand, top _____ ft. (NAVD88) or _____ ft.</p> <p>G. Filter pack, top <u>479.2</u> ft. (NAVD88) or <u>56.0</u> ft.</p> <p>H. Screen joint, top <u>476.7</u> ft. (NAVD88) or <u>58.5</u> ft.</p> <p>I. Well bottom <u>471.7</u> ft. (NAVD88) or <u>63.5</u> ft.</p> <p>J. Filter pack, bottom <u>470.2</u> ft. (NAVD88) or <u>65.0</u> ft.</p> <p>K. Borehole, bottom <u>445.2</u> ft. (NAVD88) or <u>90.0</u> ft.</p> <p>L. Borehole, diameter <u>6.0</u> in.</p> <p>M. O.D. well casing <u>2.38</u> in.</p> <p>N. I.D. well casing <u>2.07</u> in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe:              a. Inside diameter: <u>4.0</u> in.              b. Length: <u>5.0</u> ft.              c. Material: Steel <input checked="" type="checkbox"/>              Other <input type="checkbox"/>              d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No              If yes, describe: <u>Bollards</u></p> <p>3. Surface seal: Bentonite <input type="checkbox"/>              Concrete <input checked="" type="checkbox"/>              Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe:              Bentonite <input type="checkbox"/>              Sand <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input type="checkbox"/>              b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/>              c. <u>9.6</u> Lbs/gal mud weight . . . Bentonite slurry <input checked="" type="checkbox"/>              d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/>              e. <u>9.076</u> Ft<sup>3</sup> volume added for any of the above              f. How installed: Tremie <input type="checkbox"/>              Tremie pumped <input checked="" type="checkbox"/>              Gravity <input type="checkbox"/></p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/>              b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/>              c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name &amp; mesh size              a. <u>Not Applicable</u>              b. Volume added <u>0</u> Ft<sup>3</sup></p> <p>8. Filter pack material: Manufacturer, product name &amp; mesh size              a. <u>Filter Sil, Industrial Quartz</u>              b. Volume added <u>1.604</u> Ft<sup>3</sup></p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/>              Flush threaded PVC schedule 80 <input type="checkbox"/>              _____ Other <input type="checkbox"/></p> <p>10. Screen material: <u>Schedule 40 PVC</u>              a. Screen Type: Factory cut <input checked="" type="checkbox"/>              Continuous slot <input type="checkbox"/>              _____ Other <input type="checkbox"/>              b. Manufacturer <u>Johnson Screens</u>              c. Slot size: <u>0.010</u> in.              d. Slotted length: <u>5.0</u> ft.</p> <p>11. Backfill material (below filter pack): None <input type="checkbox"/>  <u>Formation Materials</u> Other <input checked="" type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge. Date Modified: 5/3/2021

Signature <u>SA WLB</u>	Firm <b>Ramboll</b> 234 W. Florida Street, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608
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Facility/Project Name Newton Power Station		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name <b>APW14</b>	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input checked="" type="checkbox"/> Lat. <u>38° 55' 26.6"</u> Long. <u>-88° 16' 40.8"</u> or		Date Well Installed 01/23/2021	
Facility ID		St. Plane <u>822,006</u> ft. N, <u>999,996</u> ft. E. <input checked="" type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Adam Jochimsen	
Type of Well Well Code 72/dp		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. <u>25</u> , T. <u>6</u> N, R. <u>8</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Adam Jochimsen	
Distance from Waste/Source ft. IL		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Gov. Lot Number _____	

<p>A. Protective pipe, top elevation <u>526.63</u> ft. (NAVD88)</p> <p>B. Well casing, top elevation <u>526.29</u> ft. (NAVD88)</p> <p>C. Land surface elevation <u>523.9</u> ft. (NAVD88)</p> <p>D. Surface seal, bottom <u>521.9</u> ft. (NAVD88) or <u>2.0</u> ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen:              GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/>              SM <input type="checkbox"/> SC <input checked="" type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input checked="" type="checkbox"/> CH <input type="checkbox"/>              Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/>              Hollow Stem Auger <input type="checkbox"/>              Mini-Sonic <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 0.2 Air <input type="checkbox"/>              Drilling Mud <input type="checkbox"/> 0.3 None <input type="checkbox"/></p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required):              Potable Plant Water</p> </div> <p>E. Bentonite seal, top <u>478.9</u> ft. (NAVD88) or <u>45.0</u> ft.</p> <p>F. Fine sand, top _____ ft. (NAVD88) or _____ ft.</p> <p>G. Filter pack, top <u>475.9</u> ft. (NAVD88) or <u>48.0</u> ft.</p> <p>H. Screen joint, top <u>473.9</u> ft. (NAVD88) or <u>50.0</u> ft.</p> <p>I. Well bottom <u>468.9</u> ft. (NAVD88) or <u>55.0</u> ft.</p> <p>J. Filter pack, bottom <u>466.9</u> ft. (NAVD88) or <u>57.0</u> ft.</p> <p>K. Borehole, bottom <u>428.9</u> ft. (NAVD88) or <u>95.0</u> ft.</p> <p>L. Borehole, diameter <u>6.0</u> in.</p> <p>M. O.D. well casing <u>2.38</u> in.</p> <p>N. I.D. well casing <u>2.07</u> in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe:              a. Inside diameter: <u>4.0</u> in.              b. Length: <u>5.0</u> ft.              c. Material: Steel <input checked="" type="checkbox"/>              Other <input type="checkbox"/>              d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No              If yes, describe: <u>Bollards</u></p> <p>3. Surface seal: Bentonite <input type="checkbox"/>              Concrete <input checked="" type="checkbox"/>              Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe:              Bentonite <input type="checkbox"/>              Sand <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input type="checkbox"/>              b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/>              c. <u>9.1</u> Lbs/gal mud weight . . . Bentonite slurry <input checked="" type="checkbox"/>              d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/>              e. <u>7.505</u> Ft<sup>3</sup> volume added for any of the above              f. How installed: Tremie <input type="checkbox"/>              Tremie pumped <input checked="" type="checkbox"/>              Gravity <input type="checkbox"/></p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/>              b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/>              c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name &amp; mesh size              a. <u>Not Applicable</u>              b. Volume added <u>0</u> ft<sup>3</sup></p> <p>8. Filter pack material: Manufacturer, product name &amp; mesh size              a. <u>Filter Sil, Industrial Quartz</u>              b. Volume added <u>1.614</u> ft<sup>3</sup></p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/>              Flush threaded PVC schedule 80 <input type="checkbox"/>              _____ Other <input type="checkbox"/></p> <p>10. Screen material: <u>Schedule 40 PVC</u>              a. Screen Type: Factory cut <input checked="" type="checkbox"/>              Continuous slot <input type="checkbox"/>              _____ Other <input type="checkbox"/>              b. Manufacturer <u>Johnson Screens</u>              c. Slot size: <u>0.010</u> in.              d. Slotted length: <u>5.0</u> ft.</p> <p>11. Backfill material (below filter pack): None <input type="checkbox"/>  <u>Benoite Slurry Grout</u> Other <input checked="" type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge. Date Modified: 5/3/2021

Signature	Firm <b>Ramboll</b> 234 W. Florida Street, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608
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**MONITORING WELL CONSTRUCTION**

Facility/Project Name Newton Power Station		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name <b>APW15</b>	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input checked="" type="checkbox"/> Lat. <u>38° 55' 17.7"</u> Long. <u>-88° 17' 6.8"</u> or		Date Well Installed 01/22/2021	
Facility ID		St. Plane <u>821,108</u> ft. N, <u>997,939</u> ft. E. <input checked="" type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Adam Jochimsen	
Type of Well Well Code 72/dp		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. <u>26</u> , T. <u>6</u> N, R. <u>8</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Adam Jochimsen	
Distance from Waste/Source ft. _____		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Gov. Lot Number _____	
State IL		_____		Cascade Drilling	

<p>A. Protective pipe, top elevation <u>525.07</u> ft. (NAVD88)</p> <p>B. Well casing, top elevation <u>524.69</u> ft. (NAVD88)</p> <p>C. Land surface elevation <u>522.1</u> ft. (NAVD88)</p> <p>D. Surface seal, bottom <u>520.1</u> ft. (NAVD88) or <u>2.0</u> ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen:                  GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input checked="" type="checkbox"/>                  SM <input checked="" type="checkbox"/> SC <input type="checkbox"/> ML <input checked="" type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/>                  Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/>                  Hollow Stem Auger <input type="checkbox"/>                  Mini-Sonic <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 0.2 Air <input type="checkbox"/>                  Drilling Mud <input type="checkbox"/> 0.3 None <input type="checkbox"/></p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required):                  Potable Plant Water</p> </div> <p>E. Bentonite seal, top <u>429.1</u> ft. (NAVD88) or <u>93.0</u> ft.</p> <p>F. Fine sand, top _____ ft. (NAVD88) or _____ ft.</p> <p>G. Filter pack, top <u>426.6</u> ft. (NAVD88) or <u>95.5</u> ft.</p> <p>H. Screen joint, top <u>424.1</u> ft. (NAVD88) or <u>98.0</u> ft.</p> <p>I. Well bottom <u>419.1</u> ft. (NAVD88) or <u>103.0</u> ft.</p> <p>J. Filter pack, bottom <u>417.1</u> ft. (NAVD88) or <u>105.0</u> ft.</p> <p>K. Borehole, bottom <u>412.1</u> ft. (NAVD88) or <u>110.0</u> ft.</p> <p>L. Borehole, diameter <u>6.0</u> in.</p> <p>M. O.D. well casing <u>2.38</u> in.</p> <p>N. I.D. well casing <u>2.07</u> in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe:                  a. Inside diameter: <u>4.0</u> in.                  b. Length: <u>5.0</u> ft.                  c. Material: Steel <input checked="" type="checkbox"/>                  Other <input type="checkbox"/>                  d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                  If yes, describe: <u>Bollards</u></p> <p>3. Surface seal: Bentonite <input type="checkbox"/>                  Concrete <input checked="" type="checkbox"/>                  Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe:                  Bentonite <input type="checkbox"/>                  Sand <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input type="checkbox"/>                  b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/>                  c. <u>9.1</u> Lbs/gal mud weight . . . Bentonite slurry <input checked="" type="checkbox"/>                  d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/>                  e. <u>15.882</u> Ft<sup>3</sup> volume added for any of the above                  f. How installed: Tremie <input type="checkbox"/>                  Tremie pumped <input checked="" type="checkbox"/>                  Gravity <input type="checkbox"/></p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/>                  b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/>                  c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name &amp; mesh size                  a. <u>Not Applicable</u>                  b. Volume added <u>0</u> Ft<sup>3</sup></p> <p>8. Filter pack material: Manufacturer, product name &amp; mesh size                  a. <u>Filter Sil, Industrial Quartz</u>                  b. Volume added <u>1.702</u> Ft<sup>3</sup></p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/>                  Flush threaded PVC schedule 80 <input type="checkbox"/>                  _____ Other <input type="checkbox"/></p> <p>10. Screen material: <u>Schedule 40 PVC</u>                  a. Screen Type: Factory cut <input checked="" type="checkbox"/>                  Continuous slot <input type="checkbox"/>                  _____ Other <input type="checkbox"/>                  b. Manufacturer <u>Johnson Screens</u>                  c. Slot size: <u>0.010</u> in.                  d. Slotted length: <u>5.0</u> ft.</p> <p>11. Backfill material (below filter pack): None <input type="checkbox"/>  <u>Benoite Slurry Grout</u> Other <input checked="" type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge. Date Modified: 5/3/2021

Signature	Firm <b>Ramboll</b> 234 W. Florida Street, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608
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Facility/Project Name Newton Power Station		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name <b>APW16</b>	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input checked="" type="checkbox"/> Lat. <u>38° 55' 13.1"</u> Long. <u>-88° 17' 28.6"</u> or		Date Well Installed 01/20/2021	
Facility ID		St. Plane <u>820,642</u> ft. N, <u>996,214</u> ft. E. <input checked="" type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Adam Jochimsen	
Type of Well Well Code 72/dp		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. <u>35</u> , T. <u>6</u> N, R. <u>8</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Adam Jochimsen	
Distance from Waste/Source ft. IL		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Gov. Lot Number _____	

<p>A. Protective pipe, top elevation <u>531.82</u> ft. (NAVD88)</p> <p>B. Well casing, top elevation <u>531.18</u> ft. (NAVD88)</p> <p>C. Land surface elevation <u>529.2</u> ft. (NAVD88)</p> <p>D. Surface seal, bottom <u>529.2</u> ft. (NAVD88) or <u>2.0</u> ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen:              GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input checked="" type="checkbox"/>              SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/>              Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/>              Hollow Stem Auger <input type="checkbox"/>              Mini-Sonic <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 0.2 Air <input type="checkbox"/>              Drilling Mud <input type="checkbox"/> 0.3 None <input type="checkbox"/></p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required):              Potable Plant Water</p> </div> <p>E. Bentonite seal, top <u>453.7</u> ft. (NAVD88) or <u>75.5</u> ft.</p> <p>F. Fine sand, top _____ ft. (NAVD88) or _____ ft.</p> <p>G. Filter pack, top <u>450.7</u> ft. (NAVD88) or <u>78.5</u> ft.</p> <p>H. Screen joint, top <u>448.7</u> ft. (NAVD88) or <u>80.5</u> ft.</p> <p>I. Well bottom <u>443.7</u> ft. (NAVD88) or <u>85.5</u> ft.</p> <p>J. Filter pack, bottom <u>441.7</u> ft. (NAVD88) or <u>87.5</u> ft.</p> <p>K. Borehole, bottom <u>419.2</u> ft. (NAVD88) or <u>110.0</u> ft.</p> <p>L. Borehole, diameter <u>6.0</u> in.</p> <p>M. O.D. well casing <u>2.38</u> in.</p> <p>N. I.D. well casing <u>2.07</u> in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe:              a. Inside diameter: <u>4.0</u> in.              b. Length: <u>5.0</u> ft.              c. Material: Steel <input checked="" type="checkbox"/>              Other <input type="checkbox"/>              d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No              If yes, describe: <u>Bollards</u></p> <p>3. Surface seal: Bentonite <input type="checkbox"/>              Concrete <input checked="" type="checkbox"/>              Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe:              Bentonite <input type="checkbox"/>              Sand <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input type="checkbox"/>              b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/>              c. <u>9.1</u> Lbs/gal mud weight . . . Bentonite slurry <input checked="" type="checkbox"/>              d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/>              e. <u>12.828</u> Ft<sup>3</sup> volume added for any of the above              f. How installed: Tremie <input type="checkbox"/>              Tremie pumped <input checked="" type="checkbox"/>              Gravity <input type="checkbox"/></p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/>              b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/>              c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name &amp; mesh size              a. <u>Not Applicable</u>              b. Volume added <u>0</u> ft<sup>3</sup></p> <p>8. Filter pack material: Manufacturer, product name &amp; mesh size              a. <u>Filter Sil, Industrial Quartz</u>              b. Volume added <u>1.614</u> ft<sup>3</sup></p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/>              Flush threaded PVC schedule 80 <input type="checkbox"/>              _____ Other <input type="checkbox"/></p> <p>10. Screen material: <u>Schedule 40 PVC</u>              a. Screen Type: Factory cut <input checked="" type="checkbox"/>              Continuous slot <input type="checkbox"/>              _____ Other <input type="checkbox"/>              b. Manufacturer <u>Johnson Screens</u>              c. Slot size: <u>0.010</u> in.              d. Slotted length: <u>5.0</u> ft.</p> <p>11. Backfill material (below filter pack): None <input type="checkbox"/>  <u>Benoite Slurry Grout</u> Other <input checked="" type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge. Date Modified: 5/3/2021

Signature	Firm <b>Ramboll</b> 234 W. Florida Street, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608
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Facility/Project Name Newton Power Station		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name <b>APW17</b>	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input checked="" type="checkbox"/> Lat. <u>38° 55' 33.3"</u> Long. <u>-88° 17' 38.1"</u> or			
Facility ID		St. Plane <u>822,681</u> ft. N, <u>995,462</u> ft. E. <input checked="" type="checkbox"/> W		Date Well Installed 01/22/2021	
Type of Well Well Code 72/dp		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. <u>26</u> , T. <u>6</u> N, R. <u>8</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Dave Gordon	
Distance from Waste/Source ft. IL		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Gov. Lot Number _____	
				Cascade Drilling	

<p>A. Protective pipe, top elevation <u>533.02</u> ft. (NAVD88)</p> <p>B. Well casing, top elevation <u>532.52</u> ft. (NAVD88)</p> <p>C. Land surface elevation <u>529.8</u> ft. (NAVD88)</p> <p>D. Surface seal, bottom <u>527.8</u> ft. (NAVD88) or <u>2.0</u> ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen:              GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input checked="" type="checkbox"/> SP <input checked="" type="checkbox"/>              SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/>              Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/>              Hollow Stem Auger <input type="checkbox"/>              Mini-Sonic <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 0.2 Air <input type="checkbox"/>              Drilling Mud <input type="checkbox"/> 0.3 None <input type="checkbox"/></p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required):              Potable Plant Water</p> </div> <p>E. Bentonite seal, top <u>446.8</u> ft. (NAVD88) or <u>83.0</u> ft.</p> <p>F. Fine sand, top _____ ft. (NAVD88) or _____ ft.</p> <p>G. Filter pack, top <u>444.8</u> ft. (NAVD88) or <u>85.0</u> ft.</p> <p>H. Screen joint, top <u>442.8</u> ft. (NAVD88) or <u>87.0</u> ft.</p> <p>I. Well bottom <u>437.8</u> ft. (NAVD88) or <u>92.0</u> ft.</p> <p>J. Filter pack, bottom <u>435.8</u> ft. (NAVD88) or <u>94.0</u> ft.</p> <p>K. Borehole, bottom <u>429.8</u> ft. (NAVD88) or <u>100.0</u> ft.</p> <p>L. Borehole, diameter <u>6.0</u> in.</p> <p>M. O.D. well casing <u>2.38</u> in.</p> <p>N. I.D. well casing <u>2.07</u> in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe:              a. Inside diameter: <u>4.0</u> in.              b. Length: <u>5.0</u> ft.              c. Material: Steel <input checked="" type="checkbox"/>              Other <input type="checkbox"/>              d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No              If yes, describe: <u>Bollards</u></p> <p>3. Surface seal: Bentonite <input type="checkbox"/>              Concrete <input checked="" type="checkbox"/>              Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe:              Bentonite <input type="checkbox"/>              Sand <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input type="checkbox"/>              b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/>              c. <u>9.6</u> Lbs/gal mud weight . . . Bentonite slurry <input checked="" type="checkbox"/>              d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/>              e. <u>14.137</u> Ft<sup>3</sup> volume added for any of the above              f. How installed: Tremie <input type="checkbox"/>              Tremie pumped <input checked="" type="checkbox"/>              Gravity <input type="checkbox"/></p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/>              b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/>              c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name &amp; mesh size              a. <u>Not Applicable</u>              b. Volume added <u>0</u> Ft<sup>3</sup></p> <p>8. Filter pack material: Manufacturer, product name &amp; mesh size              a. <u>Filter Sil, Industrial Quartz</u>              b. Volume added <u>1.614</u> Ft<sup>3</sup></p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/>              Flush threaded PVC schedule 80 <input type="checkbox"/>              _____ Other <input type="checkbox"/></p> <p>10. Screen material: <u>Schedule 40 PVC</u>              a. Screen Type: Factory cut <input checked="" type="checkbox"/>              Continuous slot <input type="checkbox"/>              _____ Other <input type="checkbox"/>              b. Manufacturer <u>Johnson Screens</u>              c. Slot size: <u>0.010</u> in.              d. Slotted length: <u>5.0</u> ft.</p> <p>11. Backfill material (below filter pack): None <input type="checkbox"/>  <u>Bentonite Chips</u> Other <input checked="" type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge. Date Modified: 5/3/2021

Signature <i>[Signature]</i>	Firm <b>Ramboll</b> 234 W. Florida Street, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608
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Facility/Project Name Newton Power Station		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name <b>APW18</b>	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input checked="" type="checkbox"/> Lat. <u>38° 55' 51.5"</u> Long. <u>-88° 17' 24.4"</u> or		Date Well Installed 01/21/2021	
Facility ID		St. Plane <u>824,526</u> ft. N, <u>996,544</u> ft. E. <input checked="" type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Dave Gordon	
Type of Well Well Code 72/dp		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. <u>26</u> , T. <u>6</u> N, R. <u>8</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Gov. Lot Number	
Distance from Waste/Source ft. IL		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Cascade Drilling	

<p>A. Protective pipe, top elevation <u>543.81</u> ft. (NAVD88)</p> <p>B. Well casing, top elevation <u>543.27</u> ft. (NAVD88)</p> <p>C. Land surface elevation <u>540.6</u> ft. (NAVD88)</p> <p>D. Surface seal, bottom <u>538.6</u> ft. (NAVD88) or <u>2.0</u> ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen:              GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input checked="" type="checkbox"/> SP <input type="checkbox"/>              SM <input type="checkbox"/> SC <input checked="" type="checkbox"/> ML <input checked="" type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/>              Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/>              Hollow Stem Auger <input type="checkbox"/>              Mini-Sonic <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 0.2 Air <input type="checkbox"/>              Drilling Mud <input type="checkbox"/> 0.3 None <input type="checkbox"/></p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required):              Potable Plant Water</p> </div> <p>E. Bentonite seal, top <u>469.6</u> ft. (NAVD88) or <u>71.0</u> ft.</p> <p>F. Fine sand, top _____ ft. (NAVD88) or _____ ft.</p> <p>G. Filter pack, top <u>467.6</u> ft. (NAVD88) or <u>73.0</u> ft.</p> <p>H. Screen joint, top <u>465.6</u> ft. (NAVD88) or <u>75.0</u> ft.</p> <p>I. Well bottom <u>460.6</u> ft. (NAVD88) or <u>80.0</u> ft.</p> <p>J. Filter pack, bottom <u>458.6</u> ft. (NAVD88) or <u>82.0</u> ft.</p> <p>K. Borehole, bottom <u>433.6</u> ft. (NAVD88) or <u>107.0</u> ft.</p> <p>L. Borehole, diameter <u>6.0</u> in.</p> <p>M. O.D. well casing <u>2.38</u> in.</p> <p>N. I.D. well casing <u>2.07</u> in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe:              a. Inside diameter: <u>4.0</u> in.              b. Length: <u>5.0</u> ft.              c. Material: Steel <input checked="" type="checkbox"/>              Other <input type="checkbox"/>              d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No              If yes, describe: <u>Bollards</u></p> <p>3. Surface seal: Bentonite <input type="checkbox"/>              Concrete <input checked="" type="checkbox"/>              Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe:              Bentonite <input type="checkbox"/>              Sand <input checked="" type="checkbox"/> Other <input type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input type="checkbox"/>              b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/>              c. <u>9.6</u> Lbs/gal mud weight . . . Bentonite slurry <input checked="" type="checkbox"/>              d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/>              e. <u>12.043</u> Ft<sup>3</sup> volume added for any of the above              f. How installed: Tremie <input type="checkbox"/>              Tremie pumped <input checked="" type="checkbox"/>              Gravity <input type="checkbox"/></p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/>              b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/>              c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name &amp; mesh size              a. <u>Not Applicable</u>              b. Volume added <u>0</u> ft<sup>3</sup></p> <p>8. Filter pack material: Manufacturer, product name &amp; mesh size              a. <u>Filter Sil, Industrial Quartz</u>              b. Volume added <u>1.614</u> ft<sup>3</sup></p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/>              Flush threaded PVC schedule 80 <input type="checkbox"/>              _____ Other <input type="checkbox"/></p> <p>10. Screen material: <u>Schedule 40 PVC</u>              a. Screen Type: Factory cut <input checked="" type="checkbox"/>              Continuous slot <input type="checkbox"/>              _____ Other <input type="checkbox"/>              b. Manufacturer <u>Johnson Screens</u>              c. Slot size: <u>0.010</u> in.              d. Slotted length: <u>5.0</u> ft.</p> <p>11. Backfill material (below filter pack): None <input type="checkbox"/>  <u>Bentonite Chips</u> Other <input checked="" type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge. Date Modified: 5/3/2021

Signature	Firm <b>Ramboll</b> 234 W. Florida Street, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608
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Facility/Project Name Newton Power Station		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name <b>APW55</b>	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input checked="" type="checkbox"/> Lat. <u>38° 55' 2.2"</u> Long. <u>-88° 16' 51.7"</u> or		Date Well Installed 01/19/2021	
Facility ID		St. Plane <u>825,612</u> ft. N, <u>999,129</u> ft. E. <input checked="" type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Dave Gordon	
Type of Well Well Code 71/dw		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. <u>26</u> , T. <u>6</u> N, R. <u>8</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Dave Gordon	
Distance from Waste/Source ft. _____		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Gov. Lot Number _____	
State IL		_____		Cascade Drilling	

<p>A. Protective pipe, top elevation <u>544.41</u> ft. (NAVD88)</p> <p>B. Well casing, top elevation <u>543.94</u> ft. (NAVD88)</p> <p>C. Land surface elevation <u>541.0</u> ft. (NAVD88)</p> <p>D. Surface seal, bottom <u>540.0</u> ft. (NAVD88) or <u>1.0</u> ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen:              GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input checked="" type="checkbox"/>              SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input checked="" type="checkbox"/> MH <input type="checkbox"/> CL <input checked="" type="checkbox"/> CH <input type="checkbox"/>              Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/>              Hollow Stem Auger <input type="checkbox"/>              Mini-Sonic <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 0.2 Air <input type="checkbox"/>              Drilling Mud <input type="checkbox"/> 0.3 None <input type="checkbox"/></p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required):              Potable Plant Water</p> </div> <p>E. Bentonite seal, top <u>540.0</u> ft. (NAVD88) or <u>1.0</u> ft.</p> <p>F. Fine sand, top _____ ft. (NAVD88) or _____ ft.</p> <p>G. Filter pack, top <u>533.0</u> ft. (NAVD88) or <u>8.0</u> ft.</p> <p>H. Screen joint, top <u>531.0</u> ft. (NAVD88) or <u>10.0</u> ft.</p> <p>I. Well bottom <u>521.0</u> ft. (NAVD88) or <u>20.0</u> ft.</p> <p>J. Filter pack, bottom <u>518.0</u> ft. (NAVD88) or <u>23.0</u> ft.</p> <p>K. Borehole, bottom <u>518.0</u> ft. (NAVD88) or <u>23.0</u> ft.</p> <p>L. Borehole, diameter <u>6.0</u> in.</p> <p>M. O.D. well casing <u>2.38</u> in.</p> <p>N. I.D. well casing <u>2.07</u> in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe:              a. Inside diameter: <u>4.0</u> in.              b. Length: <u>5.0</u> ft.              c. Material: Steel <input checked="" type="checkbox"/>              Other <input type="checkbox"/>              d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No              If yes, describe: <u>Bollards</u></p> <p>3. Surface seal: Bentonite <input type="checkbox"/>              Concrete <input checked="" type="checkbox"/>              Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe:              Bentonite <input type="checkbox"/>              Sand <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/>              b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/>              c. _____ Lbs/gal mud weight . . . Bentonite slurry <input type="checkbox"/>              d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/>              e. <u>1.222</u> Ft<sup>3</sup> volume added for any of the above              f. How installed: Tremie <input type="checkbox"/>              Tremie pumped <input type="checkbox"/>              Gravity <input checked="" type="checkbox"/></p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/>              b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/>              c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name &amp; mesh size              a. <u>Not Applicable</u>              b. Volume added <u>0</u> Ft<sup>3</sup></p> <p>8. Filter pack material: Manufacturer, product name &amp; mesh size              a. <u>Filter Sil, Industrial Quartz</u>              b. Volume added <u>2.683</u> Ft<sup>3</sup></p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/>              Flush threaded PVC schedule 80 <input type="checkbox"/>              _____ Other <input type="checkbox"/></p> <p>10. Screen material: <u>Schedule 40 PVC</u>              a. Screen Type: Factory cut <input checked="" type="checkbox"/>              Continuous slot <input type="checkbox"/>              _____ Other <input type="checkbox"/>              b. Manufacturer <u>Johnson Screens</u>              c. Slot size: <u>0.010</u> in.              d. Slotted length: <u>10.0</u> ft.</p> <p>11. Backfill material (below filter pack): None <input checked="" type="checkbox"/>              Other <input type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge. Date Modified: 5/3/2021

Signature	Firm <b>Ramboll</b> 234 W. Florida Street, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608
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Facility/Project Name Newton Power Station		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name <b>XPW01</b>	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input checked="" type="checkbox"/> Lat. <u>38° 55' 55.9"</u> Long. <u>-88° 17' 7.9"</u> or			
Facility ID		St. Plane <u>824,975</u> ft. N, <u>997,852</u> ft. E. <input checked="" type="checkbox"/> W		Date Well Installed 01/20/2021	
Type of Well Well Code 99/ot		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. <u>26</u> , T. <u>6</u> N, R. <u>8</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Russ Gordon	
Distance from Waste/Source ft. _____		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Gov. Lot Number _____	
State IL				Cascade Drilling	

<p>A. Protective pipe, top elevation <u>552.11</u> ft. (NAVD88)</p> <p>B. Well casing, top elevation <u>551.76</u> ft. (NAVD88)</p> <p>C. Land surface elevation <u>548.6</u> ft. (NAVD88)</p> <p>D. Surface seal, bottom <u>547.6</u> ft. (NAVD88) or <u>1.0</u> ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen:              GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input checked="" type="checkbox"/> SP <input type="checkbox"/>              SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input checked="" type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/>              Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/>              Hollow Stem Auger <input type="checkbox"/>              Mini-Sonic <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 0.2 Air <input type="checkbox"/>              Drilling Mud <input type="checkbox"/> 0.3 None <input type="checkbox"/></p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required):              Potable Plant Water</p> </div> <p>E. Bentonite seal, top <u>547.6</u> ft. (NAVD88) or <u>1.0</u> ft.</p> <p>F. Fine sand, top _____ ft. (NAVD88) or _____ ft.</p> <p>G. Filter pack, top <u>543.6</u> ft. (NAVD88) or <u>5.0</u> ft.</p> <p>H. Screen joint, top <u>541.6</u> ft. (NAVD88) or <u>7.0</u> ft.</p> <p>I. Well bottom <u>531.6</u> ft. (NAVD88) or <u>17.0</u> ft.</p> <p>J. Filter pack, bottom <u>530.6</u> ft. (NAVD88) or <u>18.0</u> ft.</p> <p>K. Borehole, bottom <u>528.6</u> ft. (NAVD88) or <u>20.0</u> ft.</p> <p>L. Borehole, diameter <u>6.0</u> in.</p> <p>M. O.D. well casing <u>2.38</u> in.</p> <p>N. I.D. well casing <u>2.07</u> in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe:              a. Inside diameter: <u>4.0</u> in.              b. Length: <u>5.0</u> ft.              c. Material: Steel <input checked="" type="checkbox"/>              Other <input type="checkbox"/>              d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No              If yes, describe: <u>Bollards</u></p> <p>3. Surface seal: Bentonite <input type="checkbox"/>              Concrete <input checked="" type="checkbox"/>              Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe:              Bentonite <input type="checkbox"/>              Sand <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/>              b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/>              c. _____ Lbs/gal mud weight . . . Bentonite slurry <input type="checkbox"/>              d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/>              e. <u>0.698</u> Ft<sup>3</sup> volume added for any of the above              f. How installed: Tremie <input type="checkbox"/>              Tremie pumped <input type="checkbox"/>              Gravity <input checked="" type="checkbox"/></p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/>              b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/>              c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name &amp; mesh size              a. <u>Not Applicable</u>              b. Volume added <u>0</u> Ft<sup>3</sup></p> <p>8. Filter pack material: Manufacturer, product name &amp; mesh size              a. <u>Filter Sil, Industrial Quartz</u>              b. Volume added <u>2.291</u> Ft<sup>3</sup></p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/>              Flush threaded PVC schedule 80 <input type="checkbox"/>              _____ Other <input type="checkbox"/></p> <p>10. Screen material: <u>Schedule 40 PVC</u>              a. Screen Type: Factory cut <input checked="" type="checkbox"/>              Continuous slot <input type="checkbox"/>              _____ Other <input type="checkbox"/>              b. Manufacturer <u>Johnson Screens</u>              c. Slot size: <u>0.010</u> in.              d. Slotted length: <u>10.0</u> ft.</p> <p>11. Backfill material (below filter pack): None <input type="checkbox"/>  <u>Bentonite Chips</u> Other <input checked="" type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge. Date Modified: 5/3/2021

Signature <i>SA Wlb</i>	Firm <b>Ramboll</b> 234 W. Florida Street, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608
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Facility/Project Name Newton Power Station		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name <b>XPW02</b>	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input checked="" type="checkbox"/> Lat. <u>38° 55' 56.4"</u> Long. <u>-88° 16' 58.4"</u> or			
Facility ID		St. Plane <u>825,024</u> ft. N, <u>998,601</u> ft. E. <input checked="" type="checkbox"/> W		Date Well Installed 01/19/2021	
Type of Well Well Code 99/ot		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. <u>26</u> , T. <u>6</u> N, R. <u>8</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Russ Gordon	
Distance from Waste/Source ft. IL		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Gov. Lot Number _____	
				Cascade Drilling	

<p>A. Protective pipe, top elevation <u>554.83</u> ft. (NAVD88)</p> <p>B. Well casing, top elevation <u>554.43</u> ft. (NAVD88)</p> <p>C. Land surface elevation <u>552.0</u> ft. (NAVD88)</p> <p>D. Surface seal, bottom <u>550.0</u> ft. (NAVD88) or <u>2.0</u> ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen:              GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input checked="" type="checkbox"/> SP <input type="checkbox"/>              SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input checked="" type="checkbox"/> MH <input type="checkbox"/> CL <input checked="" type="checkbox"/> CH <input type="checkbox"/>              Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/>              Hollow Stem Auger <input type="checkbox"/>              Mini-Sonic <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 0.2 Air <input type="checkbox"/>              Drilling Mud <input type="checkbox"/> 0.3 None <input type="checkbox"/></p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required):              Potable Plant Water</p> </div> <p>E. Bentonite seal, top <u>550.0</u> ft. (NAVD88) or <u>2.0</u> ft.</p> <p>F. Fine sand, top _____ ft. (NAVD88) or _____ ft.</p> <p>G. Filter pack, top <u>548.0</u> ft. (NAVD88) or <u>4.0</u> ft.</p> <p>H. Screen joint, top <u>546.0</u> ft. (NAVD88) or <u>6.0</u> ft.</p> <p>I. Well bottom <u>536.0</u> ft. (NAVD88) or <u>16.0</u> ft.</p> <p>J. Filter pack, bottom <u>535.0</u> ft. (NAVD88) or <u>17.0</u> ft.</p> <p>K. Borehole, bottom <u>532.0</u> ft. (NAVD88) or <u>20.0</u> ft.</p> <p>L. Borehole, diameter <u>6.0</u> in.</p> <p>M. O.D. well casing <u>2.38</u> in.</p> <p>N. I.D. well casing <u>2.07</u> in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe:              a. Inside diameter: <u>4.0</u> in.              b. Length: <u>5.0</u> ft.              c. Material: Steel <input checked="" type="checkbox"/>              Other <input type="checkbox"/>              d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No              If yes, describe: <u>Bollards</u></p> <p>3. Surface seal: Bentonite <input type="checkbox"/>              Concrete <input checked="" type="checkbox"/>              Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe:              Bentonite <input type="checkbox"/>              Sand <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/>              b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/>              c. _____ Lbs/gal mud weight . . . Bentonite slurry <input type="checkbox"/>              d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/>              e. <u>0.349</u> Ft<sup>3</sup> volume added for any of the above              f. How installed: Tremie <input type="checkbox"/>              Tremie pumped <input type="checkbox"/>              Gravity <input checked="" type="checkbox"/></p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/>              b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/>              c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name &amp; mesh size              a. <u>Not Applicable</u>              b. Volume added <u>0</u> Ft<sup>3</sup></p> <p>8. Filter pack material: Manufacturer, product name &amp; mesh size              a. <u>Filter Sil, Industrial Quartz</u>              b. Volume added <u>2.291</u> Ft<sup>3</sup></p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/>              Flush threaded PVC schedule 80 <input type="checkbox"/>              _____ Other <input type="checkbox"/></p> <p>10. Screen material: <u>Schedule 40 PVC</u>              a. Screen Type: Factory cut <input checked="" type="checkbox"/>              Continuous slot <input type="checkbox"/>              _____ Other <input type="checkbox"/>              b. Manufacturer <u>Johnson Screens</u>              c. Slot size: <u>0.010</u> in.              d. Slotted length: <u>10.0</u> ft.</p> <p>11. Backfill material (below filter pack): None <input type="checkbox"/>  <u>Bentonite Chips</u> Other <input checked="" type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge. Date Modified: 5/3/2021

Signature <u>SJA WLB</u>	Firm <b>Ramboll</b> 234 W. Florida Street, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608
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Facility/Project Name Newton Power Station		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name <b>XPW03</b>	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input checked="" type="checkbox"/> Lat. <u>38° 55' 51.8"</u> Long. <u>-88° 16' 35.1"</u> or			
Facility ID		St. Plane <u>824,558</u> ft. N, <u>1,000,445</u> ft. E. <input checked="" type="checkbox"/> W		Date Well Installed 01/19/2021	
Type of Well Well Code 99/ot		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. <u>25</u> , T. <u>6</u> N, R. <u>8</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Russ Gordon	
Distance from Waste/Source ft. IL		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Gov. Lot Number _____	
				Cascade Drilling	

<p>A. Protective pipe, top elevation <u>553.95</u> ft. (NAVD88)</p> <p>B. Well casing, top elevation <u>553.65</u> ft. (NAVD88)</p> <p>C. Land surface elevation <u>550.8</u> ft. (NAVD88)</p> <p>D. Surface seal, bottom <u>548.8</u> ft. (NAVD88) or <u>2.0</u> ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen:                  GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input checked="" type="checkbox"/> SP <input checked="" type="checkbox"/>                  SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input checked="" type="checkbox"/> MH <input type="checkbox"/> CL <input checked="" type="checkbox"/> CH <input type="checkbox"/>                  Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/>                  Hollow Stem Auger <input type="checkbox"/>                  Mini-Sonic <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 0.2 Air <input type="checkbox"/>                  Drilling Mud <input type="checkbox"/> 0.3 None <input type="checkbox"/></p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required):                  Potable Plant Water</p> </div> <p>E. Bentonite seal, top <u>548.8</u> ft. (NAVD88) or <u>2.0</u> ft.</p> <p>F. Fine sand, top _____ ft. (NAVD88) or _____ ft.</p> <p>G. Filter pack, top <u>542.8</u> ft. (NAVD88) or <u>8.0</u> ft.</p> <p>H. Screen joint, top <u>540.8</u> ft. (NAVD88) or <u>10.0</u> ft.</p> <p>I. Well bottom <u>530.8</u> ft. (NAVD88) or <u>20.0</u> ft.</p> <p>J. Filter pack, bottom <u>530.8</u> ft. (NAVD88) or <u>20.0</u> ft.</p> <p>K. Borehole, bottom <u>530.8</u> ft. (NAVD88) or <u>20.0</u> ft.</p> <p>L. Borehole, diameter <u>6.0</u> in.</p> <p>M. O.D. well casing <u>2.38</u> in.</p> <p>N. I.D. well casing <u>2.07</u> in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe:                  a. Inside diameter: <u>4.0</u> in.                  b. Length: <u>5.0</u> ft.                  c. Material: Steel <input checked="" type="checkbox"/>                  Other <input type="checkbox"/>                  d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                  If yes, describe: <u>Bollards</u></p> <p>3. Surface seal: Bentonite <input type="checkbox"/>                  Concrete <input checked="" type="checkbox"/>                  Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe:                  Bentonite <input type="checkbox"/>                  Sand <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/>                  b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/>                  c. _____ Lbs/gal mud weight . . . Bentonite slurry <input type="checkbox"/>                  d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/>                  e. <u>1.047</u> Ft<sup>3</sup> volume added for any of the above                  f. How installed: Tremie <input type="checkbox"/>                  Tremie pumped <input type="checkbox"/>                  Gravity <input checked="" type="checkbox"/></p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/>                  b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/>                  c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name &amp; mesh size                  a. <u>Not Applicable</u>                  b. Volume added <u>0</u> ft<sup>3</sup></p> <p>8. Filter pack material: Manufacturer, product name &amp; mesh size                  a. <u>Filter Sil, Industrial Quartz</u>                  b. Volume added <u>2.094</u> ft<sup>3</sup></p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/>                  Flush threaded PVC schedule 80 <input type="checkbox"/>                  _____ Other <input type="checkbox"/></p> <p>10. Screen material: <u>Schedule 40 PVC</u>                  a. Screen Type: Factory cut <input checked="" type="checkbox"/>                  Continuous slot <input type="checkbox"/>                  _____ Other <input type="checkbox"/>                  b. Manufacturer <u>Johnson Screens</u>                  c. Slot size: <u>0.010</u> in.                  d. Slotted length: <u>10.0</u> ft.</p> <p>11. Backfill material (below filter pack): None <input checked="" type="checkbox"/>                  Other <input type="checkbox"/></p>
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Signature <u>SA WB</u>	Firm <b>Ramboll</b> 234 W. Florida Street, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608
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**MONITORING WELL CONSTRUCTION**

Facility/Project Name Newton Power Station		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name <b>XPW04</b>	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input checked="" type="checkbox"/> Lat. <u>38° 55' 47.6"</u> Long. <u>-88° 16' 26.6"</u> or			
Facility ID		St. Plane <u>824,131</u> ft. N, <u>1,001,110</u> ft. E. <input checked="" type="checkbox"/> W		Date Well Installed 01/19/2021	
Type of Well Well Code 99/ot		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. <u>25</u> , T. <u>6</u> N, R. <u>8</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Well Installed By: (Person's Name and Firm) Russ Gordon	
Distance from Waste/Source ft. _____		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Gov. Lot Number _____	
State IL				Cascade Drilling	


<p>A. Protective pipe, top elevation <u>554.74</u> ft. (NAVD88)</p> <p>B. Well casing, top elevation <u>554.51</u> ft. (NAVD88)</p> <p>C. Land surface elevation <u>551.9</u> ft. (NAVD88)</p> <p>D. Surface seal, bottom <u>549.9</u> ft. (NAVD88) or <u>2.0</u> ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen:              GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input checked="" type="checkbox"/> SP <input type="checkbox"/>              SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input checked="" type="checkbox"/> MH <input type="checkbox"/> CL <input checked="" type="checkbox"/> CH <input type="checkbox"/>              Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/>              Hollow Stem Auger <input type="checkbox"/>              Mini-Sonic <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>15. Drilling fluid used: Water <input checked="" type="checkbox"/> 0.2 Air <input type="checkbox"/>              Drilling Mud <input type="checkbox"/> 0.3 None <input type="checkbox"/></p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required):              Potable Plant Water</p> </div> <p>E. Bentonite seal, top <u>549.9</u> ft. (NAVD88) or <u>2.0</u> ft.</p> <p>F. Fine sand, top _____ ft. (NAVD88) or _____ ft.</p> <p>G. Filter pack, top <u>543.9</u> ft. (NAVD88) or <u>8.0</u> ft.</p> <p>H. Screen joint, top <u>541.9</u> ft. (NAVD88) or <u>10.0</u> ft.</p> <p>I. Well bottom <u>531.9</u> ft. (NAVD88) or <u>20.0</u> ft.</p> <p>J. Filter pack, bottom <u>531.9</u> ft. (NAVD88) or <u>20.0</u> ft.</p> <p>K. Borehole, bottom <u>531.9</u> ft. (NAVD88) or <u>20.0</u> ft.</p> <p>L. Borehole, diameter <u>6.0</u> in.</p> <p>M. O.D. well casing <u>2.38</u> in.</p> <p>N. I.D. well casing <u>2.07</u> in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe:              a. Inside diameter: <u>4.0</u> in.              b. Length: <u>5.0</u> ft.              c. Material: Steel <input checked="" type="checkbox"/>              Other <input type="checkbox"/>              d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No              If yes, describe: <u>Bollards</u></p> <p>3. Surface seal: Bentonite <input type="checkbox"/>              Concrete <input checked="" type="checkbox"/>              Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe:              Bentonite <input type="checkbox"/>              Sand <input type="checkbox"/> Other <input checked="" type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/>              b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/>              c. _____ Lbs/gal mud weight . . . Bentonite slurry <input type="checkbox"/>              d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/>              e. <u>1.047</u> Ft<sup>3</sup> volume added for any of the above              f. How installed: Tremie <input type="checkbox"/>              Tremie pumped <input type="checkbox"/>              Gravity <input checked="" type="checkbox"/></p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/>              b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/>              c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name &amp; mesh size              a. <u>Not Applicable</u>              b. Volume added <u>0</u> ft<sup>3</sup></p> <p>8. Filter pack material: Manufacturer, product name &amp; mesh size              a. <u>Filter Sil, Industrial Quartz</u>              b. Volume added <u>2.094</u> ft<sup>3</sup></p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/>              Flush threaded PVC schedule 80 <input type="checkbox"/>              _____ Other <input type="checkbox"/></p> <p>10. Screen material: <u>Schedule 40 PVC</u>              a. Screen Type: Factory cut <input checked="" type="checkbox"/>              Continuous slot <input type="checkbox"/>              _____ Other <input type="checkbox"/>              b. Manufacturer <u>Johnson Screens</u>              c. Slot size: <u>0.010</u> in.              d. Slotted length: <u>10.0</u> ft.</p> <p>11. Backfill material (below filter pack): None <input checked="" type="checkbox"/>              Other <input type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge. Date Modified: 5/3/2021

Signature <u>SA WB</u>	Firm <b>Ramboll</b> 234 W. Florida Street, Milwaukee, WI 53204	Tel: (414) 837-3607 Fax: (414) 837-3608
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NOTE: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES  
 LOG OF BORING 2002 WL J017150.01ENV - AMEREN-NEWTON.GPJ GTINC 0638301.GRNDZ2Z2R0TRANSITION MAY BE GRADUAL. GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY.

Surface Elevation: <b>529.93</b>		Completion Date: <b>6/19/10</b>		<b>GRAPHIC LOG</b>	<b>WELL DIAGRAM</b>
Datum <b>msl</b>		Northing: <b>822688.04</b> Easting: <b>995465.25</b>			
DEPTH IN FEET	DESCRIPTION OF MATERIAL	GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/ROD	SAMPLES	
-3.9					533.8
1.0	Soft, brown, silty CLAY - CL				528.9
5	Stiff, brown, sandy CLAY - CL				
7.0	Hard, brown, sandy CLAY with gravel - CL				522.9
9.7					520.3
15	Hard, dark gray CLAY and glacial till - CH				
20	Boring terminated at 20 feet				510.3 509.9
25					
30					
35					

Drawn by: KA	Checked by: <i>RS</i>	App'vd. by: <i>DTK</i>	
Date: 6/29/10	Date: <i>2-7-11</i>	Date: <i>2-7-11</i>	
 <b>GEOTECHNOLOGY</b> <small>FROM THE GROUND UP</small>			
<b>Ameren Power Plant                  Newton, Illinois</b>			
<b>LOG OF BORING: APW-2</b>			
<b>Project No. J017150.01</b>			

**GROUNDWATER DATA**

ENCOUNTERED AT 8.5 FEET ∇

REMARKS:

**DRILLING DATA**

4 1/4" AUGER \_\_\_ HOLLOW STEM  
 WASHBORING FROM \_\_\_ FEET  
MVU DRILLER KCR LOGGER  
CME 750X DRILL RIG  
 HAMMER TYPE Auto

LOG OF BORING 2002 WL J017150.01 ENV - AMEREN-NEWTON.GPJ GTINC 0638301 GFAN272E (TRANSITION MAY BE GRADUAL - GRAPHIC LOG FOR ILLUSTRATION PURPOSES ONLY)

Surface Elevation: <b>528.47</b> Datum <u>msl</u>		Completion Date: <b>6/18/10</b> Northing: <b>821379.76</b> Easting: <b>998975.74</b>		GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/RQD	SAMPLES	<b>WELL DIAGRAM</b>	
DEPTH IN FEET	DESCRIPTION OF MATERIAL	Length (ft)	Elev. (ft)					
5	Soft, brown, silty CLAY - CL	1.0	527.5	Concrete			Stickup Diameter: 6 inches	-4.1 532.5
10	Soft, brown, sandy CLAY with gravel - CL	7.5	521.0	Bentonite			2" sch 40 PVC	
15	Hard, brown, sandy CLAY with gravel - CL	9.7	518.8	Filter sand			2" sch 40 PVC 0.10 slotted	
20	Boring terminated at 20 feet.	19.7 20.0	508.8 508.5	Bottom cap			Bottom cap	

**GROUNDWATER DATA**

FREE WATER NOT ENCOUNTERED DURING DRILLING

**DRILLING DATA**

4 1/4" AUGER \_\_\_ HOLLOW STEM  
WASHBORING FROM \_\_\_ FEET  
MVJ DRILLER KCR LOGGER  
CME 750X DRILL RIG  
HAMMER TYPE Auto

REMARKS:

Drawn by: KA	Checked by: <u>WSP</u>	App'vd. by: <u>DTK</u>
Date: 6/29/10	Date: <u>2/7/11</u>	Date: <u>2-7-11</u>



Ameren Power Plant  
Newton, Illinois

LOG OF BORING: APW-3

Project No. J017150.01



LOG OF BORING 2002 WL J017150.01ENV - AMEREN-NEWTON.GPJ - GTINC 0638301.GPJ - 6/29/10 11:25:02 AM

Surface Elevation: <b>521.56</b>		Completion Date: <b>6/19/10</b>		GRAPHIC LOG	DRY UNIT WEIGHT (pcf) SPT BLOW COUNTS CORE RECOVERY/ROD	SAMPLES	<b>WELL DIAGRAM</b>	
Datum <b>msl</b>		Northing: <b>823246.45</b> Easting: <b>1001379.56</b>					Stickup Diameter: <b>6 inches</b>	
DEPTH IN FEET	DESCRIPTION OF MATERIAL							
5	Soft, brown, silty CLAY - CL	5	5	5	5	5	5	5
10	Soft, brown, sandy CLAY - CL	10	10	10	10	10	10	10
15	Stiff, brown, sandy CLAY with gravel - CL	15	15	15	15	15	15	15
20	Boring terminated at 18 feet.	20	20	20	20	20	20	20
25		25	25	25	25	25	25	25
30		30	30	30	30	30	30	30
35		35	35	35	35	35	35	35

Drawn by: KA	Checked by: <i>RJP</i>	App'vd. by: <i>DK</i>
Date: 6/29/10	Date: 2-7-11	Date: 2-7-11



Ameren Power Plant  
Newton, Illinois

LOG OF BORING: APW-4

Project No. J017150.01

**GROUNDWATER DATA**

ENCOUNTERED AT 8 FEET  $\nabla$

REMARKS:

**DRILLING DATA**

4 1/4" AUGER \_\_\_ HOLLOW STEM  
WASHBORING FROM \_\_\_ FEET  
MVU DRILLER KCR LOGGER  
CME 750X DRILL RIG  
HAMMER TYPE Auto



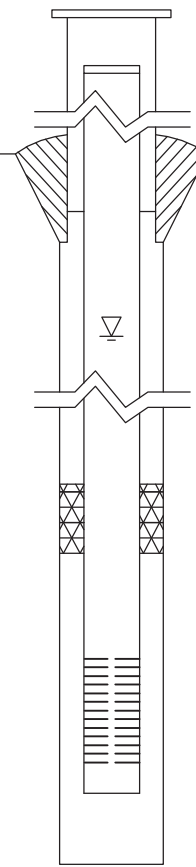
# Illinois Environmental Protection Agency

# Well Completion Report

Site #: \_\_\_\_\_ County: Jasper County Well #: APW5  
 Site Name: Newton Energy Center Borehole #: APW5  
~~State~~ Plant  
 Plane Coordinate: X 9,318.2 Y 7,758.0 (or) Latitude: 38° 56' 2.270" Longitude: -88° 16' 51.560"  
 Surveyed By: Michael J. Graminski IL Registration #: 035-002901  
 Drilling Contractor: Bulldog Drilling, Inc. Driller: C. Dutton  
 Consulting Firm: Hanson Professional Services Inc. Geologist: Rhonald W. Hasenyager, LPG #196-000246  
 Drilling Method: Hollow Stem Auger Drilling Fluid (Type): Water  
 Logged By: Suzanna L. Keim Date Started: 10/22/2015 Date Finished: 10/22/2015  
 Report Form Completed By: Suzanna L. Keim Date: 11/6/2015

## ANNULAR SPACE DETAILS

	Elevations (MSL)*	Depths (BGS)	(0.01 ft.)
	<u>545.00</u>	<u>-3.43</u>	Top of Protective Casing
	<u>544.56</u>	<u>-2.99</u>	Top of Riser Pipe
Type of Surface Seal: <u>Concrete</u>	<u>541.57</u>	<u>0.00</u>	Ground Surface
Type of Annular Sealant: <u>High-solids bentonite</u>	<u>539.57</u>	<u>2.00</u>	Top of Annular Sealant
Installation Method: <u>Tremie</u>			
Setting Time: <u>&gt;48 hours</u>			
Type of Bentonite Seal -- Granular <input type="radio"/> Pellet <input checked="" type="radio"/> Slurry (choose one)	<u>527.06</u>	<u>14.51</u>	Static Water Level (After Completion) 12/15/2015
Installation Method: <u>Gravity</u>	<u>484.39</u>	<u>57.18</u>	Top of Seal
Setting Time: <u>45 minutes</u>	<u>480.62</u>	<u>60.95</u>	Top of Sand Pack
Type of Sand Pack: <u>Quartz Sand</u>			
Grain Size: <u>10-20</u> (sieve size)	<u>478.93</u>	<u>62.64</u>	Top of Screen
Installation Method: <u>Gravity</u>	<u>474.13</u>	<u>67.44</u>	Bottom of Screen
Type of Backfill Material: <u>n/a</u> (if applicable)	<u>473.73</u>	<u>67.84</u>	Bottom of Well
Installation Method: _____	<u>473.57</u>	<u>68.00</u>	Bottom of Borehole



\* Referenced to a National Geodetic Datum

## CASING MEASUREMENTS

Diameter of Borehole	(inches)	8.0
ID of Riser Pipe	(inches)	2.0
Protective Casing Length	(feet)	5.0
Riser Pipe Length	(feet)	65.63
Bottom of Screen to End Cap	(feet)	0.40
Screen Length (1st slot to last slot)	(feet)	4.80
Total Length of Casing	(feet)	70.83
Screen Slot Size **	(inches)	0.010

## WELL CONSTRUCTION MATERIALS

(Choose one type of material for each area)

Protective Casing	SS304	SS316	PTFE	PVC	OTHER: <input checked="" type="radio"/> Steel
Riser Pipe Above W.T.	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:
Riser Pipe Below W.T.	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:
Screen	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:



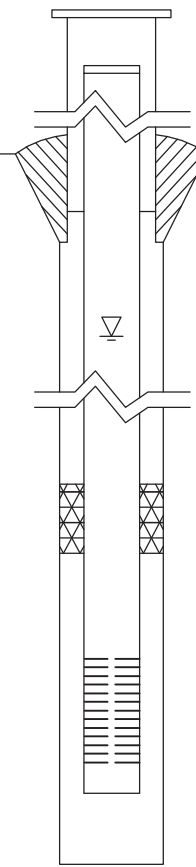
# Illinois Environmental Protection Agency

# Well Completion Report

Site #: \_\_\_\_\_ County: Jasper County Well #: APW6  
 Site Name: Newton Energy Center Borehole #: APW6  
 State Plant  
 Plane Coordinate: X 7,811.9 Y 7,688.5 (or) Latitude: 38° 56' 1.510" Longitude: -88° 17' 10.610"  
 Surveyed By: Michael J. Graminski IL Registration #: 035-002901  
 Drilling Contractor: Bulldog Drilling, Inc. Driller: C. Dutton  
 Consulting Firm: Hanson Professional Services Inc. Geologist: Rhonald W. Hasenyager, LPG #196-000246  
 Drilling Method: Hollow Stem Auger Drilling Fluid (Type): Water  
 Logged By: Suzanna L. Keim Date Started: 10/20/2015 Date Finished: 10/21/2015  
 Report Form Completed By: Suzanna L. Keim Date: 11/6/2015

## ANNULAR SPACE DETAILS

	Elevations (MSL)*	Depths (BGS)	(0.01 ft.)
	<u>546.88</u>	<u>-3.50</u>	Top of Protective Casing
	<u>546.56</u>	<u>-3.18</u>	Top of Riser Pipe
Type of Surface Seal: <u>Concrete</u>	<u>543.38</u>	<u>0.00</u>	Ground Surface
Type of Annular Sealant: <u>High-solids bentonite</u>	<u>541.38</u>	<u>2.00</u>	Top of Annular Sealant
Installation Method: <u>Tremie</u>			
Setting Time: <u>&gt;48 hours</u>			
Type of Bentonite Seal -- Granular <input type="radio"/> Pellet <input checked="" type="radio"/> Slurry (choose one)	<u>523.45</u>	<u>19.93</u>	Static Water Level (After Completion) 12/15/2015
Installation Method: <u>Gravity</u>	<u>478.48</u>	<u>64.90</u>	Top of Seal
Setting Time: <u>30 minutes</u>	<u>477.28</u>	<u>66.10</u>	Top of Sand Pack
Type of Sand Pack: <u>Quartz Sand</u>	<u>475.71</u>	<u>67.67</u>	Top of Screen
Grain Size: <u>10-20</u> (sieve size)			
Installation Method: <u>Gravity</u>	<u>470.90</u>	<u>72.48</u>	Bottom of Screen
Type of Backfill Material: <u>Quartz Sand</u> (if applicable)	<u>470.50</u>	<u>72.88</u>	Bottom of Well
Installation Method: <u>gravity</u>	<u>469.38</u>	<u>74.00</u>	Bottom of Borehole



\* Referenced to a National Geodetic Datum

## CASING MEASUREMENTS

Diameter of Borehole	(inches)	8.0
ID of Riser Pipe	(inches)	2.0
Protective Casing Length	(feet)	5.0
Riser Pipe Length	(feet)	70.85
Bottom of Screen to End Cap	(feet)	0.40
Screen Length (1st slot to last slot)	(feet)	4.81
Total Length of Casing	(feet)	76.06
Screen Slot Size **	(inches)	0.010

## WELL CONSTRUCTION MATERIALS

(Choose one type of material for each area)

Protective Casing	SS304	SS316	PTFE	PVC	OTHER: <input checked="" type="radio"/> Steel
Riser Pipe Above W.T.	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:
Riser Pipe Below W.T.	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:
Screen	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:



# Illinois Environmental Protection Agency

# Well Completion Report

Site #: \_\_\_\_\_ County: Jasper County Well #: APW7

Site Name: Newton Energy Center Borehole #: APW7a

State Plant  
 Plane Coordinate: X 6,151.6 Y 5,688.8 (or) Latitude: 38° 55' 41.660" Longitude: -88° 17' 31.490"

Surveyed By: Michael J. Graminski IL Registration #: 035-002901

Drilling Contractor: Bulldog Drilling, Inc. Driller: J. Gates

Consulting Firm: Hanson Professional Services Inc. Geologist: Rhonald W. Hasenyager, LPG #196-000246

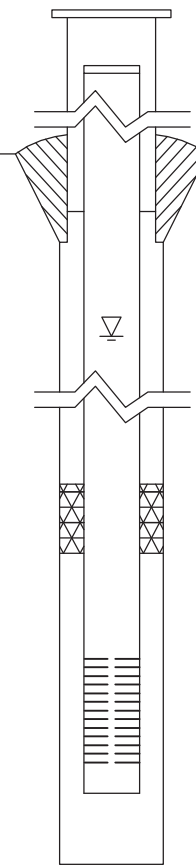
Drilling Method: Hollow Stem Auger Drilling Fluid (Type): Water

Logged By: Rhonald W. Hasenyager Date Started: 11/3/2015 Date Finished: 11/5/2015

Report Form Completed By: Suzanna L. Keim Date: 11/9/2015

## ANNULAR SPACE DETAILS

	Elevations (MSL)*	Depths (BGS)	(0.01 ft.)
	<u>539.24</u>	<u>-3.03</u>	Top of Protective Casing
	<u>538.86</u>	<u>-2.65</u>	Top of Riser Pipe
Type of Surface Seal: <u>Concrete</u>	<u>536.21</u>	<u>0.00</u>	Ground Surface
Type of Annular Sealant: <u>High-solids bentonite</u>	<u>534.21</u>	<u>2.00</u>	Top of Annular Sealant
Installation Method: <u>Tremie</u>			
Setting Time: <u>&gt;48 hours</u>			
Type of Bentonite Seal -- Granular <input type="radio"/> Pellet <input checked="" type="radio"/> Slurry (choose one)	<u>490.68</u>	<u>45.53</u>	Static Water Level (After Completion) 12/15/2015
Installation Method: <u>Gravity</u>	<u>462.06</u>	<u>74.15</u>	Top of Seal
Setting Time: <u>120 minutes</u>	<u>460.21</u>	<u>76.00</u>	Top of Sand Pack
Type of Sand Pack: <u>Quartz Sand</u>			
Grain Size: <u>10-20</u> (sieve size)	<u>458.32</u>	<u>77.89</u>	Top of Screen
Installation Method: <u>Gravity</u>	<u>453.51</u>	<u>82.70</u>	Bottom of Screen
Type of Backfill Material: <u>Quartz Sand</u> (if applicable)	<u>453.11</u>	<u>83.10</u>	Bottom of Well
Installation Method: <u>gravity</u>	<u>453.11</u>	<u>83.10</u>	Bottom of Borehole



\* Referenced to a National Geodetic Datum

## CASING MEASUREMENTS

Diameter of Borehole	(inches)	8.0
ID of Riser Pipe	(inches)	2.0
Protective Casing Length	(feet)	5.0
Riser Pipe Length	(feet)	80.54
Bottom of Screen to End Cap	(feet)	0.40
Screen Length (1st slot to last slot)	(feet)	4.81
Total Length of Casing	(feet)	85.75
Screen Slot Size **	(inches)	0.010

## WELL CONSTRUCTION MATERIALS

(Choose one type of material for each area)

Protective Casing	SS304	SS316	PTFE	PVC	OTHER: <input checked="" type="radio"/> Steel
Riser Pipe Above W.T.	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:
Riser Pipe Below W.T.	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:
Screen	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:



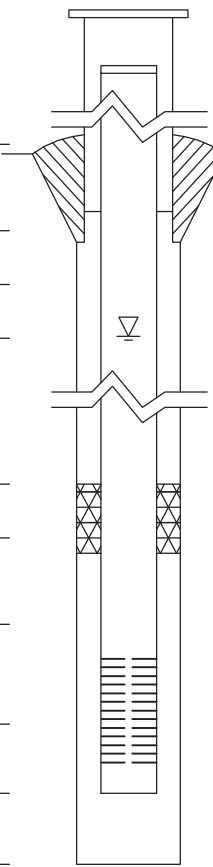
**Illinois Environmental Protection Agency**

**Well Completion Report**

Site #: \_\_\_\_\_ County: Jasper County Well #: APW8  
 Site Name: Newton Energy Center Borehole #: APW8  
 State Plant  
 Plane Coordinate: X 6,082.4 Y 3,839.6 (or) Latitude: 38° 55' 23.380" Longitude: -88° 17' 32.250"  
 Surveyed By: Michael J. Graminski IL Registration #: 035-002901  
 Drilling Contractor: Bulldog Drilling, Inc. Driller: C. Dutton  
 Consulting Firm: Hanson Professional Services Inc. Geologist: Rhonald W. Hasenyager, LPG #196-000246  
 Drilling Method: Hollow Stem Auger Drilling Fluid (Type): Water  
 Logged By: Suzanna L. Keim Date Started: 10/27/2015 Date Finished: 10/28/2015  
 Report Form Completed By: Suzanna L. Keim Date: 11/6/2015

**ANNULAR SPACE DETAILS**

	<b>Elevations (MSL)*</b>	<b>Depths (BGS)</b>	<b>(0.01 ft.)</b>
	<u>529.86</u>	<u>-3.11</u>	Top of Protective Casing
	<u>529.46</u>	<u>-2.71</u>	Top of Riser Pipe
Type of Surface Seal: <u>Concrete</u>	<u>526.75</u>	<u>0.00</u>	Ground Surface
Type of Annular Sealant: <u>High-solids bentonite</u>	<u>524.75</u>	<u>2.00</u>	Top of Annular Sealant
Installation Method: <u>Tremie</u>			
Setting Time: <u>&gt;48 hours</u>			
Type of Bentonite Seal -- Granular <input type="radio"/> Pellet <input checked="" type="radio"/> Slurry (choose one)	<u>490.50</u>	<u>36.25</u>	Static Water Level (After Completion) 12/15/2015
Installation Method: <u>Gravity</u>	<u>462.45</u>	<u>64.30</u>	Top of Seal
Setting Time: <u>55 minutes</u>	<u>458.70</u>	<u>68.05</u>	Top of Sand Pack
Type of Sand Pack: <u>Quartz Sand</u>			
Grain Size: <u>10-20</u> (sieve size)	<u>455.35</u>	<u>71.40</u>	Top of Screen
Installation Method: <u>Gravity</u>	<u>445.69</u>	<u>81.06</u>	Bottom of Screen
Type of Backfill Material: <u>n/a</u> (if applicable)	<u>445.22</u>	<u>81.53</u>	Bottom of Well
Installation Method: _____	<u>444.75</u>	<u>82.00</u>	Bottom of Borehole



\* Referenced to a National Geodetic Datum

**CASING MEASUREMENTS**

Diameter of Borehole	(inches)	8.0
ID of Riser Pipe	(inches)	2.0
Protective Casing Length	(feet)	5.0
Riser Pipe Length	(feet)	74.11
Bottom of Screen to End Cap	(feet)	0.47
Screen Length (1st slot to last slot)	(feet)	9.66
Total Length of Casing	(feet)	84.24
Screen Slot Size **	(inches)	0.010

**WELL CONSTRUCTION MATERIALS**  
(Choose one type of material for each area)

Protective Casing	SS304	SS316	PTFE	PVC	OTHER: <input checked="" type="radio"/> Steel
Riser Pipe Above W.T.	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:
Riser Pipe Below W.T.	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:
Screen	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:



# Illinois Environmental Protection Agency

# Well Completion Report

Site #: \_\_\_\_\_ County: Jasper County Well #: APW9

Site Name: Newton Energy Center Borehole #: APW9

State Plant  
 Plane Coordinate: X 9,125.3 Y 3,519.6 (or) Latitude: 38° 55' 20.370" Longitude: -88° 16' 53.730"

Surveyed By: Michael J. Graminski IL Registration #: 035-002901

Drilling Contractor: Bulldog Drilling, Inc. Driller: J. Gates

Consulting Firm: Hanson Professional Services Inc. Geologist: Rhonald W. Hasenyager, LPG #196-000246

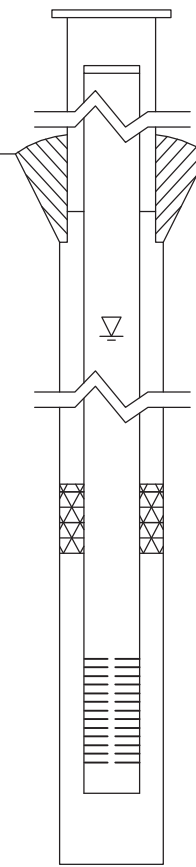
Drilling Method: Hollow Stem Auger Drilling Fluid (Type): Water

Logged By: Rhonald W. Hasenyager Date Started: 11/2/2015 Date Finished: 11/3/2015

Report Form Completed By: Suzanna L. Keim Date: 11/9/2015

## ANNULAR SPACE DETAILS

	Elevations (MSL)*	Depths (BGS)	(0.01 ft.)
	<u>532.43</u>	<u>-3.61</u>	Top of Protective Casing
	<u>532.01</u>	<u>-3.19</u>	Top of Riser Pipe
Type of Surface Seal: <u>Concrete</u>	<u>528.82</u>	<u>0.00</u>	Ground Surface
Type of Annular Sealant: <u>High-solids bentonite</u>	<u>526.82</u>	<u>2.00</u>	Top of Annular Sealant
Installation Method: <u>Tremie</u>			
Setting Time: <u>&gt;48 hours</u>			
Type of Bentonite Seal -- Granular <input type="radio"/> Pellet <input checked="" type="radio"/> Slurry (choose one)	<u>502.18</u>	<u>26.64</u>	Static Water Level (After Completion) 12/15/2015
Installation Method: <u>Gravity</u>	<u>475.91</u>	<u>52.91</u>	Top of Seal
Setting Time: <u>65 minutes</u>	<u>474.20</u>	<u>54.62</u>	Top of Sand Pack
Type of Sand Pack: <u>Quartz Sand</u>			
Grain Size: <u>10-20</u> (sieve size)	<u>472.16</u>	<u>56.66</u>	Top of Screen
Installation Method: <u>Gravity</u>	<u>467.36</u>	<u>61.46</u>	Bottom of Screen
Type of Backfill Material: <u>n/a</u> (if applicable)	<u>466.97</u>	<u>61.85</u>	Bottom of Well
Installation Method: _____	<u>466.82</u>	<u>62.00</u>	Bottom of Borehole



\* Referenced to a National Geodetic Datum

## CASING MEASUREMENTS

Diameter of Borehole	(inches)	8.0
ID of Riser Pipe	(inches)	2.0
Protective Casing Length	(feet)	5.0
Riser Pipe Length	(feet)	59.85
Bottom of Screen to End Cap	(feet)	0.39
Screen Length (1st slot to last slot)	(feet)	4.80
Total Length of Casing	(feet)	65.04
Screen Slot Size **	(inches)	0.010

## WELL CONSTRUCTION MATERIALS

(Choose one type of material for each area)

Protective Casing	SS304	SS316	PTFE	PVC	OTHER: <input checked="" type="radio"/> Steel
Riser Pipe Above W.T.	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:
Riser Pipe Below W.T.	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:
Screen	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:



**Illinois Environmental Protection Agency**

**Well Completion Report**

Site #: \_\_\_\_\_ County: Jasper County Well #: APW10

Site Name: Newton Energy Center Borehole #: APW10a

State Plant  
 Plane Coordinate: X 11,541.2 Y 5,371.3 (or) Latitude: 38° 55' 38.790" Longitude: -88° 16' 23.280"

Surveyed By: Michael J. Graminski IL Registration #: 035-002901

Drilling Contractor: Bulldog Drilling, Inc. Driller: C. Dutton

Consulting Firm: Hanson Professional Services Inc. Geologist: Rhonald W. Hasenyager, LPG #196-000246

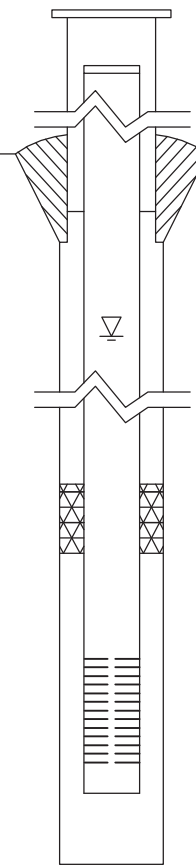
Drilling Method: Hollow Stem Auger Drilling Fluid (Type): Water

Logged By: Suzanna L. Keim Date Started: 10/27/2015 Date Finished: 10/27/2015

Report Form Completed By: Suzanna L. Keim Date: 11/6/2015

**ANNULAR SPACE DETAILS**

	<b>Elevations (MSL)*</b>	<b>Depths (BGS)</b>	<b>(0.01 ft.)</b>
	<u>525.12</u>	<u>-3.14</u>	Top of Protective Casing
	<u>524.74</u>	<u>-2.76</u>	Top of Riser Pipe
Type of Surface Seal: <u>Concrete</u>	<u>521.98</u>	<u>0.00</u>	Ground Surface
Type of Annular Sealant: <u>High-solids bentonite</u>	<u>519.98</u>	<u>2.00</u>	Top of Annular Sealant
Installation Method: <u>Tremie</u>			
Setting Time: <u>&gt;48 hours</u>			
Type of Bentonite Seal -- Granular <input type="radio"/> Pellet <input checked="" type="radio"/> Slurry (choose one)	<u>504.12</u>	<u>17.86</u>	Static Water Level (After Completion) 12/15/2015
Installation Method: <u>Gravity</u>	<u>484.66</u>	<u>37.32</u>	Top of Seal
Setting Time: <u>50 minutes</u>	<u>483.22</u>	<u>38.76</u>	Top of Sand Pack
Type of Sand Pack: <u>Quartz Sand</u>			
Grain Size: <u>10-20</u> (sieve size)	<u>481.24</u>	<u>40.74</u>	Top of Screen
Installation Method: <u>Gravity</u>	<u>476.44</u>	<u>45.54</u>	Bottom of Screen
Type of Backfill Material: <u>n/a</u> (if applicable)	<u>476.04</u>	<u>45.94</u>	Bottom of Well
Installation Method: _____	<u>476.04</u>	<u>45.94</u>	Bottom of Borehole



\* Referenced to a National Geodetic Datum

**CASING MEASUREMENTS**

Diameter of Borehole	(inches)	<u>8.0</u>
ID of Riser Pipe	(inches)	<u>2.0</u>
Protective Casing Length	(feet)	<u>5.0</u>
Riser Pipe Length	(feet)	<u>43.50</u>
Bottom of Screen to End Cap	(feet)	<u>0.40</u>
Screen Length (1st slot to last slot)	(feet)	<u>4.80</u>
Total Length of Casing	(feet)	<u>48.70</u>
Screen Slot Size **	(inches)	<u>0.010</u>

**WELL CONSTRUCTION MATERIALS**  
 (Choose one type of material for each area)

Protective Casing	SS304	SS316	PTFE	PVC	OTHER: <input checked="" type="radio"/> Steel
Riser Pipe Above W.T.	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:
Riser Pipe Below W.T.	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:
Screen	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:



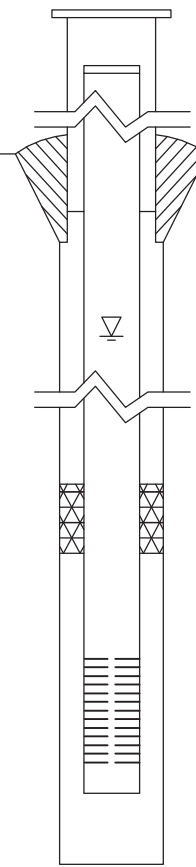
# Illinois Environmental Protection Agency

# Well Completion Report

Site #: \_\_\_\_\_ County: Jasper County Well #: G06D  
 Site Name: Newton Energy Center Borehole #: G06D  
 State Plant  
 Plane Coordinate: X 4,926.0 Y 5,328.8 (or) Latitude: 38° 55' 38.040" Longitude: -88° 17' 46.980"  
 Surveyed By: Michael J. Graminski IL Registration #: 035-002901  
 Drilling Contractor: Bulldog Drilling, Inc. Driller: J. Gates  
 Consulting Firm: Hanson Professional Services Inc. Geologist: Rhonald W. Hasenyager, LPG #196-000246  
 Drilling Method: Hollow Stem Auger Drilling Fluid (Type): Water  
 Logged By: Rhonald W. Hasenyager Date Started: 11/9/2015 Date Finished: 11/10/2015  
 Report Form Completed By: Suzanna L. Keim Date: 11/16/2015

## ANNULAR SPACE DETAILS

	Elevations (MSL)*	Depths (BGS)	(0.01 ft.)
	<u>532.59</u>	<u>-2.90</u>	Top of Protective Casing
	<u>532.18</u>	<u>-2.49</u>	Top of Riser Pipe
Type of Surface Seal: <u>Concrete</u>	<u>529.69</u>	<u>0.00</u>	Ground Surface
Type of Annular Sealant: <u>High-solids bentonite</u>	<u>527.69</u>	<u>2.00</u>	Top of Annular Sealant
Installation Method: <u>Tremie</u>			
Setting Time: <u>&gt;48 hours</u>			
Type of Bentonite Seal -- Granular <input type="radio"/> Pellet <input checked="" type="radio"/> Slurry (choose one)	<u>439.57</u>	<u>90.12</u>	Static Water Level (After Completion) 12/16/2016
Installation Method: <u>Gravity</u>	<u>459.39</u>	<u>70.30</u>	Top of Seal
Setting Time: <u>45 minutes</u>	<u>457.58</u>	<u>72.11</u>	Top of Sand Pack
Type of Sand Pack: <u>Quartz Sand</u>	<u>455.46</u>	<u>74.23</u>	Top of Screen
Grain Size: <u>10-20</u> (sieve size)			
Installation Method: <u>Gravity</u>	<u>435.80</u>	<u>93.89</u>	Bottom of Screen
Type of Backfill Material: <u>Quartz Sand</u> (if applicable)	<u>435.36</u>	<u>94.33</u>	Bottom of Well
Installation Method: <u>gravity</u>	<u>433.69</u>	<u>96.00</u>	Bottom of Borehole



\* Referenced to a National Geodetic Datum

## CASING MEASUREMENTS

Diameter of Borehole	(inches)	8.0
ID of Riser Pipe	(inches)	2.0
Protective Casing Length	(feet)	5.0
Riser Pipe Length	(feet)	76.72
Bottom of Screen to End Cap	(feet)	0.44
Screen Length (1st slot to last slot)	(feet)	19.66
Total Length of Casing	(feet)	96.82
Screen Slot Size **	(inches)	0.010

## WELL CONSTRUCTION MATERIALS

(Choose one type of material for each area)

Protective Casing	SS304	SS316	PTFE	PVC	OTHER: <input checked="" type="radio"/> Steel
Riser Pipe Above W.T.	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:
Riser Pipe Below W.T.	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:
Screen	SS304	SS316	PTFE	<input checked="" type="radio"/> PVC	OTHER:



# FIELD BORING LOG



**CLIENT:** Natural Resource Technology, Inc.  
**Site:** Newton Energy Center  
**Location:** Newton, Illinois  
**Project:** 15E0030  
**DATES: Start:** 10/19/2015  
**Finish:** 10/20/2015  
**WEATHER:** Sunny, breezy, warm, lo-80s

**CONTRACTOR:** Bulldog Drilling, Inc.  
**Rig mfg/model:** CME-550X ATV Drill  
**Drilling Method:** 4 1/4" HSA  
**FIELD STAFF: Driller:** C. Dutton  
**Helper:** C. Jones  
**Eng/Geo:** S. Keim

**BOREHOLE ID:** G48MG  
**Well ID:** G48MG  
**Surface Elev:** 543.17 ft. MSL  
**Completion:** 77.06 ft. BGS  
**Station:** 9,706.71N  
 5,052.58E

SAMPLE		TESTING					TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:				
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value RQD	Moisture (%)	Dry Den. (lb/ft <sup>3</sup> )	Q <sub>u</sub> (tsf) / Q <sub>p</sub> (tsf) Failure Type	TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:				
							Quadrangle: Latona Township: North Muddy Section 23, Tier 6N; Range 8E		▽ = Dry - During Drilling ▽ = ▽ =	Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL
							0	Grayish brown (10YR5/2), moist, very soft, silty CLAY, trace roots.					
							2	Grayish brown (10YR5/2) with 30% dark yellowish brown (10YR4/6) mottles, moist, soft, silty CLAY, slight trace roots.				542	
							4	Brown (10YR5/3) with 30% dark yellowish brown (10YR4/6) mottles, moist, soft, silty CLAY with trace sand and slight trace gravel.				540	
							6					538	
							8	Gray (10YR5/1) with 20% dark yellowish brown (10YR4/6) mottles, moist, soft, silty CLAY with trace sand and slight trace gravel.				536	
							10	Gray (10YR5/1) with 40% dark yellowish brown (10YR4/6) mottles, very moist, soft, silty CLAY with trace sand and slight trace gravel.				534	
							12	Yellowish brown (10YR5/4) with 10% gray (10YR6/1) mottles, soft, wet, sandy CLAY with slight trace gravel.				532	
							14	Yellowish brown (10YR5/4) with 10% gray (10YR5/1) mottles, moist, firm, silty CLAY with trace sand and slight trace gravel.				530	
							16	Dark gray (10YR4/1) with 30% brown (10YR4/3) mottles, slightly moist, hard, clayey SILT with trace sand and slight trace gravel.				528	
							18	Dark gray (10YR4/1) with 20% dark grayish brown (10YR4/2) mottles, slightly moist, hard, clayey SILT with trace sand and slight trace gravel.				526	
							20	Dark gray (10YR4/1), slightly moist, hard, clayey SILT with trace sand and slight trace gravel.				524	

**NOTE(S):** G48MG installed in borehole.  
 Sample and testing data can be found on B-48 Field Boring Log.

# FIELD BORING LOG



**CLIENT:** Natural Resource Technology, Inc.  
**Site:** Newton Energy Center  
**Location:** Newton, Illinois  
**Project:** 15E0030  
**DATES: Start:** 10/19/2015  
**Finish:** 10/20/2015  
**WEATHER:** Sunny, breezy, warm, lo-80s

**CONTRACTOR:** Bulldog Drilling, Inc.  
**Rig mfg/model:** CME-550X ATV Drill  
**Drilling Method:** 4 1/4" HSA  
**FIELD STAFF: Driller:** C. Dutton  
**Helper:** C. Jones  
**Eng/Geo:** S. Keim

**BOREHOLE ID:** G48MG  
**Well ID:** G48MG  
**Surface Elev:** 543.17 ft. MSL  
**Completion:** 77.06 ft. BGS  
**Station:** 9,706.71N  
 5,052.58E

SAMPLE		TESTING				TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:	
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value <b>RQD</b>	Moisture (%)	Dry Den. (lb/ft <sup>3</sup> )	Qu (tsf) Qp (tsf) Failure Type	<b>Quadrangle:</b> Latona <b>Township:</b> North Muddy <b>Section 23, Tier 6N; Range 8E</b>	▼ = Dry - During Drilling ▽ = ▾ =	

Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks
22	Dark gray (10YR4/1), slightly moist, hard, clayey SILT with trace sand and slight trace gravel. <i>[Continued from previous page]</i>		522	
24			520	
26	Dark gray (10YR4/1), moist, firm, silty CLAY with slight trace sand and gravel.		518	
26	Dark gray (10YR4/1), slightly moist, hard, clayey SILT with trace sand and slight trace gravel.		516	
28	Dark gray (10YR4/1), slightly moist, firm, clayey SILT with trace sand and slight trace gravel.		514	
30			512	
32			510	
34	Dark gray (10YR4/1), slightly moist, hard, clayey SILT with trace sand and slight trace gravel.		508	
36			506	
38	Dark gray (10YR4/1), slightly moist, hard, silty CLAY with slight trace sand and gravel.		504	
40				

**NOTE(S):** G48MG installed in borehole.  
 Sample and testing data can be found on B-48 Field Boring Log.

# FIELD BORING LOG



**CLIENT:** Natural Resource Technology, Inc.  
**Site:** Newton Energy Center  
**Location:** Newton, Illinois  
**Project:** 15E0030  
**DATES: Start:** 10/19/2015  
**Finish:** 10/20/2015  
**WEATHER:** Sunny, breezy, warm, lo-80s

**CONTRACTOR:** Bulldog Drilling, Inc.  
**Rig mfg/model:** CME-550X ATV Drill  
**Drilling Method:** 4/4" HSA  
**FIELD STAFF: Driller:** C. Dutton  
**Helper:** C. Jones  
**Eng/Geo:** S. Keim

**BOREHOLE ID:** G48MG  
**Well ID:** G48MG  
**Surface Elev:** 543.17 ft. MSL  
**Completion:** 77.06 ft. BGS  
**Station:** 9,706.71N  
 5,052.58E

SAMPLE		TESTING					TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:			
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value	RQD	Moisture (%)	Dry Den. (lb/ft <sup>3</sup> )	Qu (tsf) Qp (tsf)	Failure Type	Quadrangle: Latona	▼ = Dry - During Drilling	▼ =	▼ =
									Township: North Muddy			
									Section 23, Tier 6N; Range 8E			

Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks
42	Dark gray (10YR4/1), slightly moist, hard, silty CLAY with slight trace sand and gravel. <i>[Continued from previous page]</i>		502	
44	Dark gray (10YR4/1), slightly moist, firm, SILT with slight trace sand.		500	
46			498	
48	Dark gray (10YR4/1), slightly moist, hard, silty CLAY with slight trace sand and gravel.		496	
50			494	
52	Olive gray (5Y4/2), slightly moist, firm, silty CLAY with slight trace sand and gravel.		492	
54	Dark greenish gray (10Y4/1) with 20% greenish gray (10Y6/1) mottles, slightly moist, hard, silty CLAY with trace sand and slight trace gravel.		490	
56	Olive gray (5Y4/2) with 15% dark gray (N4/1) mottles, slightly moist, hard, silty CLAY with slight trace sand and gravel.		488	
58	Olive gray (5Y4/2) with 15% dark gray (N4/1) mottles, slightly moist, firm, silty CLAY with slight trace sand and gravel.		486	
60			484	

**NOTE(S):** G48MG installed in borehole.  
 Sample and testing data can be found on B-48 Field Boring Log.

# FIELD BORING LOG

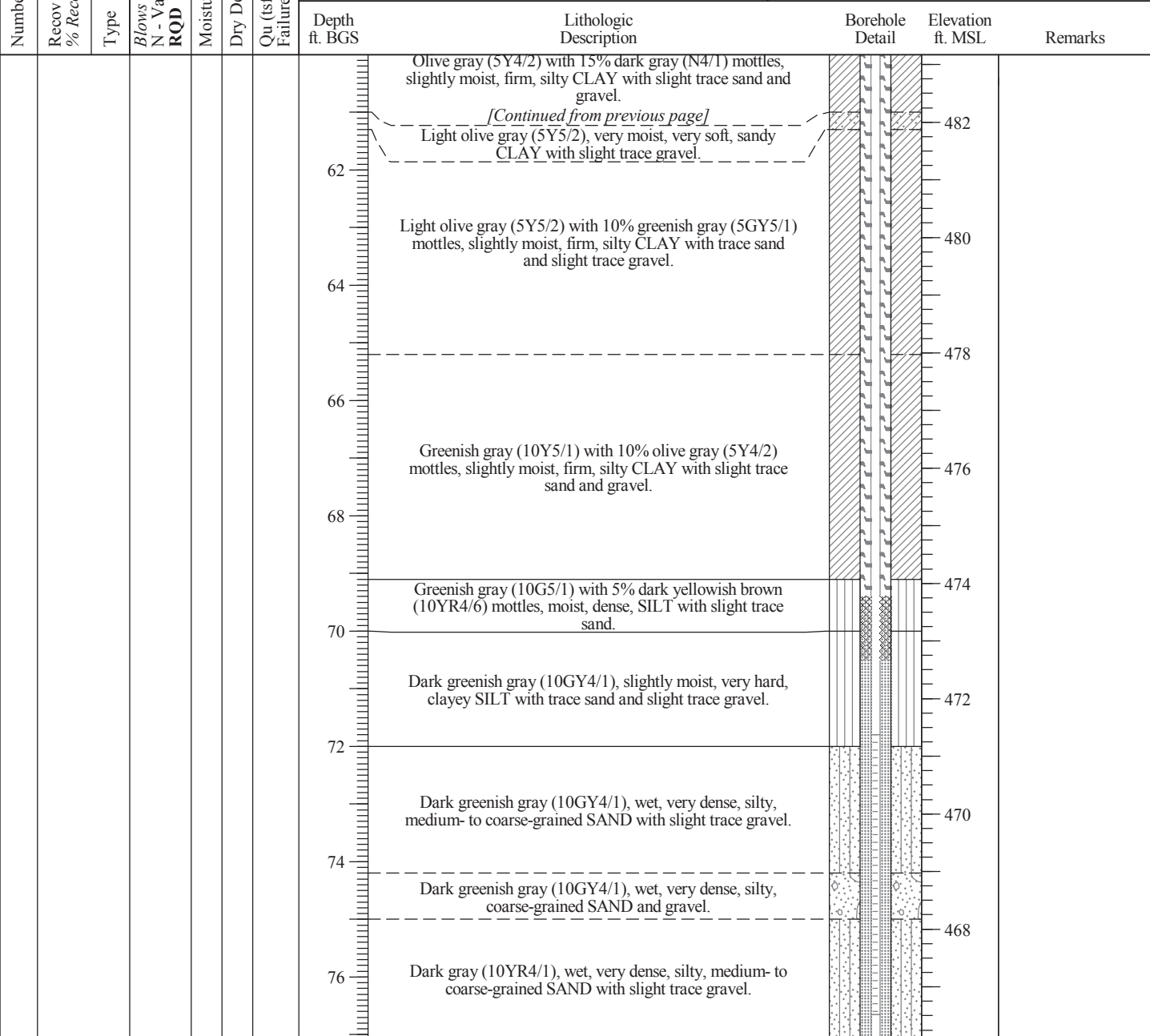


**CLIENT:** Natural Resource Technology, Inc.  
**Site:** Newton Energy Center  
**Location:** Newton, Illinois  
**Project:** 15E0030  
**DATES: Start:** 10/19/2015  
**Finish:** 10/20/2015  
**WEATHER:** Sunny, breezy, warm, lo-80s

**CONTRACTOR:** Bulldog Drilling, Inc.  
**Rig mfg/model:** CME-550X ATV Drill  
**Drilling Method:** 4 1/4" HSA  
**FIELD STAFF: Driller:** C. Dutton  
**Helper:** C. Jones  
**Eng/Geo:** S. Keim

**BOREHOLE ID:** G48MG  
**Well ID:** G48MG  
**Surface Elev:** 543.17 ft. MSL  
**Completion:** 77.06 ft. BGS  
**Station:** 9,706.71N  
 5,052.58E

SAMPLE		TESTING				TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:	
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value	Moisture (%)	Dry Den. (lb/ft <sup>3</sup> )	Qu (tsf) Qp (tsf)	Failure Type	Quadrangle: Latona	▼ = Dry - During Drilling
								Township: North Muddy	▽ =
								Section 23, Tier 6N; Range 8E	▽ =



**NOTE(S):** G48MG installed in borehole.  
 Sample and testing data can be found on B-48 Field Boring Log.

# FIELD BORING LOG



**CLIENT:** AEG Newton Power Station  
**Site:** Gypsum Management Facility  
**Location:** Newton, Jasper Co., IL  
**Project:** 07E0150A 3000  
**DATES:** Start: 5/12/2009  
 Finish: 5/14/2009

**CONTRACTOR:** Skinner Limited  
**Rig mfg/model:** CME-550 ATV Drill  
**Drilling Method:** 4 1/4" hollow stem auger w/split spoon sampler  
**FIELD STAFF:** Driller: T. Skinner  
 Helper: T. Skinner/J. Austin  
**Eng/Geo:** S. Suzanna Simpson

**BOREHOLE ID:** B48  
**Well ID:** n/a  
**Surface Elev:** 542.9 ft. MSL  
**Completion:** 103.5 ft. BGS  
**Station:** 9,703.88N  
 5,042.40E

**WEATHER:** Sunny, warm, windy, (mid-60's)

SAMPLE		TESTING					TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:		
Number	Recov / Total (in) % Recovery	Type	Blows/6in N - Value R QD	Moisture (%)	Dry Den. (lb/ft <sup>3</sup> )	Qu (tsf) Qp (tsf) Failure Type	Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks
1A	13/18 72%	SS	woh-2 3 N=5	25.8			0	Grayish brown (10YR5/2), moist, very soft, silty CLAY, trace roots.		542	
2A	17/18 94%	SS	2-3 4 N=7	22.0		3.88 Sh	2	Grayish brown (10YR5/2) with 30% dark yellowish brown (10YR4/6) mottles, moist, soft, silty CLAY, slight trace roots.		540	
3A	17/18 94%	SS	2-4 4 N=8	15.7		1.90 Sh	4	Brown (10YR5/3) with 30% dark yellowish brown (10YR4/6) mottles, moist, soft, silty CLAY with trace sand and slight trace gravel.		538	
4A	24/24 100%	SS	woh-1 2-3 N=3	20.5		1.78 BSh	6			536	
5A	18/18 100%	SS	1-1 2 N=3	22.7		1.40 Sh	8	Gray (10YR5/1) with 20% dark yellowish brown (10YR4/6) mottles, moist, soft, silty CLAY with trace sand and slight trace gravel.		534	
6A	24/24 100%	SS	1-2 3-3 N=5	18.3		1.27 Sh	10	Gray (10YR5/1) with 40% dark yellowish brown (10YR4/6) mottles, very moist, soft, silty CLAY with trace sand and slight trace gravel.		532	
7-1							10	Yellowish brown (10YR5/4) with 10% gray (10YR6/1) mottles, soft, wet, sandy CLAY with slight trace gravel.		532	
7-2	23/24 96%	SH		19.9				Yellowish brown (10YR5/4) with 10% gray (10YR5/1) mottles, moist, firm, silty CLAY with trace sand and slight trace gravel.		530	
7-3				15.0							
7-4				19.5			12				
8A	18/18 100%	SS	8-13 17 N=30	10.2		8.92 Sh	14	Dark gray (10YR4/1) with 30% brown (10YR4/3) mottles, slightly moist, hard, clayey SILT with trace sand and slight trace gravel.		528	
9A	18/18 100%	SS	6-12 17 N=29	9.7		5.62 Sh	16	Dark gray (10YR4/1) with 20% dark grayish brown (10YR4/2) mottles, slightly moist, hard, clayey SILT with trace sand and slight trace gravel.		526	
10A	24/24 100%	SS	7-14 20-20 N=34	9.0		7.18 Sh	18			524	
11A	18/18 100%	SS	6-14 15 N=29	8.5		9.89 Sh		Dark gray (10YR4/1), slightly moist, hard, clayey SILT with trace sand and slight trace gravel.			
12A	18/18 100%	SS	5-12 14 N=26	10.2		11.25 Sh	20				

**NOTE(S):** Borehole abandoned using bentonite grout.

# FIELD BORING LOG



**CLIENT:** AEG Newton Power Station  
**Site:** Gypsum Management Facility  
**Location:** Newton, Jasper Co., IL  
**Project:** 07E0150A 3000  
**DATES:** Start: 5/12/2009  
 Finish: 5/14/2009

**CONTRACTOR:** Skinner Limited  
**Rig mfg/model:** CME-550 ATV Drill  
**Drilling Method:** 4 1/4" hollow stem auger w/split spoon sampler  
**FIELD STAFF:** Driller: T. Skinner  
 Helper: T. Skinner/J. Austin  
**Eng/Geo:** S. Suzanna Simpson

**BOREHOLE ID:** B48  
**Well ID:** n/a  
**Surface Elev:** 542.9 ft. MSL  
**Completion:** 103.5 ft. BGS  
**Station:** 9,703.88N  
 5,042.40E

**WEATHER:** Sunny, warm, windy, (mid-60's)

SAMPLE			TESTING				TOPOGRAPHIC MAP INFORMATION:			WATER LEVEL INFORMATION:		
Number	Recov / Total (in) % Recovery	Type	Blows/6in N - Value R QD	Moisture (%)	Dry Den. (lb/ft <sup>3</sup> )	Qu (tsf) Qp (tsf) Failure Type	TOPOGRAPHIC MAP INFORMATION:			WATER LEVEL INFORMATION:		
							Quadrangle: Latona	Township: North Muddy	Section 23, Tier 6N; Range 8E	▽ = 10.00 - during drilling	▽ =	▽ =
							Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks	
13A	24/24 100%	SS	8-13 17-17 N=30	10.1		12.36 Sh	22			522		
14A	18/18 100%	SS	7-11 14 N=25	10.1		10.47 Sh	24	Dark gray (10YR4/1), slightly moist, hard, clayey SILT with trace sand and slight trace gravel. [Continued from previous page]		520		
15A	18/18 100%	SS	7-11 13 N=24	9.9		9.31 Sh	26			518		
16A	24/24 100%	SS	5-7 12-14 N=19	11.4		11.06 Sh	26	Dark gray (10YR4/1), moist, firm, silty CLAY with slight trace sand and gravel.				
16B	24/24 100%	SS	4-6 11 N=17	16.3		2.13 BSh	26	Dark gray (10YR4/1), slightly moist, hard, clayey SILT with trace sand and slight trace gravel.		516		
17A	18/18 100%	SS	5-9 16 N=25	11.2		6.79 Sh	28	Dark gray (10YR4/1), slightly moist, firm, clayey SILT with trace sand and slight trace gravel.		514		
18A	18/18 100%	SS	4-8 14-19 N=22	11.4		9.70 Sh	30			512		
19A	24/24 100%	SS	6-13 17 N=30	10.4		10.47 Sh	32	Dark gray (10YR4/1), slightly moist, hard, clayey SILT with trace sand and slight trace gravel.		510		
20A	18/18 100%	SS	7-12 19-22 N=31	11.3		11.44 Sh	34	Dark gray (10YR4/1), slightly moist, hard, silty CLAY with slight trace sand and gravel.		508		
21A	18/18 100%	SS	7-11 19 N=30	11.3		10.28 Sh	36			506		
22A	24/24 100%	SS	6-12 19 N=31	10.3		11.44 Sh	38	Dark gray (10YR4/1), slightly moist, hard, silty CLAY with slight trace sand and gravel.		504		
23A	18/18 100%	SS	7-11 19 N=30	11.5		10.86 Sh	40					
24A	18/18 100%	SS	7-11 19 N=30	12.7		5.24 Sh						

**NOTE(S):** Borehole abandoned using bentonite grout.

# FIELD BORING LOG



**CLIENT:** AEG Newton Power Station  
**Site:** Gypsum Management Facility  
**Location:** Newton, Jasper Co., IL  
**Project:** 07E0150A 3000  
**DATES:** Start: 5/12/2009  
 Finish: 5/14/2009

**CONTRACTOR:** Skinner Limited  
**Rig mfg/model:** CME-550 ATV Drill  
**Drilling Method:** 4 1/4" hollow stem auger w/split spoon sampler  
**FIELD STAFF:** Driller: T. Skinner  
 Helper: T. Skinner/J. Austin  
**Eng/Geo:** S. Suzanna Simpson

**BOREHOLE ID:** B48  
**Well ID:** n/a  
**Surface Elev:** 542.9 ft. MSL  
**Completion:** 103.5 ft. BGS  
**Station:** 9,703.88N  
 5,042.40E

**WEATHER:** Sunny, warm, windy, (mid-60's)

SAMPLE			TESTING				TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:			
Number	Recov / Total (in) % Recovery	Type	Blows/6in N - Value R QD	Moisture (%)	Dry Den. (lb/ft <sup>3</sup> )	Qu (tsf) Qp (tsf) Failure Type	Quadrangle: Latona Township: North Muddy Section 23, Tier 6N; Range 8E		▽ = 10.00 - during drilling ▽ = ▽ =			
							Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks	
25A	24/24 100%	SS	8-12 22-26 N=34	11.5		10.47 Sh					502	
							Dark gray (10YR4/1), slightly moist, hard, silty CLAY with slight trace sand and gravel. [Continued from previous page]					
26A	18/18 100%	SS	7-12 18 N=30	11.7		7.76 Sh					500	
27A	18/18 100%	SS	7-15 18 N=33	13.1								
27B	18/18 100%	SS		10.9		11.64 Sh		Dark gray (10YR4/1), slightly moist, firm, SILT with slight trace sand.			498	
28A	24/24 100%	SS	8-10 16-21 N=26	13.7							496	
29A	18/18 100%	SS	7-10 16 N=26	14.5		5.82 Sh		Dark gray (10YR4/1), slightly moist, hard, silty CLAY with slight trace sand and gravel.			494	
30A	18/18 100%	SS	4-9 13 N=22	14.1		2.52 B					50	
31-1												
31-2	19/24 79%	SH		14.0							492	
31-3												
31-4												
32A	18/18 100%	SS	7-13 19 N=32	12.9		10.28 Sh		Olive gray (5Y4/2), slightly moist, firm, silty CLAY with slight trace sand and gravel.				
32B	18/18 100%	SS		12.5		8.92 Sh		Dark greenish gray (10Y4/1) with 20% greenish gray (10Y6/1) mottles, slightly moist, hard, silty CLAY with trace sand and slight trace gravel.			490	
33A	18/18 100%	SS	5-10 16 N=26	14.9								
33B				14.6		2.13 BSh 6.59 Sh		Olive gray (5Y4/2) with 15% dark gray (N4/1) mottles, slightly moist, hard, silty CLAY with slight trace sand and gravel.			488	
34A	24/24 100%	SS	6-10 16-19 N=26	15.5		3.88 Sh					486	
35A	18/18 100%	SS	2-7 14 N=21	18.2		1.94 BSh						
36A	18/18 100%	SS	3-7 14 N=21	13.8		5.04 BSh		Olive gray (5Y4/2) with 15% dark gray (N4/1) mottles, slightly moist, firm, silty CLAY with slight trace sand and gravel.			484	

**NOTE(S):** Borehole abandoned using bentonite grout.

# FIELD BORING LOG



**CLIENT:** AEG Newton Power Station  
**Site:** Gypsum Management Facility  
**Location:** Newton, Jasper Co., IL  
**Project:** 07E0150A 3000  
**DATES:** Start: 5/12/2009  
 Finish: 5/14/2009

**CONTRACTOR:** Skinner Limited  
**Rig mfg/model:** CME-550 ATV Drill  
**Drilling Method:** 4 1/4" hollow stem auger w/split spoon sampler

**BOREHOLE ID:** B48  
**Well ID:** n/a  
**Surface Elev:** 542.9 ft. MSL  
**Completion:** 103.5 ft. BGS  
**Station:** 9,703.88N  
 5,042.40E

**WEATHER:** Sunny, warm, windy, (mid-60's)

**FIELD STAFF:** Driller: T. Skinner  
 Helper: T. Skinner/J. Austin  
 Eng/Geo: S. Suzanna Simpson

SAMPLE			TESTING				TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:		
Number	Recov / Total (in) % Recovery	Type	Blows/6in N - Value RQD	Moisture (%)	Dry Den. (lb/ft <sup>3</sup> )	Qu (tsf) Qp (tsf) Failure Type	Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks
37-1					16.5	1.75 BSh		37.1	37.1	482	
37-2	19/24 79%	SH			12.7	3.50		37.2	37.2	482	
37-3					15.0	None		37.3	37.3	482	
37-4								37.4	37.4	482	
38A	18/18 100%	SS	8-13 15 N=28		14.5	3.10 B		38	38	480	
39A	18/18 100%	SS	6-9 15 N=24		12.8	5.04 BSh		39	39	478	
40A	24/24 100%	SS	4-9 13-15 N=22		13.6	5.43 Sh		40	40	476	
41A	18/18 100%	SS	12-13 14 N=27		13.2	4.07 BSh		41	41	474	
42A	16/17 94%	SS	6-32 28/5"		15.2			42	42	472	
43A	3/3 100%	SS	60/3"		15.4			43	43	472	
44A	13/14 93%	SS	28-47 15/2"		16.7			44	44	470	
45A	16/17 94%	SS	31-33 27/5"		13.6			45	45	468	
46A	12/15 80%	SS	20-38 22/3"		15.3			46	46	466	
47A	18/18 100%	SS	3-11 17 N=28		13.9	5.62 B		47	47	464	
48A	17/18 94%	SS	5-10 14 N=24		14.9	5.24 BSh		48	48	464	

**NOTE(S):** Borehole abandoned using bentonite grout.



# FIELD BORING LOG



**CLIENT:** AEG Newton Power Station  
**Site:** Gypsum Management Facility  
**Location:** Newton, Jasper Co., IL  
**Project:** 07E0150A 3000  
**DATES:** Start: 5/12/2009  
 Finish: 5/14/2009

**CONTRACTOR:** Skinner Limited  
**Rig mfg/model:** CME-550 ATV Drill  
**Drilling Method:** 4 1/4" hollow stem auger w/split spoon sampler  
**FIELD STAFF:** Driller: T. Skinner  
 Helper: T. Skinner/J. Austin  
**Eng/Geo:** S. Suzanna Simpson

**BOREHOLE ID:** B48  
**Well ID:** n/a  
**Surface Elev:** 542.9 ft. MSL  
**Completion:** 103.5 ft. BGS  
**Station:** 9,703.88N  
 5,042.40E

**WEATHER:** Sunny, warm, windy, (mid-60's)

SAMPLE			TESTING				TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:		
Number	Recov / Total (in) % Recovery	Type	Blows / 6 in N - Value R QD	Moisture (%)	Dry Den. (lb/ft <sup>3</sup> )	Qu (tsf) Qp (tsf) Failure Type	Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks
49A	24/24 100%	SS	5-7 12-14 N=19	15.5		5.04 BSh	82			462	
50A	18/18 100%	SS	4-8 10 N=18	15.4		5.24 BSh	84	Dark gray (N4/1), slightly moist, firm, silty CLAY with slight trace sand and gravel. [Continued from previous page]		460	
51A	18/18 100%	SS	4-9 10 N=19	15.7		5.04 B	86			458	
52-1	18/18 100%	SH		14.3			88			456	
52-2											
52-3											
53A	24/24 100%	SS	9-12 21-26 N=33	13.9		6.21 B	90	Dark gray (N4/1), slightly moist, hard, silty CLAY with slight trace sand and gravel.		454	
54A	18/18 100%	SS	6-11 17 N=28	13.8		6.79 Sh	92			452	
55A	24/24 100%	SS	6-12 15-24 N=27	13.6		7.37 Sh	94	Dark gray (N4/1), slightly moist, firm, silty CLAY with slight trace sand and gravel.		450	
56A	18/18 100%	SS	5-8 12 N=20	13.9		3.88 Sh	96			448	
57A	18/18 100%	SS	5-12 19 N=31	13.4		6.21 Sh	98	Dark gray (N4/1), very moist, dense, silty, fine- to coarse-grained SAND with slight trace gravel.		446	
58A	24/24 100%	SS	4-18 20-22 N=38	12.5		5.82 BSh		Dark gray (N4/1), slightly moist, hard, silty CLAY with slight trace sand and gravel.		444	
58B				13.4							
59A	16/16 100%	SS	16-33 27/4"	16.0		3.69 Sh		Dark gray (N4/1), wet, dense, silty, fine- to medium-grained SAND with slight trace gravel.			
59B				15.7				Dark gray (N4/1), slightly moist, hard, silty CLAY with slight trace sand and gravel.			
60A	18/18 100%	SS	16-21 15 N=36	12.6				Dark gray (N4/1), wet, dense, silty, very fine- to medium-grained SAND with slight trace gravel.			
60B							100	Dark gray (N4/1), slightly moist, hard, silty CLAY with slight trace sand and gravel.			

**NOTE(S):** Borehole abandoned using bentonite grout.

# FIELD BORING LOG



**CLIENT:** AEG Newton Power Station  
**Site:** Gypsum Management Facility  
**Location:** Newton, Jasper Co., IL  
**Project:** 07E0150A 3000  
**DATES: Start:** 5/12/2009  
**Finish:** 5/14/2009

**CONTRACTOR:** Skinner Limited  
**Rig mfg/model:** CME-550 ATV Drill  
**Drilling Method:** 4¼" hollow stem auger w/split spoon sampler  
**FIELD STAFF: Driller:** T. Skinner  
**Helper:** T. Skinner/J. Austin  
**Eng/Geo:** S. Suzanna Simpson

**BOREHOLE ID:** B48  
**Well ID:** n/a  
**Surface Elev:** 542.9 ft. MSL  
**Completion:** 103.5 ft. BGS  
**Station:** 9,703.88N  
 5,042.40E

**WEATHER:** Sunny, warm, windy, (mid-60's)

SAMPLE			TESTING				TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:		
Number	Recov / Total (in) % Recovery	Type	Blows/6in N - Value RQD	Moisture (%)	Dry Den. (lb/ft <sup>3</sup> )	Qu (tsf) Qp (tsf) Failure Type	TOPOGRAPHIC MAP INFORMATION:		WATER LEVEL INFORMATION:		
							Quadrangle: Latona	Township: North Muddy	Section 23, Tier 6N; Range 8E	▽ = 10.00 - during drilling	▽ =
							Depth ft. BGS	Lithologic Description	Borehole Detail	Elevation ft. MSL	Remarks
61A	24/24 100%	SS	7-12 18-25 N=30	13.4		6.59 Sh	102	Dark gray (N4/1), slightly moist, firm, silty CLAY with slight trace sand and gravel.		442	
62A	17/18 94%	SS	12-18 22 N=40	15.3		3.88 BSh		Dark gray (N4/1), slightly moist, hard, silty CLAY with slight trace sand and gravel.		440	
							<b>EOB = 103.5 feet bgs</b>				

**NOTE(S):** Borehole abandoned using bentonite grout.

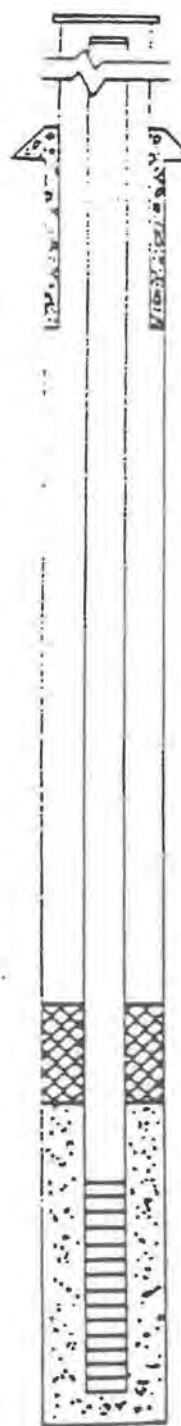


Site # ILO 0798080002 County Jasper Well # G106  
 Site Name: Scrubber Sludge Landfill PLANT Grid Coordinate Northing 983.42N Easting 7065.61W  
 Drilling Contractor Proecke Engineering Date Drilled Start 8/1/90  
 Driller Mike Foppa Geologist Rich Boyer CHEI Date Completed 8/1/90  
 Drilling Method 4 1/2" ID, 8" OD Hollow Stem Augers Drilling Fluids type None

Annular Space Details

Type of Surface Seal: Cement/Bentonite Grout  
 Type of Annular Sealant Cement/Bentonite Grout  
 Amount of cement # of bags 3 lbs. per bag 94  
 Amount of bentonite # of bags 0.28 lbs. per bag 50  
 Type of Bentonite Seal - Granular Pellets: 4" pellets  
 Amount of bentonite # of Bags 2 lbs. per bag 50  
 Type of Sand Pack Silica Sand  
 Source of Sand Meramer WA-35  
 Amount of Sand # of bags 3 lbs. per bag 94

Elevations - .01 ft.  
530.87 MSL Top of Protective casing  
530.86 MSL Top of Riser Pipe  
1.86 ft. Casing Stuckup  
529.00 MSL Ground Surface  
529.00 ft. Top of annular sealant



515.76 ft. Top of Seal  
3.20 ft. Total Seal Interval  
512.56 ft. Top of Sand  
509.36 ft. Top of Screen  
14.90 ft. Total Screen Interval  
494.46 ft. Bottom of Screen  
492.56 ft. Bottom of Borehole

Well Construction Materials

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type Schedule 40	Other Specify Type
Riser coupling joint			X	
Riser pipe above w.t.			2" ID	
Riser pipe below w.t.			2" ID	
Screen			0.01"	
Coupling joint screen to riser			X	
Protective casing				Steel

Measurements

to .01 ft. (where applicable)

Riser pipe length	21.5
Protective casing length	5.0
Screen length	14.9
Bottom of screen to end cap	0
Top of screen to first joint	1.0
Total length of casing	36.4
Screen slot size	0.01"
# of openings in screen	0.125" spacing
Diameter of borehole (in)	8
ID of riser pipe (in)	2

Completed by Robert Cswlec (HEI) Surveyed by Herb Williams (HEI) Ill. registration # 035-00238



**Illinois Environmental Protection Agency**

**Well Completion Report**

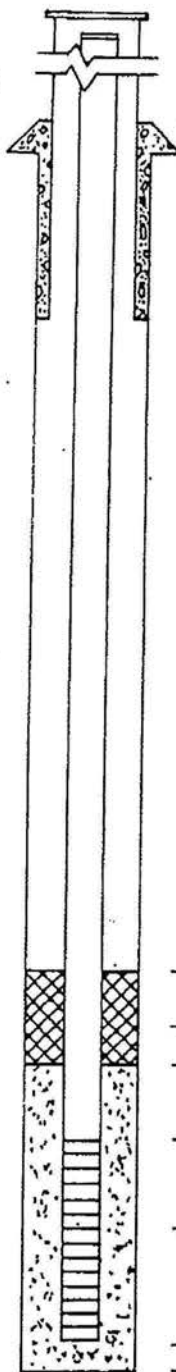
Site #: \_\_\_\_\_ County Jasper Well # G202  
 Site Name: Newton Power Station Landfill Grid Coordinate: Northing 6649.68 Easting 6587.20  
 Drilling Contractor: Professional Service Industries, Inc. Date Drilled Start: 10/16/96  
 Driller: \_\_\_\_\_ Geologist: Mike Summers Date Completed: 10/16/96  
 Drilling Method: 4 1/4" I.D. HSA Drilling Fluids (type): N/A

**Annular Space Details**

Type of Surface Seal: Portland Cement  
 Type of Annular Sealant: Cement/Bentonite Grout (20:1)  
 Amount of cement: # of bags 14 lbs. per bag 94  
 Amount of bentonite: # of bags 1.5 lbs. per bag 50  
 Type of Bentonite Seal (Granular, Pellet): Pellet  
 Amount of bentonite: # of Bags 1 lbs. per bag 50  
 Type of Sand Pack: Silica  
 Source of Sand: \_\_\_\_\_  
 Amount of Sand: # of bags 12.5 lbs. per bag 100

**Elevations - .01 ft.**

540 02 MSL Top of Protective Casing  
2 78 ft. Casing Stickup  
537 24 MSL Ground Surface  
 \_\_\_\_\_ \_\_\_\_\_ ft. Top of annular sealant



479 24 ft. Top of Seal  
2 50 ft. Total Seal Interval  
476 74 ft. Top of Sand  
473 24 ft. Top of Screen  
10 00 ft. Total Screen Interval  
463 24 ft. Bottom of Screen  
463 24 ft. Bottom of Borehole

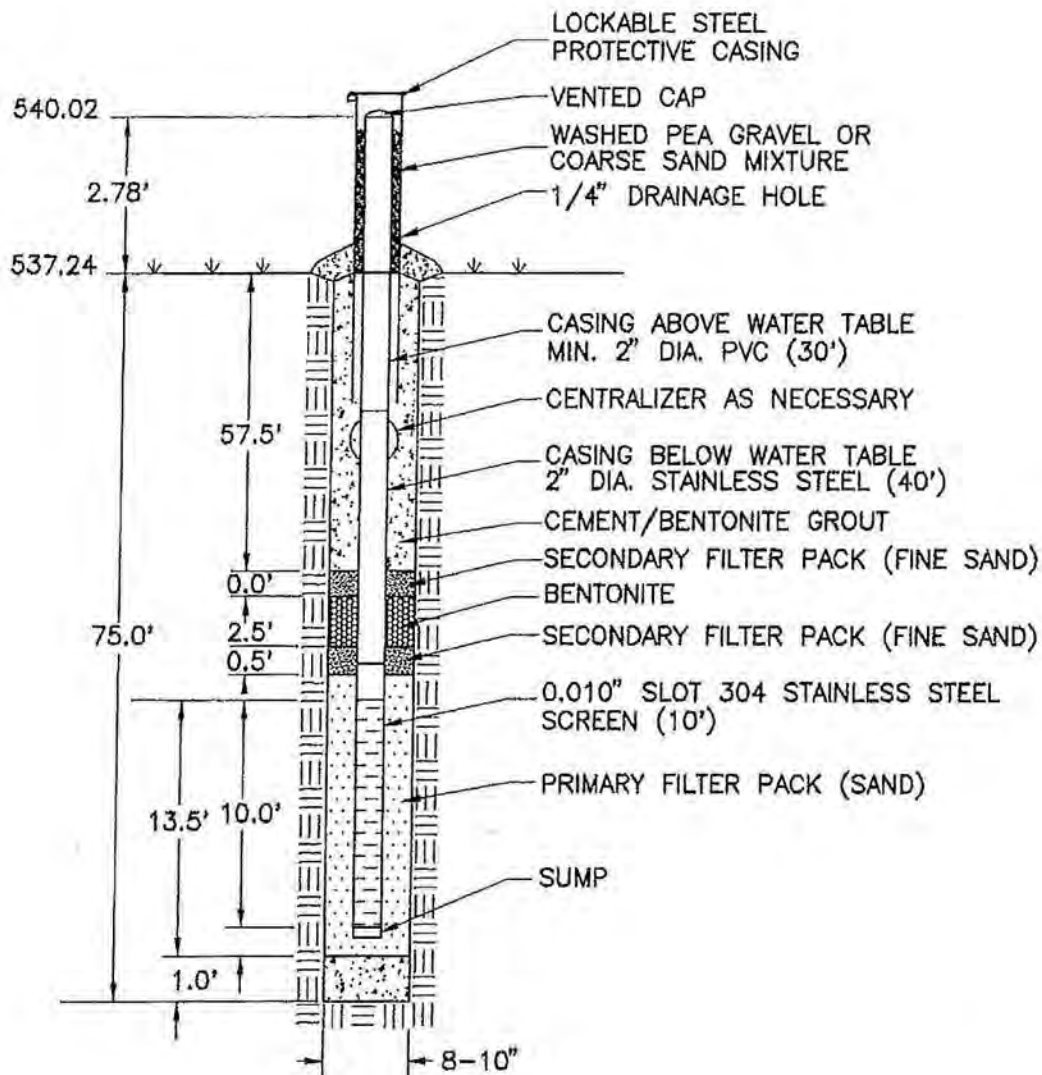
**Well Construction Materials**

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint				
Riser pipe above w.t.				
Riser pipe below w.t.				
Screen				
Coupling joint screen to riser				
Protective casing				

**Measurements** to .01 ft. (where applicable)

Riser pipe length	66.78 ft.
Protective casing length	
Screen length	10.0 ft.
Bottom of screen to end cap	
Top of screen to first joint	
Total length of casing	
Screen slot size	.010 in.
% of openings in screen	
Diameter of borehole (in)	8
ID of riser pipe (in)	2

Completed by: \_\_\_\_\_ Surveyed by: \_\_\_\_\_ Ill. registration # \_\_\_\_\_



N: 6649.68 / E: 6587.20

**RAPPS**

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**G202**  
**MONITORING WELL**  
**AS-BUILT DIAGRAM**

CIPS-NEWTON LANDFILL  
JASPER COUNTY, ILLINOIS



**Illinois Environmental Protection Agency**

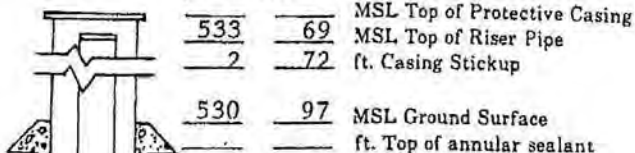
**Well Completion Report**

Site #: \_\_\_\_\_ County Jasper Well # G203  
 Site Name: Newton Power Station Landfill Grid Coordinate: Northing 5821.29 Easting 6113.10  
 Drilling Contractor: Professional Service Industries, Inc. Date Drilled Start: 10/15/96  
 Driller: \_\_\_\_\_ Geologist: Mike Summers Date Completed: 10/15/96  
 Drilling Method: 4 1/2" I.D. HSA Drilling Fluids (type): N/A

**Annular Space Details**

Type of Surface Seal: Portland Cement  
 Type of Annular Sealant: Cement/Bentonite Grout (20:1)  
 Amount of cement: # of bags 10 lbs. per bag 94  
 Amount of bentonite: # of bags 1 lbs. per bag 50  
 Type of Bentonite Seal (Granular, Pellet): Pellet  
 Amount of bentonite: # of Bags 8 lbs. per bag 50  
 Type of Sand Pack: Silica  
 Source of Sand: \_\_\_\_\_  
 Amount of Sand: # of bags 13.5 lbs. per bag 100

**Elevations - .01 ft.**



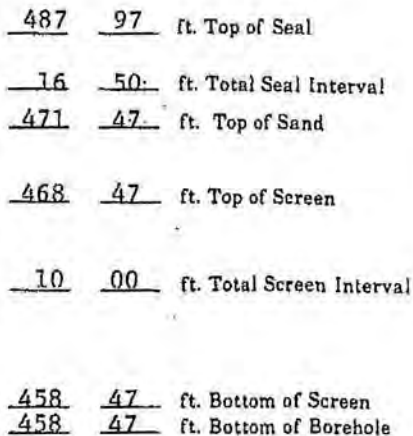
**Well Construction Materials**

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint				
Riser pipe above w.t.			Sch 40	
Riser pipe below w.t.	Type304			
Screen	Type304			
Coupling joint screen to riser				
Protective casing				Steel

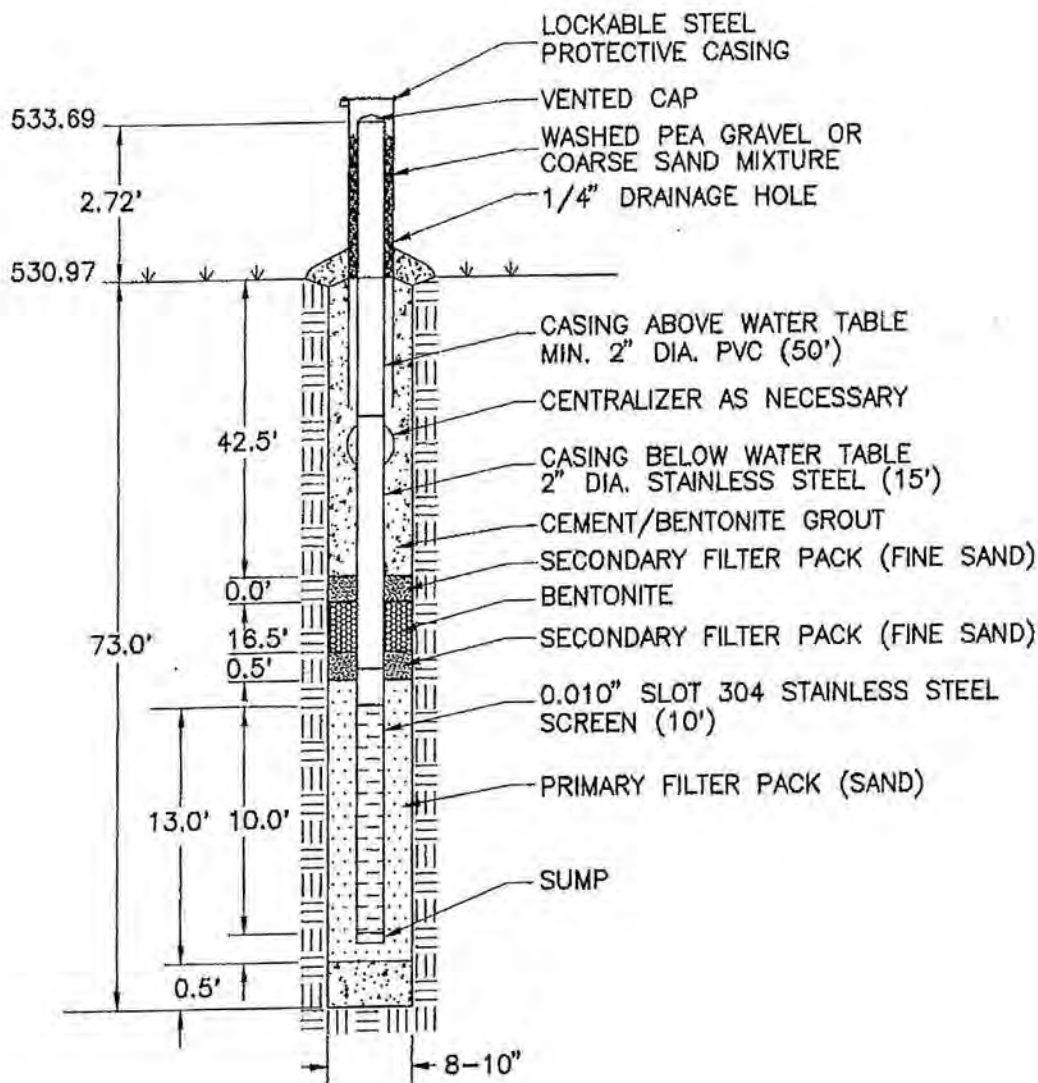
**Measurements**

to .01 ft. (where applicable)

Riser pipe length	65.22 ft.
Protective casing length	
Screen length	10.0 ft.
Bottom of screen to end cap	
Top of screen to first joint	
Total length of casing	
Screen slot size	.010 in.
% of openings in screen	
Diameter of borehole (in)	8
ID of riser pipe (in)	2



Completed by: \_\_\_\_\_ Surveyed by: \_\_\_\_\_ Ill. registration # \_\_\_\_\_



N: 5821.29 / E: 6113.10

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## G203 MONITORING WELL AS-BUILT DIAGRAM

CIPS-NEWTON LANDFILL  
 JASPER COUNTY, LANDFILL



Illinois Environmental Protection Agency

Well Completion Report

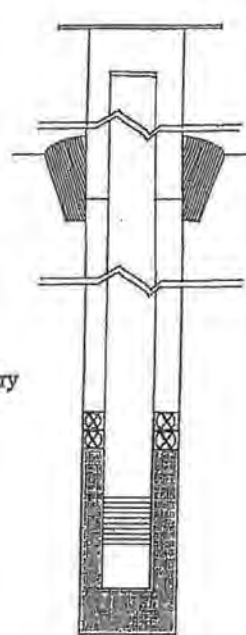
Site Number: 0798085001 County: Jasper

Site Name: Newton Power Station Landfill Phase II Well #: G208  
 State \_\_\_\_\_  
 Plane Coordinate: X \_\_\_\_\_ Y \_\_\_\_\_ (or) Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_ Borehole #: B208  
 Plant Coordinates: Northing 6208.18 Easting 4417.18

Surveyed by: Ken Miller IL Registration #: 196-001263  
 Drilling Contractor: Skinner Ltd. Driller: Todd Skinner  
 Consulting Firm: Rapps Engineering Geologist: Ken Miller  
 Drilling Method: HSA Drilling Fluid (Type): None  
 Logged By: Ken Miller Date Started: 10/11/11 Date Finished: 10/13/11  
 Report Form Date: 11/30/11  
 Completed By: Ken Miller

ANNULAR SPACE DETAILS

Type of Surface Seal: Concrete  
 Type of Annular Sealant: Bentonite Slurry  
 Installation Method: Tremi  
 Setting Time: \_\_\_\_\_  
 Type of Bentonite Seal -- Granular Pellet Slurry  
 (Choose One)  
 Installation Method: Poured  
 Setting Time: \_\_\_\_\_  
 Type of Sand Pack: Silica Sand  
 Grain Size: 20/40 (Sieve Size)  
 Installation Method: Poured  
 Type of Backfill Material: NA  
 (if applicable)  
 Installation Method: \_\_\_\_\_



Elevations (MSL)*	Depths (BGS)	(.01ft.)
<u>535.89</u>	<u>-2.83</u>	Top of Protective Casing
<u>535.52</u>	<u>-2.46</u>	Top of Riser Pipe
<u>533.06</u>	<u>0.00</u>	Ground Surface
<u>530.06</u>	<u>3.00</u>	Top of Annular Sealant
		Static Water Level (After Completion)
<u>463.13</u>	<u>69.93</u>	Top of Seal
<u>460.13</u>	<u>72.93</u>	Top of Sand Pack
<u>458.13</u>	<u>74.93</u>	Top of Screen
<u>438.35</u>	<u>94.71</u>	Bottom of Screen
<u>438.29</u>	<u>94.77</u>	Bottom of Well
<u>438.06</u>	<u>95.00</u>	Bottom of Borehole

\* Referenced to a National Geodetic Datum

WELL CONSTRUCTION MATERIAL

(Choose one type of material for each area)

Protective Casing	<u>SS304, SS316, PTFE, PVC, or Other</u>
Riser Pipe Above W.T.	<u>SS304, SS316, PTFE, PVC, or Other</u>
Riser Pipe Below W.T.	<u>SS304, SS316, PTFE, PVC, or Other</u>
Screen	<u>SS304, SS316, PTFE, PVC, or Other</u>

CASING MEASUREMENTS

Diameter of Borehole (inches)	<u>9</u>
ID of Riser Pipe (inches)	<u>2</u>
Protective Casing Length (feet)	<u>5</u>
Riser Pipe Length (feet)	<u>77.39</u>
Bottom of Screen to End Cap (feet)	<u>0.06</u>
Screen Length (1" slot to last slot) (feet)	<u>19.78</u>
Total Length of Casing (feet)	<u>97.23</u>
Screen Slot Size **	<u>0.010</u>

\*\*Hand-Slotted Well Screens are Unacceptable





**Illinois Environmental Protection Agency**

**Well Completion Report**

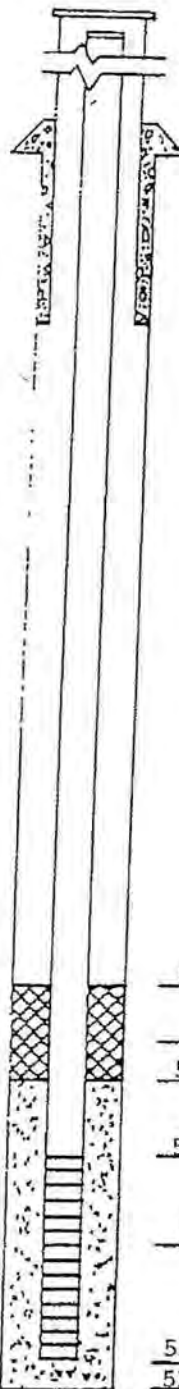
Site #: 0798085001 County Jasper Well # G217  
 Site Name: Newton Power Station Landfill Grid Coordinate: Northing 7121.09 Easting 6736.33  
 Drilling Contractor: PSI Environmental Services Date Drilled Start: 8/26/97  
 Driller: A. Shawgo Geologist: M. Summers Date Completed: 8/26/97  
 Drilling Method: 4 1/4 ID HSA Drilling Fluids (type): None

**Annular Space Details**

Type of Surface Seal: Concrete  
 Type of Annular Sealant: 5% Bentonite in Cement  
 Amount of cement: # of bags \_\_\_\_\_ lbs. per bag \_\_\_\_\_  
 Amount of bentonite: # of bags \_\_\_\_\_ lbs. per bag \_\_\_\_\_  
 Type of Bentonite Seal (Granular, Pellet): Slurry  
 Amount of bentonite: # of Bags \_\_\_\_\_ lbs. per bag \_\_\_\_\_  
 Type of Sand Pack: Silica Sand #7  
 Source of Sand: Moble Drilling Supply  
 Amount of Sand: # of bags \_\_\_\_\_ lbs. per bag \_\_\_\_\_

**Elevations -- .01 ft.**

538.16 MSL Top of Protective Casing  
538.16 MSL Top of Riser Pipe  
 ft. Casing Stickup  
535.67 MSL Ground Surface  
 ft. Top of annular sealant



530.67 ft. Top of Seal  
2.0 ft. Total Seal Interval  
528.67 ft. Top of Sand  
526.67 ft. Top of Screen  
10.0 ft. Total Screen Interval  
516.67 ft. Bottom of Screen  
510.67 ft. Bottom of Borehole

**Well Construction Materials**

	Stainless Steel Specify Type	Teflon Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint			Sch 40	
Riser pipe above w.t.			Sch 40	
Riser pipe below w.t.	304			
Screen	304			
Coupling joint screen to riser	304			
Protective casing				Steel

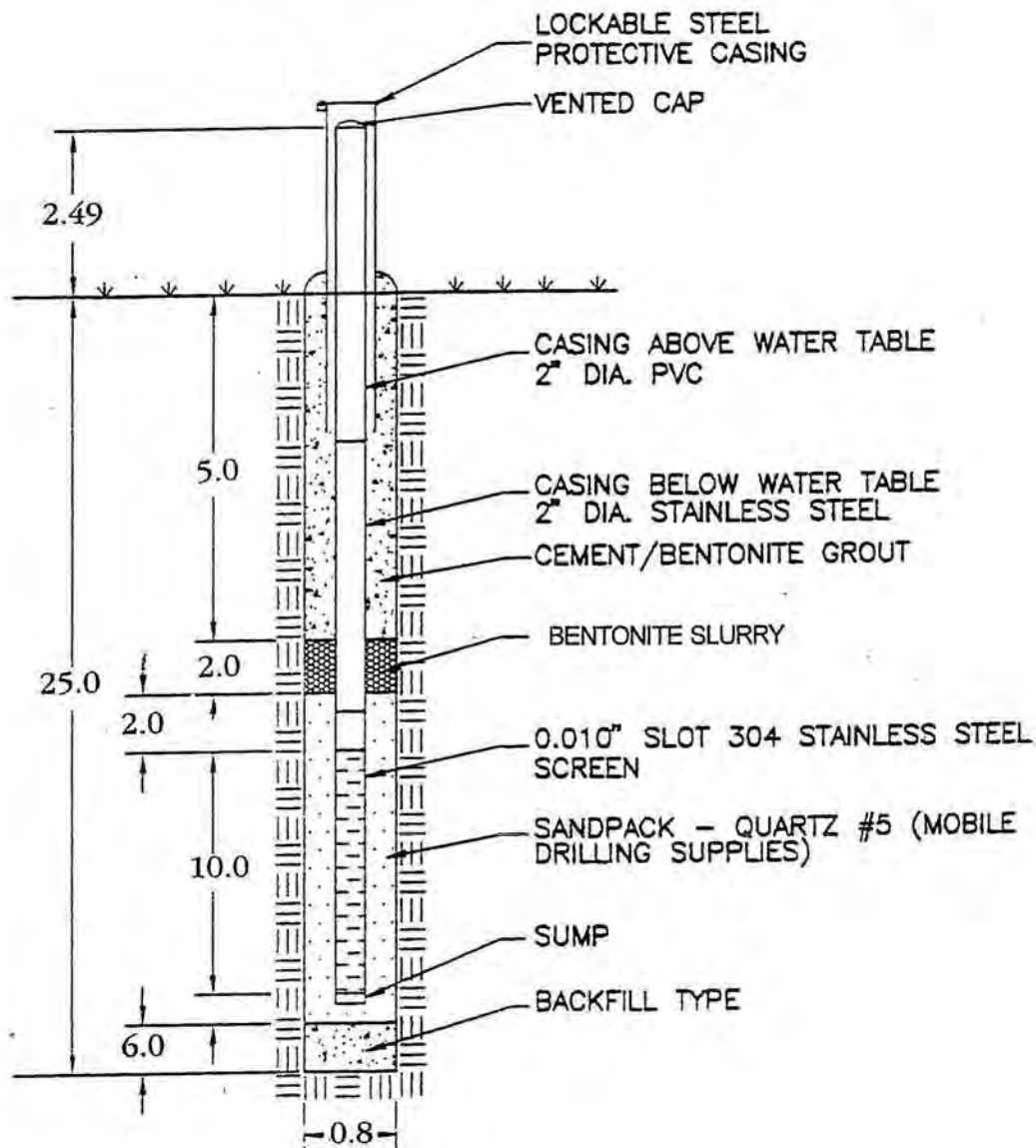
**Measurements**

to .01 ft. (where applicable)

Riser pipe length	10.0
Protective casing length	
Screen length	10.0
Bottom of screen to end cap	0.1
Top of screen to first joint	0.1
Total length of casing	5.0
Screen slot size	10 slot (0.01")
# of openings in screen	Continuous
Diameter of borehole (in)	8 1/2"
ID of riser pipe (in)	2.0

Completed by: M. Summers Surveyed by: R. Whaley Ill. registration # \_\_\_\_\_

## MONITORING WELL CONSTRUCTION DIAGRAM



# RAPPS

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**G217**  
**MONITORING WELL**  
**CONSTRUCTION DETAIL**  
**Newton Power Station Landfill**  
**Jasper County**



Illinois Environmental Protection Agency

Well Completion Report

Site Number: 0798085001

County: Jasper

Site Name: Newton Power Station Landfill Phase II

Well #: G222

State \_\_\_\_\_

Plane Coordinate: X \_\_\_\_\_ Y \_\_\_\_\_ (or) Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

Borehole #: B222

Plant Coordinates: Northing 5322.24 Easting 3989.08

Surveyed by: Ken Miller

IL Registration #: 196-001263

Drilling Contractor: Skinner Ltd.

Driller: Todd Skinner

Consulting Firm: Rapps Engineering

Geologist: Ken Miller

Drilling Method: HSA

Drilling Fluid (Type): None

Logged By: Ken Miller

Date Started: 10/24/11 Date Finished: 10/25/11

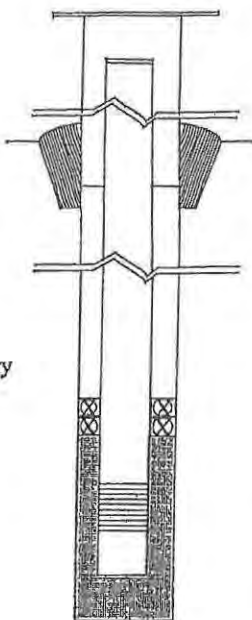
Report Form \_\_\_\_\_

Date: 11/30/11

Completed By: Ken Miller

ANNULAR SPACE DETAILS

	Elevations (MSL)*	Depths (BGS)	(.01ft.)
	<u>535.16</u>	<u>-3.04</u>	Top of Protective Casing
	<u>534.78</u>	<u>-2.66</u>	Top of Riser Pipe
Type of Surface Seal: <u>Concrete</u>	<u>532.12</u>	<u>0.00</u>	Ground Surface
Type of Annular Sealant: <u>Bentonite Slurry</u>	<u>529.12</u>	<u>3.00</u>	Top of Annular Sealant
Installation Method: <u>Tremi</u>			Static Water Level (After Completion)
Setting Time: _____			
Type of Bentonite Seal - - Granular <u>Pellet</u> Slurry (Choose One)	<u>472.55</u>	<u>59.57</u>	Top of Seal
Installation Method: <u>Poured</u>	<u>469.55</u>	<u>62.57</u>	Top of Sand Pack
Setting Time: _____	<u>467.55</u>	<u>64.57</u>	Top of Screen
Type of Sand Pack: <u>Silica Sand</u>	<u>452.88</u>	<u>79.24</u>	Bottom of Screen
Grain Size: <u>20/40</u> (Sieve Size)	<u>452.81</u>	<u>79.31</u>	Bottom of Well
Installation Method: <u>Poured</u>	<u>452.12</u>	<u>80.00</u>	Bottom of Borehole
Type of Backfill Material: <u>NA</u> (if applicable)			
Installation Method: _____			



\* Referenced to a National Geodetic Datum

CASING MEASUREMENTS

Diameter of Borehole (Inches)	9
ID of Riser Pipe (Inches)	2
Protective Casing Length (feet)	5
Riser Pipe Length (feet)	67.27
Bottom of Screen to End Cap (feet)	0.07
Screen Length (1" slot to last slot) (feet)	14.63
Total Length of Casing (feet)	81.97
Screen Slot Size **	0.010

\*\*Hand-Slotted Well Screens are Unacceptable

WELL CONSTRUCTION MATERIAL

(Choose one type of material for each area)

Protective Casing	SS304, SS316, PTFE, PVC, or Other
Riser Pipe Above W.T.	SS304, SS316, PTFE, PVC, or Other
Riser Pipe Below W.T.	SS304, SS316, PTFE, PVC, or Other
Screen	SS304, SS316, PTFE, PVC, or Other



Illinois Environmental Protection Agency

Well Completion Report

Site Number: 0798085001

County: Jasper

Site Name: Newton Power Station Landfill Phase II

Well #: G224

State \_\_\_\_\_

Plane Coordinate: X \_\_\_\_\_ Y \_\_\_\_\_ (or) Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

Borehole #: B224

Plant Coordinates: Northing 6976.66 Easting 6067.30

Surveyed by: Ken Miller

IL Registration #: 196-001263

Drilling Contractor: Whitney & Associates

Driller: Tim Fuhl

Consulting Firm: Rapps Engineering

Geologist: Ken Miller

Drilling Method: HSA

Drilling Fluid (Type): None

Logged By: Ken Miller

Date Started: 10/4/11 Date Finished: 10/5/11

Report Form \_\_\_\_\_

Date: 11/30/11

Completed By: Ken Miller

ANNULAR SPACE DETAILS

Type of Surface Seal: Concrete

Type of Annular Sealant: Bentonite Chips

Installation Method: Poured

Setting Time: \_\_\_\_\_

Type of Bentonite Seal -- Granular Pellet Slurry  
(Choose One)

Installation Method: Poured

Setting Time: \_\_\_\_\_

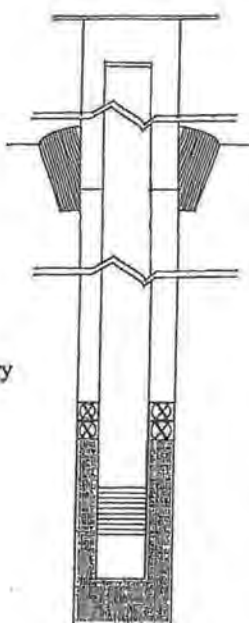
Type of Sand Pack: Silica Sand

Grain Size: 50 (Sieve Size)

Installation Method: Poured

Type of Backfill Material: NA  
(if applicable)

Installation Method: \_\_\_\_\_



Elevations (MSL)*	Depths (BGS)	(.01ft.)
<u>535.19</u>	<u>-2.93</u>	Top of Protective Casing
<u>534.78</u>	<u>-2.52</u>	Top of Riser Pipe
<u>532.26</u>	<u>0.00</u>	Ground Surface
<u>529.26</u>	<u>3.00</u>	Top of Annular Sealant
_____	_____	Static Water Level (After Completion)
<u>473.75</u>	<u>58.51</u>	Top of Seal
<u>470.75</u>	<u>61.51</u>	Top of Sand Pack
<u>468.75</u>	<u>63.51</u>	Top of Screen
<u>459.09</u>	<u>73.17</u>	Bottom of Screen
<u>458.75</u>	<u>73.51</u>	Bottom of Well
<u>458.26</u>	<u>74.00</u>	Bottom of Borehole

\* Referenced to a National Geodetic Datum

CASING MEASUREMENTS

Diameter of Borehole (inches)	9
ID of Riser Pipe (inches)	2
Protective Casing Length (feet)	5
Riser Pipe Length (feet)	66.03
Bottom of Screen to End Cap (feet)	0.34
Screen Length (1" slot to last slot) (feet)	9.66
Total Length of Casing (feet)	76.03
Screen Slot Size **	0.010

\*\*Hand-Slotted Well Screens are Unacceptable

WELL CONSTRUCTION MATERIAL

(Choose one type of material for each area)

Protective Casing	SS304, SS316, PTFE, PVC, or <u>Other</u>
Riser Pipe Above W.T.	SS304, SS316, PTFE, PVC, or <u>Other</u>
Riser Pipe Below W.T.	<u>SS304</u> , SS316, PTFE, PVC, or <u>Other</u>
Screens	<u>SS304</u> , SS316, PTFE, PVC, or <u>Other</u>



**Illinois Environmental Protection Agency**

**Well Completion Report**

Site #: 0798085001 County: Jasper Well #: R217D

Site Name: Newton Power Station Borehole #: R217D

State- Plant  
 Plane Coordinate: X 6,712.2 Y 7,126.9 (or) Latitude: 38° 55' 55.889" Longitude: -88° 17' 24.426"

Surveyed By: Matthew H. Schrader IL Registration #: 035-003487

Drilling Contractor: Bulldog Drilling Driller: J. Dittmaier

Consulting Firm: Hanson Professional Services Inc. Geologist: Rhonald W. Hasenyager, LPG #196-000246

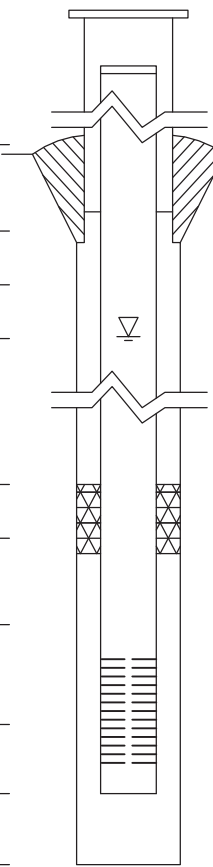
Drilling Method: Mud Rotary Drilling Fluid (Type): Bentonite mud

Logged By: Rhonald W. Hasenyager Date Started: 9/25/2017 Date Finished: 9/26/2017

Report Form Completed By: Suzanna L. Keim Date: 10/16/2017

**ANNULAR SPACE DETAILS**

	<b>Elevations</b> (MSL)*	<b>Depths</b> (BGS)	(0.01 ft.)
	<u>538.85</u>	<u>-2.94</u>	Top of Protective Casing
	<u>538.55</u>	<u>-2.64</u>	Top of Riser Pipe
Type of Surface Seal: <u>Concrete</u>	<u>535.91</u>	<u>0.00</u>	Ground Surface
Type of Annular Sealant: <u>high-solids bentonite</u>	<u>533.41</u>	<u>2.50</u>	Top of Annular Sealant
Installation Method: <u>Tremie</u>			
Setting Time: <u>+24 hours</u>			
Type of Bentonite Seal -- <input checked="" type="checkbox"/> Granular <input type="checkbox"/> Pellet <input type="checkbox"/> Slurry (choose one)			Static Water Level (After Completion)
Installation Method: <u>Gravity</u>	<u>479.39</u>	<u>56.52</u>	Top of Seal
Setting Time: <u>10 minutes</u>	<u>478.01</u>	<u>57.90</u>	Top of Sand Pack
Type of Sand Pack: <u>Quartz sand</u>	<u>475.81</u>	<u>60.10</u>	Top of Screen
Grain Size: <u>10/20</u> (sieve size)	<u>470.88</u>	<u>65.03</u>	Bottom of Screen
Installation Method: <u>Gravity</u>	<u>470.67</u>	<u>65.24</u>	Bottom of Well
Type of Backfill Material: <u>none</u> (if applicable)	<u>470.67</u>	<u>65.24</u>	Bottom of Borehole
Installation Method: _____			



\* Referenced to a National Geodetic Datum

**WELL CONSTRUCTION MATERIALS**  
 (Choose one type of material for each area)

Protective Casing	SS304	SS316	PTFE	PVC	OTHER: <input checked="" type="checkbox"/> Steel
Riser Pipe Above W.T.	SS304	SS316	PTFE	<input checked="" type="checkbox"/> PVC	OTHER:
Riser Pipe Below W.T.	SS304	SS316	PTFE	<input checked="" type="checkbox"/> PVC	OTHER:
Screen	SS304	SS316	PTFE	<input checked="" type="checkbox"/> PVC	OTHER:

**CASING MEASUREMENTS**

Diameter of Borehole	(inches)	8.0
ID of Riser Pipe	(inches)	2.0
Protective Casing Length	(feet)	5.0
Riser Pipe Length	(feet)	62.64
Bottom of Screen to End Cap	(feet)	0.31
Screen Length (1st slot to last slot)	(feet)	4.93
Total Length of Casing	(feet)	67.88
Screen Slot Size **	(inches)	0.010

**APPENDIX D**  
**GEOTECHNICAL LABORATORY REPORT**



April 13, 2021

Revised: May 10, 2021

Mr. Scott Woods

Ramboll Environ U.S. Corporation  
333 West Wacker Drive, Ste 2700  
Chicago, IL 60606-2872

RE: Laboratory Testing Program for the Newton Power Station Project – Terracon Project No. 11215019

Dear Mr. Woods,

We are pleased to submit our report pertaining to geotechnical laboratory testing of thirty-one (31) soil samples in reference to the Newton Power Station Project. Per your instructions, Terracon performed the following tests on each of the samples:

- Specific Gravity of Soils – ASTM D854
- Water Content of Soil and Rock – ASTM D2216
- Liquid Limit, Plastic Limit and Plasticity Index of Soils – ASTM D4318
- Permeability of Granular Soils (Constant Head) – ASTM D 2434 \*
- Hydraulic Conductivity of Saturated Porous Materials Using a Flexible-Wall Permeameter – ASTM D5084
- Laboratory Determination of Density (Unit Weight) of Soil Specimens – ASTM D7263
- Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis – ASTM D6913
- Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation (Hydrometer) Analysis – ASTM D7928

Three samples originally scheduled for hydraulic conductivity tests following ASTM D5084 did not meet the flow criteria for the standard because of the granular matrix of the samples. Instead the tests were run following ASTM D 2434 which allows for greater permeant flow through the specimen.

The test data included in this report, only represent the samples tested and may not reflect actual site materials and/or conditions. The scope of services provided by Terracon did not include interpretation of the laboratory test data, and therefore, we are not liable for any interpretation performed by others. If you wish us to provide you with this service, we would be happy to discuss this matter with you at your convenience. Any reproduction of this report must be done in its entirety.

Terracon Consultants, Inc. 192 Exchange Boulevard Glendale Heights, Illinois 60139  
P [630] 717 4263 F [630] 357 9489 terracon.com

Geotechnical

Environmental

Construction Materials

Facilities



We are pleased to have the opportunity to provide you with our testing services. Should you have any questions, or require additional assistance, please feel free to contact us at any time.

Sincerely,

**Terracon Consultants, Inc.**

A handwritten signature in dark ink, appearing to read "William P. Quinn". The signature is fluid and cursive, written in a professional style.

William P. Quinn

Department Manager – Laboratory Services

Attachments:



**LABORATORY TESTING SUMMARY**

PROJECT NAME: Newton Power Station

PROJECT NUMBER: 11215019

CLIENT: Ramboll

Boring Number	Sample Number	Depth	Description	USCS	WC %	Dry Density (pcf)	% Gravel	% Sand	% Silt	% Clay	LL	PL	PI	Permeability k (cm/sec)	Specific Gravity
APW-11	0805	10.0'-12.0'	BROWN SANDY LEAN CLAY	CL	17.8	111.7	1.1	45.1	25.2	28.6	28	12	16	8.57E-08	2.645
APW-11	1050	61.0'-61.5'	GRAYISH BROWN LEAN CLAY WITH SAND	CL	17.8	110.5	0.0	21.4	48.4	30.2	27	18	9	1.87E-07	2.686
APW-11	1115	80.0'-82.0'	DARK GRAY LEAN CLAY WITH SAND	CL	16.5	116.1	0.0	21.0	44.4	34.6	32	14	18	2.94E-08	2.705
APW-12	0825	20.0'-22.0'	BROWN AND RUST BROWN CLAYEY SAND - ROOTS NOTED	SC	15.1	118.3	7.4	46.8	24.3	21.5	27	12	15	1.07E-07	2.694
APW-12	0845	25.5'-26.0'	BROWN POORLY GRADED SAND WITH SILT AND GRAVEL	SP-SM	8.4	113.0	24.3	69.5	2.9	3.3	10	13	NP	8.43E-06	2.654
APW-12	1245	85.0'-87.0'	DARK GRAY LEAN CLAY WITH SAND - SILT POCKETS NOTED	CL	14.4	116.4	0.3	19.5	44.4	35.8	29	14	15	2.36E-08	2.711
APW-13	0845	25.0'-27.0'	DARK BROWN AND GRAY POORLY GRADED SAND WITH SILT	SP-SM	21.2	87.1	0.0	88.9	6.8	4.3	9	10	NP	9.63E-05	2.649
APW-13	1345	60.5'-61.0'	BROWN SILTY SAND	SM	14.5	114.3	0.3	75.2	19.4	5.1	8	13	NP	2.18E-04	2.661
APW-14	0955	45.0'-47.0'	BROWN SANDY LEAN CLAY	CL	12.4	119.6	4.4	32.3	36.5	26.8	26	14	12	9.65E-08	2.706
APW-14	1045	55.5'-56.0'	GRAY AND BROWNISH GRAY LEAN CLAY WITH SAND	CL	18.0	104.6	0.0	27.8	44.4	27.8	25	15	10	2.74E-07	2.709
APW-15	1005	20.0'-22.0'	BROWN SANDY LEAN CLAY	CL	18.5	109.8	0.0	40.8	27.4	31.8	33	10	23	3.21E-08	2.686
APW-15	0755	100.5'-101.0'	GRAY SILTY SAND	SM	12.1	116.4	4.4	49.8	39.0	6.8	15	12	3	3.50E-06	2.665
APW-15	0905	105.0'-107.0'	DARK GRAY LEAN CLAY WITH SAND	CL	19.1	107.8	0.0	23.8	47.1	29.1	29	13	16	8.20E-08	2.695
APW-17	0945	40.0'-42.0'	GRAY LEAN CLAY WITH SAND	CL	16.6	108.8	1.3	27.6	44.1	27.0	26	13	13	3.34E-08	2.709
APW-17	1045	71.0'-71.5'	GRAY WELL GRADED SAND WITH SILT	SW-SM	7.8	110.2	14.3	76.8	5.1	3.8	5	9	NP	7.21E-04	2.660
APW-17	1200	90.5'-91.0'	GRAYISH BROWN POORLY GRADED SAND WITH SILT AND GRAVEL	SP-SM	6.1	116.8	28.2	65.1	4.2	2.5	6	8	NP	6.39E-04	2.672
SB-300	0825	50.0'-52.0'	DARK GRAY LEAN CLAY WITH SAND	CL	12.9	122.7	0.8	22.4	44.5	32.3	32	12	20	7.29E-08	2.700
SB-300	0905	61.0'-61.5'	GRAYISH BROWN SILTY SAND	SM	13.6	109.6	4.7	78.2	12.5	4.6	5	9	NP	1.85E-05	2.686
SB-300	0920	62.5'-63.0'	GRAY AND BROWN SANDY SILTY CLAY	CL-ML	11.1	124.6	0.0	42.4	40.8	16.8	20	14	6	4.32E-06	2.659
SB-300	1350	105.0'-107.0'	DARK GRAY SANDY LEAN CLAY	CL	14.1	116.4	0.0	30.7	37.7	31.6	28	13	15	4.28E-08	2.710
SB-301	1330	48.0'-50.0'	BROWN AND GRAY SANDY LEAN CLAY	CL	14.1	117.3	0.4	34.2	35.5	29.9	27	14	13	6.63E-08	2.697
SB-301	1600	68.5'-69.0'	GRAY SANDY LEAN CLAY	CL	13.1	121.3	0.0	31.3	43.2	25.5	23	14	9	4.05E-08	2.723
SB-301	0946	98.0'-100.0'	DARK BROWN TO DARK GRAY LEAN CLAY WITH SAND	CL	15.7	118.2	0.0	17.8	47.0	35.2	37	15	22	6.13E-08	2.720
XPW-01	0820	8.5'-9.0'	DARK GRAY AND BROWN POORLY GRADED SAND WITH SILT AND GRAVEL	SP-SM	18.6	87.7	37.1	51.1	8.2	3.6	47	57	NP	1.71E-04	2.675
XPW-01	0840	15.5'-16.0'	GRAY AND BROWN SANDY LEAN CLAY	CL	12.6	84.4	4.6	34.1	35.1	26.2	35	17	18	1.58E-05	2.741



LABORATORY TESTING SUMMARY

PROJECT NAME: Newton Power Station

PROJECT NUMBER: 11215019

CLIENT: Ramboll

Boring Number	Sample Number	Depth	Description	USCS	WC %	Dry Density (pcf)	% Gravel	% Sand	% Silt	% Clay	LL	PL	PI	Permeability k (cm/sec)	Specific Gravity
XPW-02	1530	8.0'-8.5'	VERY DARK GRAY, GRAY AND BROWN SANDY LEAN CLAY	CL	29.1	92.9	0.3	44.8	28.9	26.0	36	16	20	6.07E-08	2.691
XPW-02	1545	16.5'-17.0'	GRAY AND DARK BROWN LEAN CLAY WITH SAND	CL	21.8	103.7	0.0	19.8	42.5	37.7	36	14	22	7.38E-08	2.694
XPW-03	1255	6.0'-6.5'	DARK BROWNISH GRAY SILTY SAND	SM	17.4	75.3	6.8	71.7	16.0	5.5	33	27	6	1.34E-03	2.663
XPW-03	1315	15.5'-16.0'	BROWNISH GRAY SILTY SAND WITH GRAVEL	SM	16.7	103.6	16.4	67.3	12.3	4.0	12	19	NP	9.70E-05	2.689
XPW-04	1000	6.5'-7.0'	GRAY SILTY SAND	SM	31.1	73.9	1.6	84.5	10.9	3.0	41	38	3	1.61E-04	2.697
XPW-04	1020	15.5'-16.0'	DARK BROWNISH GRAY SILTY SAND WITH GRAVEL	SM	31.1	80.8	15.7	51.0	24.7	8.6	46	42	4	7.83E-05	2.650

Specific Gravity of Soils  
ASTM D854



## SPECIFIC GRAVITY OF SOIL SOLIDS ASTM D-854

Laboratory Services Group

192 Exchange Blvd.

Glendale Heights, Illinois 60139

Ph. (630) 717-4263

**Project Number:** 11215019**Project Name:** Newton Power Station**Test Date:** 3/1/2021

### Results Summary

Boring / Sample	Sample Number	Depth (ft)		Specific Gravity (Gs)
APW-11	0805	10.0'-12.0'		2.645
APW-11	1050	61.0'-61.5'		2.686
APW-11	1115	80.0'-82.0'		2.705
APW-12	0825	20.0'-22.0'		2.694
APW-12	0845	25.5'-26.0'		2.654
APW-12	1245	85.0'-87.0'		2.711
APW-13	0845	25.0'-27.0'		2.649
APW-13	1345	60.5'-61.0'		2.661
APW-14	0955	45.0'-47.0'		2.706
APW-14	1045	55.5'-56.0'		2.709
APW-15	1005	20.0'-22.0'		2.686
APW-15	0755	100.5'-101.0'		2.665
APW-15	0905	105.0'-107.0'		2.692
APW-17	0945	40.0'-42.0'		2.709
APW-17	1045	71.0'-71.5'		2.660
APW-17	1200	90.5'-91.0'		2.672

Tested By: SJHChecked By: WPQ



## SPECIFIC GRAVITY OF SOIL SOLIDS ASTM D-854

Laboratory Services Group

192 Exchange Blvd.

Glendale Heights, Illinois 60139

Ph. (630) 717-4263

**Project Number:** 11215019**Project Name:** Newton Power Station**Test Date:** 3/1/2021

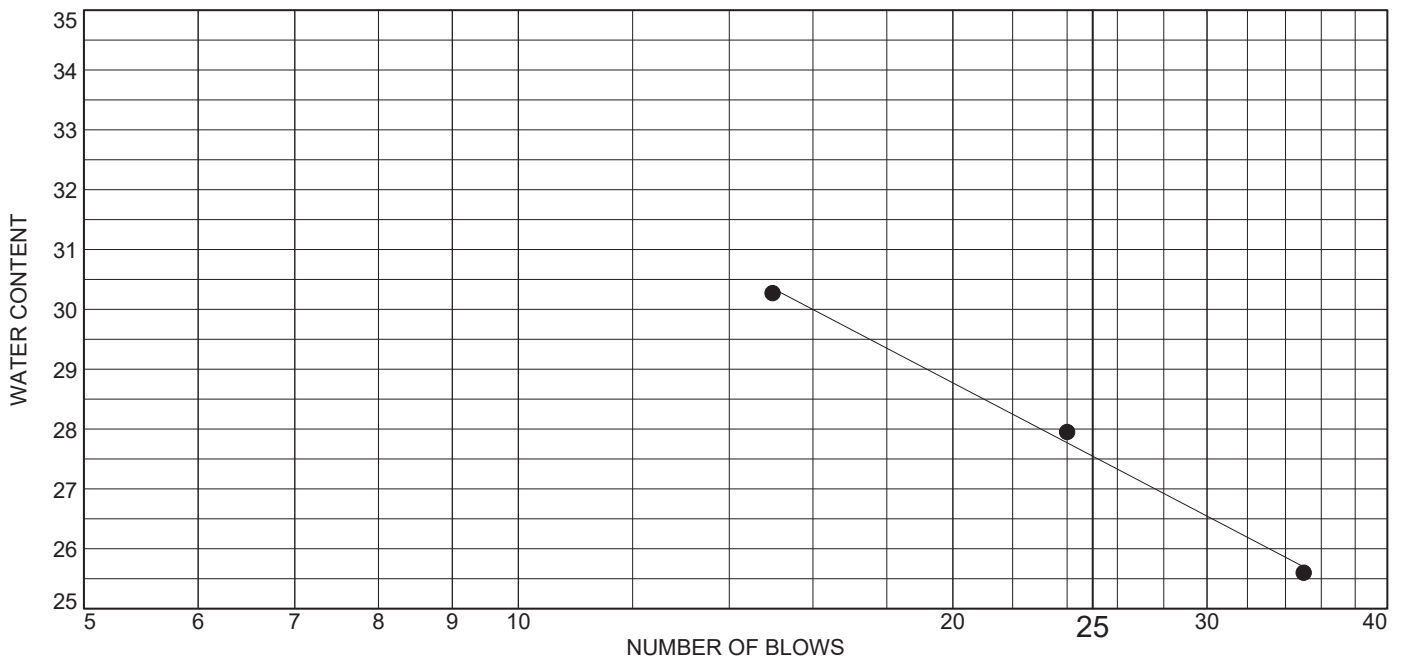
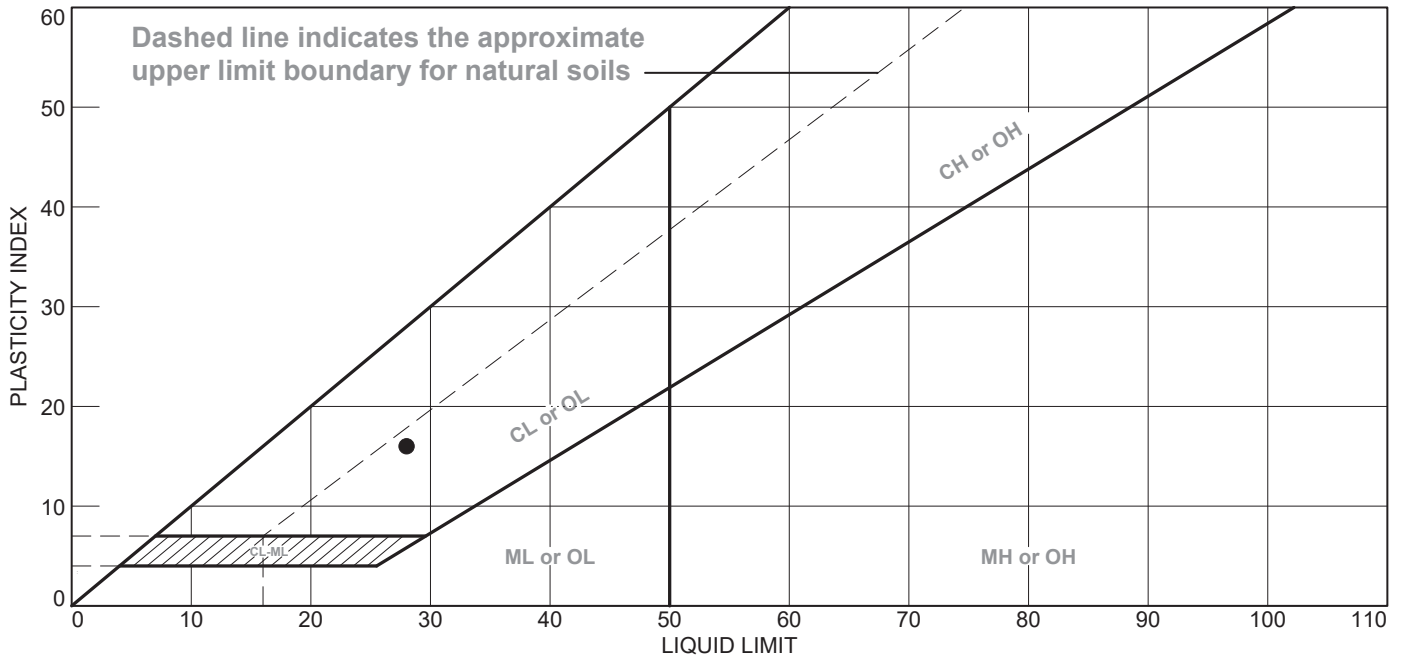
### Results Summary

Boring / Sample	Sample Number	Depth (ft)		Specific Gravity (Gs)
SB-300	0825	50.0'-52.0'		2.700
SB-300	0905	61.0'-61.5'		2.686
SB-300	0920	62.5'-63.0'		2.659
SB-300	1350	105.0'-107.0'		2.710
SB-301	1330	48.0'-50.0'		2.697
SB-301	1600	68.5'-69.0'		2.723
SB-301	0946	98.0'-100.0'		2.720
XPW-01	0820	8.5'-9.5'		2.675
XPW-01	0840	15.5'-16.0'		2.741
XPW-02	1530	8.0'-8.5'		2.691
XPW-02	1545	16.5'-17.0'		2.694
XPW-03	1355	6.0'-6.5'		2.663
XPW-03	1315	15.5'-16.0'		2.689
XPW-04	1000	6.5'-7.0'		2.697
XPW-04	1020	15.5'-16.0'		2.650

Tested By: SJHChecked By: WPQ

Liquid Limit, Plastic Limit and Plasticity Index of Soils  
ASTM D4318

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
• BROWN SANDY LEAN CLAY	28	12	16	88.7	53.8	CL

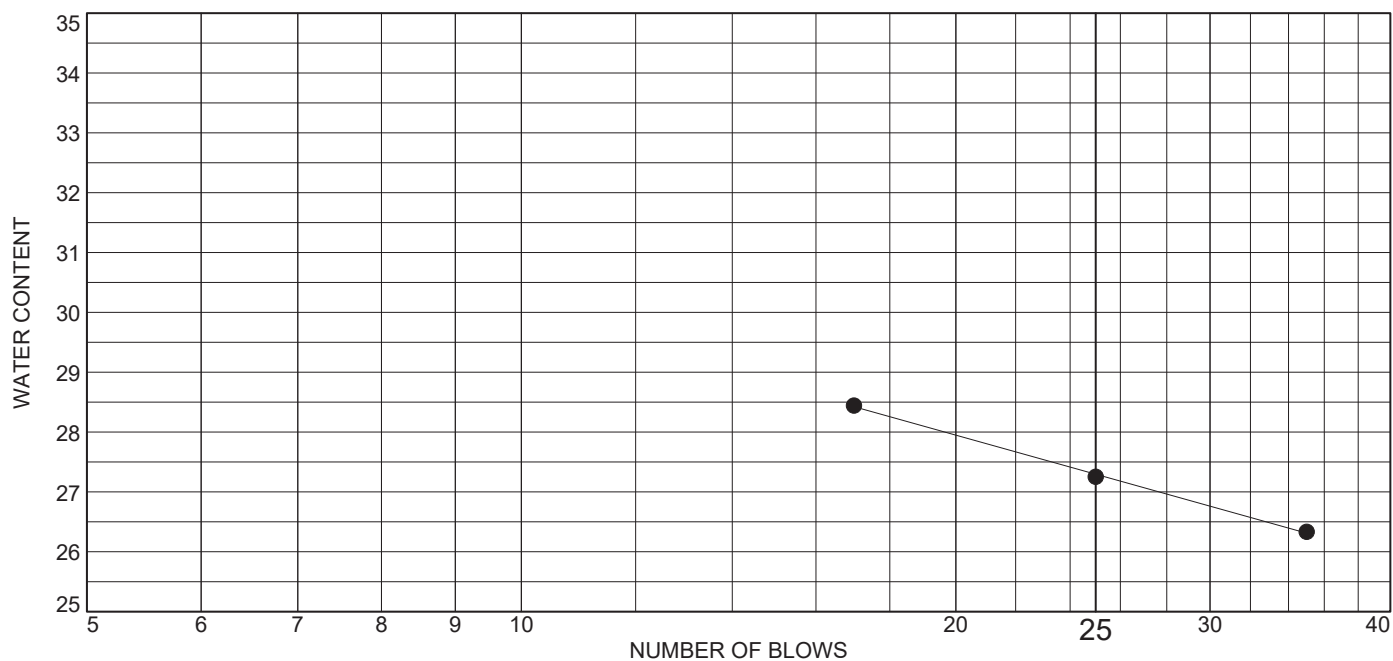
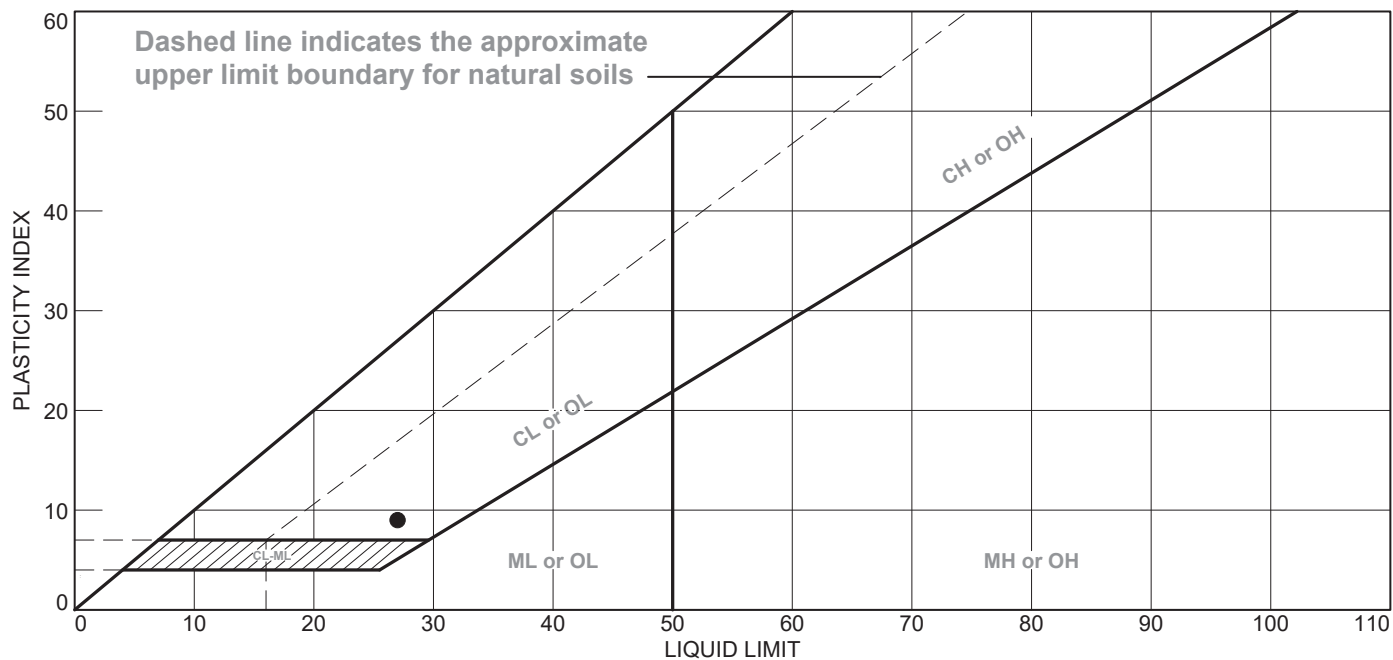
**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.  
**Project:** NEWTON POWER STATION  
**Source of Sample:** APW-11      **Depth:** 10.0'-12.0'  
**Sample Number:** 0805

**Remarks:**



Figure

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● GRAYISH BROWN LEAN CLAY WITH SAND	27	18	9	91.9	78.6	CL

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.

**Project:** NEWTON POWER STATION

**Source of Sample:** APW-11      **Depth:** 61.0'-61.5'

**Sample Number:** 1050

**Remarks:**



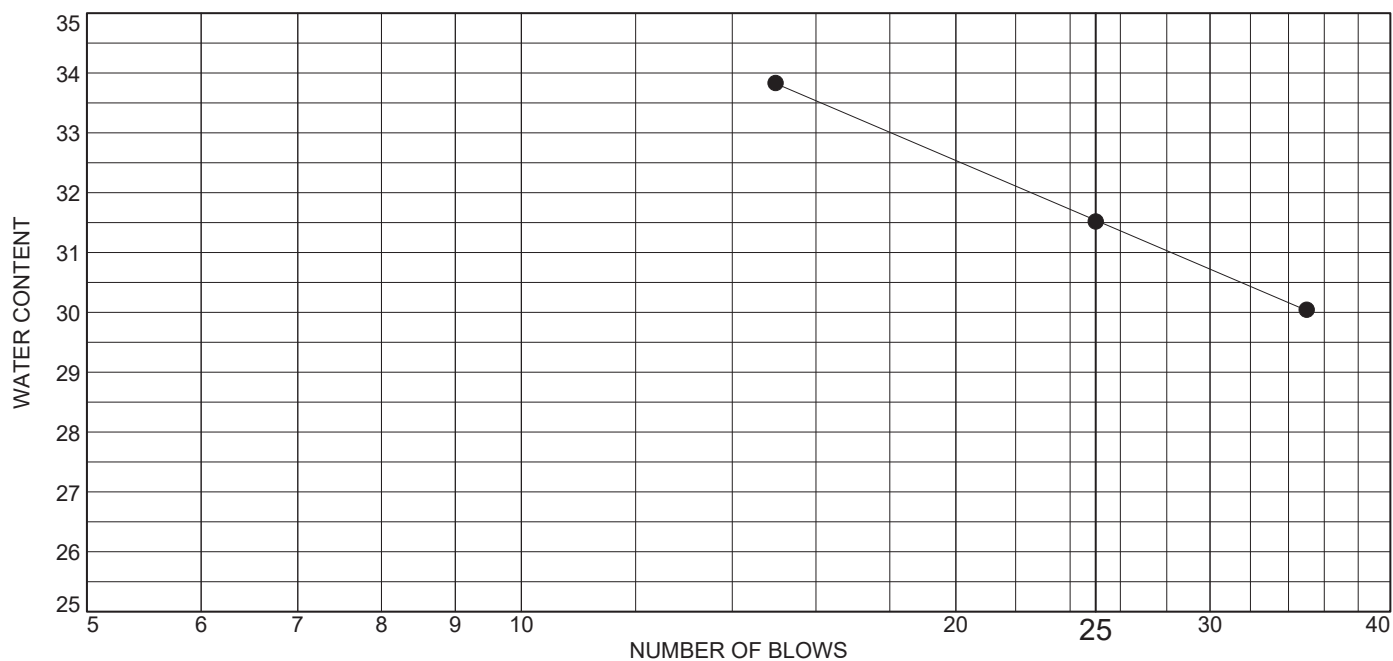
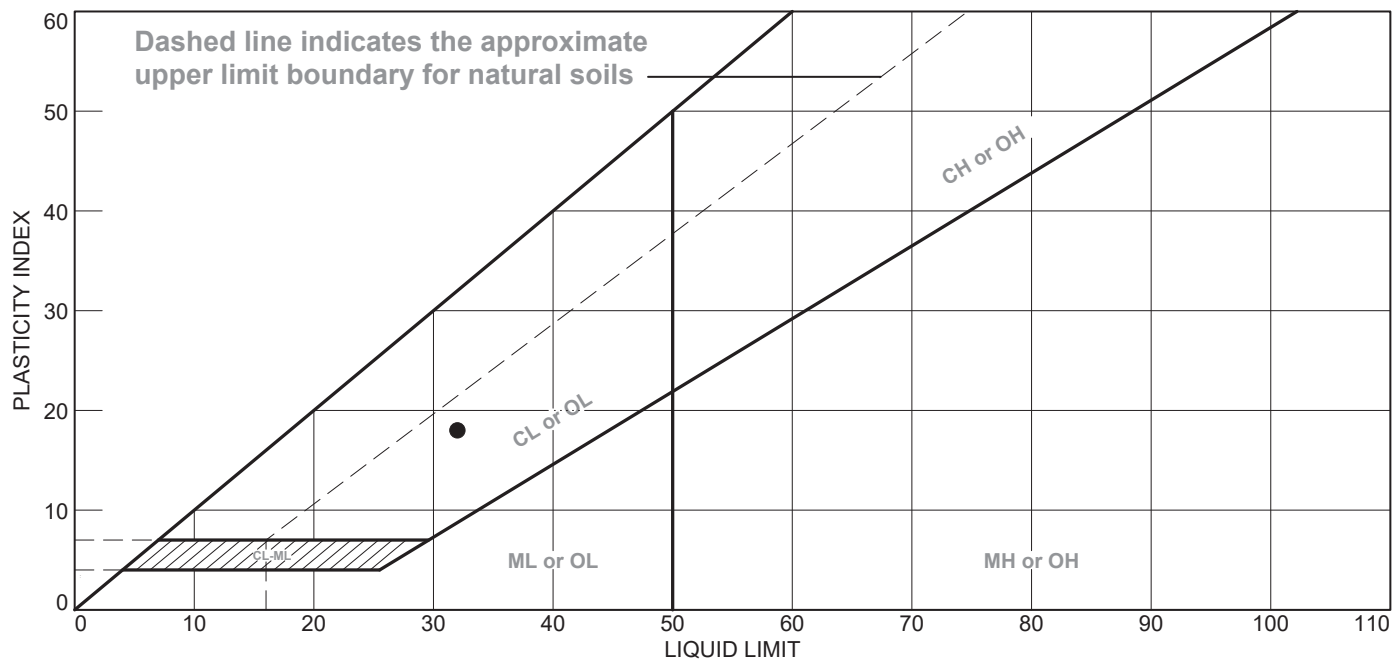
Figure

Tested By: DT

Checked By: WPQ



# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
• DARK GRAY LEAN CLAY WITH SAND	32	14	18	95.4	79.0	CL

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.  
**Project:** NEWTON POWER STATION  
**Source of Sample:** APW-11      **Depth:** 80.0'-82.0'  
**Sample Number:** 1115

**Remarks:**

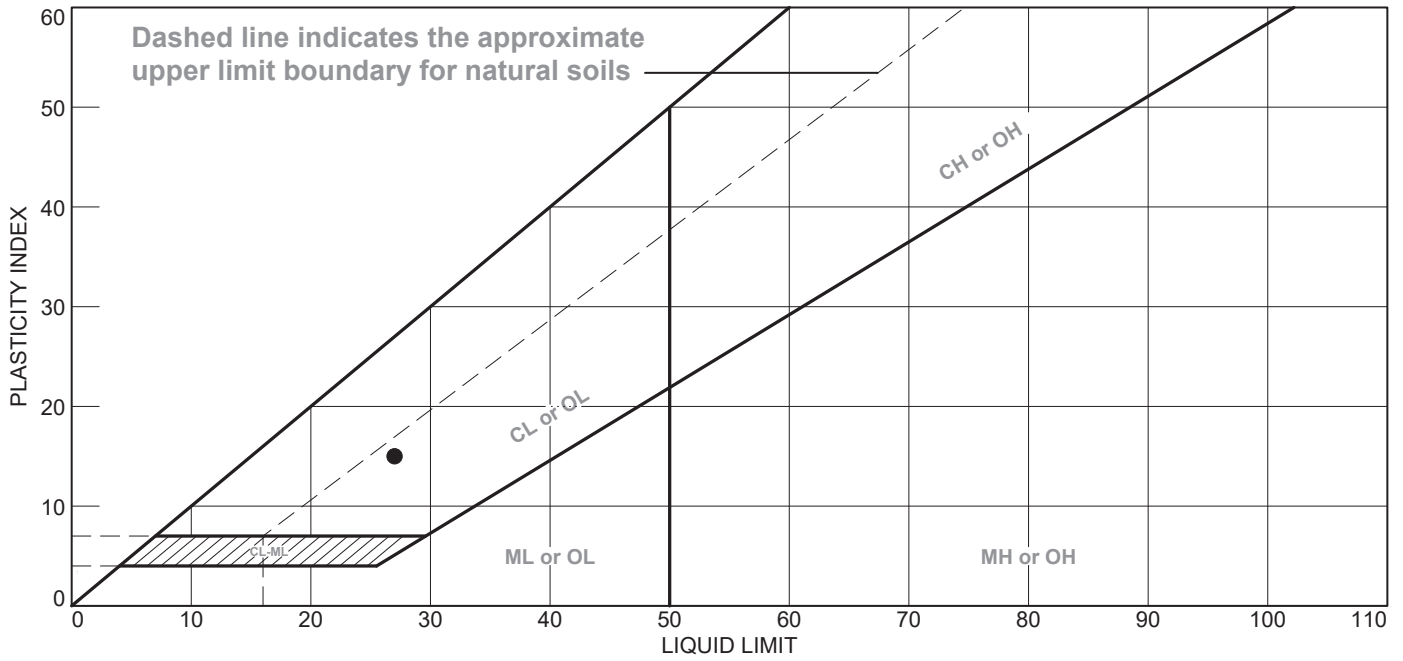


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● BROWN AND RUST BROWN CLAYEY SAND - ROOTS NOTED	27	12	15	82.3	45.8	SC

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.  
**Project:** NEWTON POWER STATION  
**Source of Sample:** APW-12      **Depth:** 20.0'-22.0'  
**Sample Number:** 0825

**Remarks:**

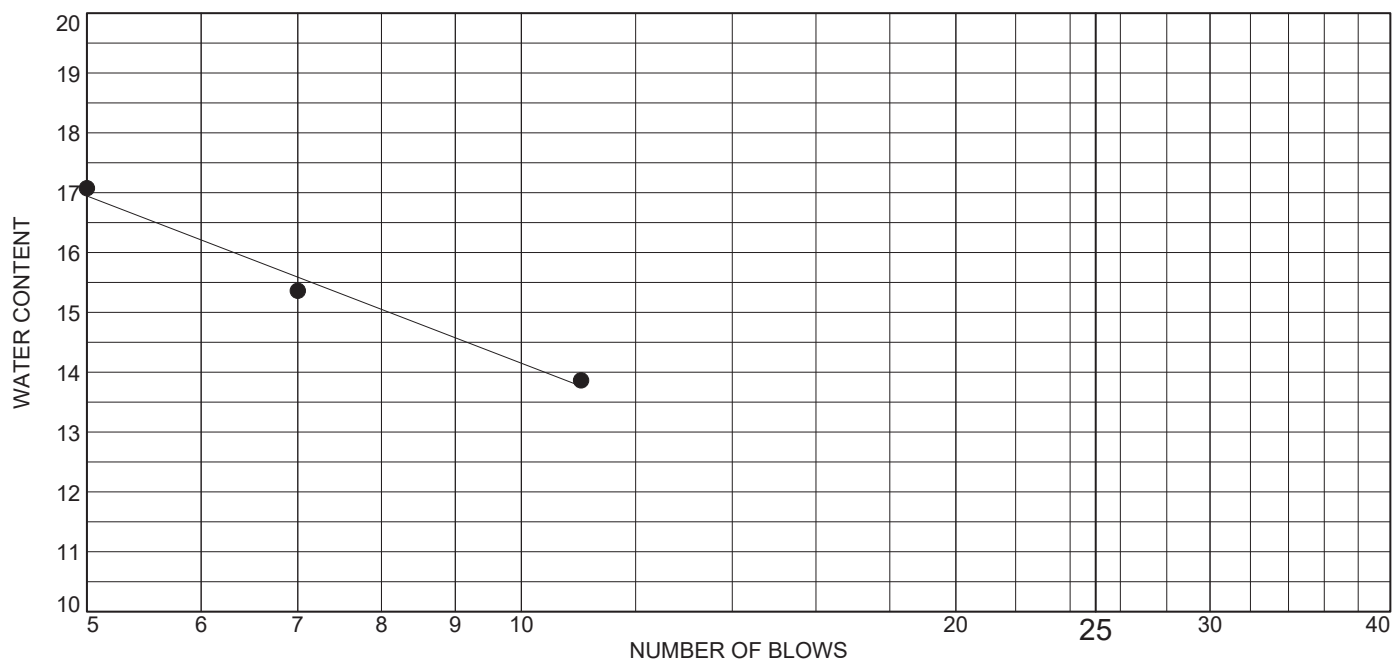
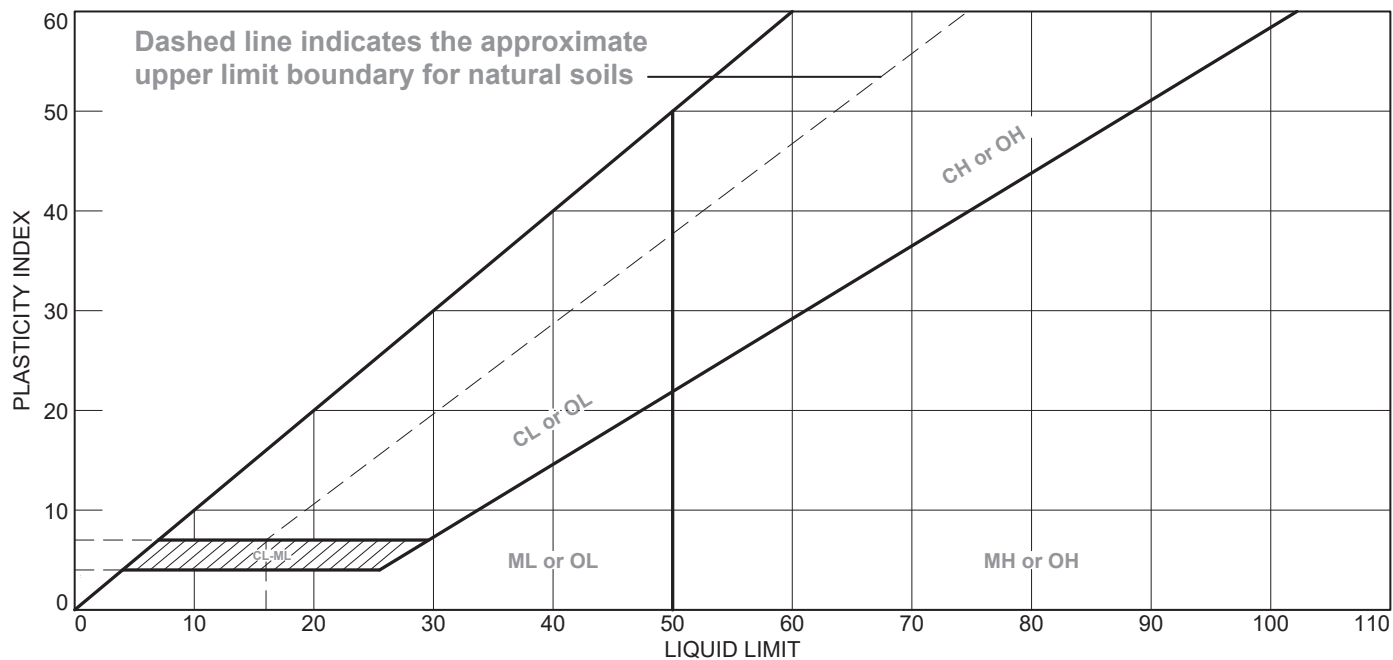


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● BROWN POORLY GRADED SAND WITH SILT AND GRAVEL	10	13	NP	21.4	6.2	SP-SM

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.  
**Project:** NEWTON POWER STATION  
**Source of Sample:** APW-12      **Depth:** 25.5'-26.0'  
**Sample Number:** 0845

**Remarks:**

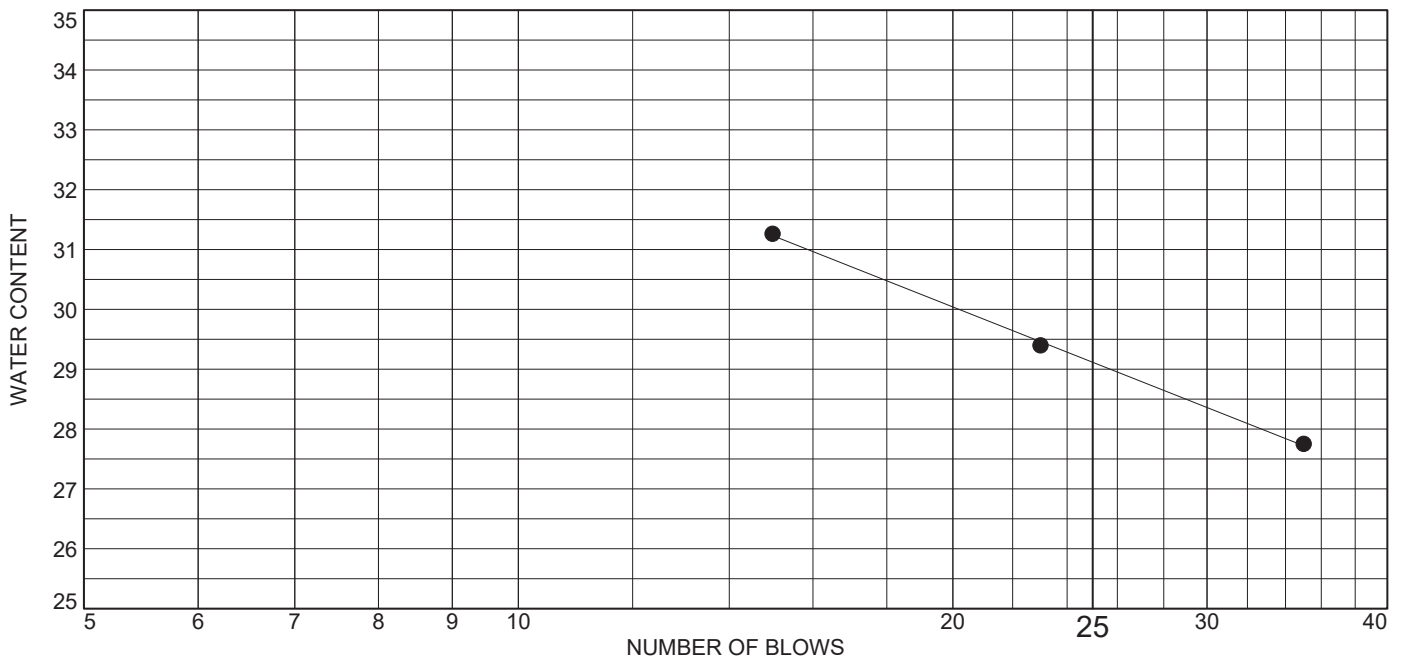
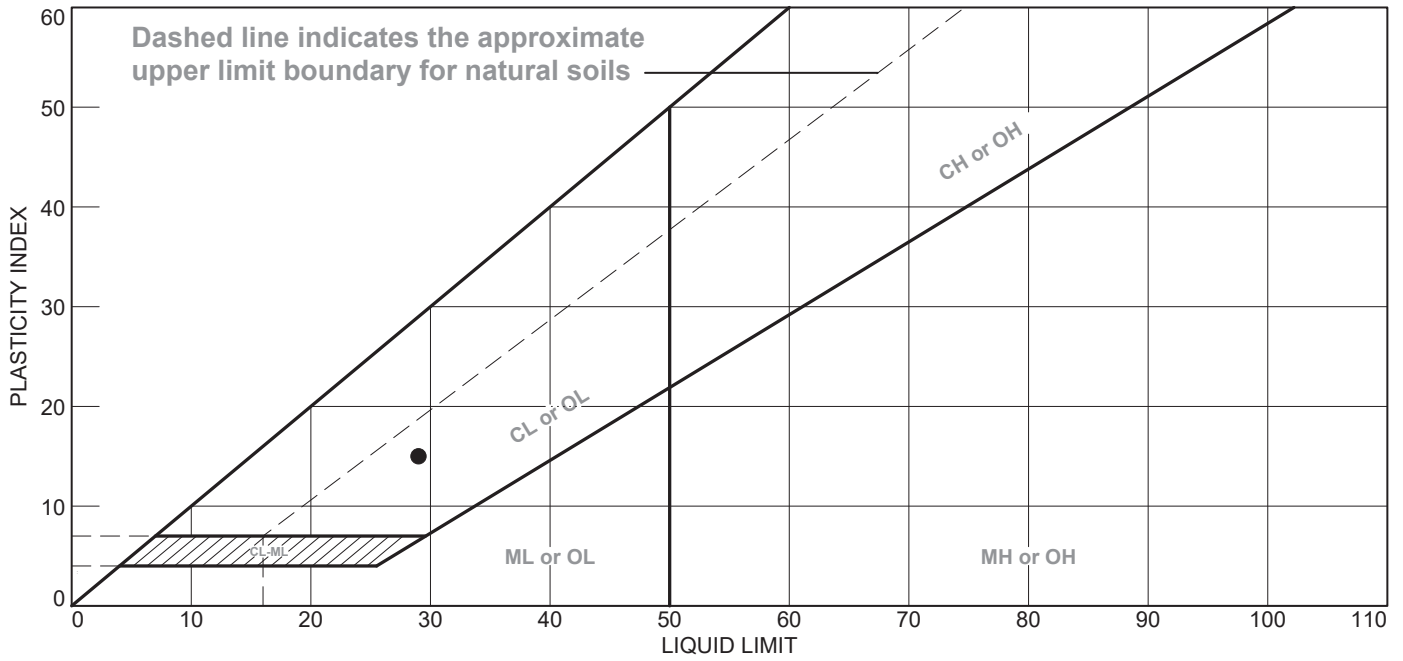


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● DARK GRAY LEAN CLAY WITH SAND - SILT POCKETS NOTED	29	14	15	96.1	80.2	CL

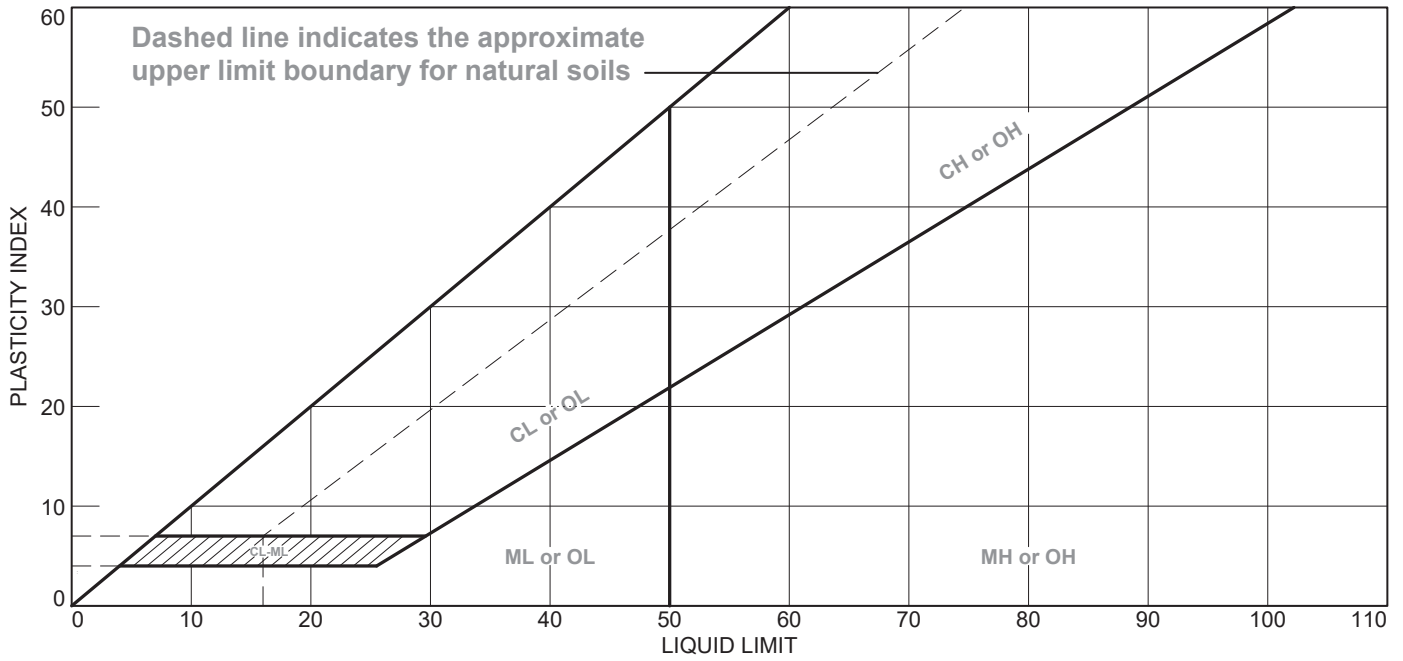
**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.  
**Project:** NEWTON POWER STATION  
**Source of Sample:** APW-12      **Depth:** 85.0'-87.0'  
**Sample Number:** 1245

**Remarks:**

**Figure**



# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
DARK BROWN AND GRAY POORLY GRADED SAND WITH SILT	9	10	NP	30.5	11.1	SP-SM

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.  
**Project:** NEWTON POWER STATION  
**Source of Sample:** APW-13      **Depth:** 25.0'-27.0'  
**Sample Number:** 0845

**Remarks:**

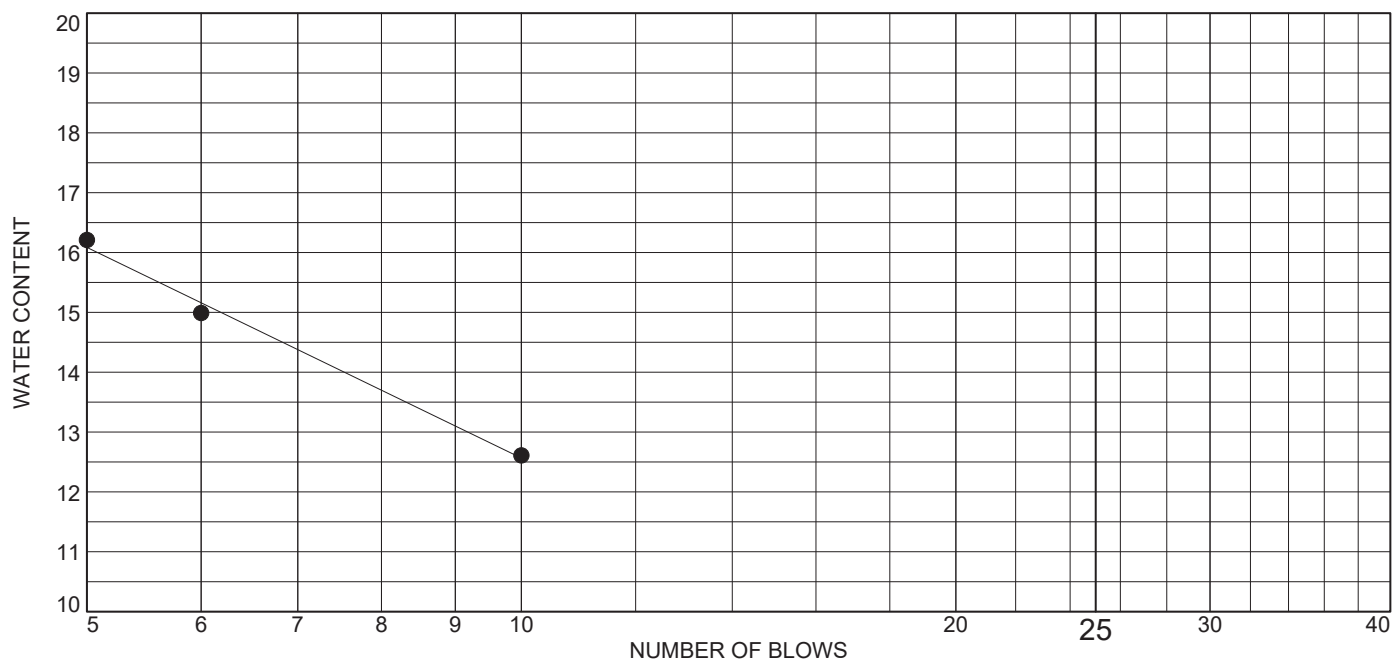
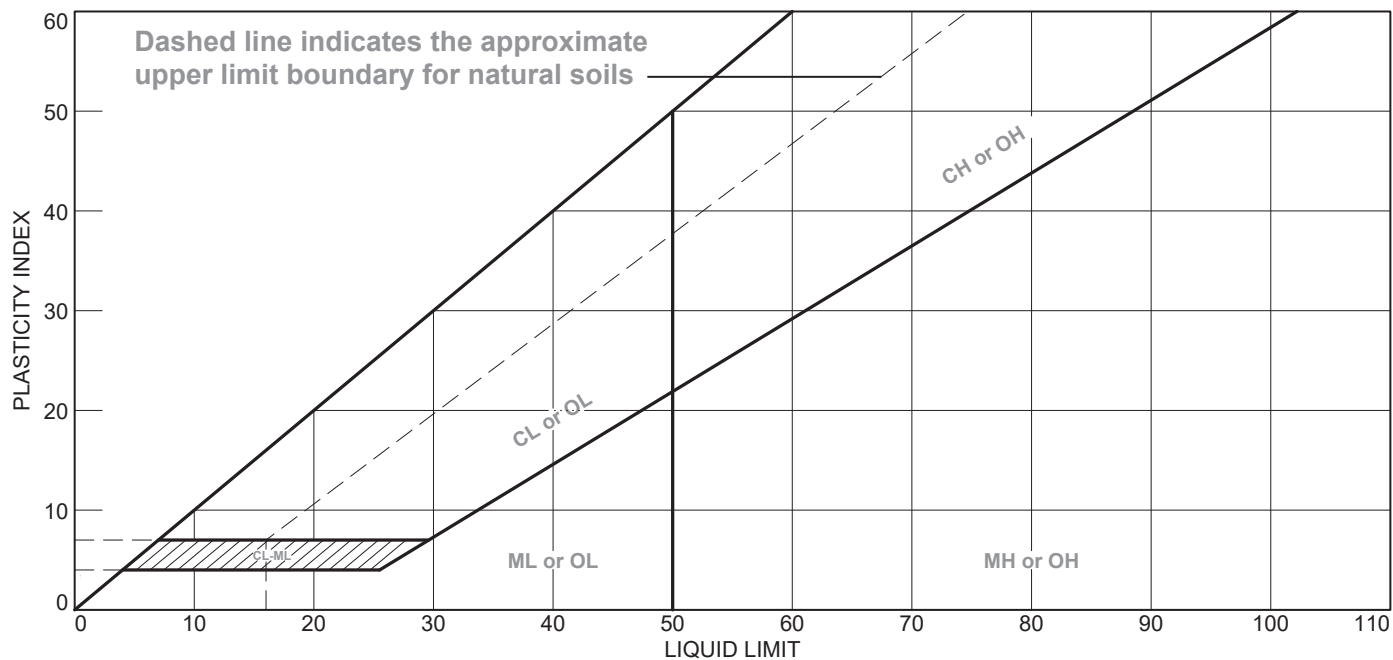


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● BROWN SILTY SAND	8	13	NP	86.6	24.5	SM

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.

**Project:** NEWTON POWER STATION

**Source of Sample:** APW-13      **Depth:** 60.5'-61.0'

**Sample Number:** 1345

**Remarks:**

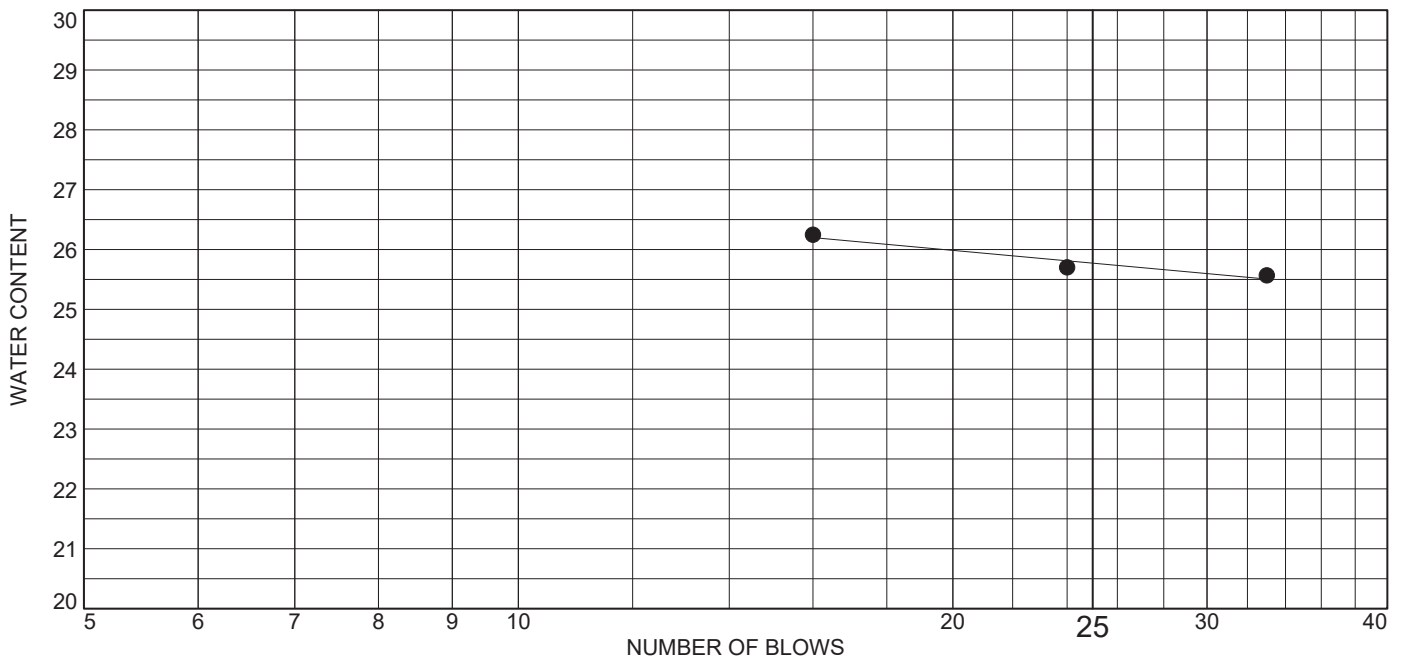
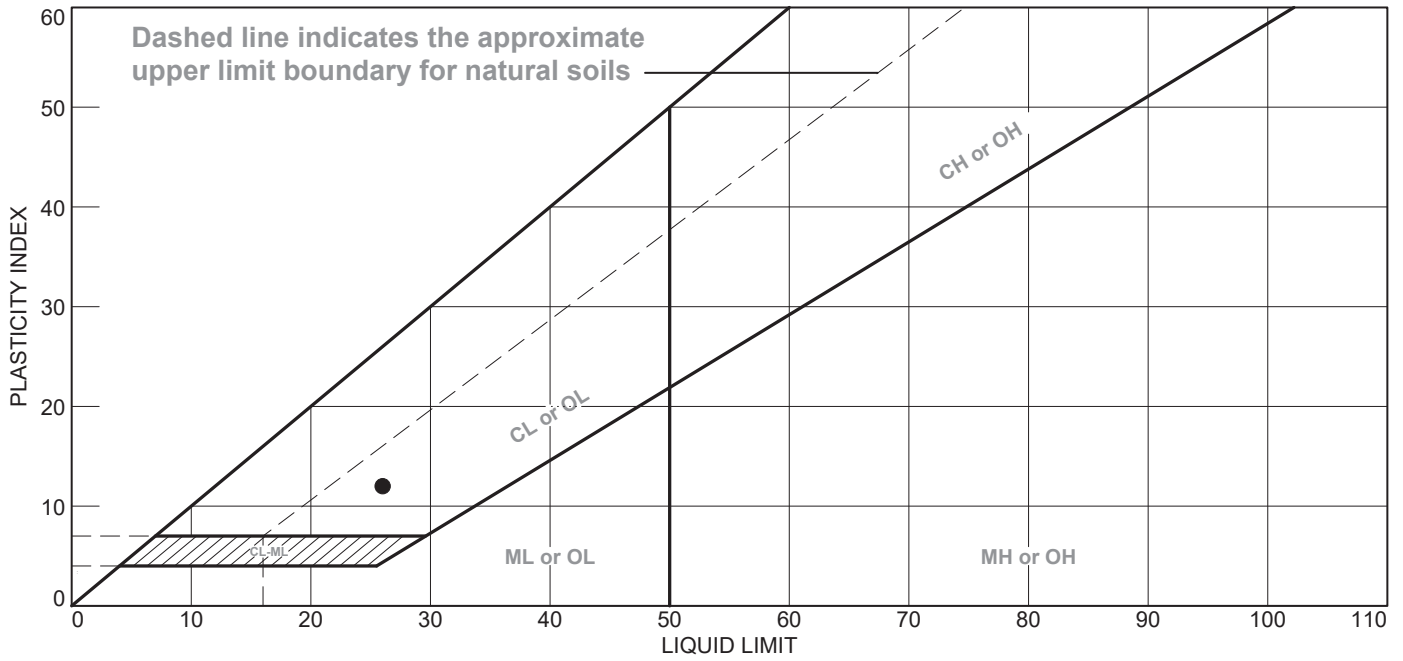


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
• BROWN SANDY LEAN CLAY	26	14	12	84.5	63.3	CL

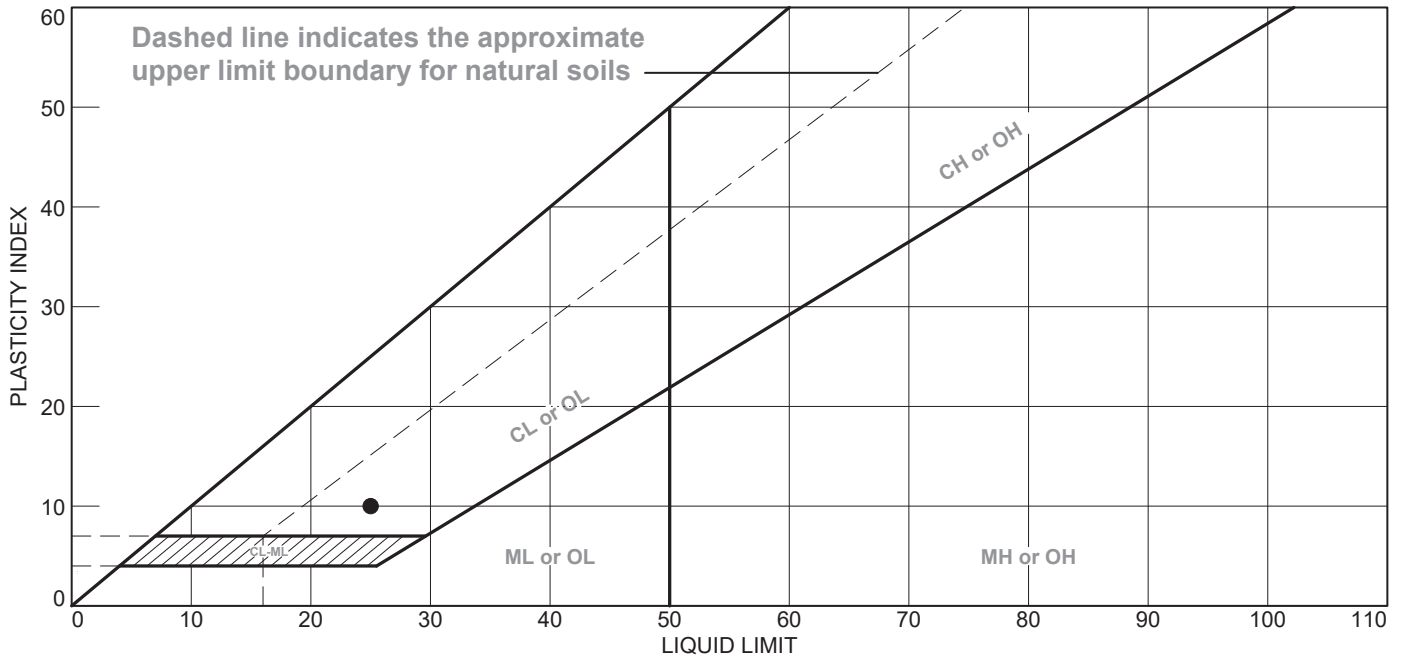
Project No. 11215019      Client: RAMBOLL ENVIRON US CORP.  
 Project: NEWTON POWER STATION  
 Source of Sample: APW-14      Depth: 45.0'-47.0'  
 Sample Number: 0955

Remarks:



Figure

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● GRAY AND BROWNISH GRAY LEAN CLAY WITH SAND	25	15	10	91.1	72.2	CL

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.  
**Project:** NEWTON POWER STATION  
**Source of Sample:** APW-14      **Depth:** 55.5'-56.0'  
**Sample Number:** 1045

**Remarks:**



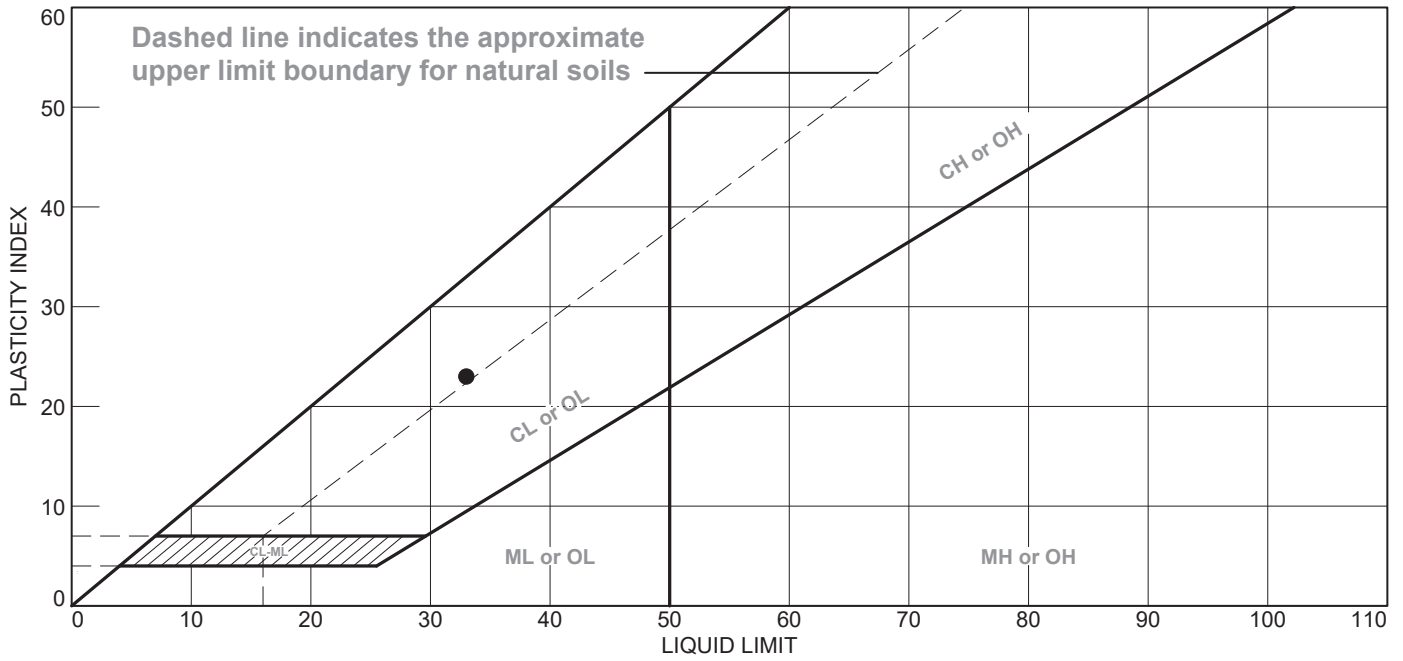
Figure

Tested By: DT

Checked By: WPQ



# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
• BROWN SANDY LEAN CLAY	33	10	23	95.1	59.2	CL

Project No. 11215019      Client: RAMBOLL ENVIRON US CORP.  
 Project: NEWTON POWER STATION  
 Source of Sample: APW-15      Depth: 20.0'-22.0'  
 Sample Number: 1005

Remarks:

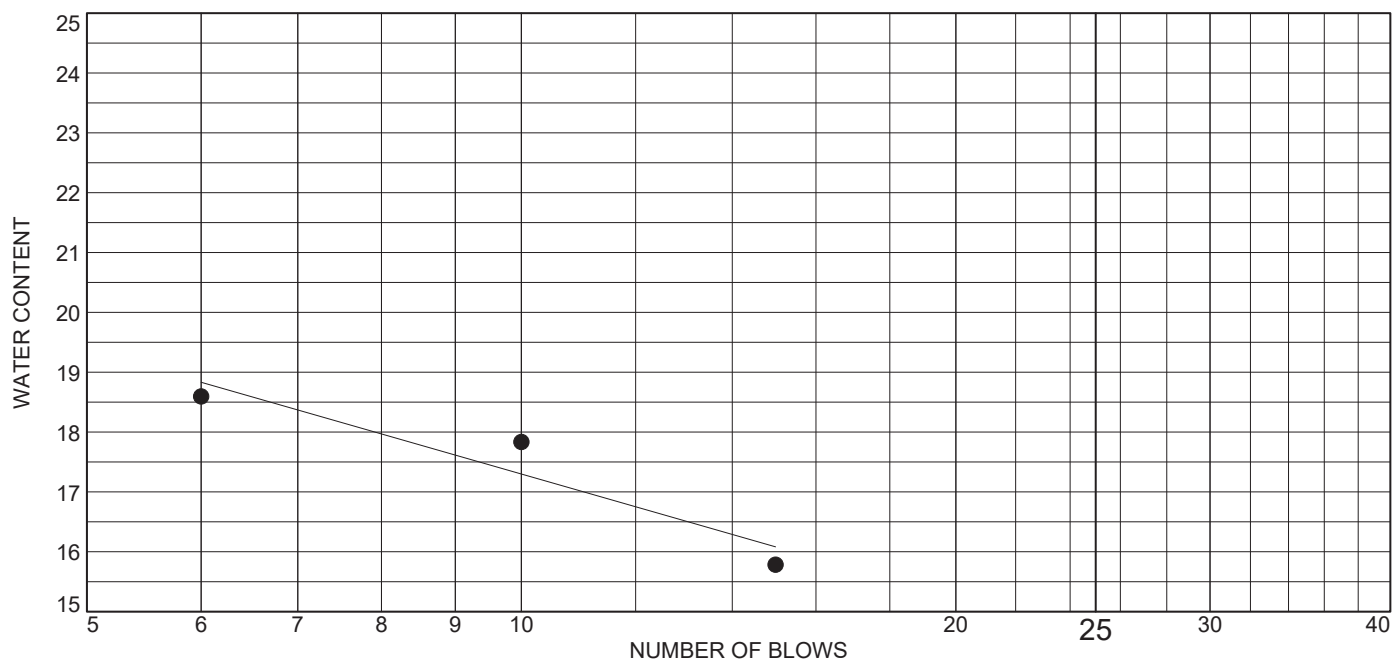
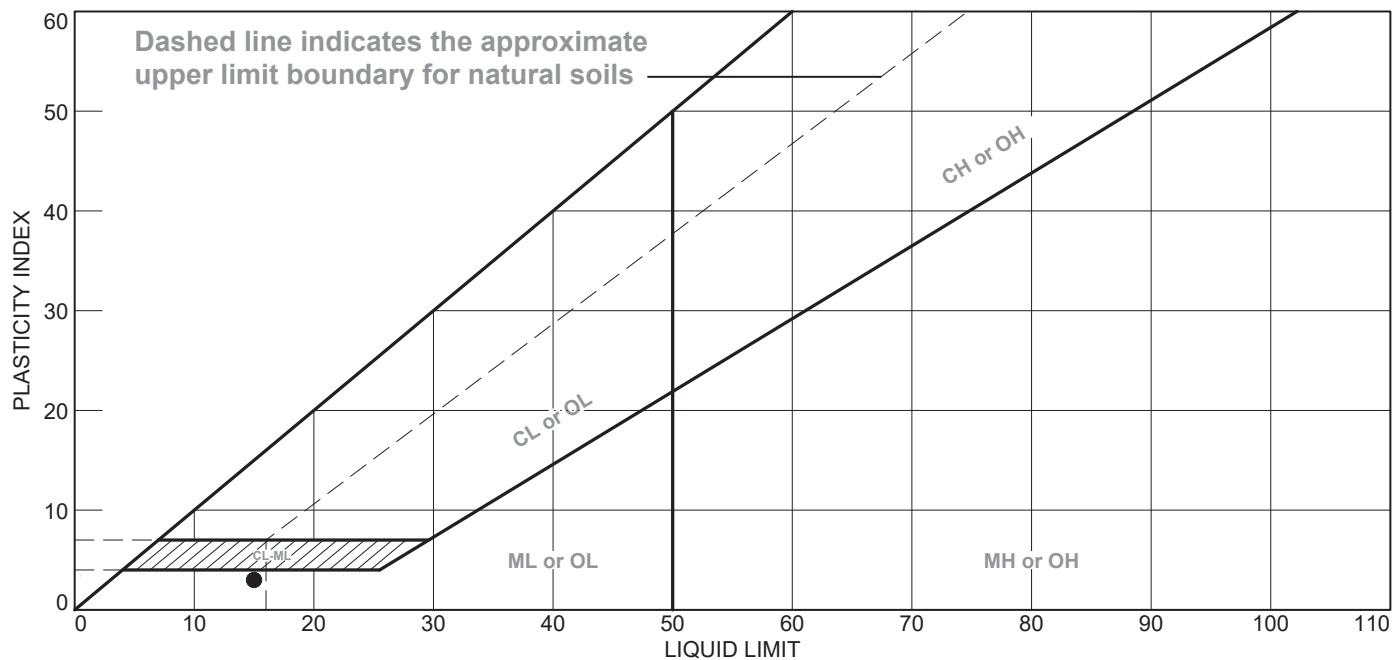


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● GRAY SILTY SAND	15	12	3	75.0	45.8	SM

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.

**Project:** NEWTON POWER STATION

**Source of Sample:** APW-15      **Depth:** 100.5'-101.0'

**Sample Number:** 0755

**Remarks:**

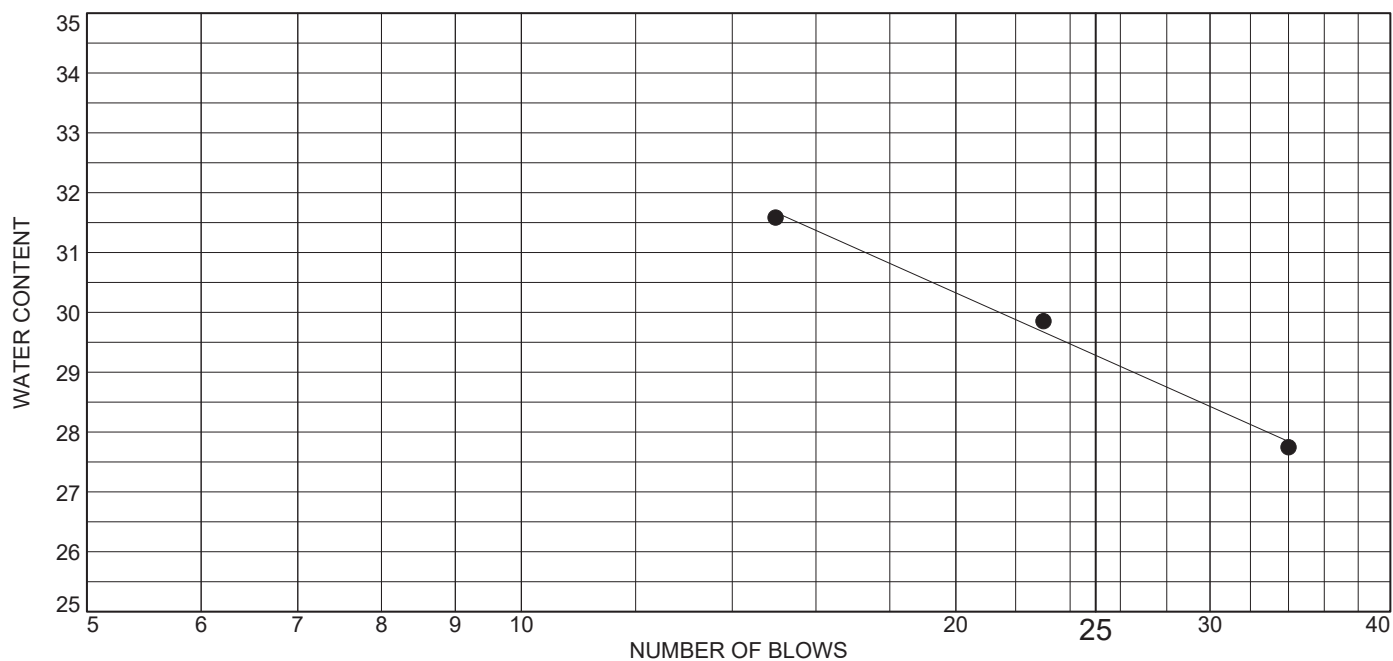
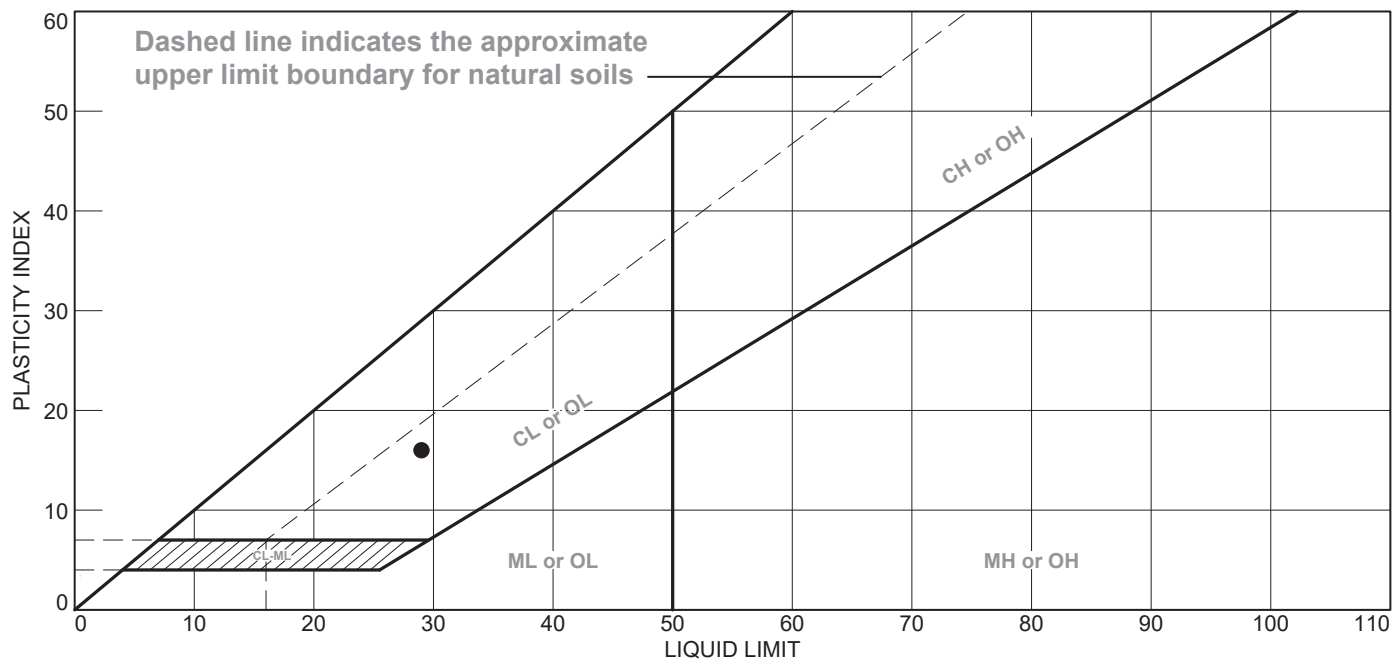


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
• DARK GRAY LEAN CLAY WITH SAND	29	13	16	94.1	76.2	CL

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.

**Project:** NEWTON POWER STATION

**Source of Sample:** APW-15      **Depth:** 105.0'-107.0'

**Sample Number:** 0905

**Remarks:**

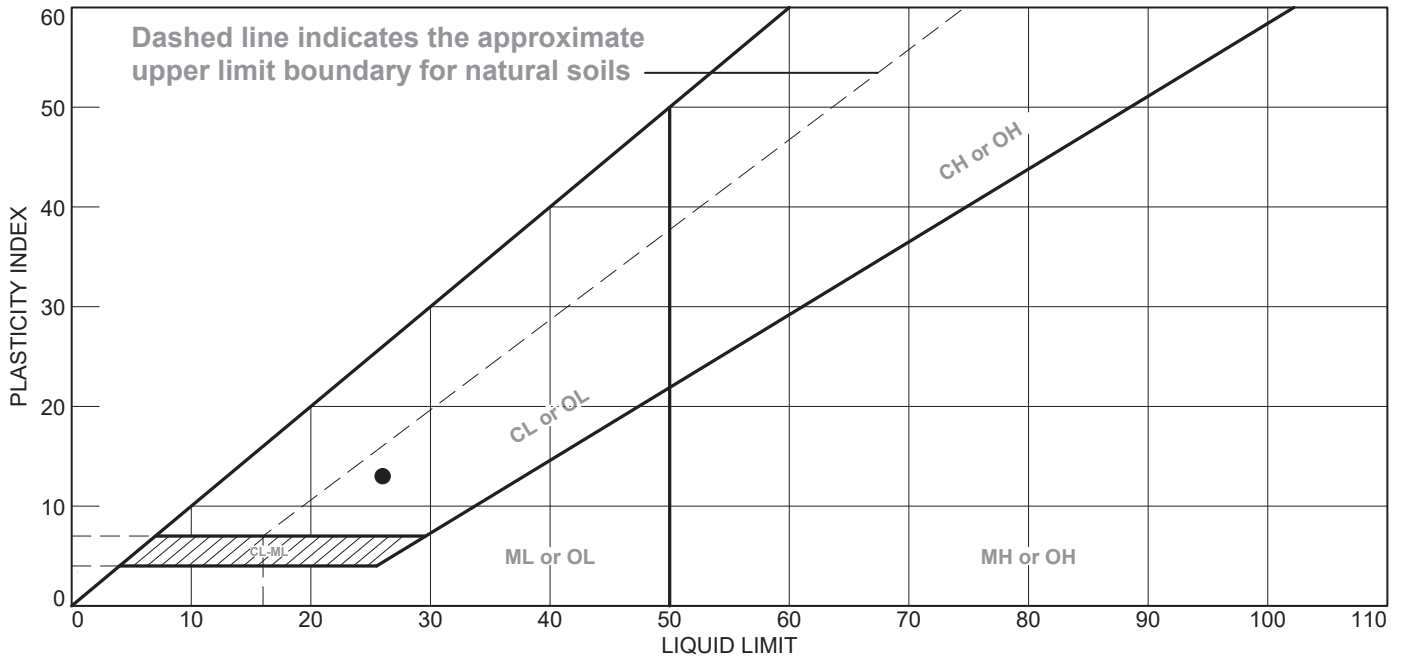


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● GRAY LEAN CLAY WITH SAND	26	13	13	90.4	71.1	CL

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.  
**Project:** NEWTON POWER STATION  
**Source of Sample:** APW-17      **Depth:** 40.0'-42.0'  
**Sample Number:** 0945

**Remarks:**

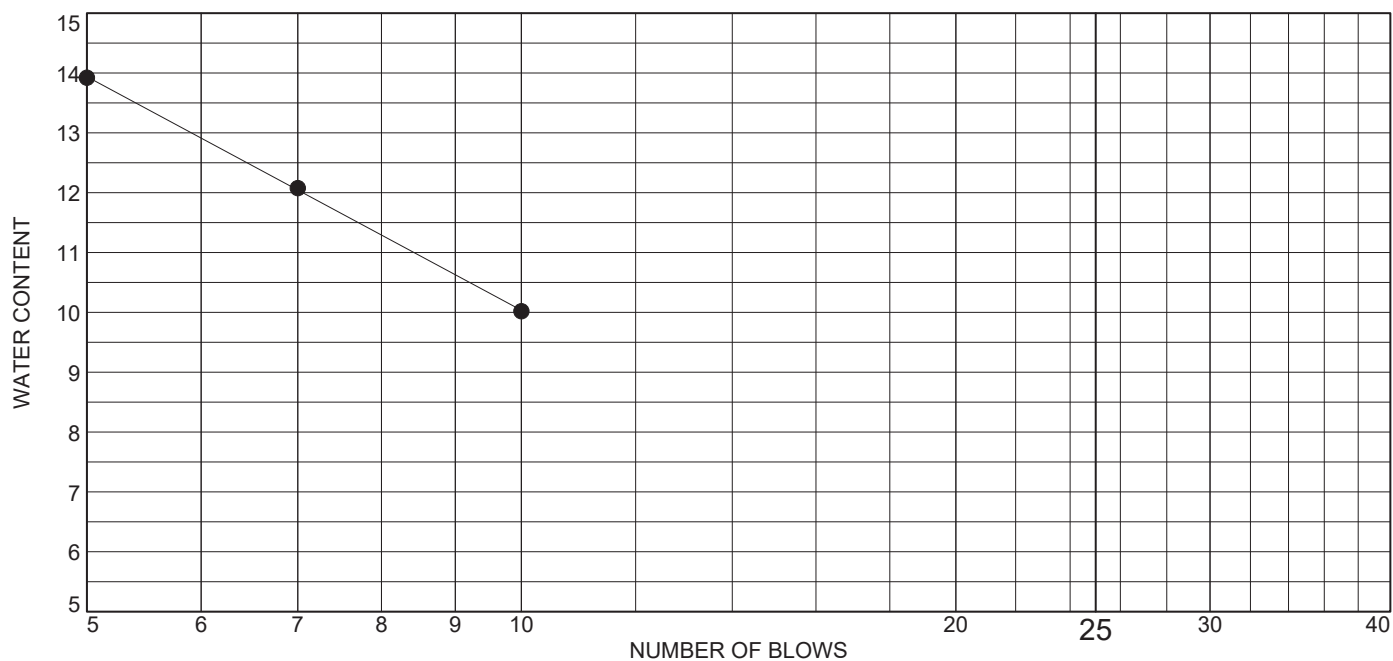
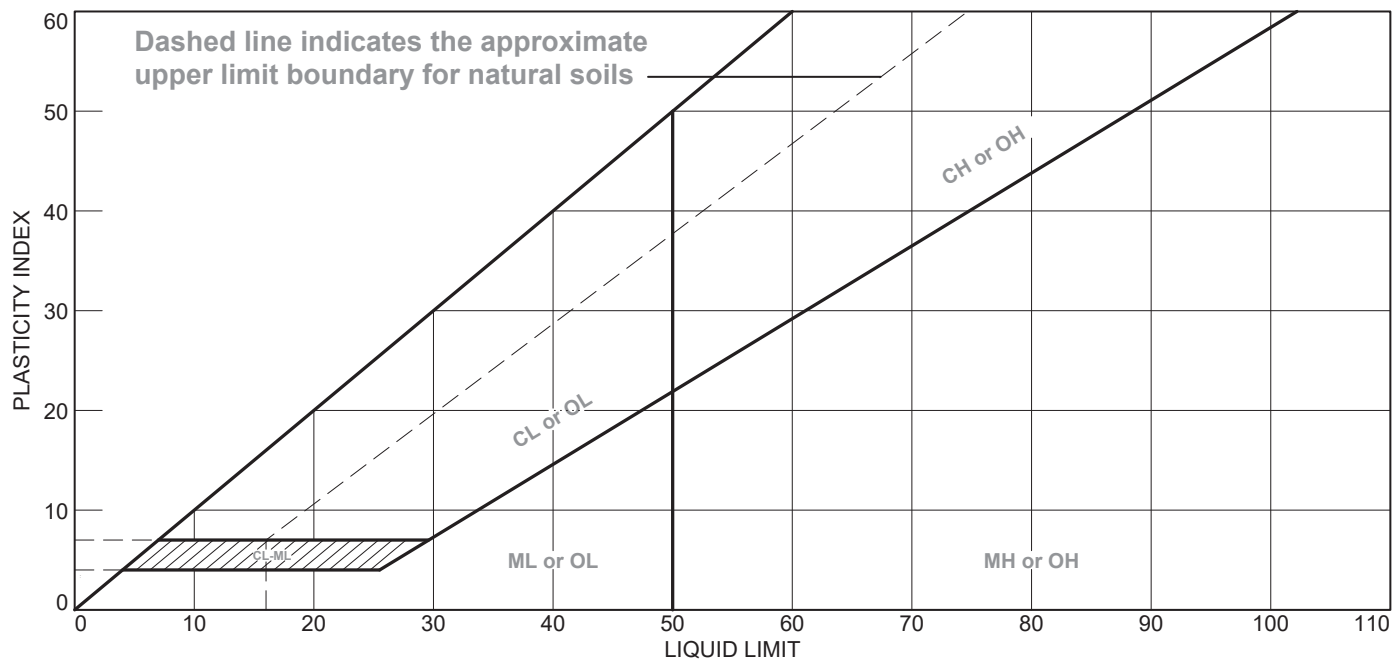


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● GRAY WELL GRADED SAND WITH SILT	5	9	NP	47.7	8.9	SW-SM

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.

**Project:** NEWTON POWER STATION

**Source of Sample:** APW-17      **Depth:** 71.0'-71.5'

**Sample Number:** 1045

**Remarks:**

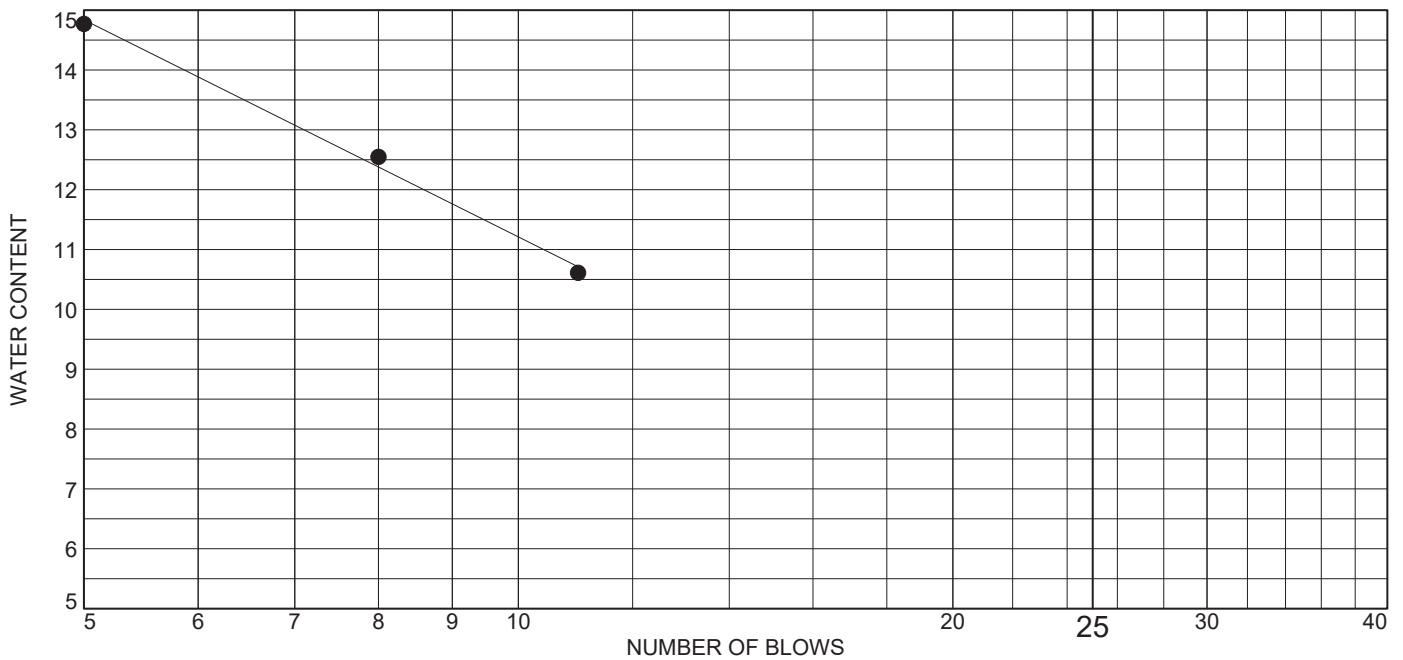
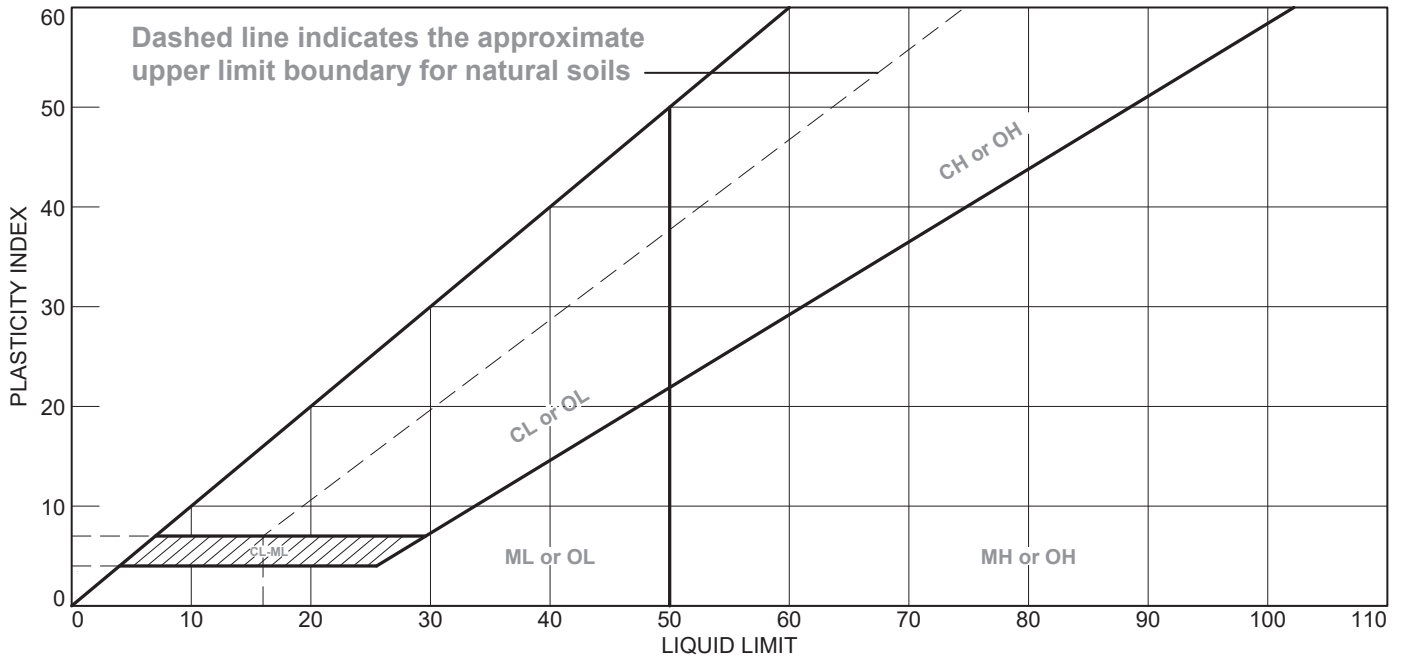


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● GRAYISH BROWN POORLY GRADED SAND WITH SILT AND GRAVEL	6	8	NP	23.8	6.7	SP-SM

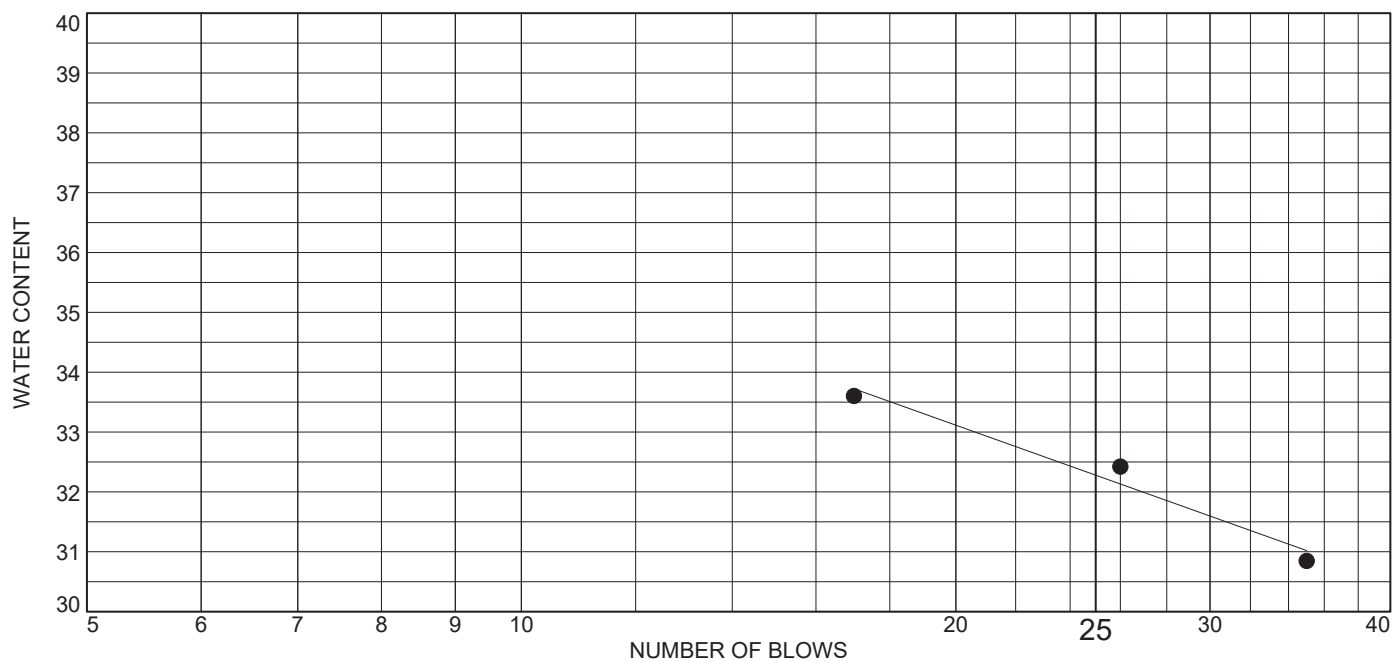
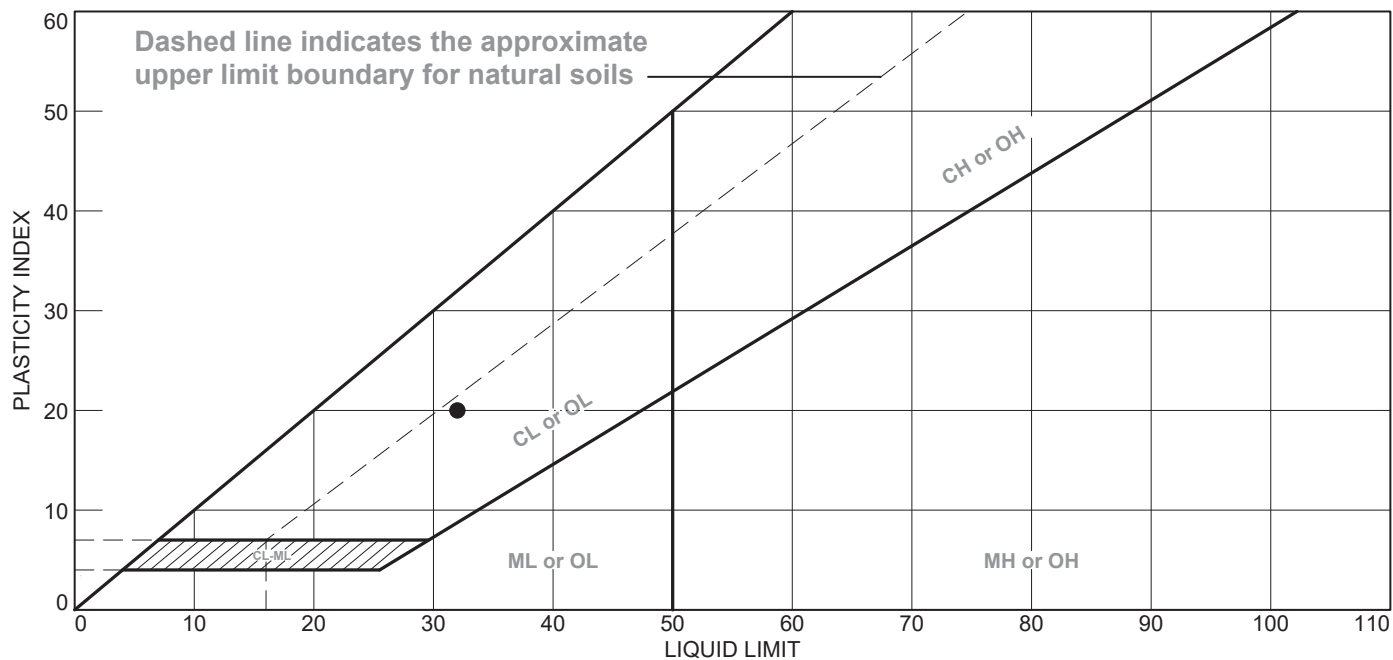
**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.  
**Project:** NEWTON POWER STATION  
**Source of Sample:** APW-17      **Depth:** 90.5'-91.0'  
**Sample Number:** 1200

**Remarks:**



Figure

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● DARK GRAY LEAN CLAY WITH SAND	32	12	20	93.5	76.8	CL

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.

**Project:** NEWTON POWER STATION

**Source of Sample:** SB-300      **Depth:** 50.0'-52.0'

**Sample Number:** 0825

**Remarks:**

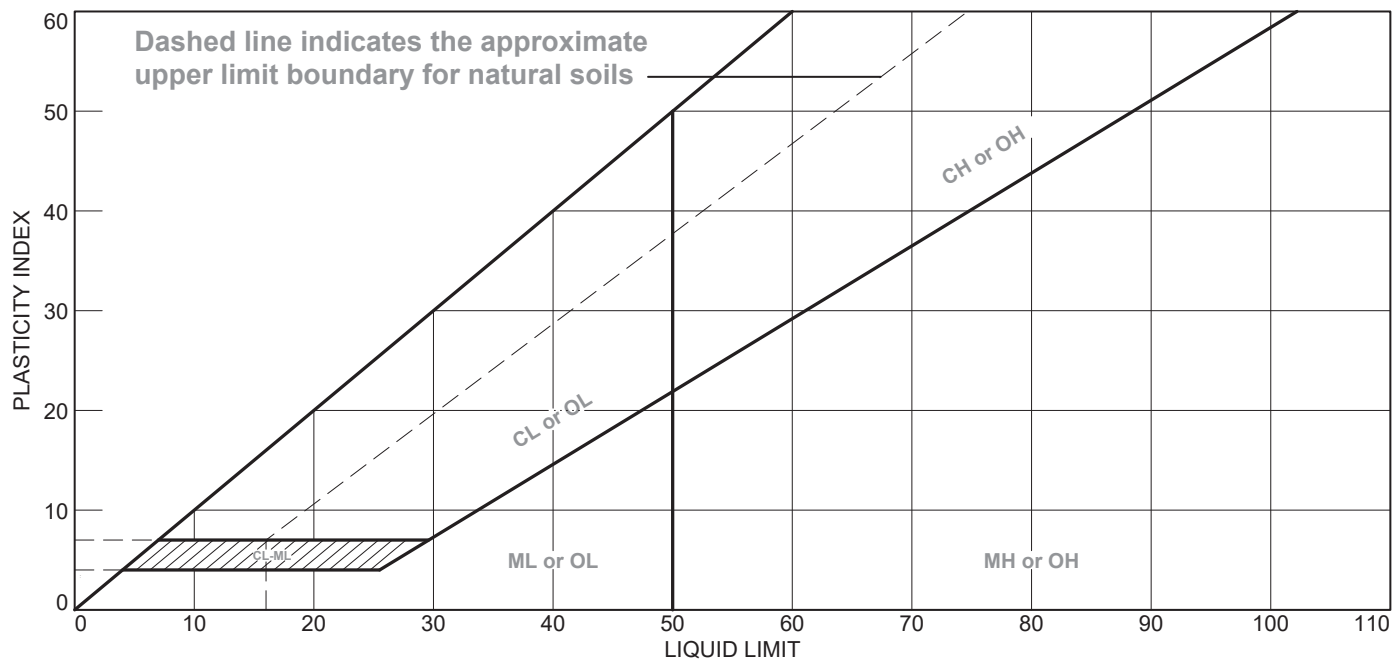


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● GRAYISH BROWN SILTY SAND	5	9	NP	63.4	17.1	SM

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.

**Project:** NEWTON POWER STATION

**Source of Sample:** SB-300      **Depth:** 61.0'-61.5'

**Sample Number:** 0905

**Remarks:**



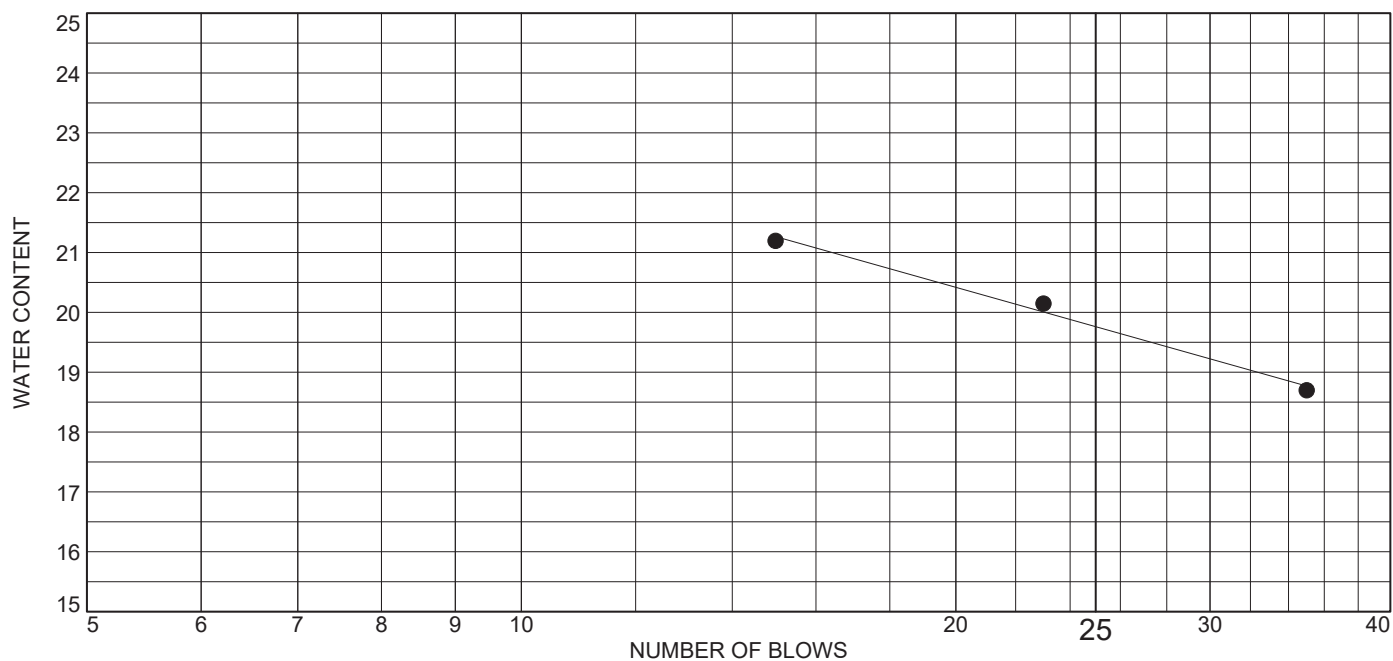
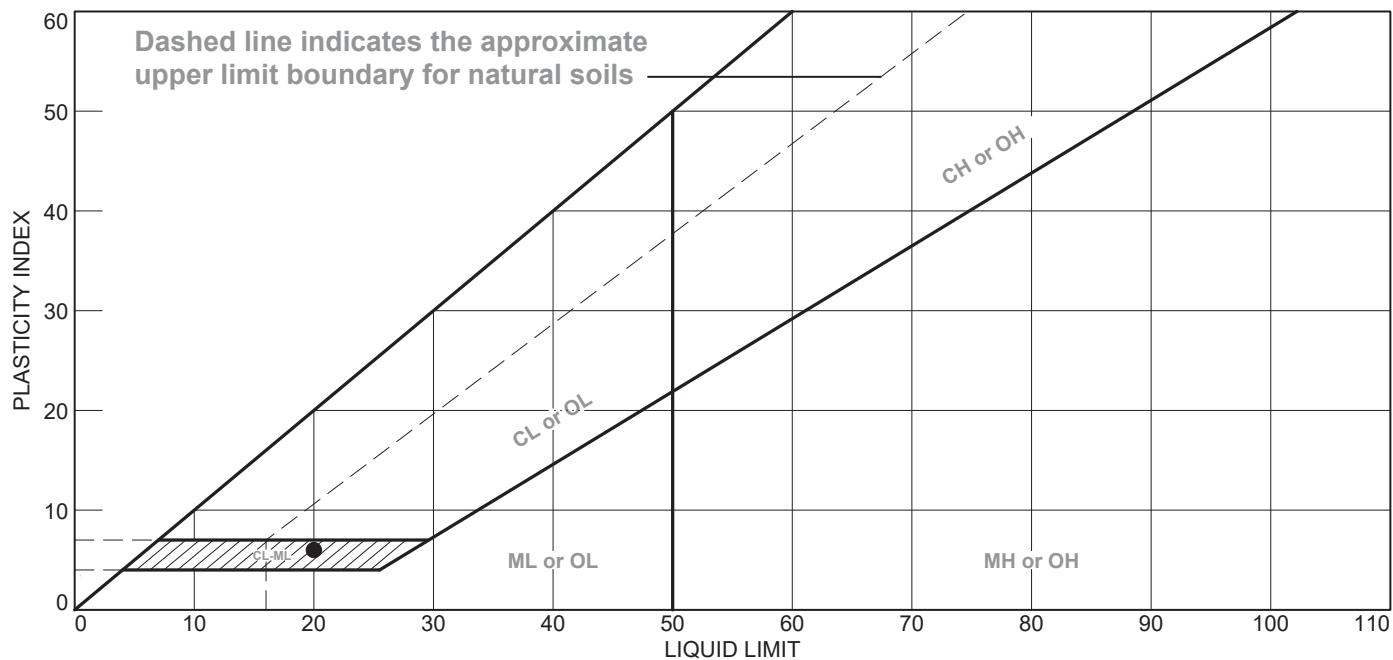
Figure

Tested By: DT

Checked By: WPQ



# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● GRAY AND BROWN SANDY SILTY CLAY	20	14	6	96.1	57.6	CL-ML

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.

**Project:** NEWTON POWER STATION

**Source of Sample:** SB-300      **Depth:** 62.5'-63.0'

**Sample Number:** 0920

**Remarks:**

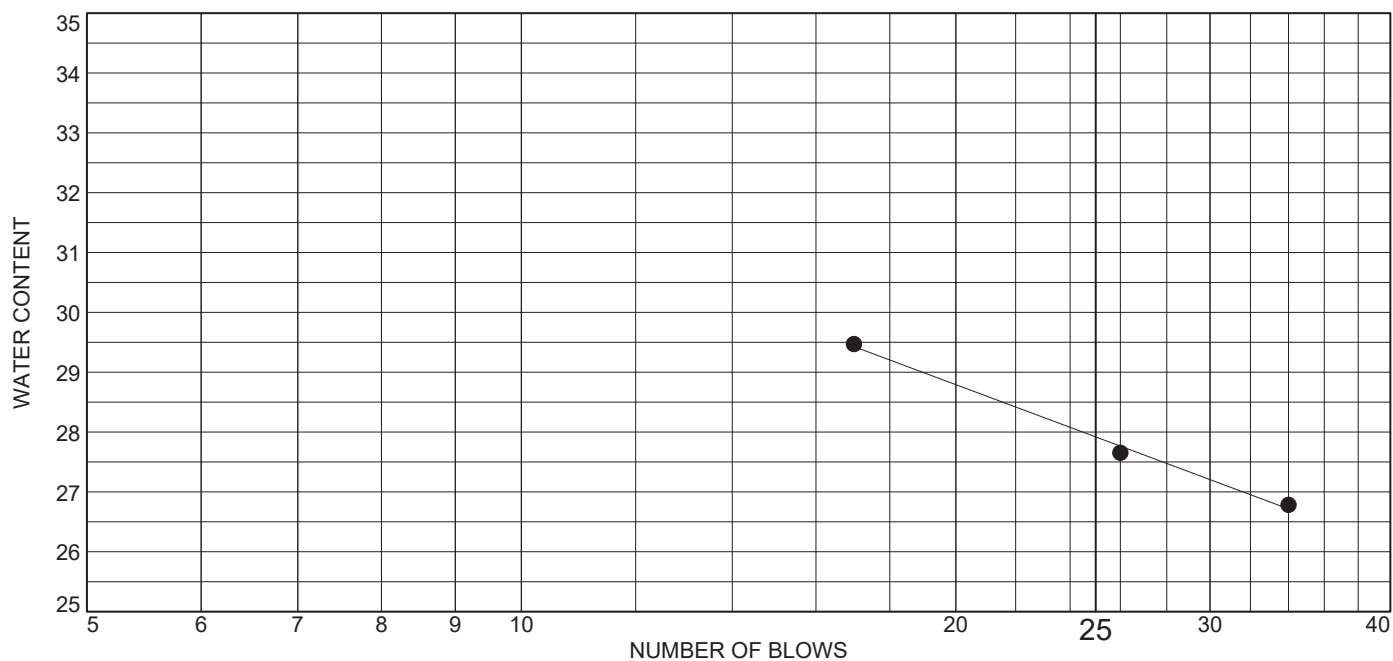
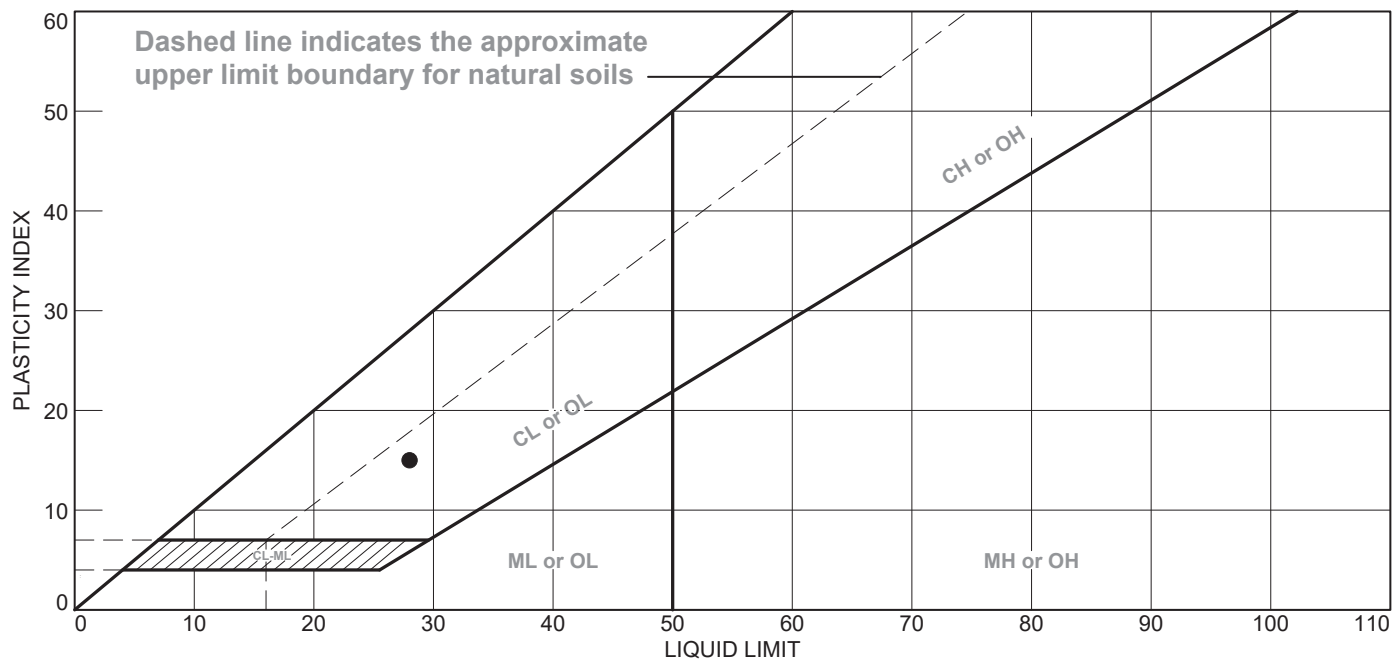


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
• DARK GRAY SANDY LEAN CLAY	28	13	15	91.6	69.3	CL

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.

**Project:** NEWTON POWER STATION

**Source of Sample:** SB-300      **Depth:** 105.0'-107.0'

**Sample Number:** 1350

**Remarks:**

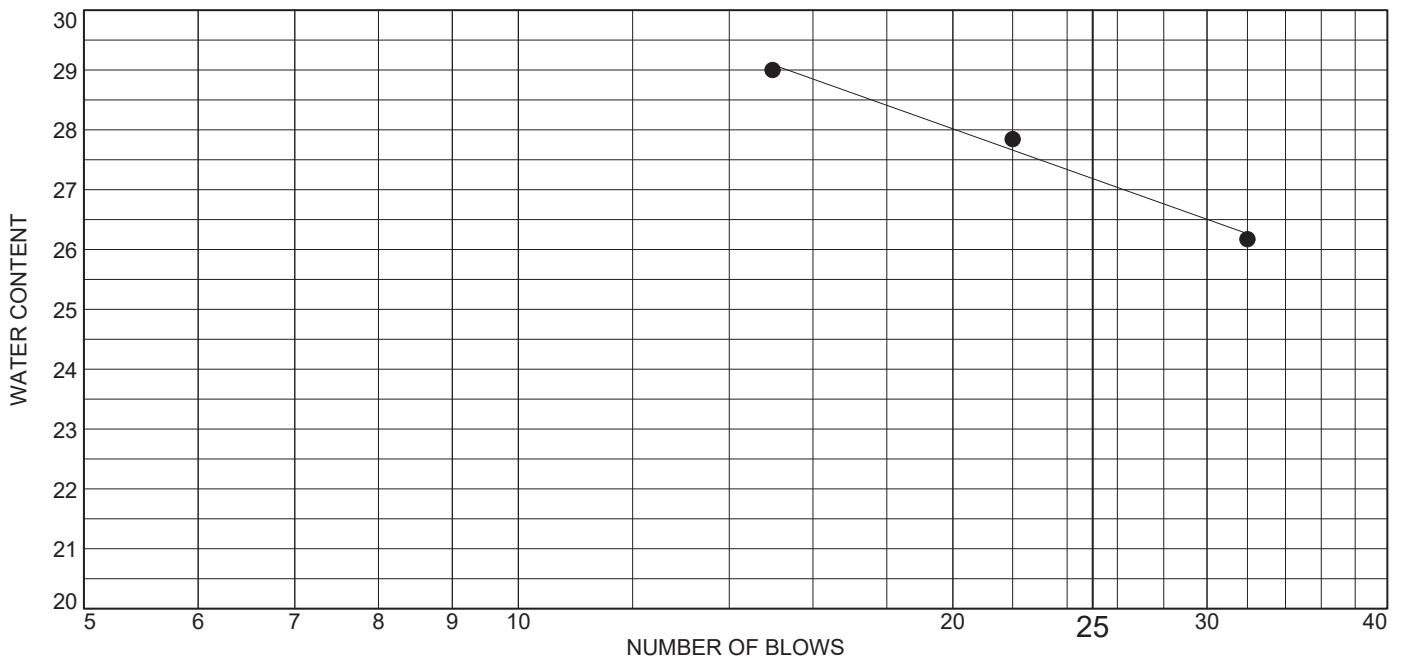
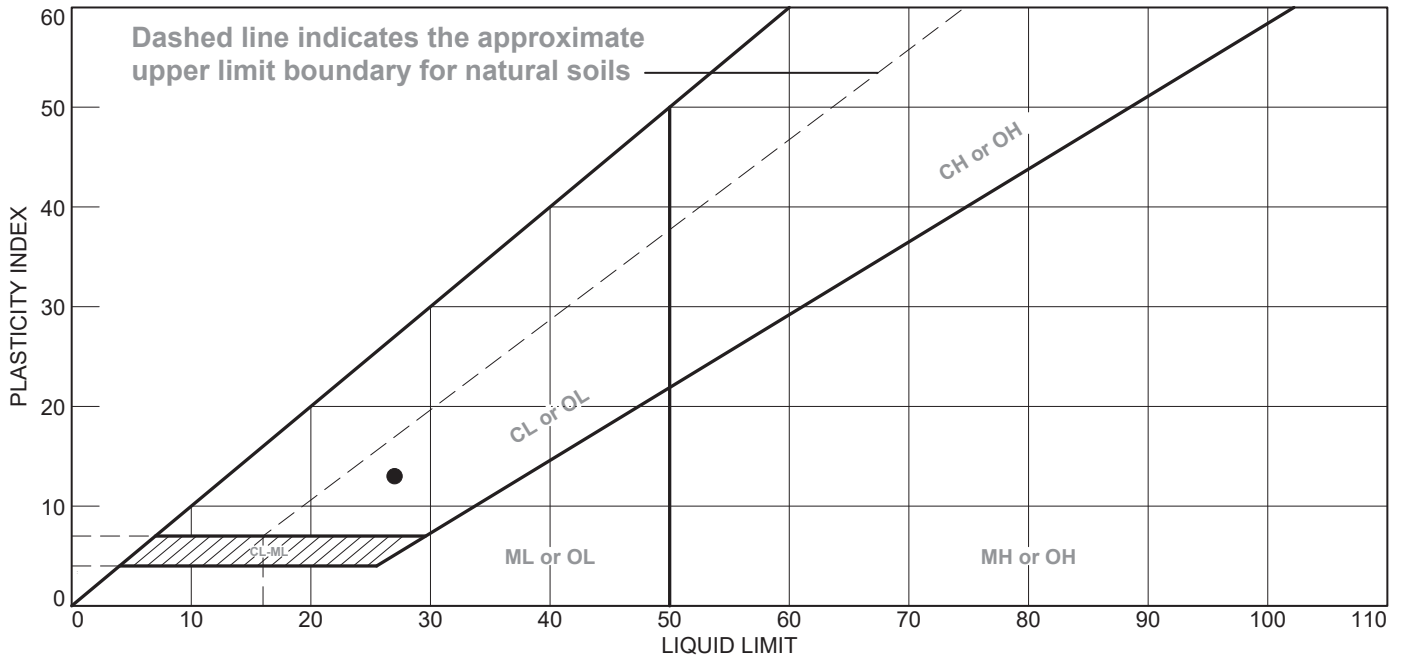


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
• BROWN AND GRAY SANDY LEAN CLAY	27	14	13	86.0	65.4	CL

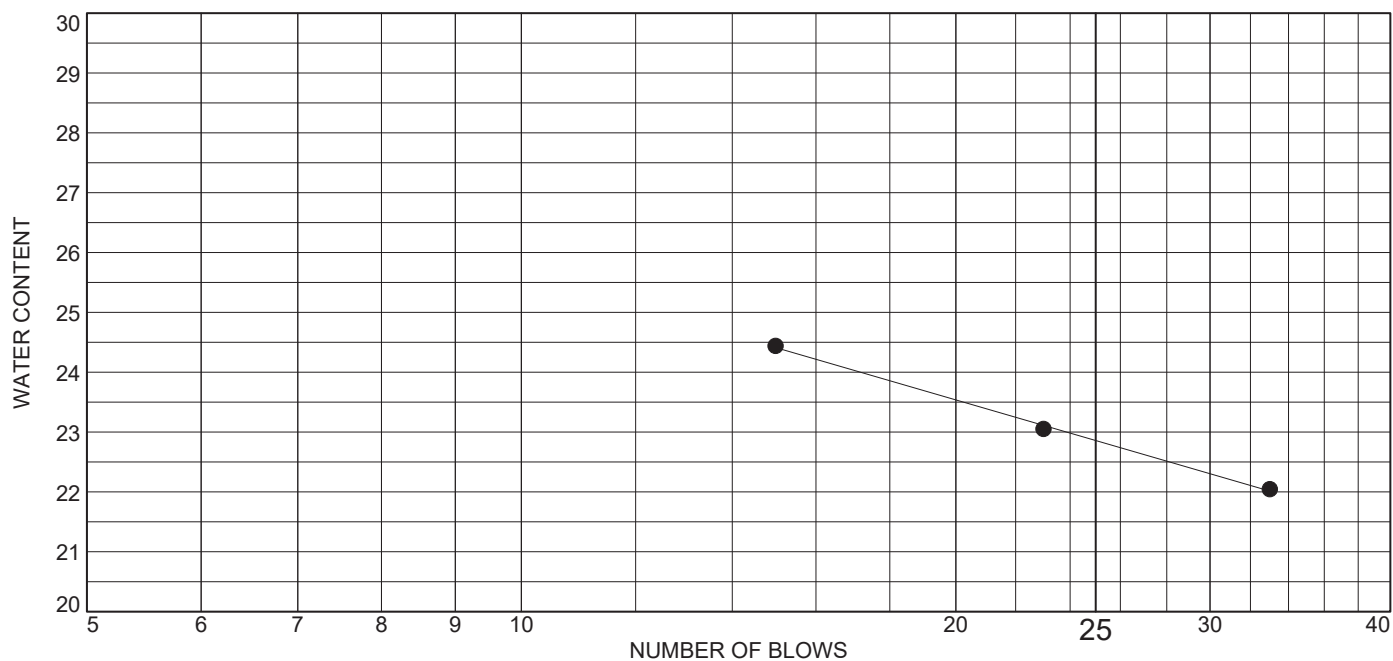
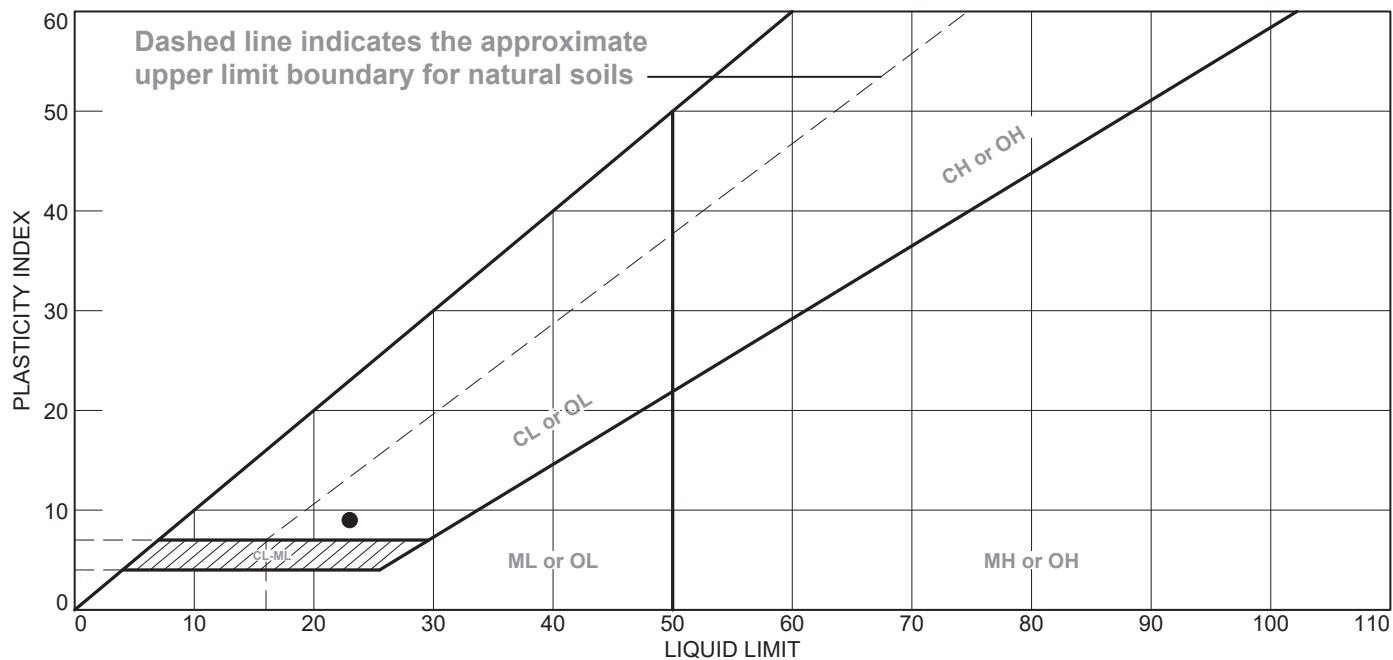
**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.  
**Project:** NEWTON POWER STATION  
**Source of Sample:** SB-301      **Depth:** 48.0'-50.0'  
**Sample Number:** 1330

**Remarks:**

**Figure**



# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● GRAY SANDY LEAN CLAY	23	14	9	92.5	68.7	CL

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.

**Project:** NEWTON POWER STATION

**Source of Sample:** SB-301      **Depth:** 68.5'-69.0'

**Sample Number:** 1600

**Remarks:**

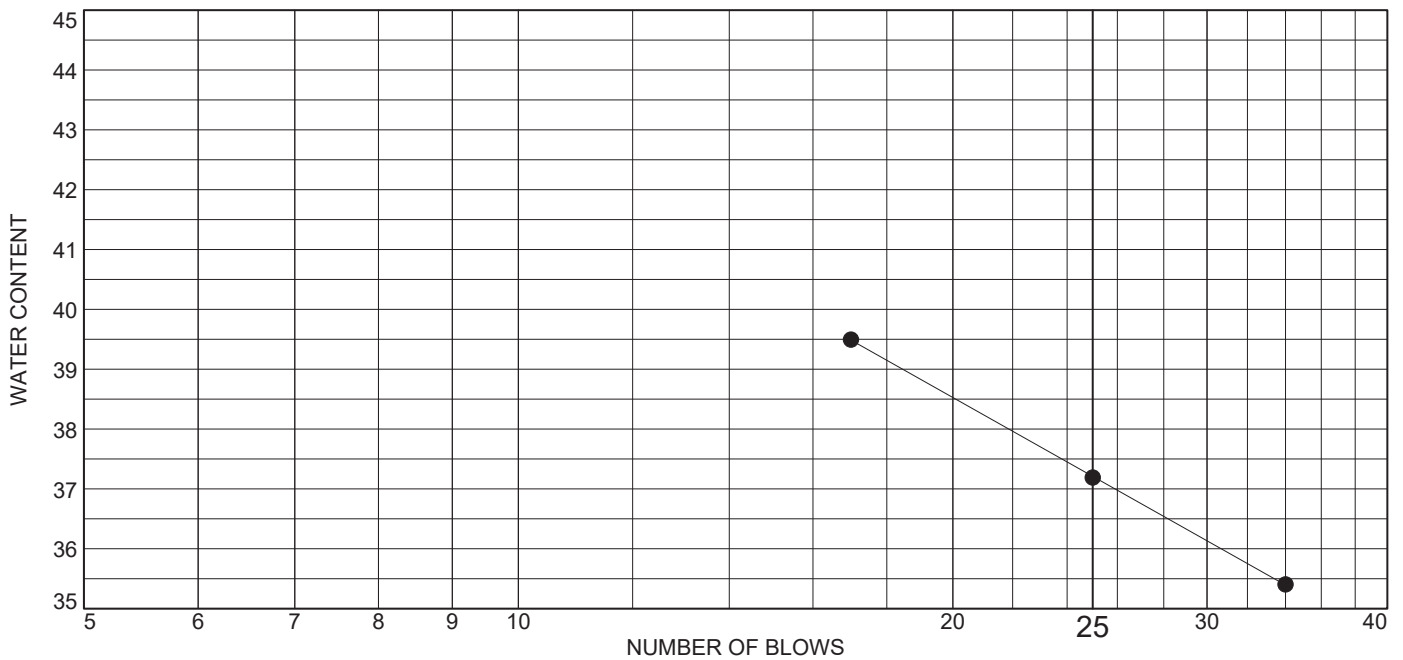
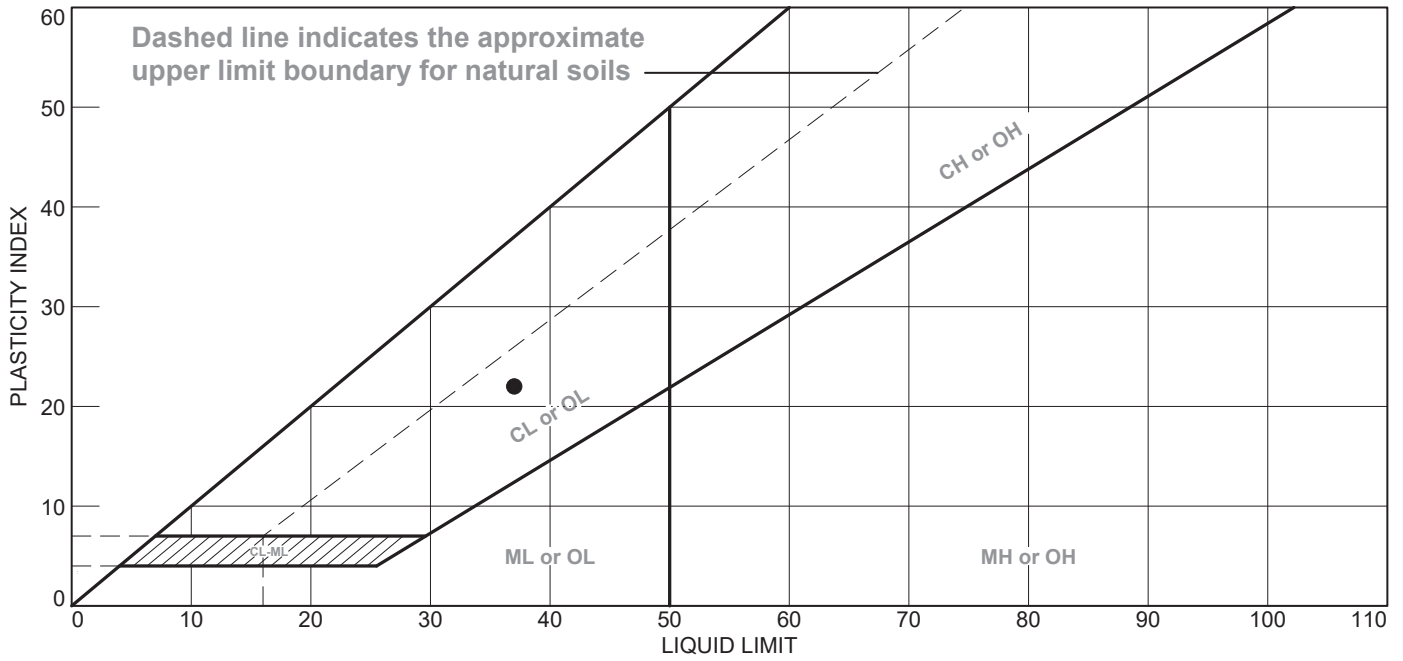


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● DARK BROWN TO DARK GRAY LEAN CLAY WITH SAND	37	15	22	97.0	82.2	CL

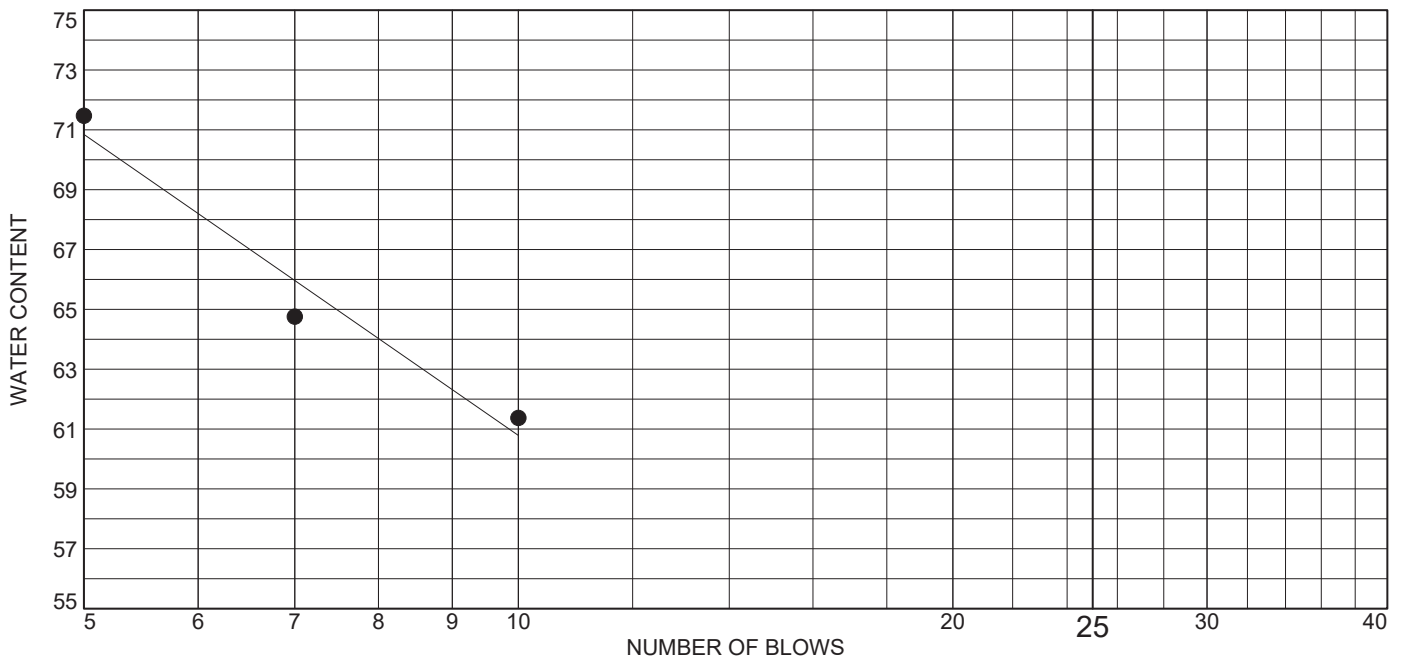
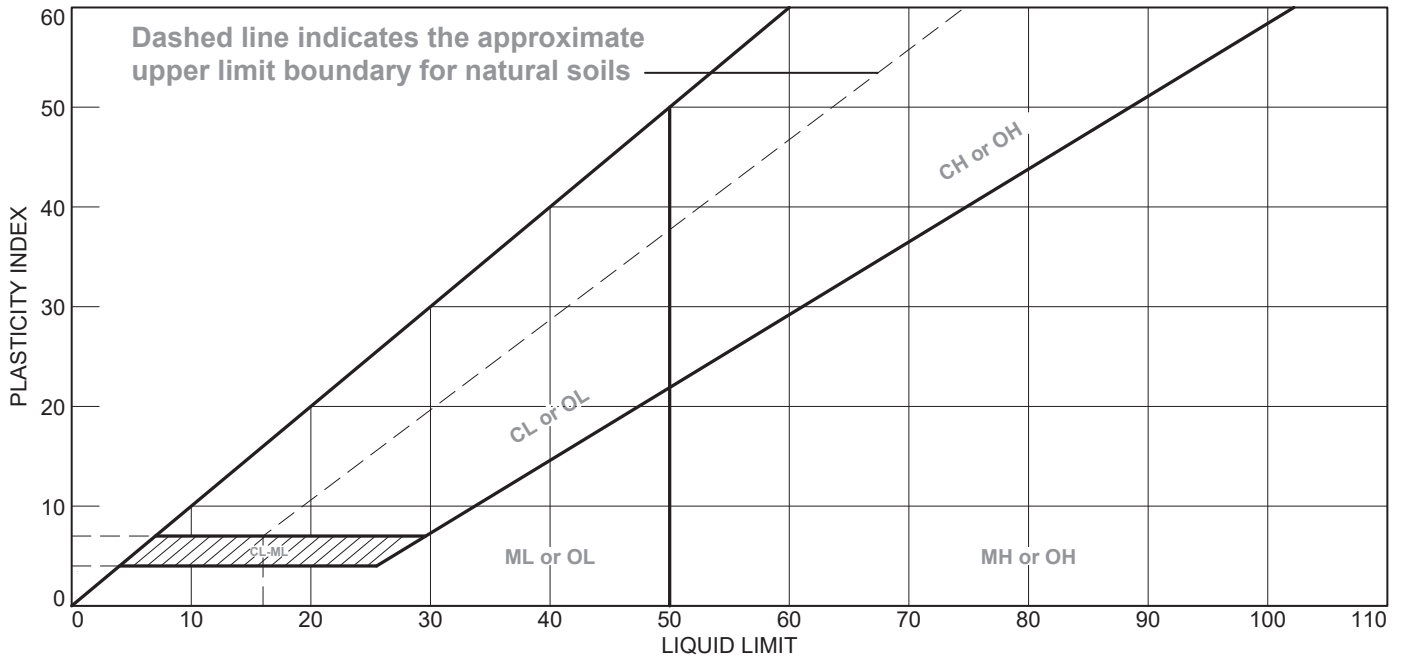
**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.  
**Project:** NEWTON POWER STATION  
**Source of Sample:** SB-301      **Depth:** 98.0'-100.0'  
**Sample Number:** 0946

**Remarks:**



Figure

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
• DARK GRAY AND BROWN POORLY GRADED SAND WITH SILT AND GRAVEL	47	57	NP	22.3	11.8	SP-SM

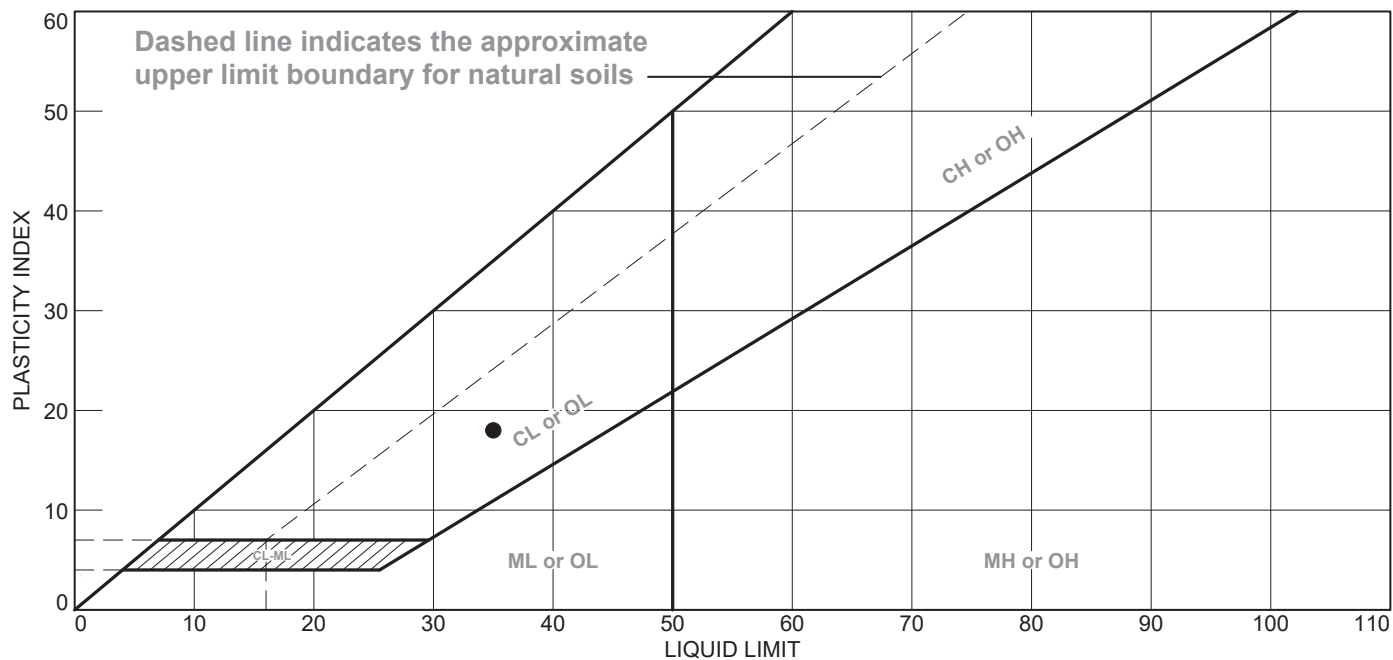
**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.  
**Project:** NEWTON POWER STATION  
**Source of Sample:** XPW-01      **Depth:** 8.5'-9.0'  
**Sample Number:** 0820

**Remarks:**



Figure

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● GRAY AND BROWN SANDY LEAN CLAY	35	17	18	81.1	61.3	CL

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.

**Project:** NEWTON POWER STATION

**Source of Sample:** XPW-01      **Depth:** 15.5'-16.0'

**Sample Number:** 0840

**Remarks:**

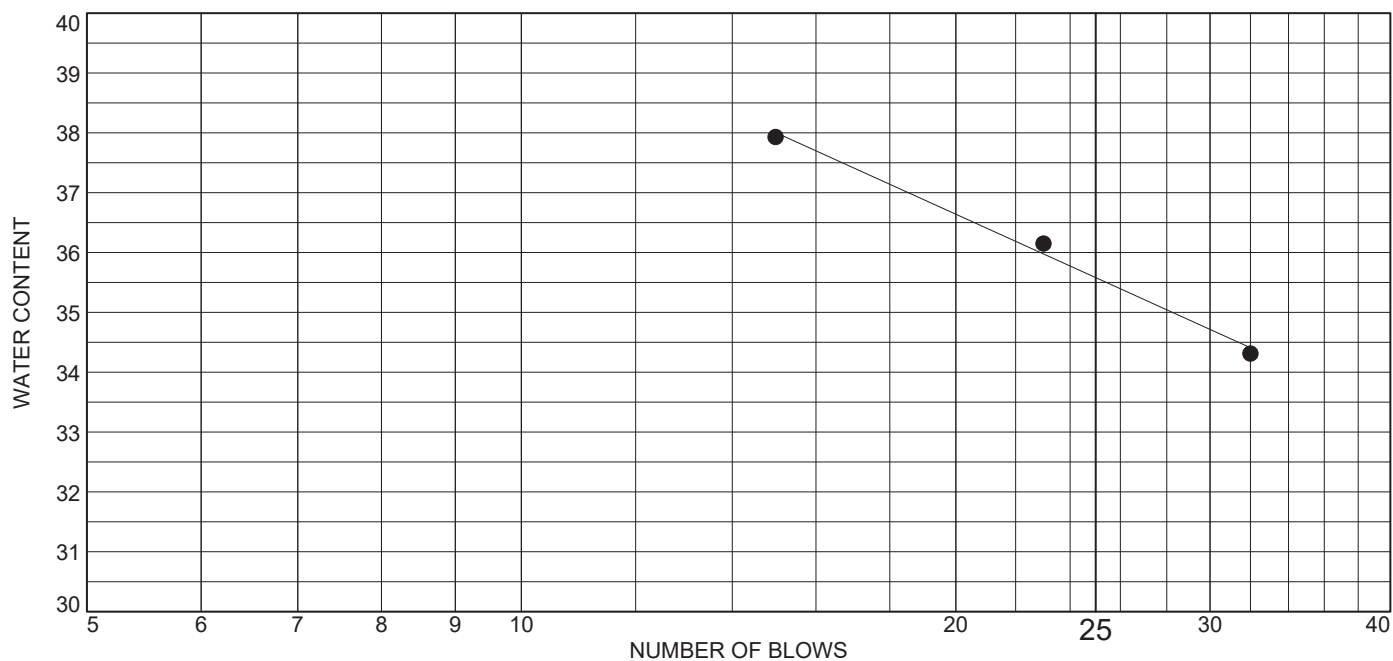
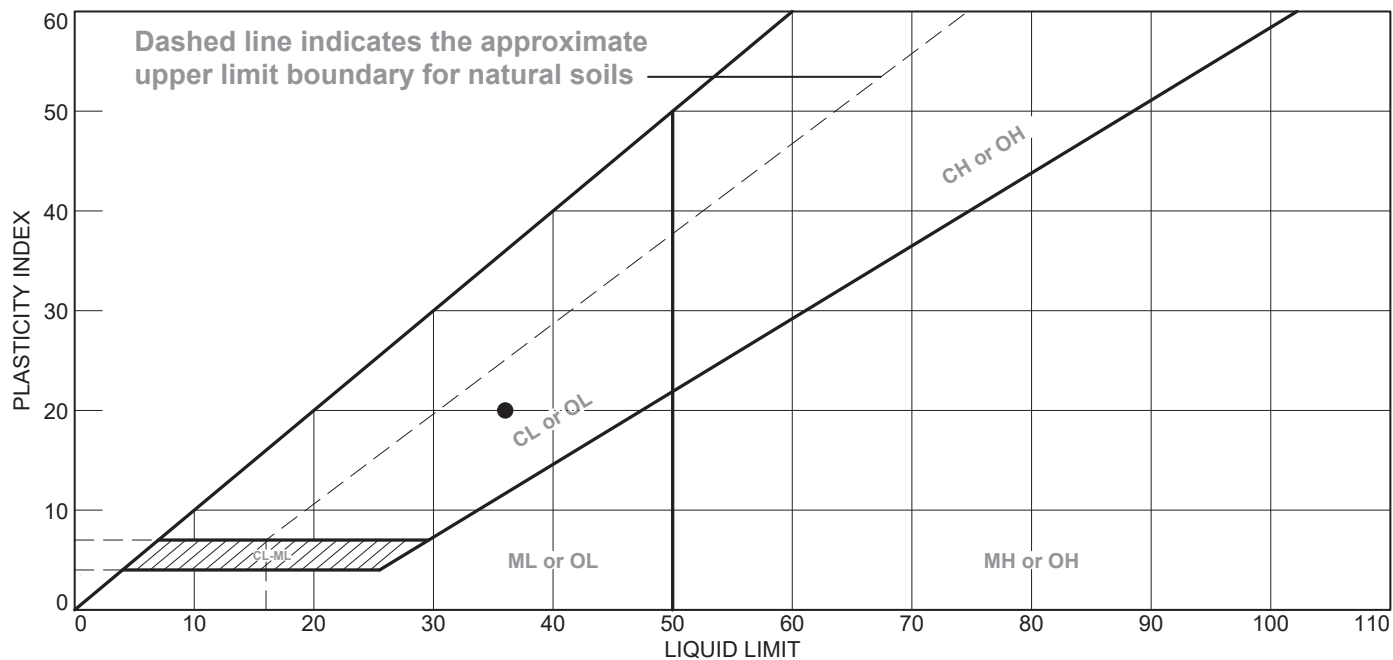


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
• VERY DARK GRAY, GRAY AND BROWN SANDY LEAN CLAY	36	16	20	81.8	54.9	CL

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.

**Project:** NEWTON POWER STATION

**Source of Sample:** XPW-02      **Depth:** 8.0'-8.5'

**Sample Number:** 1530

**Remarks:**



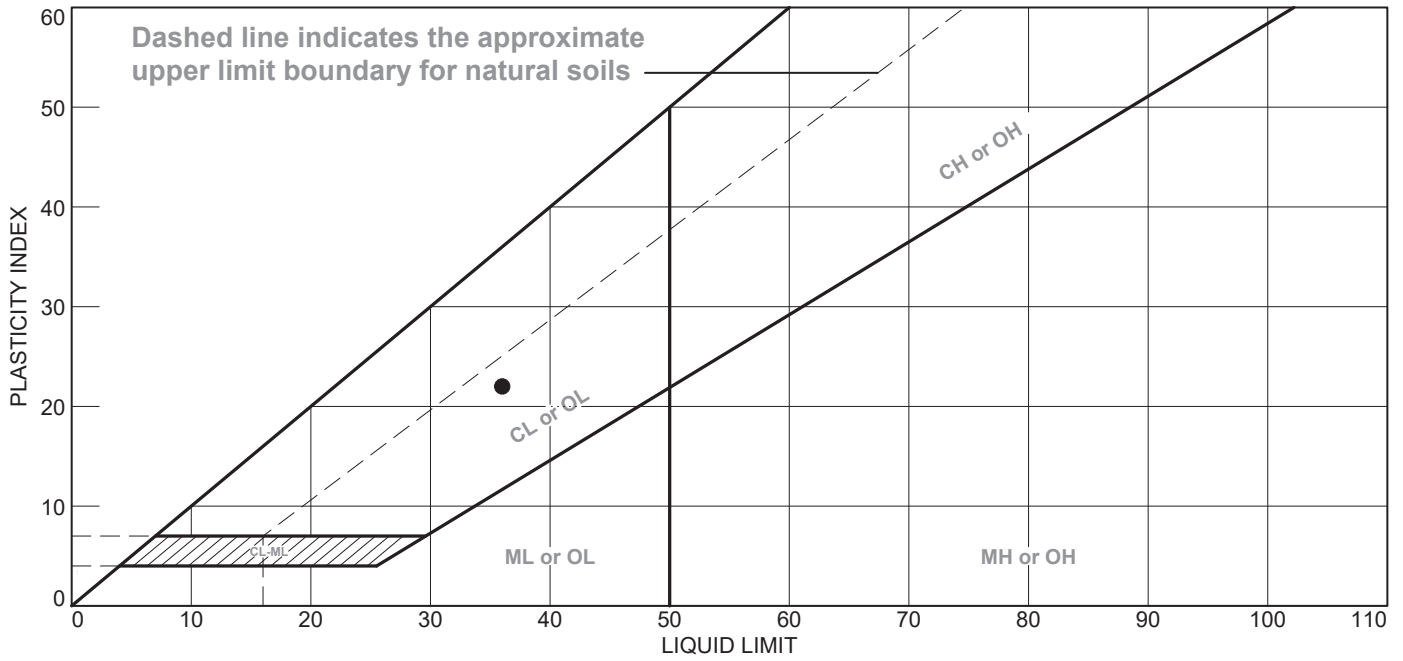
Figure

Tested By: DT

Checked By: WPQ



# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
GRAY AND DARK BROWN LEAN CLAY WITH SAND	36	14	22	96.3	80.2	CL

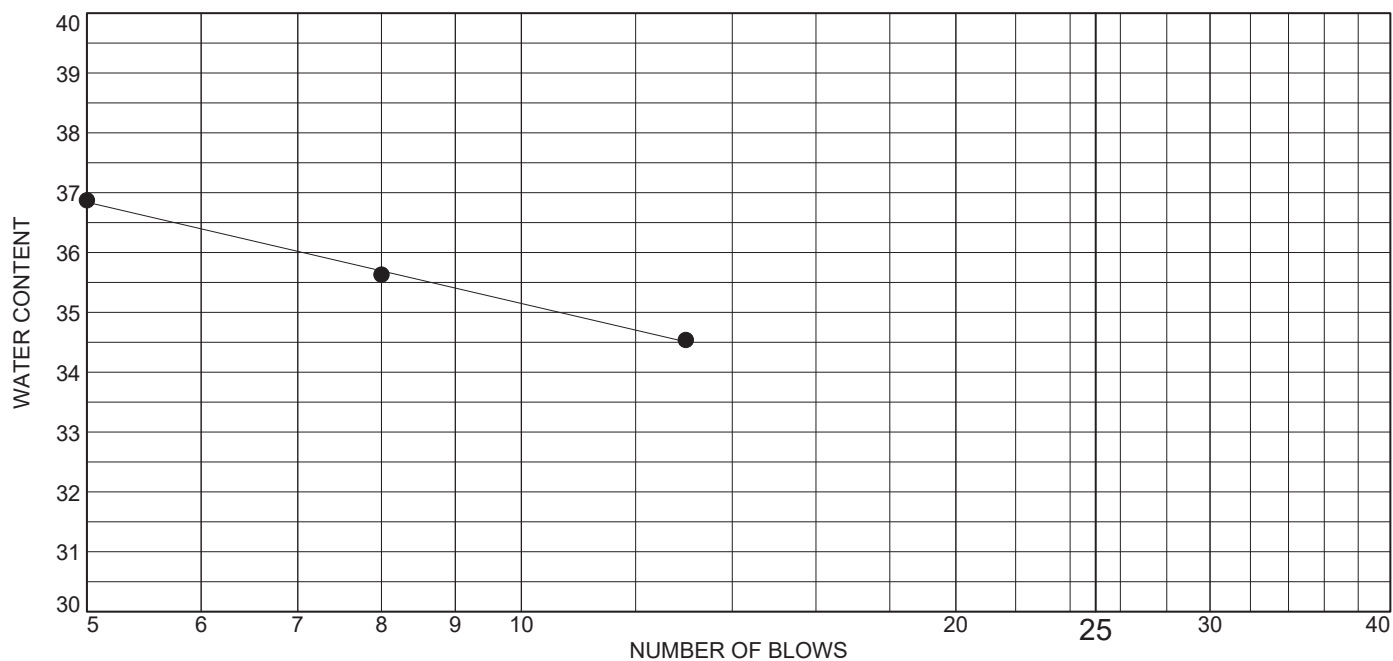
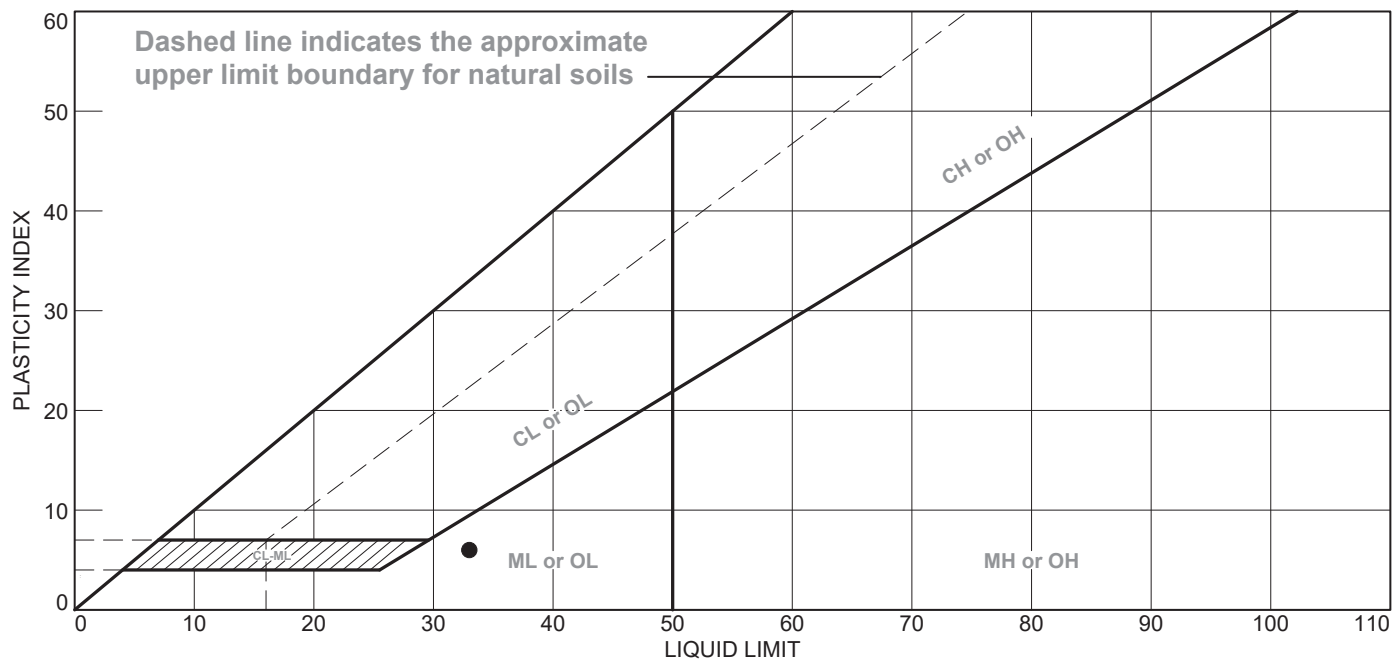
**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.  
**Project:** NEWTON POWER STATION  
**Source of Sample:** XPW-02      **Depth:** 16.5'-17.0'  
**Sample Number:** 1545

**Remarks:**



Figure

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
• DARK BROWNISH GRAY SILTY SAND	33	27	6	46.6	21.5	SM

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.

**Project:** NEWTON POWER STATION

**Source of Sample:** XPW-03      **Depth:** 6.0'-6.5'

**Sample Number:** 1355

**Remarks:**

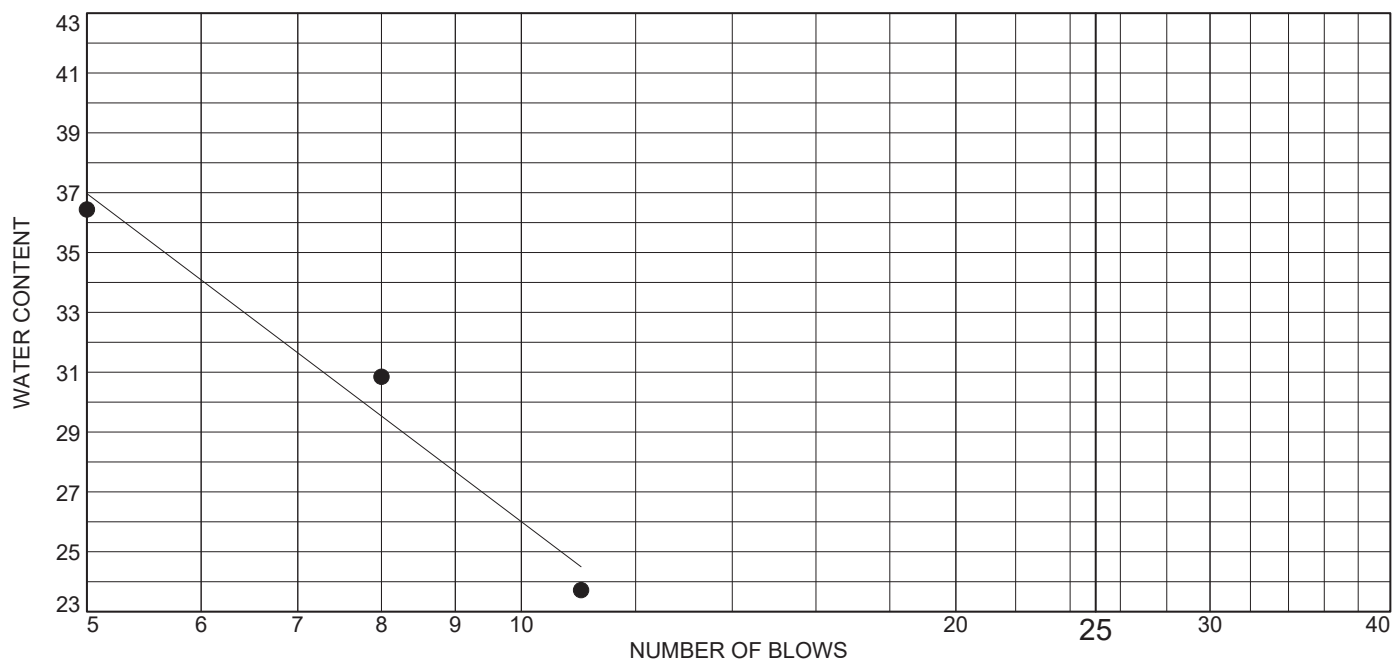
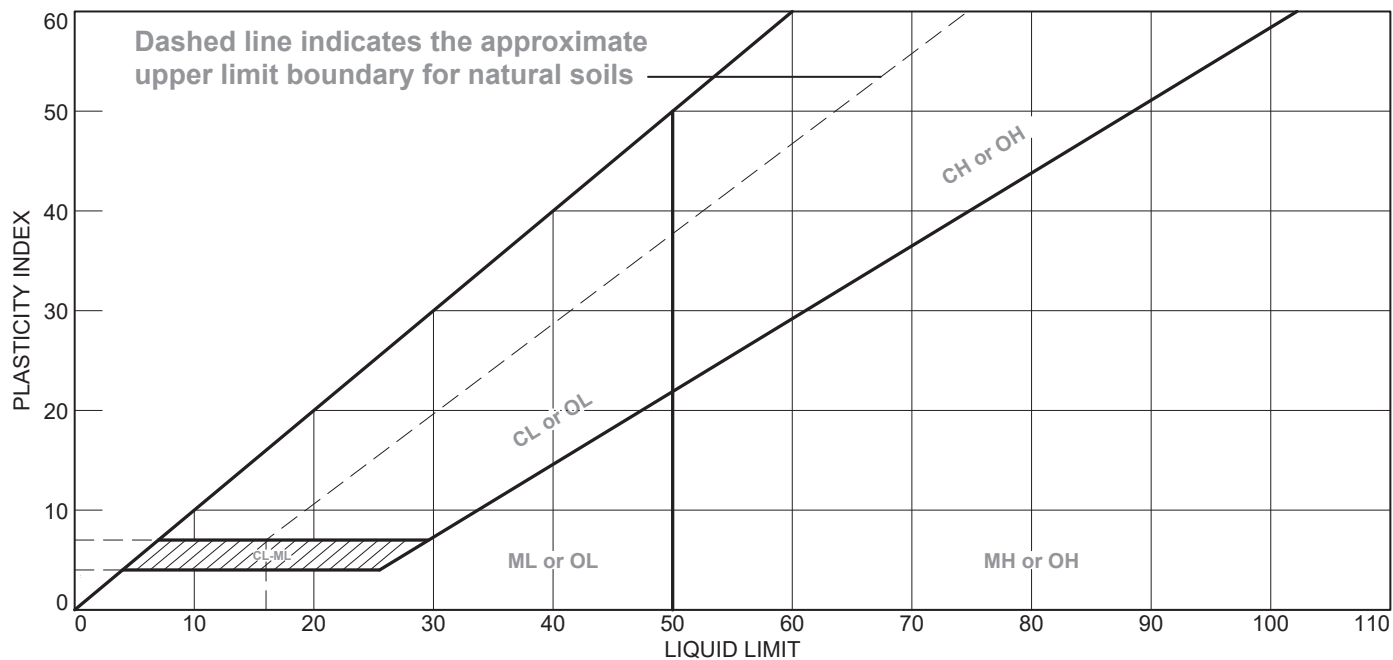


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
• BROWNISH GRAY SILTY SAND WITH GRAVEL	12	19	NP	46.1	16.3	SM

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.  
**Project:** NEWTON POWER STATION  
**Source of Sample:** XPW-03      **Depth:** 15.5'-16.0'  
**Sample Number:** 1315

**Remarks:**

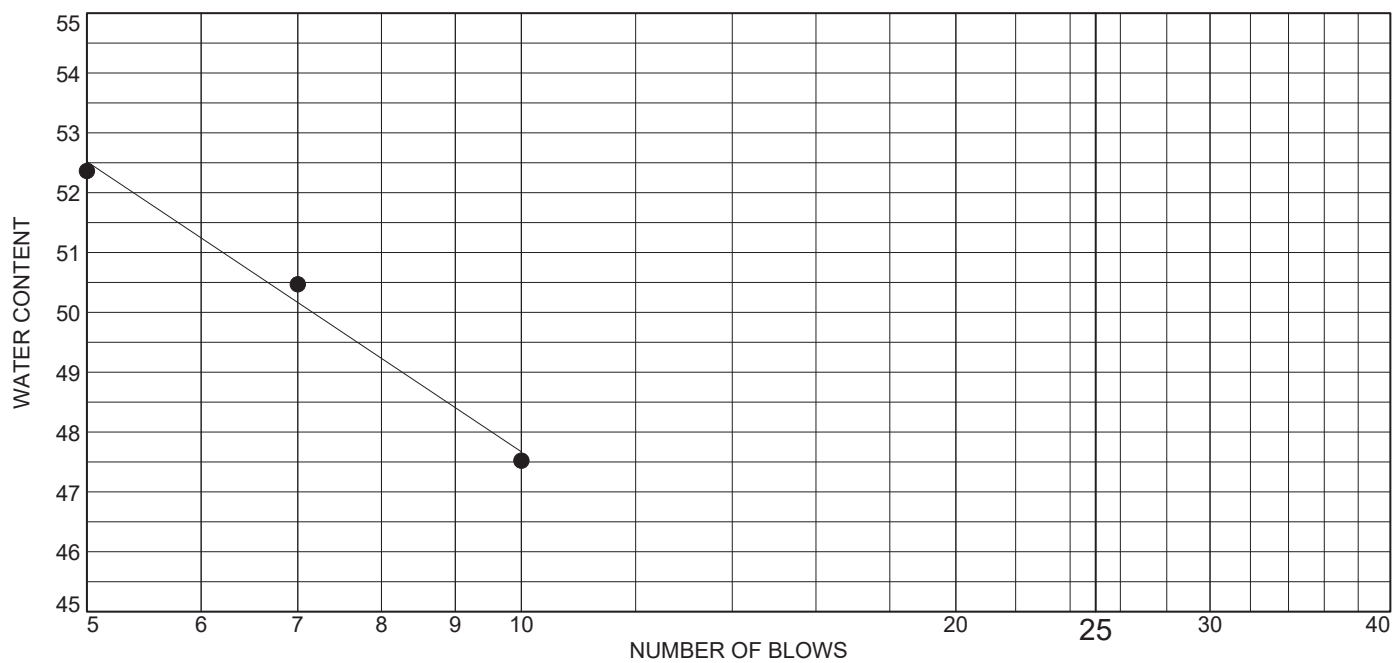
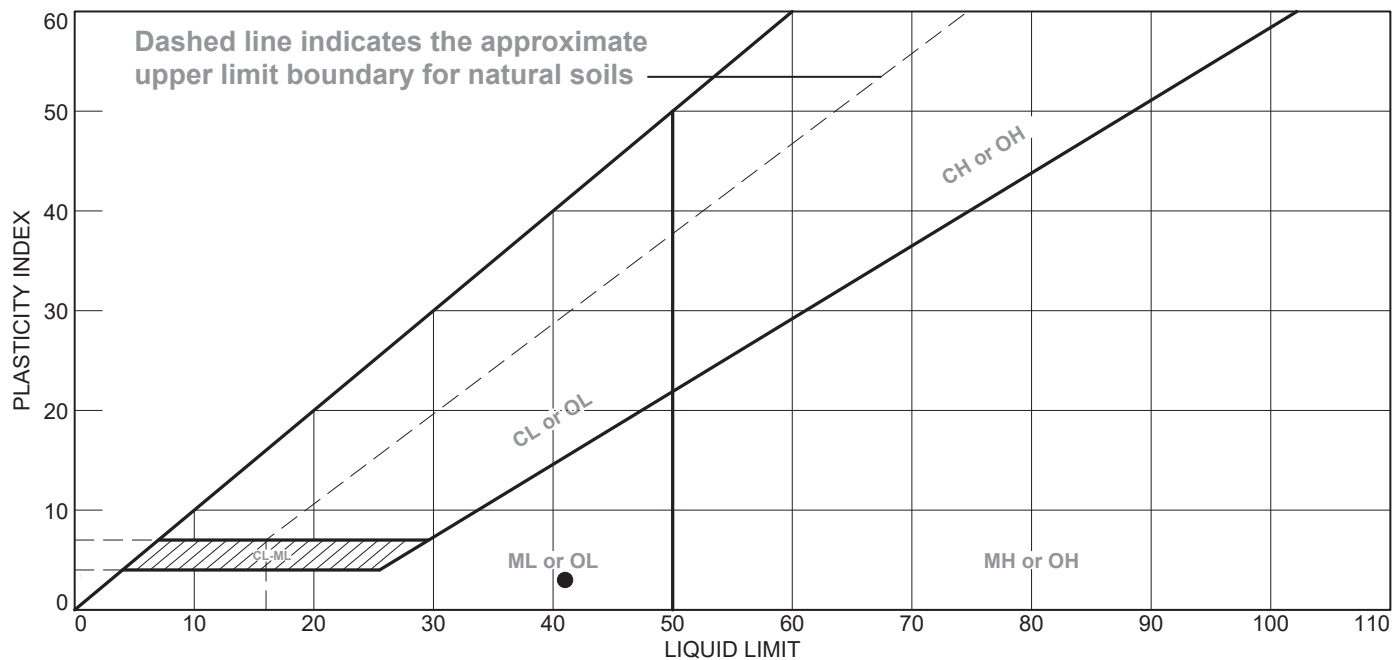


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
● GRAY SILTY SAND	41	38	3	28.5	13.9	SM

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.

**Project:** NEWTON POWER STATION

**Source of Sample:** XPW-04      **Depth:** 6.5'-7.0'

**Sample Number:** 1000

**Remarks:**

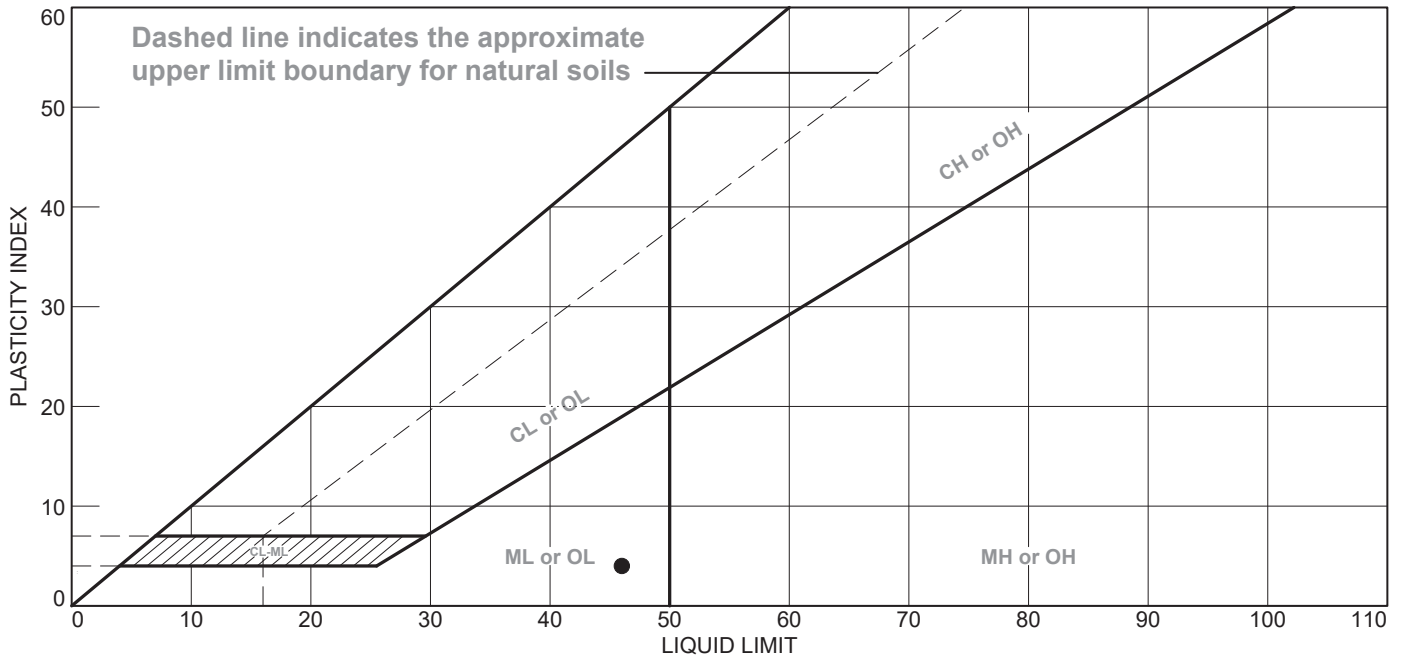


Figure

Tested By: DT

Checked By: WPQ

# LIQUID AND PLASTIC LIMITS ASTM D4318



MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
DARK BROWNISH GRAY SILTY SAND WITH GRAVEL	46	42	4	45.5	33.3	SM

**Project No.** 11215019      **Client:** RAMBOLL ENVIRON US CORP.  
**Project:** NEWTON POWER STATION  
**Source of Sample:** XPW-04      **Depth:** 15.5'-16.0'  
**Sample Number:** 1020

**Remarks:**

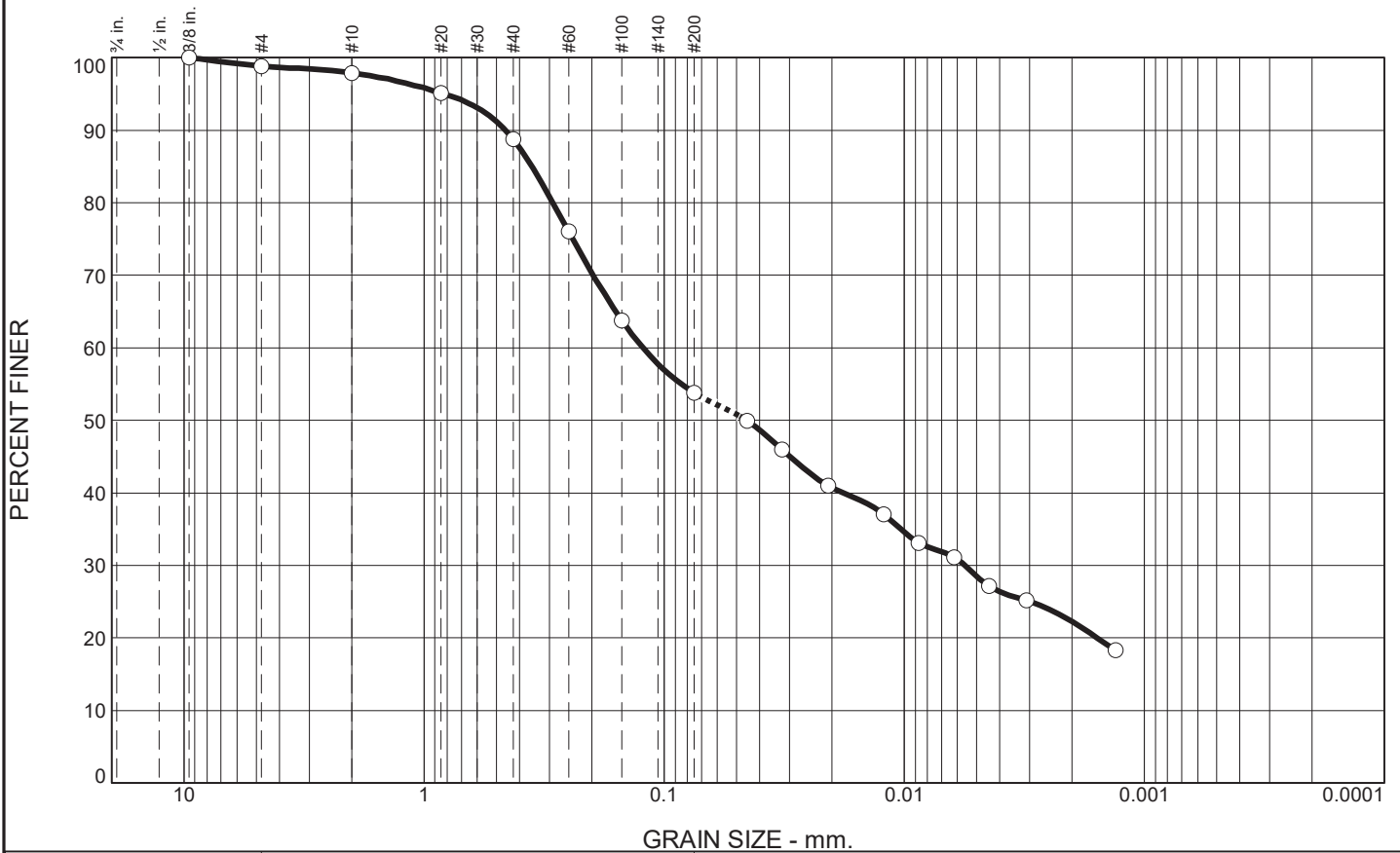


Figure

Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis  
ASTM D6913

Particle-Size Distribution (Gradation) of Fine-Grained Soils  
Using the Sedimentation (Hydrometer) Analysis  
ASTM D7928

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	1.1	1.0	9.2	34.9	25.2	28.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	98.9		
#10	97.9		
#20	95.1		
#40	88.7		
#60	76.0		
#100	63.8		
#200	53.8		
0.0450 mm.	49.9		
0.0323 mm.	46.0		
0.0208 mm.	41.0		
0.0122 mm.	37.1		
0.0087 mm.	33.1		
0.0062 mm.	31.1		
0.0044 mm.	27.2		
0.0031 mm.	25.2		
0.0013 mm.	18.3		

**Soil Description**  
BROWN SANDY LEAN CLAY

**Atterberg Limits**  
 PL= 12      LL= 28      PI= 16

**Coefficients**  
 D<sub>90</sub>= 0.4588      D<sub>85</sub>= 0.3552      D<sub>60</sub>= 0.1224  
 D<sub>50</sub>= 0.0454      D<sub>30</sub>= 0.0056      D<sub>15</sub>=  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= CL                      AASHTO= A-6(5)

**Remarks**  
 F.M.=0.69

\* (no specification provided)

Source of Sample: APW-11  
 Sample Number: 0805

Depth: 10.0'-12.0'

Date: 3-30-21



Client: RAMBOLL ENVIRON US CORP.  
 Project: NEWTON POWER STATION

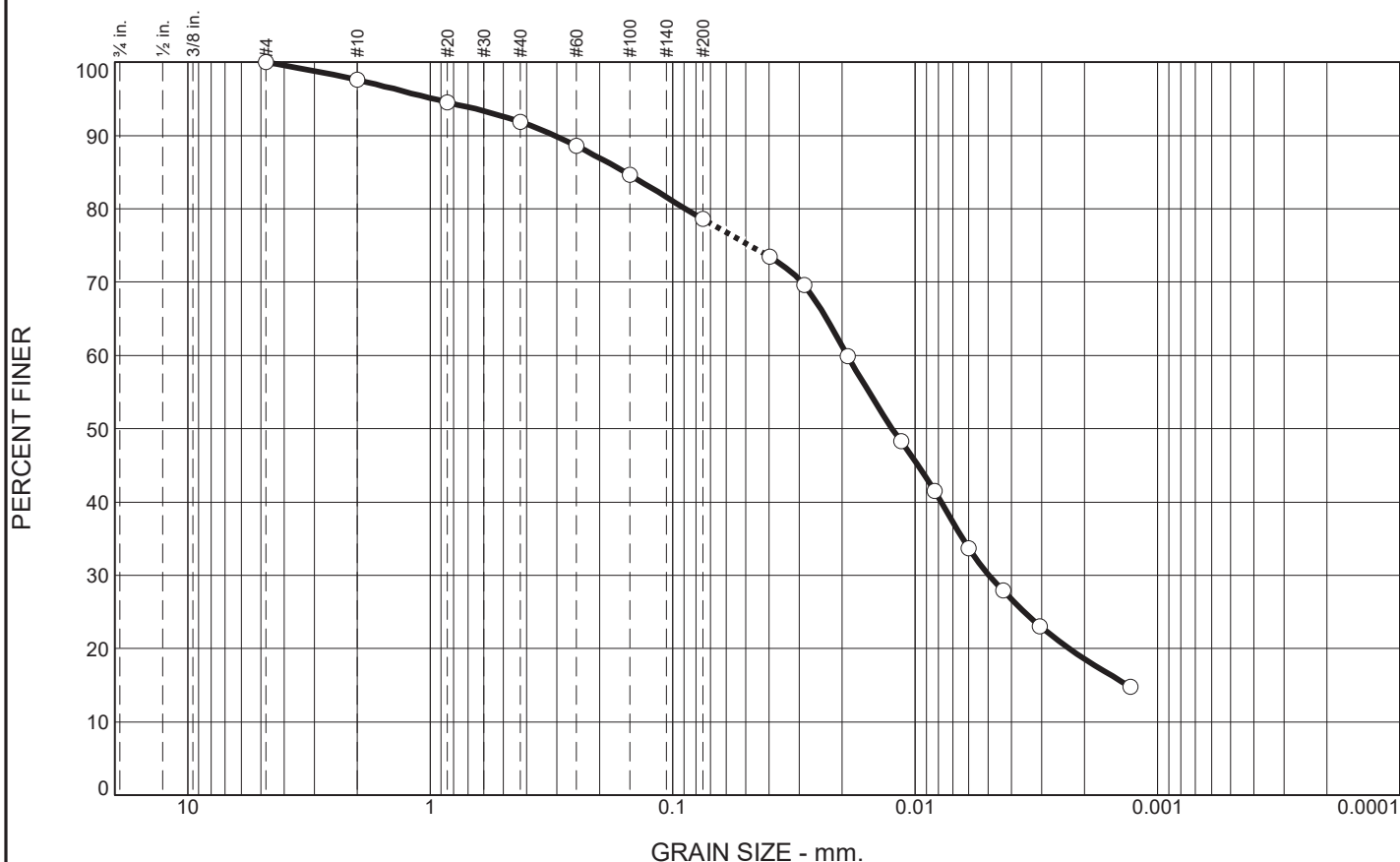
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.4	5.7	13.3	48.4	30.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	97.6		
#20	94.5		
#40	91.9		
#60	88.6		
#100	84.6		
#200	78.6		
0.0399 mm.	73.4		
0.0287 mm.	69.6		
0.0189 mm.	59.9		
0.0114 mm.	48.2		
0.0083 mm.	41.5		
0.0060 mm.	33.7		
0.0043 mm.	27.9		
0.0031 mm.	23.1		
0.0013 mm.	14.8		

\* (no specification provided)

**Soil Description**  
GRAYISH BROWN LEAN CLAY WITH SAND

**Atterberg Limits**  
 PL= 18      LL= 27      PI= 9

**Coefficients**  
 D<sub>90</sub>= 0.3070      D<sub>85</sub>= 0.1573      D<sub>60</sub>= 0.0190  
 D<sub>50</sub>= 0.0124      D<sub>30</sub>= 0.0050      D<sub>15</sub>= 0.0013  
 D<sub>10</sub>=              C<sub>u</sub>=              C<sub>c</sub>=

**Classification**  
 USCS= CL      AASHTO= A-4(5)

**Remarks**  
 F.M.=0.38

Source of Sample: APW-11  
 Sample Number: 1050

Depth: 61.0'-61.5'

Date: 3-16-21



Client: RAMBOLL ENVIRON US CORP.  
 Project: NEWTON POWER STATION

Project No: 11215019

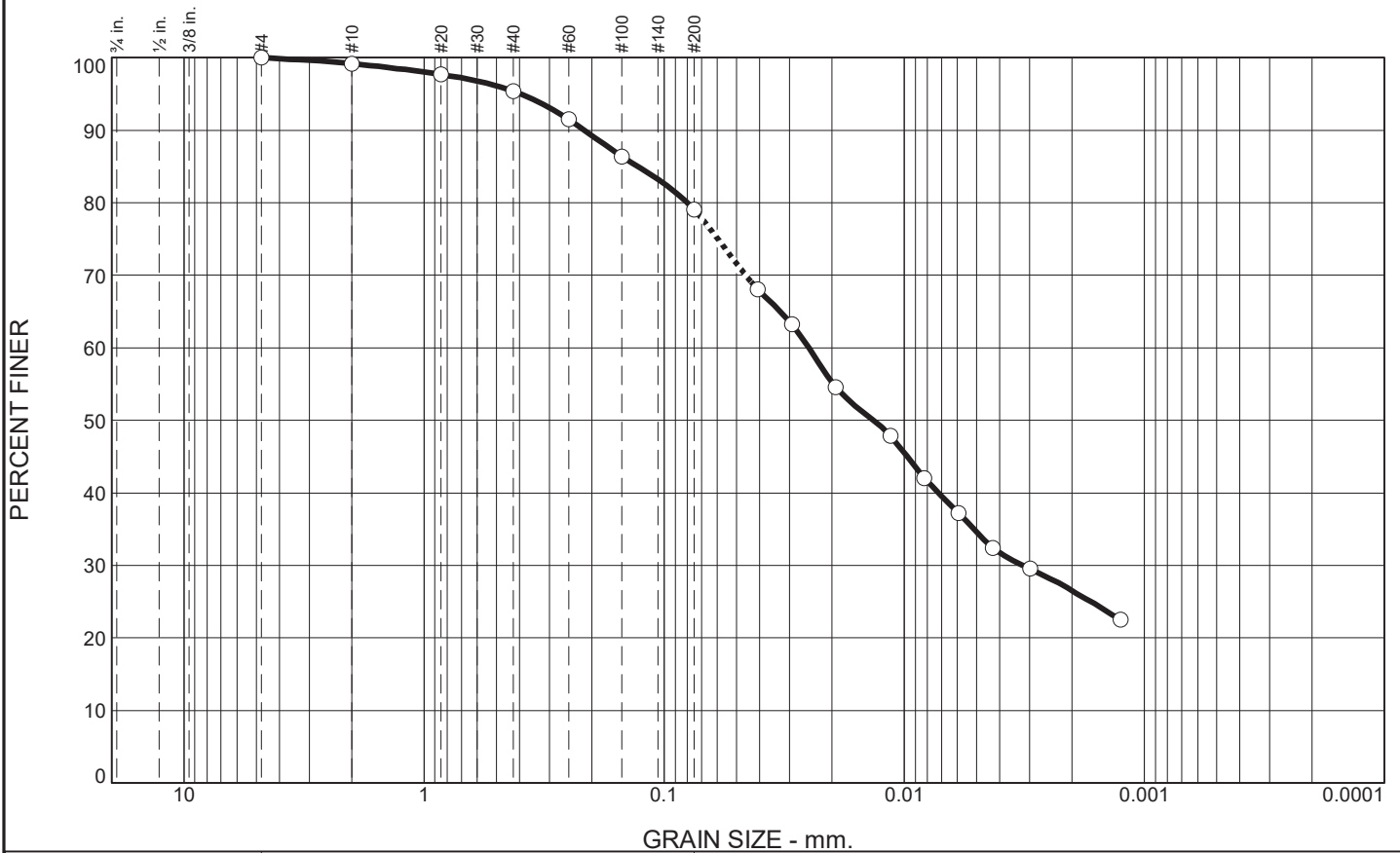
Figure

Tested By: SJH

Checked By: WPQ



# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.8	3.8	16.4	44.4	34.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.2		
#20	97.7		
#40	95.4		
#60	91.5		
#100	86.4		
#200	79.0		
0.0407 mm.	68.1		
0.0294 mm.	63.3		
0.0193 mm.	54.6		
0.0114 mm.	47.8		
0.0082 mm.	42.1		
0.0059 mm.	37.2		
0.0043 mm.	32.4		
0.0030 mm.	29.5		
0.0013 mm.	22.5		

\* (no specification provided)

**Soil Description**  
DARK GRAY LEAN CLAY WITH SAND

**Atterberg Limits**  
 PL= 14      LL= 32      PI= 18

**Coefficients**  
 D<sub>90</sub>= 0.2146      D<sub>85</sub>= 0.1293      D<sub>60</sub>= 0.0250  
 D<sub>50</sub>= 0.0135      D<sub>30</sub>= 0.0032      D<sub>15</sub>=  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= CL                      AASHTO= A-6(12)

**Remarks**  
 F.M.=0.26

Source of Sample: APW-11  
Sample Number: 1115

Depth: 80.0'-82.0'

Date: 3-2-21



Client: RAMBOLL ENVIRON US CORP.  
Project: NEWTON POWER STATION

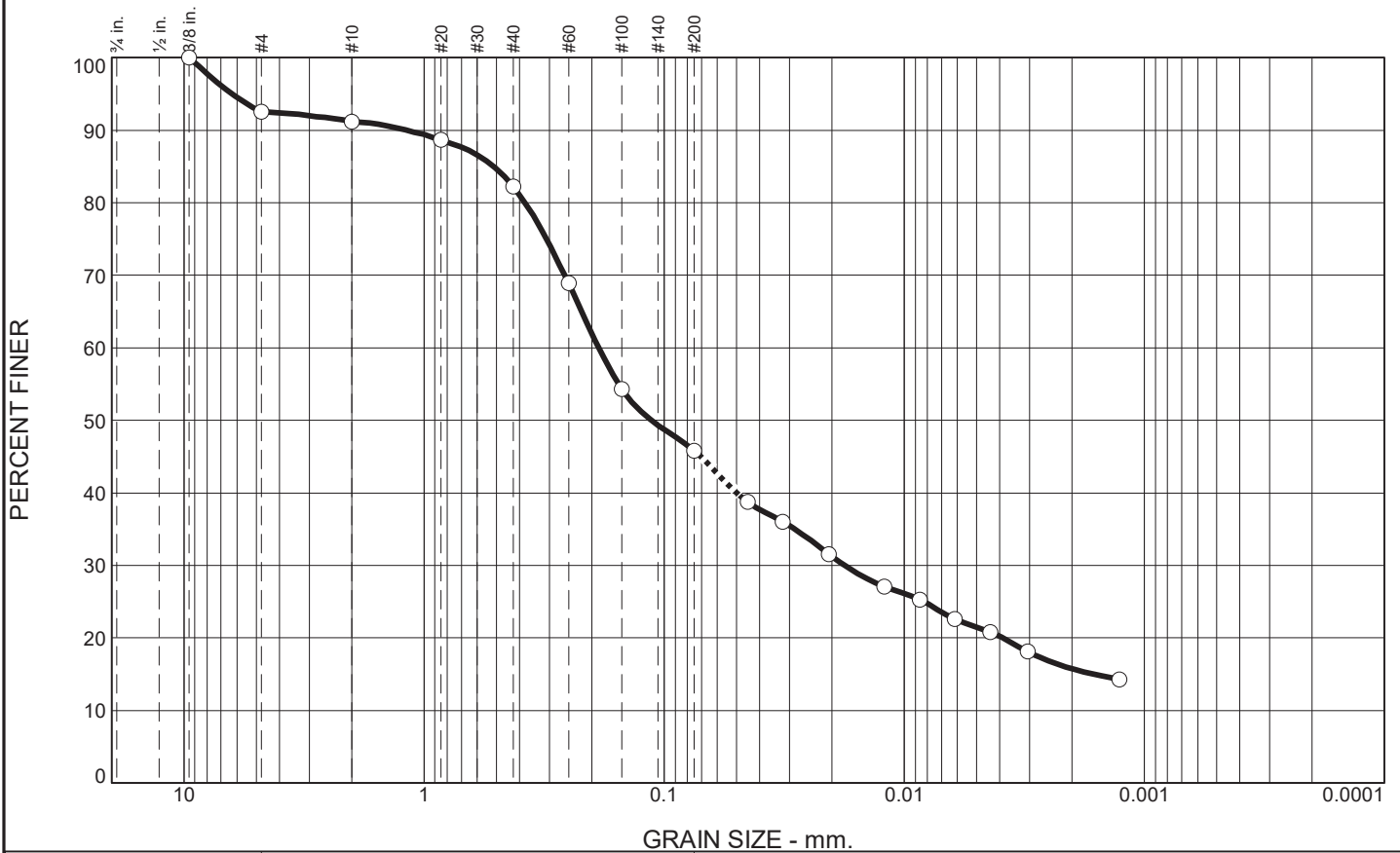
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	7.4	1.4	8.9	36.5	24.3	21.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	92.6		
#10	91.2		
#20	88.7		
#40	82.3		
#60	68.9		
#100	54.3		
#200	45.8		
0.0449 mm.	38.7		
0.0321 mm.	36.0		
0.0206 mm.	31.5		
0.0121 mm.	27.1		
0.0086 mm.	25.3		
0.0061 mm.	22.6		
0.0044 mm.	20.8		
0.0031 mm.	18.1		
0.0013 mm.	14.3		

**Soil Description**  
BROWN AND RUST BROWN CLAYEY SAND - ROOTS NOTED

**Atterberg Limits**  
 PL= 12      LL= 27      PI= 15

**Coefficients**  
 D<sub>90</sub>= 1.1757      D<sub>85</sub>= 0.5121      D<sub>60</sub>= 0.1872  
 D<sub>50</sub>= 0.1131      D<sub>30</sub>= 0.0177      D<sub>15</sub>= 0.0016  
 D<sub>10</sub>=              C<sub>u</sub>=              C<sub>c</sub>=

**Classification**  
 USCS= SC      AASHTO= A-6(3)

**Remarks**  
 F.M.=1.11

\* (no specification provided)

Source of Sample: APW-12  
 Sample Number: 0825

Depth: 20.0'-22.0'

Date: 2-26-21



Client: RAMBOLL ENVIRON US CORP.

Project: NEWTON POWER STATION

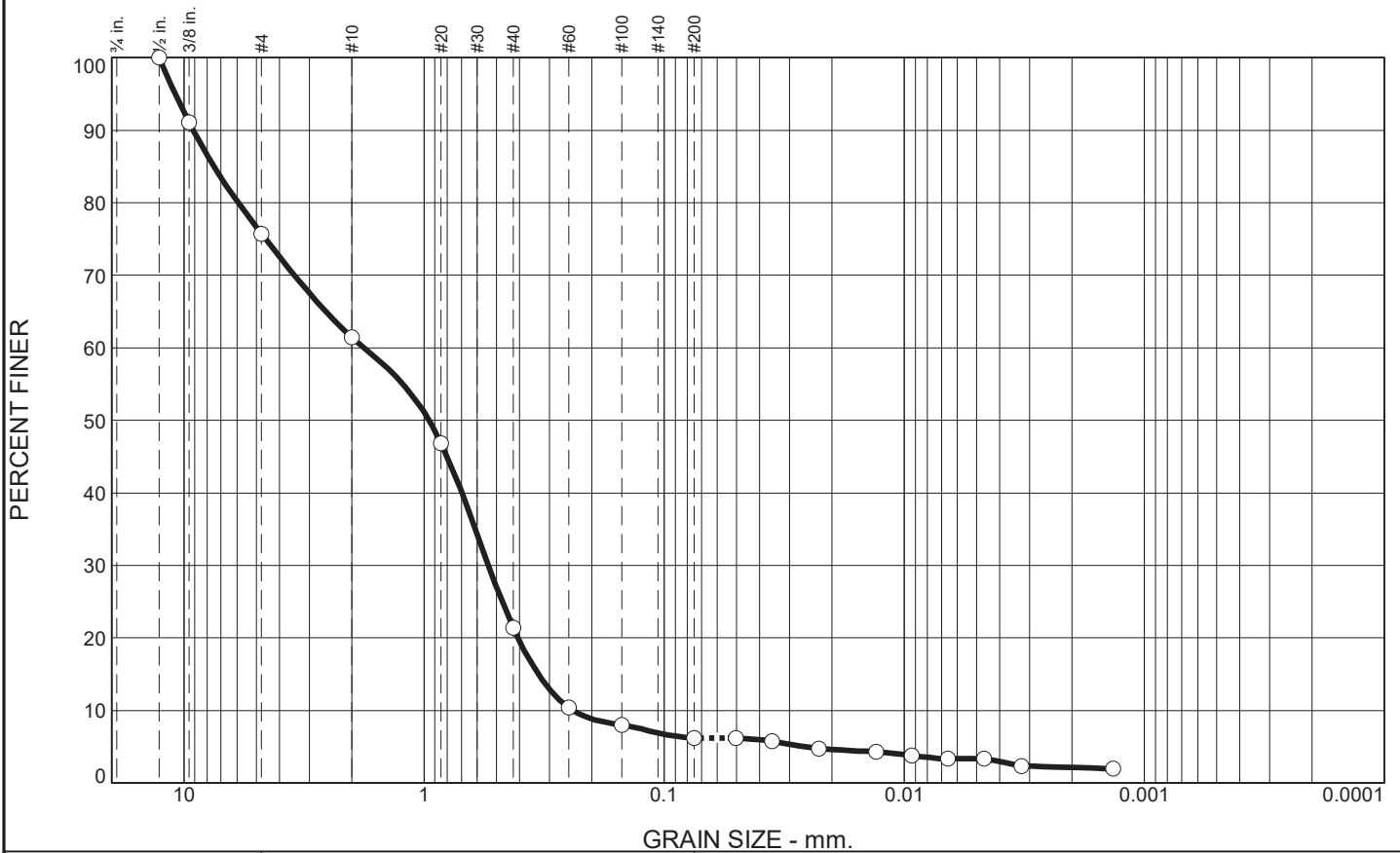
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	24.3	14.3	40.0	15.2	2.9	3.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.5	100.0		
.375	91.1		
#4	75.7		
#10	61.4		
#20	46.8		
#40	21.4		
#60	10.4		
#100	8.0		
#200	6.2		
0.0502 mm.	6.2		
0.0356 mm.	5.7		
0.0226 mm.	4.8		
0.0131 mm.	4.3		
0.0093 mm.	3.8		
0.0066 mm.	3.3		
0.0047 mm.	3.3		
0.0032 mm.	2.4		
0.0014 mm.	2.0		

\* (no specification provided)

**Soil Description**  
BROWN POORLY GRADED SAND WITH SILT AND GRAVEL

**Atterberg Limits**  
PL= 13      LL= 10      PI= NP

**Coefficients**  
D<sub>90</sub>= 9.1597      D<sub>85</sub>= 7.5109      D<sub>60</sub>= 1.7814  
D<sub>50</sub>= 0.9547      D<sub>30</sub>= 0.5391      D<sub>15</sub>= 0.3343  
D<sub>10</sub>= 0.2395      C<sub>u</sub>= 7.44      C<sub>c</sub>= 0.68

**Classification**  
USCS= SP-SM      AASHTO= A-1-b

**Remarks**  
F.M.=3.60

Source of Sample: APW-12  
Sample Number: 0845

Depth: 25.5'-26.0'

Date: 3-11-21



Client: RAMBOLL ENVIRON US CORP.

Project: NEWTON POWER STATION

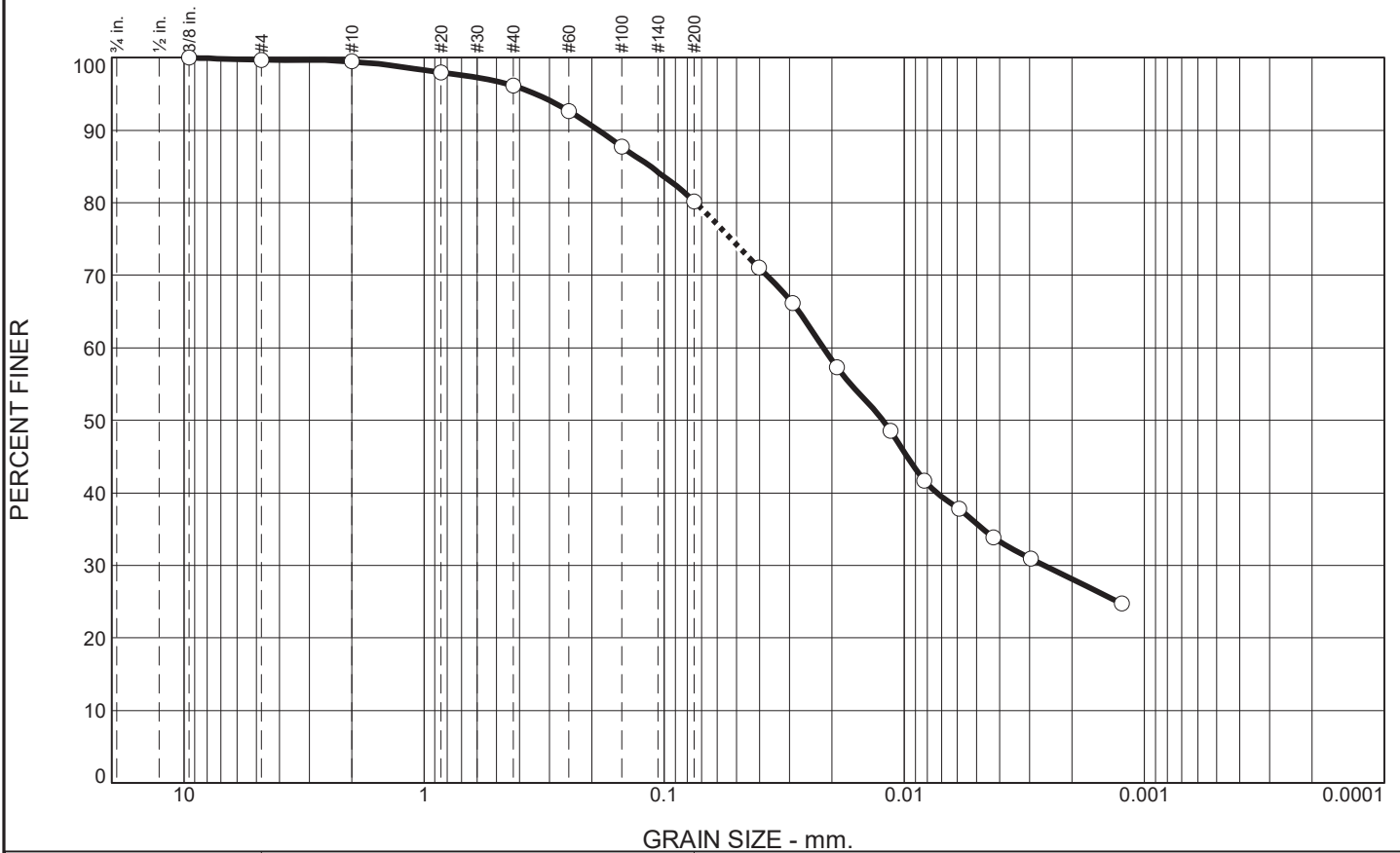
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.3	0.2	3.4	15.9	44.4	35.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.7		
#10	99.5		
#20	98.0		
#40	96.1		
#60	92.7		
#100	87.7		
#200	80.2		
0.0403 mm.	71.0		
0.0291 mm.	66.1		
0.0191 mm.	57.3		
0.0114 mm.	48.5		
0.0083 mm.	41.7		
0.0059 mm.	37.8		
0.0042 mm.	33.9		
0.0030 mm.	30.9		
0.0012 mm.	24.8		

**Soil Description**  
DARK GRAY LEAN CLAY WITH SAND - SILT POCKETS NOTED

**Atterberg Limits**  
 PL= 14      LL= 29      PI= 15

**Coefficients**  
 D<sub>90</sub>= 0.1885      D<sub>85</sub>= 0.1144      D<sub>60</sub>= 0.0217  
 D<sub>50</sub>= 0.0123      D<sub>30</sub>= 0.0026      D<sub>15</sub>=  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= CL                      AASHTO= A-6(10)

**Remarks**  
 F.M.=0.23

\* (no specification provided)

Source of Sample: APW-12  
Sample Number: 1245

Depth: 85.0'-87.0'

Date: 3-2-21



Client: RAMBOLL ENVIRON US CORP.  
Project: NEWTON POWER STATION

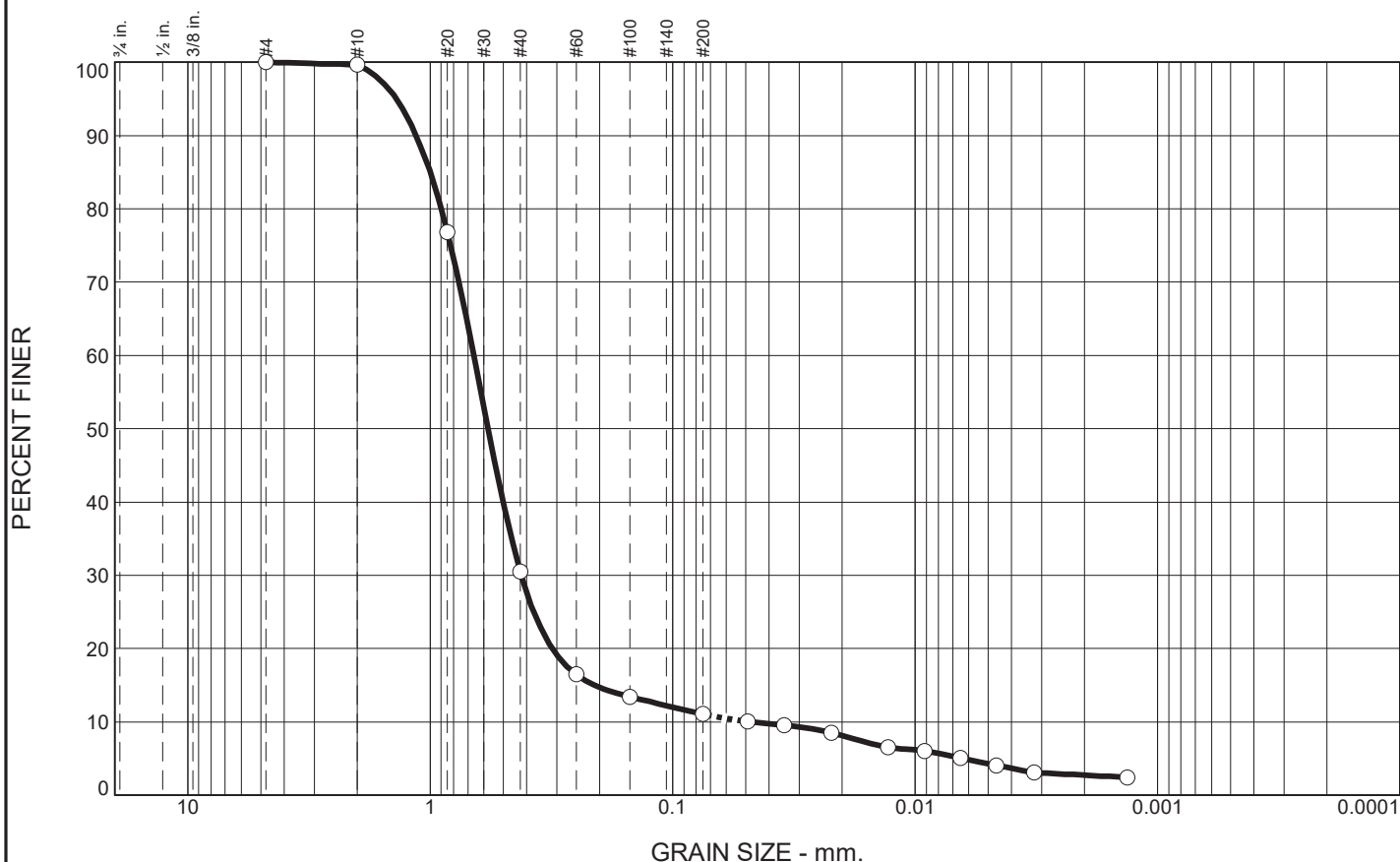
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	69.2	19.4	6.8	4.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.7		
#20	76.8		
#40	30.5		
#60	16.5		
#100	13.4		
#200	11.1		
0.0490 mm.	10.0		
0.0347 mm.	9.5		
0.0221 mm.	8.5		
0.0129 mm.	6.6		
0.0092 mm.	6.1		
0.0065 mm.	5.1		
0.0046 mm.	4.1		
0.0032 mm.	3.1		
0.0013 mm.	2.4		

\* (no specification provided)

**Soil Description**  
DARK BROWN AND GRAY POORLY GRADED SAND WITH SILT

**Atterberg Limits**  
 PL= 10      LL= 9      PI= NP

**Coefficients**  
 D<sub>90</sub>= 1.1425      D<sub>85</sub>= 1.0006      D<sub>60</sub>= 0.6613  
 D<sub>50</sub>= 0.5767      D<sub>30</sub>= 0.4204      D<sub>15</sub>= 0.2099  
 D<sub>10</sub>= 0.0479      C<sub>u</sub>= 13.80      C<sub>c</sub>= 5.58

**Classification**  
 USCS= SP-SM      AASHTO= A-1-b

**Remarks**  
 F.M.=2.24

Source of Sample: APW-13  
Sample Number: 0845

Depth: 25.0'-27.0'

Date: 2-26-21



Client: RAMBOLL ENVIRON US CORP.  
Project: NEWTON POWER STATION

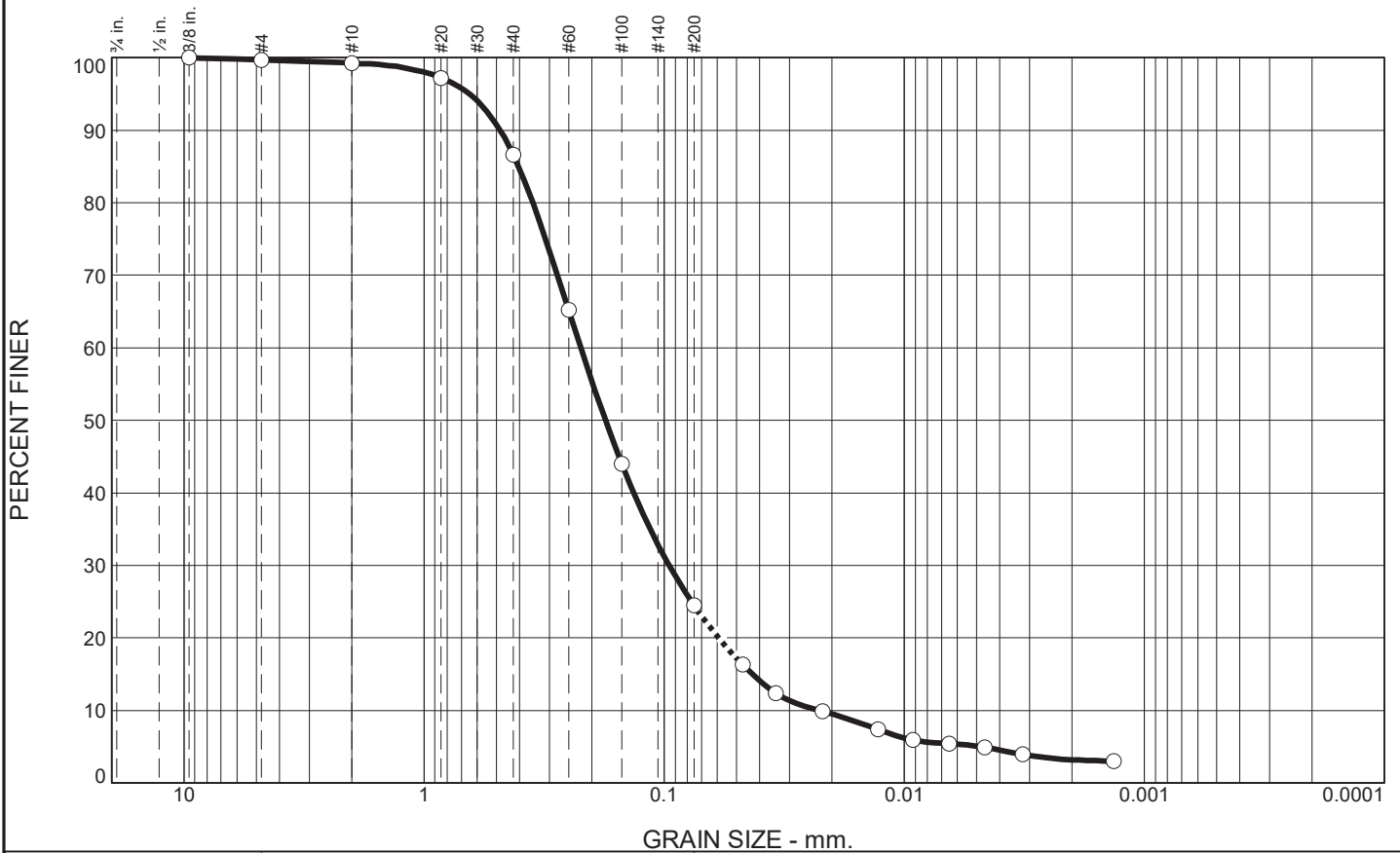
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.3	0.4	12.7	62.1	19.4	5.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.7		
#10	99.3		
#20	97.2		
#40	86.6		
#60	65.2		
#100	44.0		
#200	24.5		
0.0471 mm.	16.3		
0.0342 mm.	12.4		
0.0220 mm.	9.9		
0.0129 mm.	7.4		
0.0092 mm.	5.9		
0.0065 mm.	5.4		
0.0046 mm.	4.9		
0.0032 mm.	3.9		
0.0013 mm.	3.0		

**Soil Description**  
BROWN SILTY SAND

**Atterberg Limits**  
 PL= 13      LL= 8      PI= NP

**Coefficients**  
 D<sub>90</sub>= 0.4819      D<sub>85</sub>= 0.4036      D<sub>60</sub>= 0.2222  
 D<sub>50</sub>= 0.1755      D<sub>30</sub>= 0.0953      D<sub>15</sub>= 0.0429  
 D<sub>10</sub>= 0.0226      C<sub>u</sub>= 9.84      C<sub>c</sub>= 1.81

**Classification**  
 USCS= SM      AASHTO= A-2-4(0)

**Remarks**  
 F.M.=0.91

\* (no specification provided)

Source of Sample: APW-13  
 Sample Number: 1345

Depth: 60.5'-61.0'

Date: 3-11-21



Client: RAMBOLL ENVIRON US CORP.  
 Project: NEWTON POWER STATION

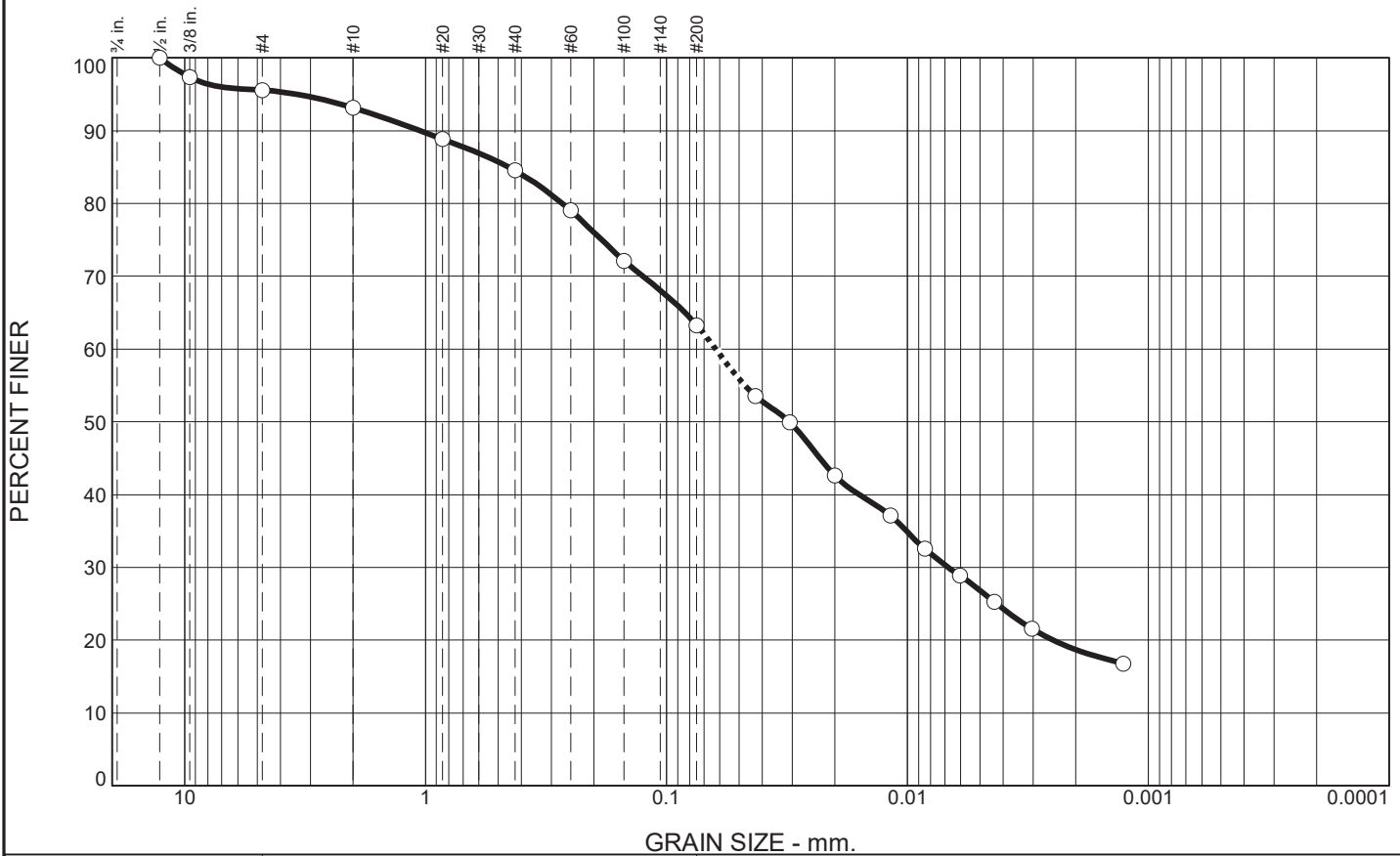
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	4.4	2.5	8.6	21.2	36.5	26.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.5	100.0		
.375	97.3		
#4	95.6		
#10	93.1		
#20	88.8		
#40	84.5		
#60	79.0		
#100	72.1		
#200	63.3		
0.0427 mm.	53.6		
0.0307 mm.	49.9		
0.0200 mm.	42.6		
0.0118 mm.	37.1		
0.0085 mm.	32.6		
0.0061 mm.	28.9		
0.0043 mm.	25.2		
0.0030 mm.	21.6		
0.0013 mm.	16.7		

**Soil Description**  
BROWN SANDY LEAN CLAY

**Atterberg Limits**  
 PL= 14      LL= 26      PI= 12

**Coefficients**  
 D<sub>90</sub>= 1.0607      D<sub>85</sub>= 0.4525      D<sub>60</sub>= 0.0625  
 D<sub>50</sub>= 0.0309      D<sub>30</sub>= 0.0068      D<sub>15</sub>=  
 D<sub>10</sub>=              C<sub>u</sub>=              C<sub>c</sub>=

**Classification**  
 USCS= CL              AASHTO= A-6(5)

**Remarks**  
 F.M.=0.83

\* (no specification provided)

Source of Sample: APW-14  
 Sample Number: 0955

Depth: 45.0'-47.0'

Date: 3-2-21



Client: RAMBOLL ENVIRON US CORP.

Project: NEWTON POWER STATION

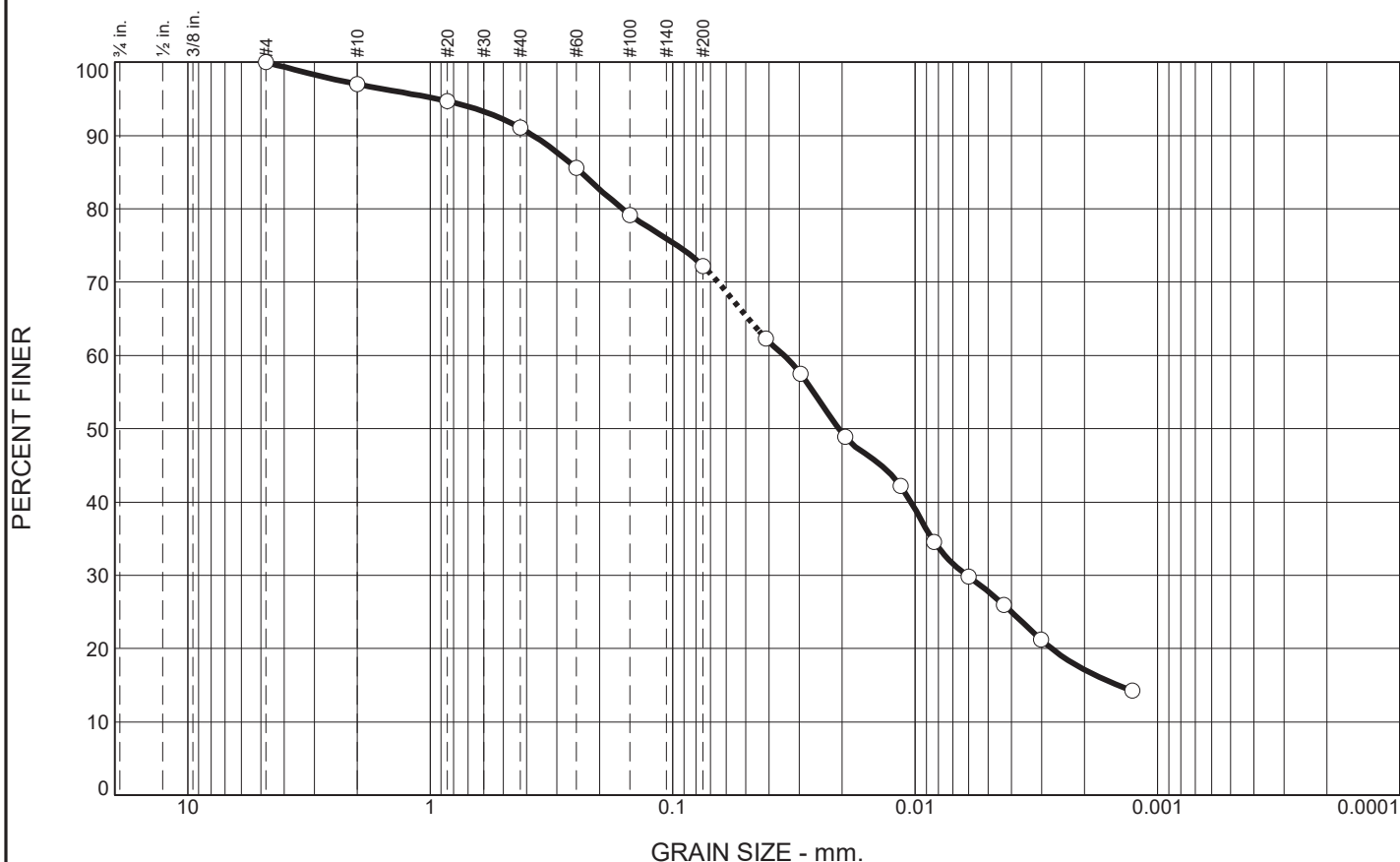
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.0	5.9	18.9	44.4	27.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	97.0		
#20	94.7		
#40	91.1		
#60	85.6		
#100	79.2		
#200	72.2		
0.0411 mm.	62.3		
0.0297 mm.	57.5		
0.0194 mm.	48.9		
0.0115 mm.	42.2		
0.0084 mm.	34.6		
0.0060 mm.	29.8		
0.0043 mm.	26.0		
0.0030 mm.	21.2		
0.0013 mm.	14.2		

\* (no specification provided)

**Soil Description**  
GRAY AND BROWNISH GRAY LEAN CLAY WITH SAND

**Atterberg Limits**  
 PL= 15      LL= 25      PI= 10

**Coefficients**  
 D<sub>90</sub>= 0.3753      D<sub>85</sub>= 0.2390      D<sub>60</sub>= 0.0348  
 D<sub>50</sub>= 0.0207      D<sub>30</sub>= 0.0061      D<sub>15</sub>= 0.0014  
 D<sub>10</sub>=              C<sub>u</sub>=              C<sub>c</sub>=

**Classification**  
 USCS= CL      AASHTO= A-4(5)

**Remarks**  
 F.M.=0.47

Source of Sample: APW-14  
 Sample Number: 1045

Depth: 55.5'-56.0'

Date: 2-26-21



Client: RAMBOLL ENVIRON US CORP.  
 Project: NEWTON POWER STATION

Project No: 11215019

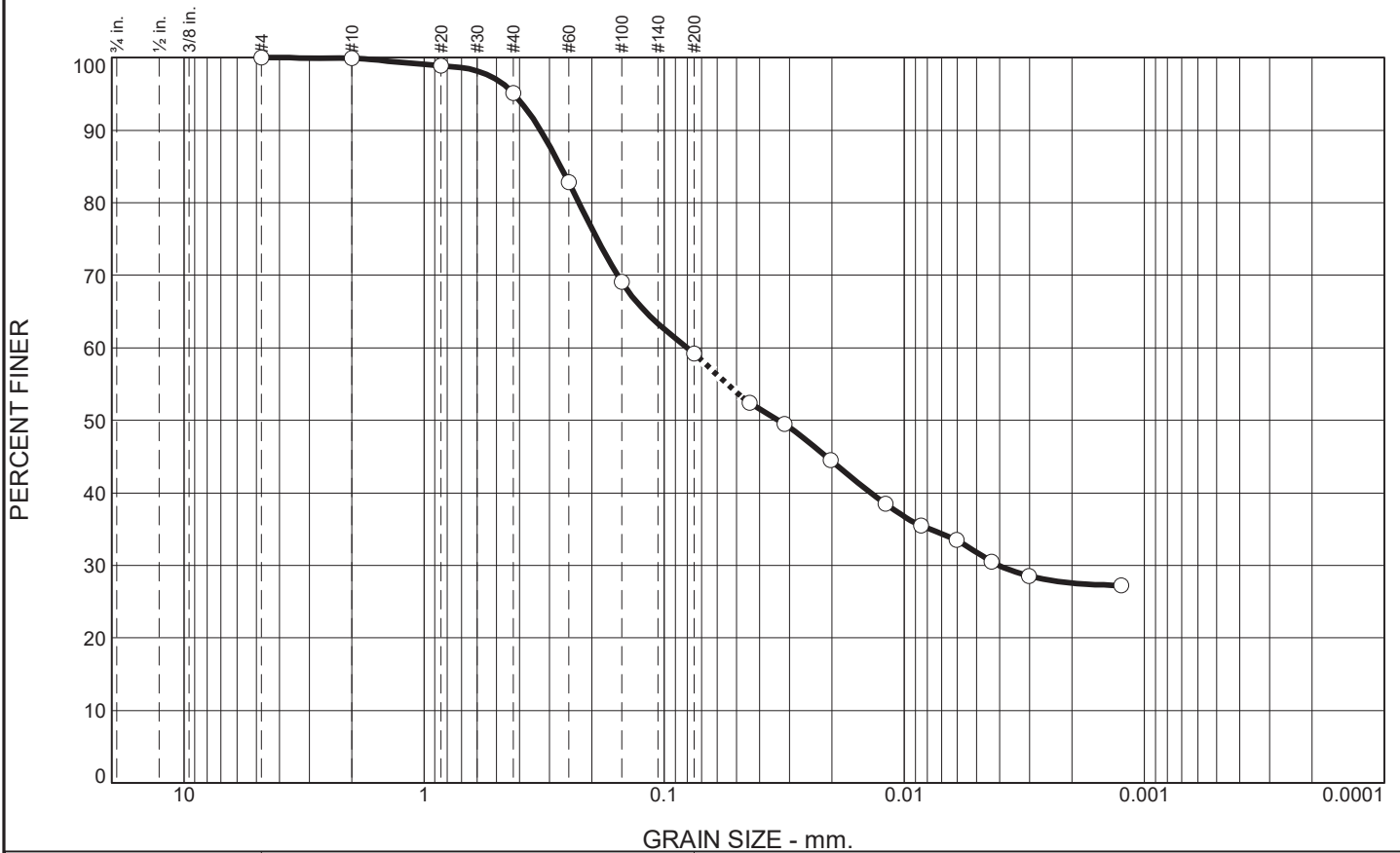
Figure

Tested By: SJH

Checked By: WPQ



# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	4.8	35.9	27.4	31.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	98.9		
#40	95.1		
#60	82.9		
#100	69.1		
#200	59.2		
0.0440 mm.	52.4		
0.0314 mm.	49.5		
0.0202 mm.	44.5		
0.0119 mm.	38.5		
0.0085 mm.	35.5		
0.0061 mm.	33.5		
0.0043 mm.	30.5		
0.0030 mm.	28.5		
0.0012 mm.	27.2		

**Soil Description**  
BROWN SANDY LEAN CLAY

**Atterberg Limits**  
 PL= 10      LL= 33      PI= 23

**Coefficients**  
 D<sub>90</sub>= 0.3277      D<sub>85</sub>= 0.2698      D<sub>60</sub>= 0.0802  
 D<sub>50</sub>= 0.0334      D<sub>30</sub>= 0.0040      D<sub>15</sub>=  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= CL                      AASHTO= A-6(10)

**Remarks**  
 F.M.=0.46

\* (no specification provided)

Source of Sample: APW-15  
Sample Number: 1005

Depth: 20.0'-22.0'

Date: 3-2-21



Client: RAMBOLL ENVIRON US CORP.  
Project: NEWTON POWER STATION

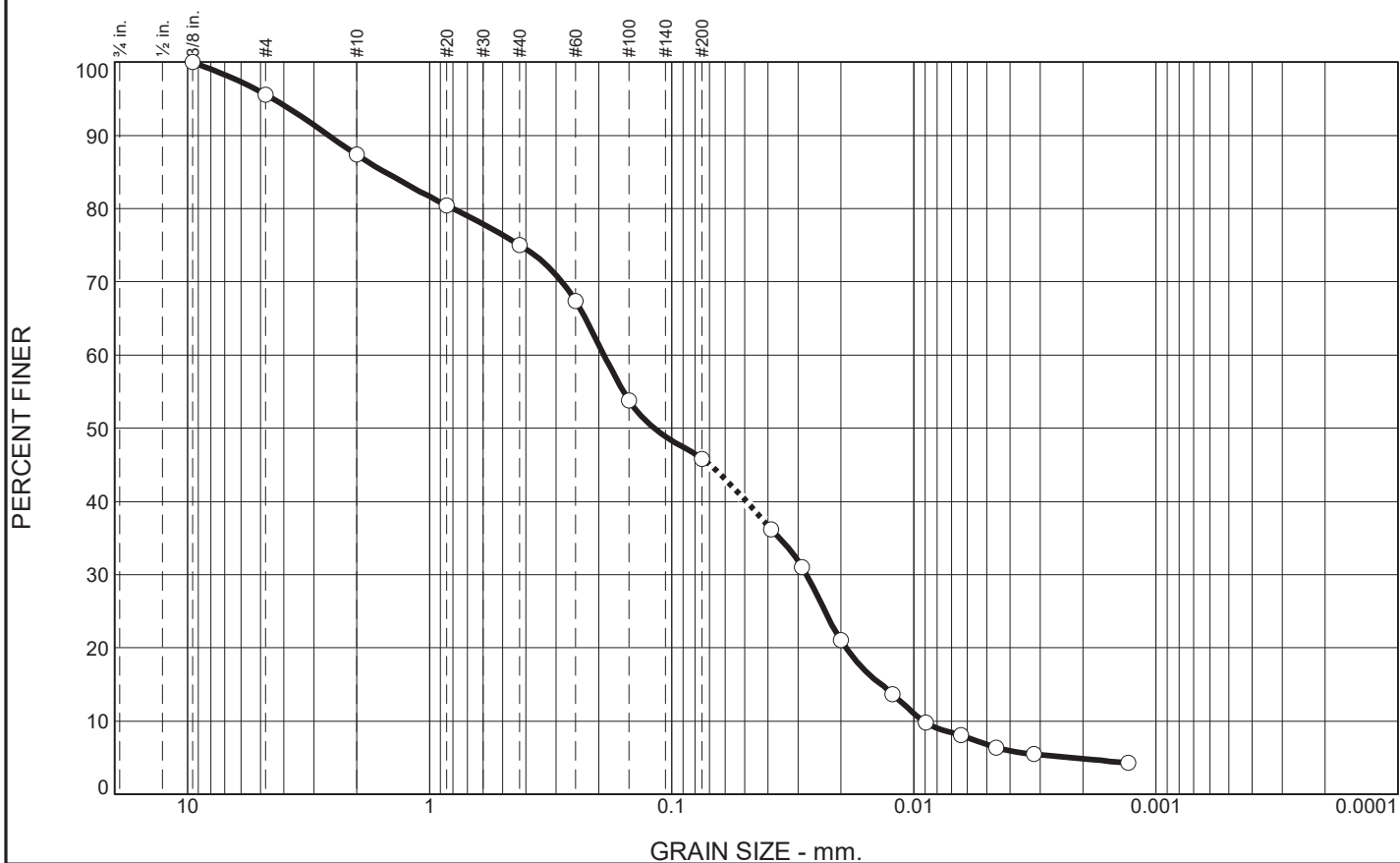
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	4.4	8.2	12.4	29.2	39.0	6.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	95.6		
#10	87.4		
#20	80.4		
#40	75.0		
#60	67.4		
#100	53.8		
#200	45.8		
0.0388 mm.	36.2		
0.0290 mm.	31.0		
0.0201 mm.	21.1		
0.0123 mm.	13.7		
0.0089 mm.	9.8		
0.0064 mm.	8.1		
0.0046 mm.	6.3		
0.0032 mm.	5.5		
0.0013 mm.	4.3		

**Soil Description**  
GRAY SILTY SAND

**Atterberg Limits**  
 PL= 12      LL= 15      PI= 3

**Coefficients**  
 D<sub>90</sub>= 2.6175      D<sub>85</sub>= 1.5318      D<sub>60</sub>= 0.1904  
 D<sub>50</sub>= 0.1183      D<sub>30</sub>= 0.0278      D<sub>15</sub>= 0.0137  
 D<sub>10</sub>= 0.0091      C<sub>u</sub>= 20.90      C<sub>c</sub>= 0.45

**Classification**  
 USCS= SM      AASHTO= A-4(0)

**Remarks**  
 F.M.=1.30

\* (no specification provided)

Source of Sample: APW-15  
 Sample Number: 0755

Depth: 100.5'-101.0'

Date: 2-26-21



Client: RAMBOLL ENVIRON US CORP.  
 Project: NEWTON POWER STATION

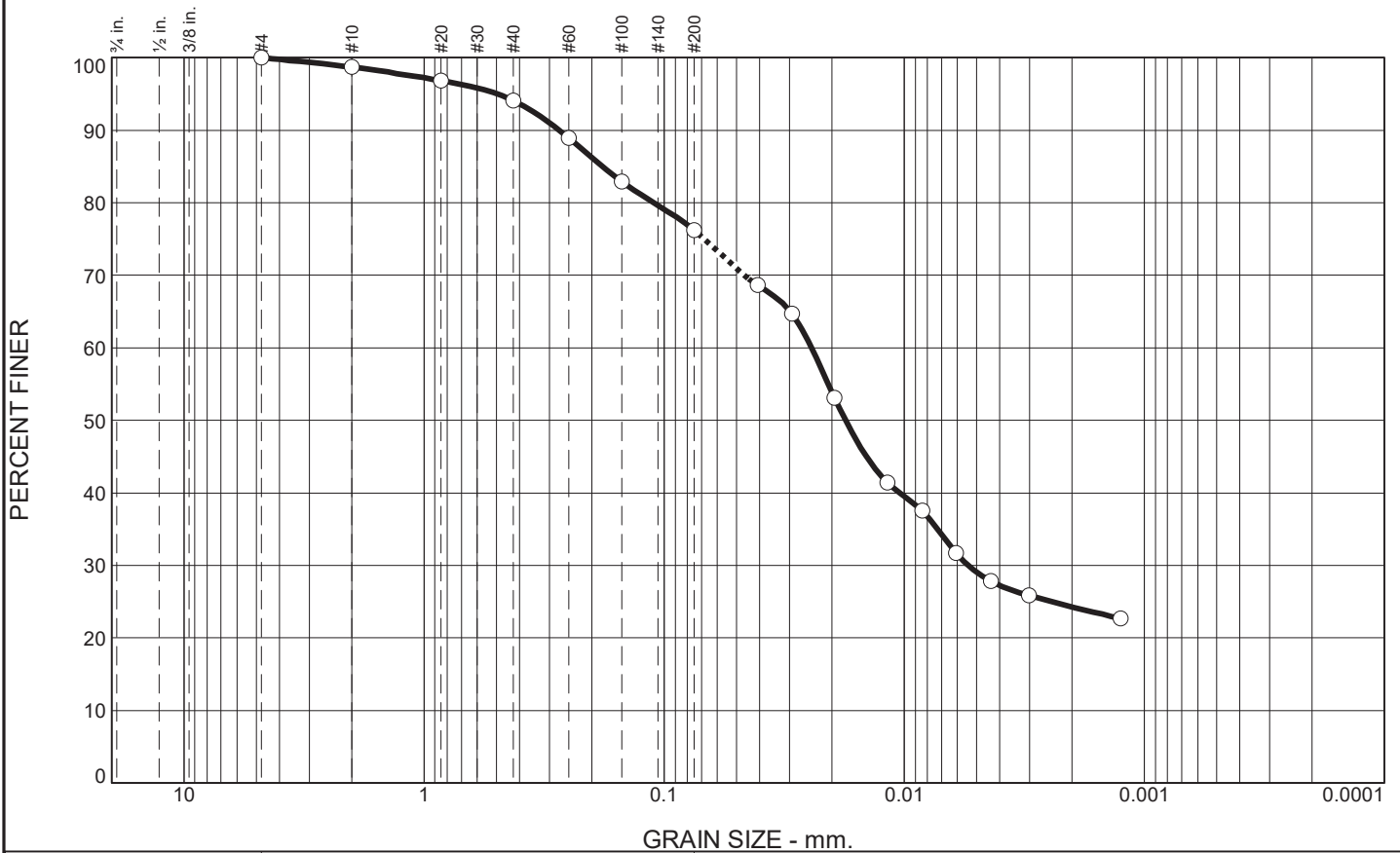
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.3	4.6	17.9	47.1	29.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	98.7		
#20	96.8		
#40	94.1		
#60	89.0		
#100	82.9		
#200	76.2		
0.0409 mm.	68.6		
0.0294 mm.	64.7		
0.0195 mm.	53.1		
0.0118 mm.	41.4		
0.0084 mm.	37.5		
0.0061 mm.	31.7		
0.0044 mm.	27.8		
0.0030 mm.	25.9		
0.0013 mm.	22.7		

\* (no specification provided)

**Soil Description**  
DARK GRAY LEAN CLAY WITH SAND

**Atterberg Limits**  
 PL= 13      LL= 29      PI= 16

**Coefficients**  
 D<sub>90</sub>= 0.2737      D<sub>85</sub>= 0.1806      D<sub>60</sub>= 0.0244  
 D<sub>50</sub>= 0.0175      D<sub>30</sub>= 0.0054      D<sub>15</sub>=  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= CL                      AASHTO= A-6(10)

**Remarks**  
 F.M.=0.34

Source of Sample: APW-15  
Sample Number: 0905

Depth: 105.0'-107.0'

Date: 3-2-21



Client: RAMBOLL ENVIRON US CORP.  
Project: NEWTON POWER STATION

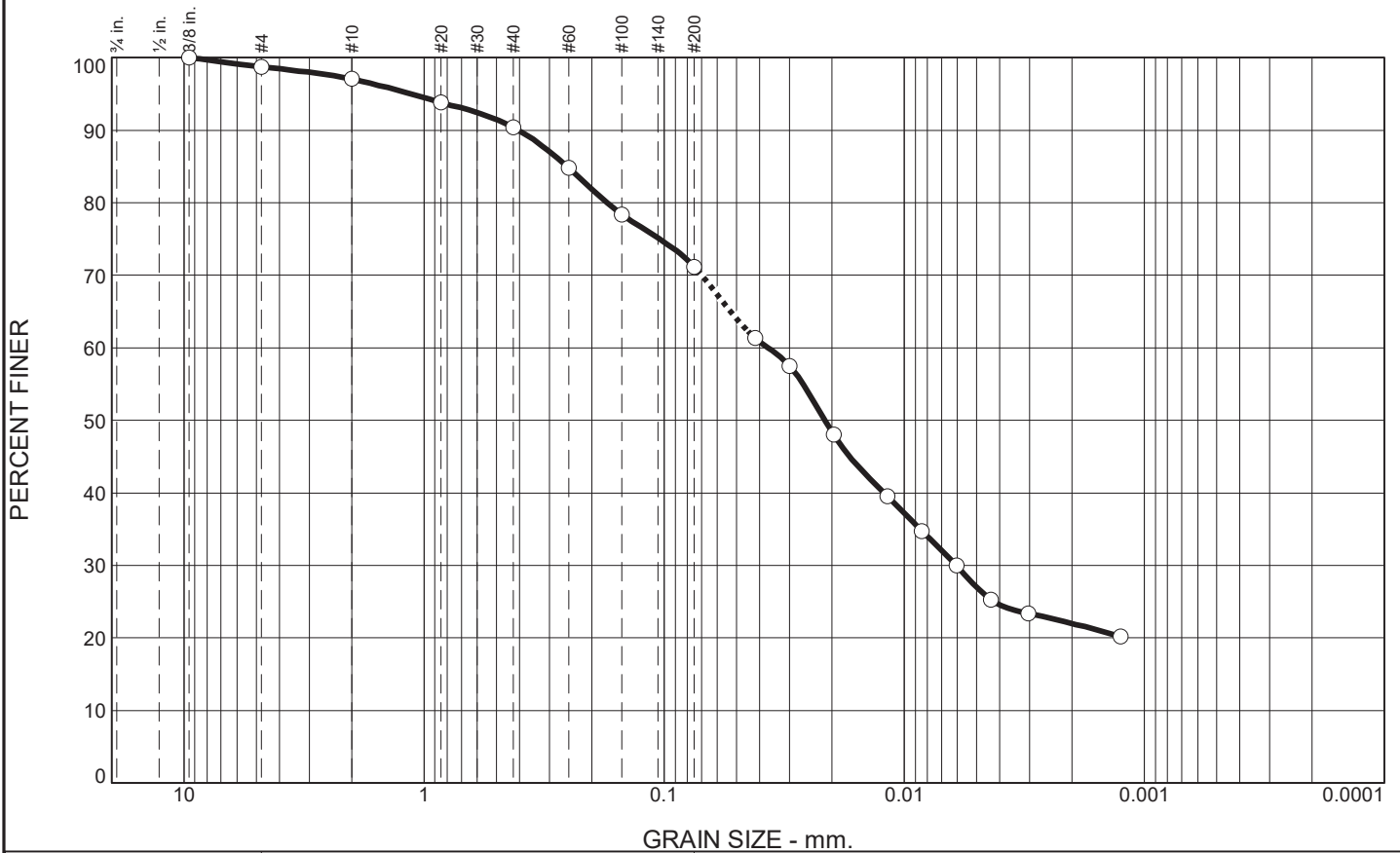
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	1.3	1.6	6.7	19.3	44.1	27.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	98.7		
#10	97.1		
#20	93.8		
#40	90.4		
#60	84.8		
#100	78.4		
#200	71.1		
0.0417 mm.	61.3		
0.0300 mm.	57.5		
0.0197 mm.	48.0		
0.0117 mm.	39.5		
0.0084 mm.	34.8		
0.0061 mm.	30.0		
0.0044 mm.	25.3		
0.0030 mm.	23.4		
0.0013 mm.	20.2		

\* (no specification provided)

**Soil Description**  
GRAY LEAN CLAY WITH SAND

**Atterberg Limits**  
 PL= 13      LL= 26      PI= 13

**Coefficients**  
 D<sub>90</sub>= 0.4047      D<sub>85</sub>= 0.2534      D<sub>60</sub>= 0.0368  
 D<sub>50</sub>= 0.0214      D<sub>30</sub>= 0.0061      D<sub>15</sub>=  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= CL                      AASHTO= A-6(6)

**Remarks**  
 F.M.=0.51

Source of Sample: APW-17  
 Sample Number: 0945

Depth: 40.0'-42.0'

Date: 3-2-21



Client: RAMBOLL ENVIRON US CORP.

Project: NEWTON POWER STATION

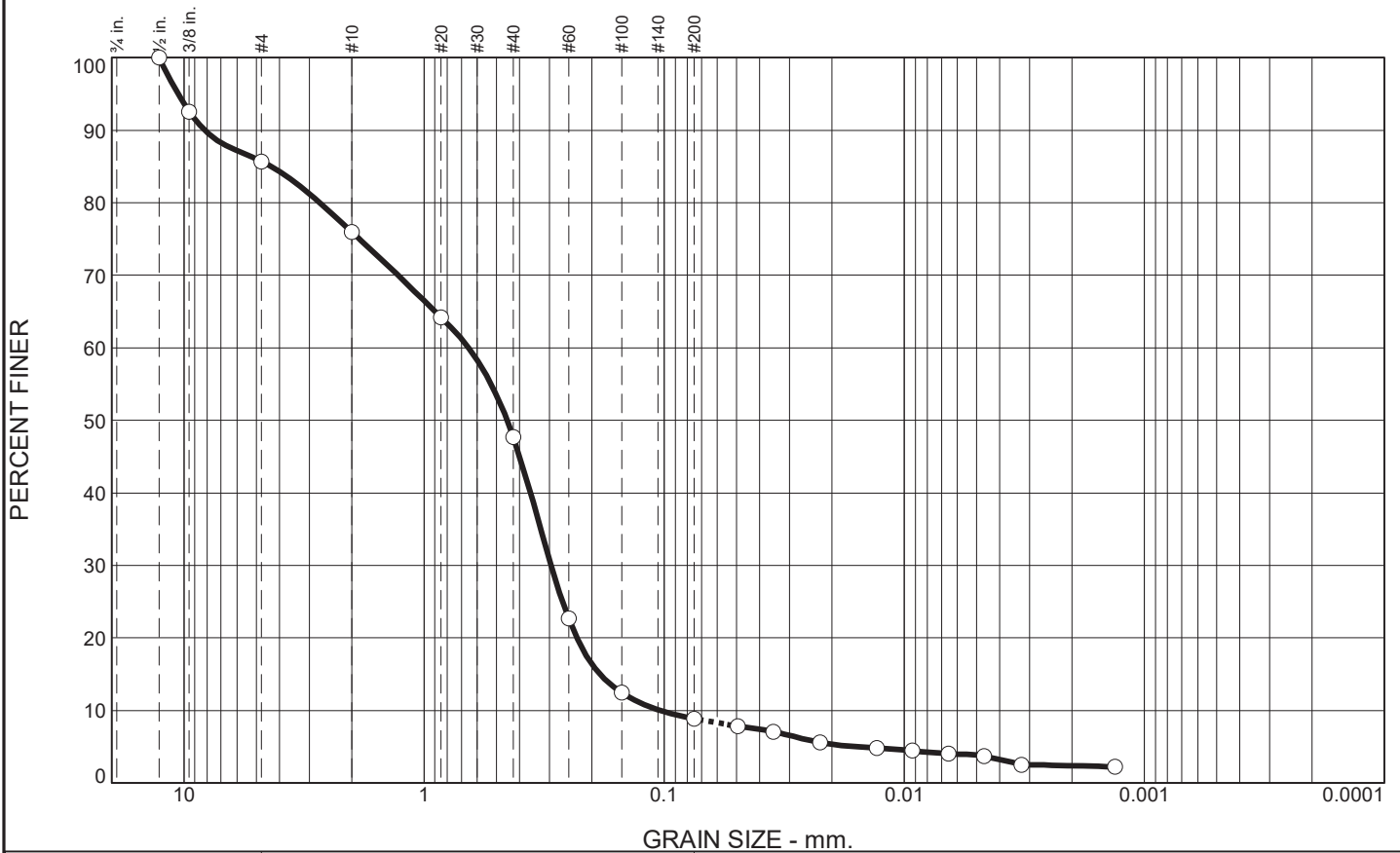
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	14.3	9.7	28.3	38.8	5.1	3.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.5	100.0		
.375	92.6		
#4	85.7		
#10	76.0		
#20	64.2		
#40	47.7		
#60	22.7		
#100	12.5		
#200	8.9		
0.0493 mm.	7.9		
0.0350 mm.	7.1		
0.0224 mm.	5.6		
0.0130 mm.	4.8		
0.0092 mm.	4.4		
0.0065 mm.	4.1		
0.0046 mm.	3.7		
0.0032 mm.	2.5		
0.0013 mm.	2.2		

\* (no specification provided)

**Soil Description**  
GRAY WELL GRADED SAND WITH SILT

**Atterberg Limits**  
 PL= 9      LL= 5      PI= NP

**Coefficients**  
 D<sub>90</sub>= 8.1927      D<sub>85</sub>= 4.3406      D<sub>60</sub>= 0.6532  
 D<sub>50</sub>= 0.4503      D<sub>30</sub>= 0.2954      D<sub>15</sub>= 0.1851  
 D<sub>10</sub>= 0.1038      C<sub>u</sub>= 6.29      C<sub>c</sub>= 1.29

**Classification**  
 USCS= SW-SM      AASHTO= A-1-b

**Remarks**  
 F.M.=2.73

Source of Sample: APW-17  
 Sample Number: 1045

Depth: 71.0'-71.5'

Date: 2-26-21



Client: RAMBOLL ENVIRON US CORP.  
 Project: NEWTON POWER STATION

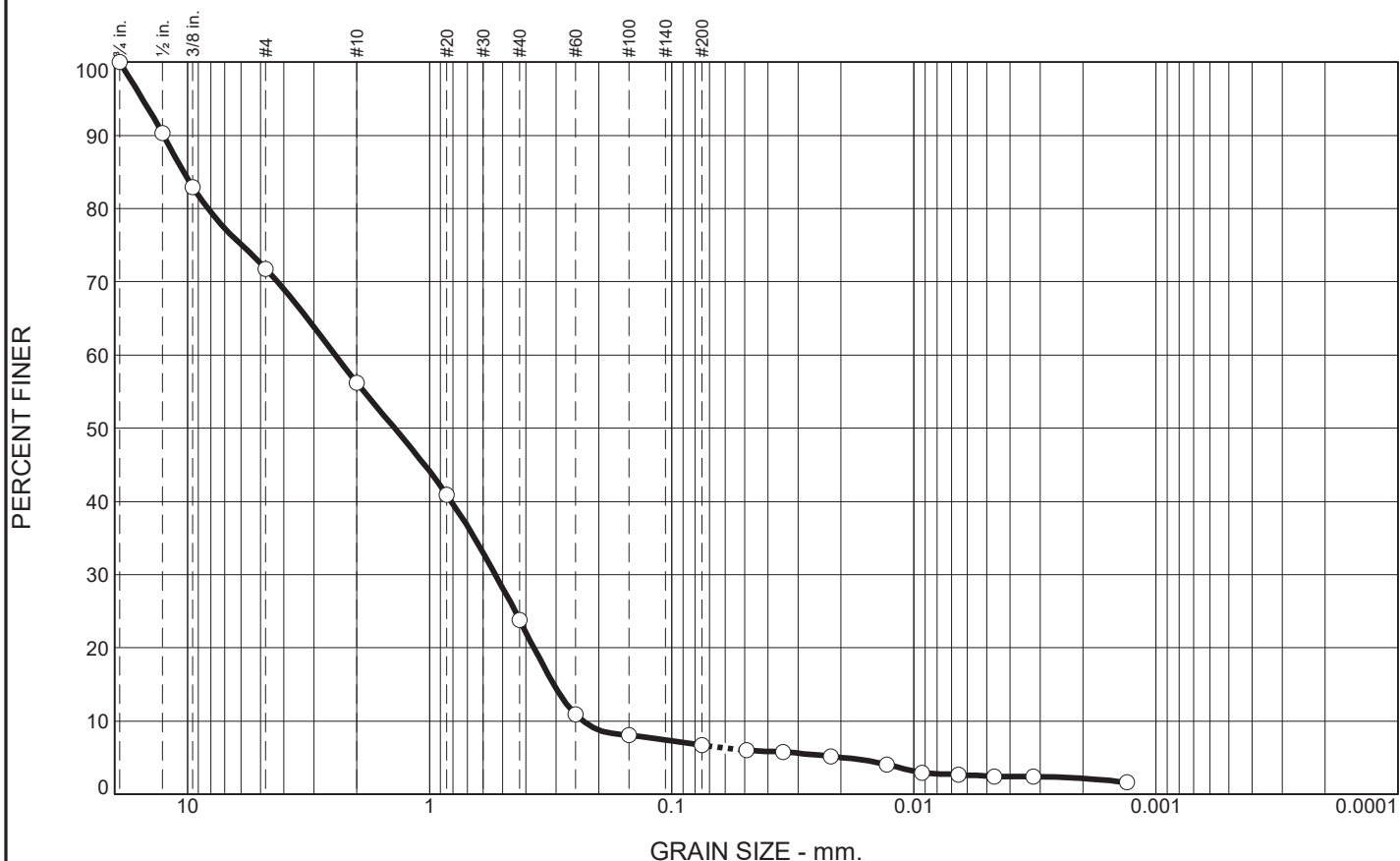
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	28.2	15.6	32.4	17.1	4.2	2.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.5	90.3		
.375	83.0		
#4	71.8		
#10	56.2		
#20	40.9		
#40	23.8		
#60	10.9		
#100	8.0		
#200	6.7		
0.0489 mm.	6.0		
0.0347 mm.	5.7		
0.0221 mm.	5.2		
0.0129 mm.	4.1		
0.0092 mm.	3.0		
0.0065 mm.	2.7		
0.0046 mm.	2.4		
0.0032 mm.	2.4		
0.0013 mm.	1.6		

\* (no specification provided)

**Soil Description**  
GRAYISH BROWN POORLY GRADED SAND WITH SILT AND GRAVEL

**Atterberg Limits**  
PL= 8      LL= 6      PI= NP

**Coefficients**  
D<sub>90</sub>= 12.5520      D<sub>85</sub>= 10.3682      D<sub>60</sub>= 2.4528  
D<sub>50</sub>= 1.3942      D<sub>30</sub>= 0.5340      D<sub>15</sub>= 0.3065  
D<sub>10</sub>= 0.2326      C<sub>u</sub>= 10.54      C<sub>c</sub>= 0.50

**Classification**  
USCS= SP-SM      AASHTO= A-1-b

**Remarks**  
F.M.=3.83

Source of Sample: APW-17  
Sample Number: 1200

Depth: 90.5'-91.0'

Date: 2-26-21



Client: RAMBOLL ENVIRON US CORP.

Project: NEWTON POWER STATION

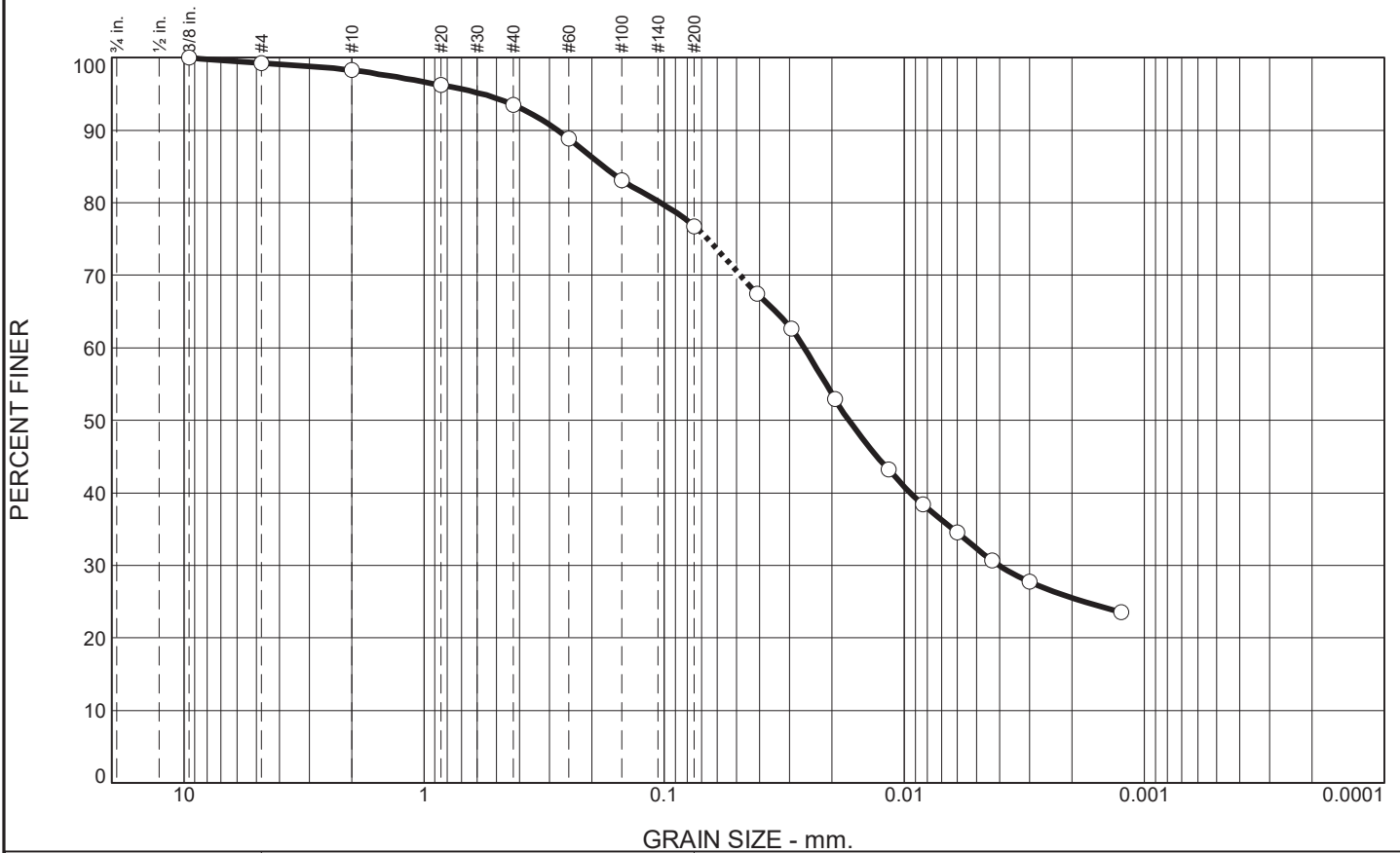
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.8	0.9	4.8	16.7	44.5	32.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.2		
#10	98.3		
#20	96.2		
#40	93.5		
#60	88.9		
#100	83.1		
#200	76.8		
0.0410 mm.	67.5		
0.0296 mm.	62.6		
0.0194 mm.	52.9		
0.0116 mm.	43.2		
0.0084 mm.	38.4		
0.0060 mm.	34.5		
0.0043 mm.	30.6		
0.0030 mm.	27.7		
0.0013 mm.	23.6		

**Soil Description**  
DARK GRAY LEAN CLAY WITH SAND

**Atterberg Limits**  
 PL= 12      LL= 32      PI= 20

**Coefficients**  
 D<sub>90</sub>= 0.2782      D<sub>85</sub>= 0.1790      D<sub>60</sub>= 0.0261  
 D<sub>50</sub>= 0.0170      D<sub>30</sub>= 0.0040      D<sub>15</sub>=  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= CL                      AASHTO= A-6(13)

**Remarks**  
 F.M.=0.36

\* (no specification provided)

Source of Sample: SB-300  
Sample Number: 0825

Depth: 50.0'-52.0'

Date: 3-2-21



Client: RAMBOLL ENVIRON US CORP.

Project: NEWTON POWER STATION

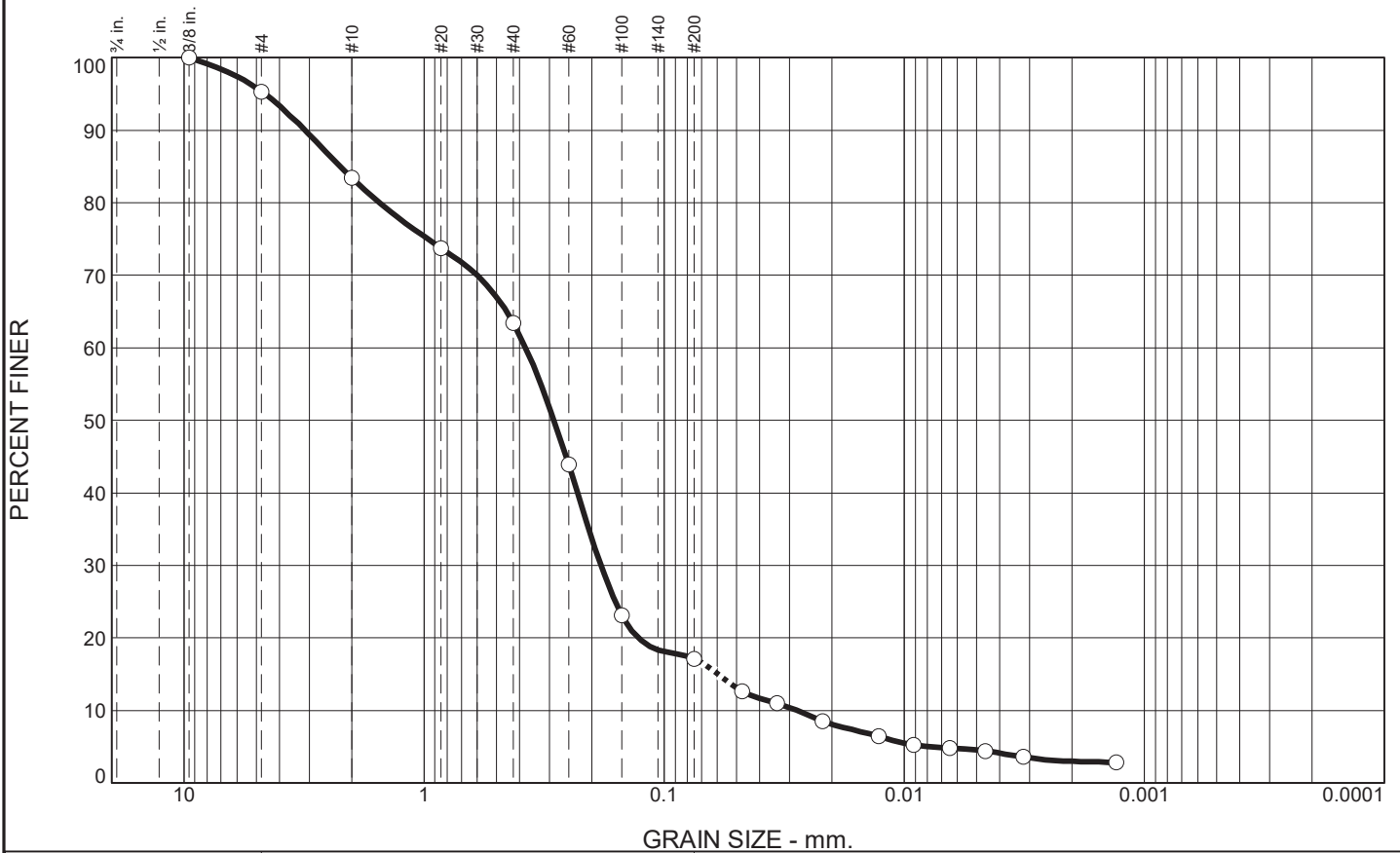
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	4.7	11.9	20.0	46.3	12.5	4.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	95.3		
#10	83.4		
#20	73.7		
#40	63.4		
#60	43.9		
#100	23.1		
#200	17.1		
0.0474 mm.	12.7		
0.0339 mm.	11.0		
0.0219 mm.	8.5		
0.0128 mm.	6.5		
0.0091 mm.	5.2		
0.0065 mm.	4.8		
0.0046 mm.	4.4		
0.0032 mm.	3.6		
0.0013 mm.	2.9		

**Soil Description**  
GRAYISH BROWN SILTY SAND

**Atterberg Limits**  
 PL= 9      LL= 5      PI= NP

**Coefficients**  
 D<sub>90</sub>= 3.1361      D<sub>85</sub>= 2.2352      D<sub>60</sub>= 0.3777  
 D<sub>50</sub>= 0.2877      D<sub>30</sub>= 0.1834      D<sub>15</sub>= 0.0597  
 D<sub>10</sub>= 0.0281      C<sub>u</sub>= 13.44      C<sub>c</sub>= 3.17

**Classification**  
 USCS= SM      AASHTO= A-2-4(0)

**Remarks**  
 F.M.=1.97

\* (no specification provided)

Source of Sample: SB-300  
Sample Number: 0905

Depth: 61.0'-61.5'

Date: 2-26-21



Client: RAMBOLL ENVIRON US CORP.

Project: NEWTON POWER STATION

Project No: 11215019

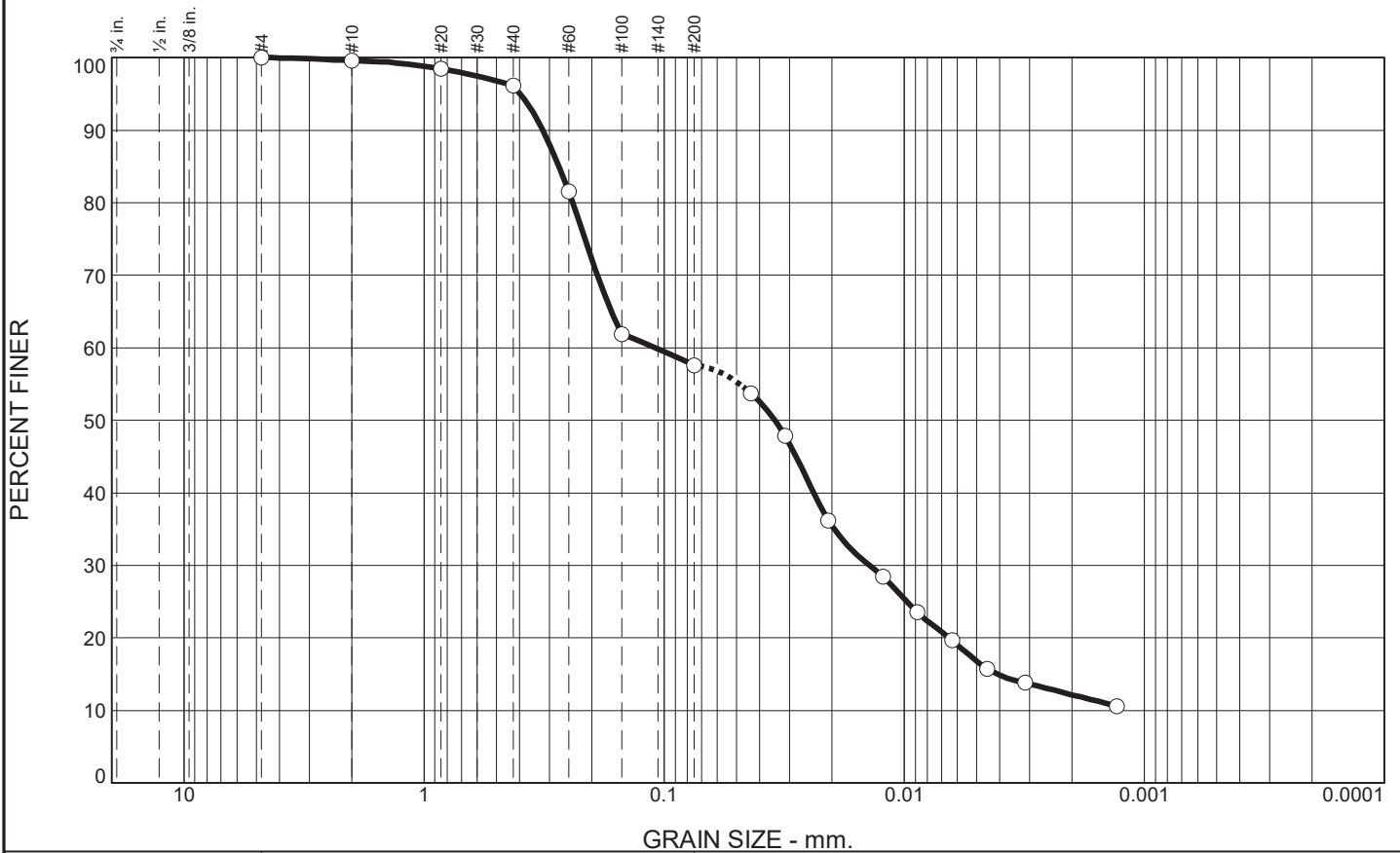
Figure

Tested By: SJH

Checked By: WPQ



# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.4	3.5	38.5	40.8	16.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.6		
#20	98.5		
#40	96.1		
#60	81.6		
#100	61.9		
#200	57.6		
0.0434 mm.	53.7		
0.0314 mm.	47.9		
0.0207 mm.	36.2		
0.0123 mm.	28.4		
0.0088 mm.	23.5		
0.0063 mm.	19.6		
0.0045 mm.	15.7		
0.0031 mm.	13.8		
0.0013 mm.	10.6		

\* (no specification provided)

**Soil Description**  
GRAY AND BROWN SANDY SILTY CLAY

**Atterberg Limits**  
 PL= 14      LL= 20      PI= 6

**Coefficients**  
 D<sub>90</sub>= 0.3201      D<sub>85</sub>= 0.2739      D<sub>60</sub>= 0.1090  
 D<sub>50</sub>= 0.0345      D<sub>30</sub>= 0.0139      D<sub>15</sub>= 0.0041  
 D<sub>10</sub>=              C<sub>u</sub>=              C<sub>c</sub>=

**Classification**  
 USCS= CL-ML      AASHTO= A-4(1)

**Remarks**  
 F.M.=0.54

Source of Sample: SB-300  
Sample Number: 0920

Depth: 62.5'-63.0'

Date: 2-26-21



Client: RAMBOLL ENVIRON US CORP.  
Project: NEWTON POWER STATION

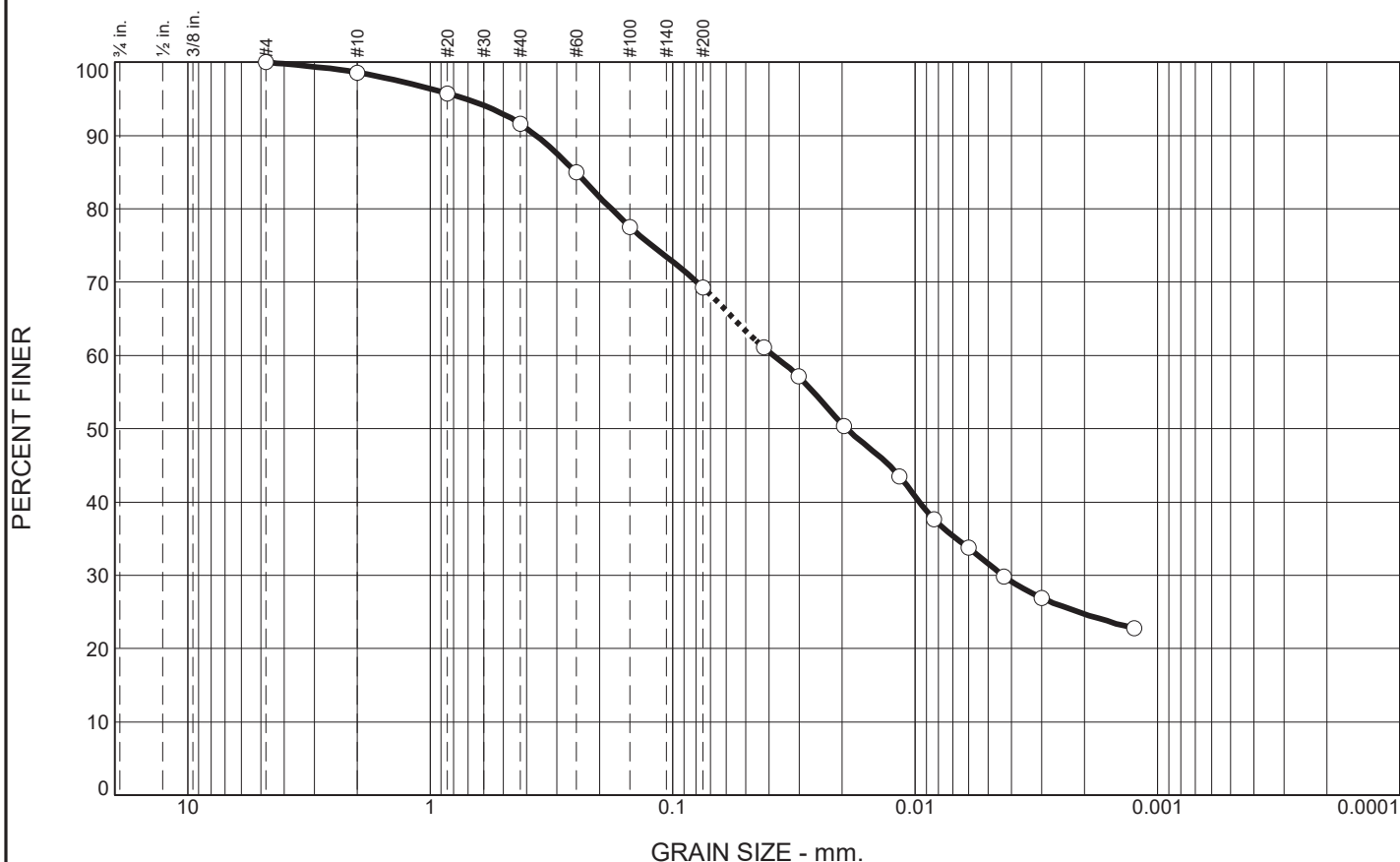
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.4	7.0	22.3	37.7	31.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	98.6		
#20	95.7		
#40	91.6		
#60	84.9		
#100	77.5		
#200	69.3		
0.0420 mm.	61.1		
0.0302 mm.	57.2		
0.0196 mm.	50.3		
0.0116 mm.	43.5		
0.0084 mm.	37.7		
0.0060 mm.	33.8		
0.0043 mm.	29.9		
0.0030 mm.	26.9		
0.0013 mm.	22.7		

**Soil Description**  
DARK GRAY SANDY LEAN CLAY

**Atterberg Limits**  
 PL= 13      LL= 28      PI= 15

**Coefficients**  
 D<sub>90</sub>= 0.3661      D<sub>85</sub>= 0.2511      D<sub>60</sub>= 0.0384  
 D<sub>50</sub>= 0.0191      D<sub>30</sub>= 0.0044      D<sub>15</sub>=  
 D<sub>10</sub>=              C<sub>u</sub>=              C<sub>c</sub>=

**Classification**  
 USCS= CL      AASHTO= A-6(7)

**Remarks**  
 F.M.=0.45

\* (no specification provided)

Source of Sample: SB-300  
Sample Number: 1350

Depth: 105.0'-107.0'

Date: 3-2-21



Client: RAMBOLL ENVIRON US CORP.  
Project: NEWTON POWER STATION

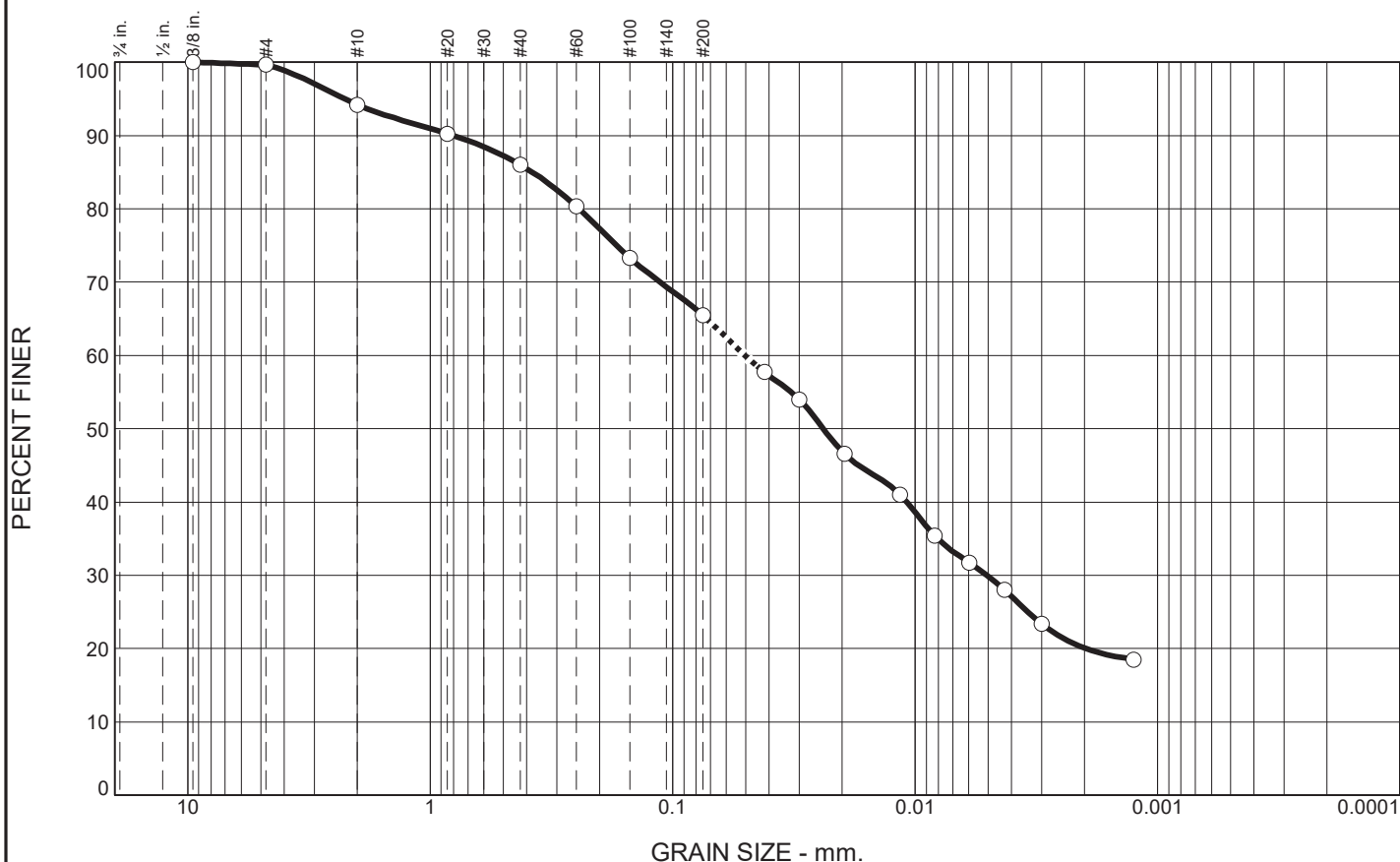
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.4	5.4	8.2	20.6	35.5	29.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.6		
#10	94.2		
#20	90.2		
#40	86.0		
#60	80.3		
#100	73.3		
#200	65.4		
0.0418 mm.	57.7		
0.0300 mm.	54.0		
0.0196 mm.	46.6		
0.0115 mm.	41.0		
0.0083 mm.	35.4		
0.0060 mm.	31.7		
0.0043 mm.	28.0		
0.0030 mm.	23.4		
0.0013 mm.	18.5		

**Soil Description**  
BROWN AND GRAY SANDY LEAN CLAY

**Atterberg Limits**  
 PL= 14      LL= 27      PI= 13

**Coefficients**  
 D<sub>90</sub>= 0.8050      D<sub>85</sub>= 0.3797      D<sub>60</sub>= 0.0504  
 D<sub>50</sub>= 0.0239      D<sub>30</sub>= 0.0051      D<sub>15</sub>=  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= CL                      AASHTO= A-6(6)

**Remarks**  
 F.M.=0.69

\* (no specification provided)

Source of Sample: SB-301  
Sample Number: 1330

Depth: 48.0'-50.0'

Date: 2-26-21



Client: RAMBOLL ENVIRON US CORP.  
Project: NEWTON POWER STATION

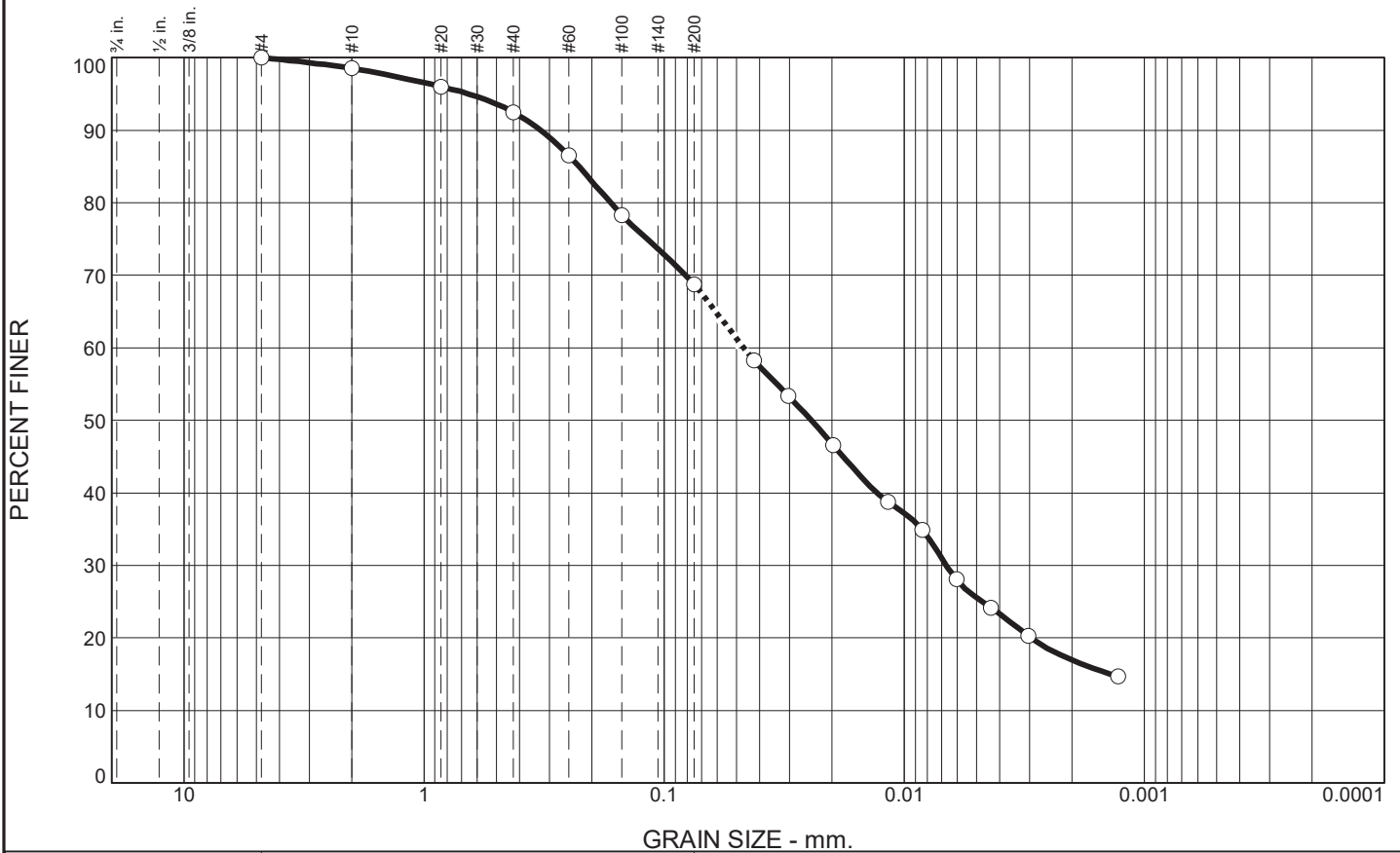
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.5	6.0	23.8	43.2	25.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	98.5		
#20	96.0		
#40	92.5		
#60	86.5		
#100	78.3		
#200	68.7		
0.0422 mm.	58.3		
0.0304 mm.	53.4		
0.0197 mm.	46.6		
0.0117 mm.	38.8		
0.0084 mm.	34.9		
0.0061 mm.	28.1		
0.0043 mm.	24.2		
0.0030 mm.	20.3		
0.0013 mm.	14.7		

\* (no specification provided)

**Soil Description**  
GRAY SANDY LEAN CLAY

**Atterberg Limits**  
 PL= 14      LL= 23      PI= 9

**Coefficients**  
 D<sub>90</sub>= 0.3271      D<sub>85</sub>= 0.2265      D<sub>60</sub>= 0.0466  
 D<sub>50</sub>= 0.0243      D<sub>30</sub>= 0.0067      D<sub>15</sub>= 0.0014  
 D<sub>10</sub>=              C<sub>u</sub>=              C<sub>c</sub>=

**Classification**  
 USCS= CL      AASHTO= A-4(3)

**Remarks**  
 F.M.=0.42

Source of Sample: SB-301  
Sample Number: 1600

Depth: 68.5'-69.0'

Date: 3-31-21



Client: RAMBOLL ENVIRON US CORP.  
Project: NEWTON POWER STATION

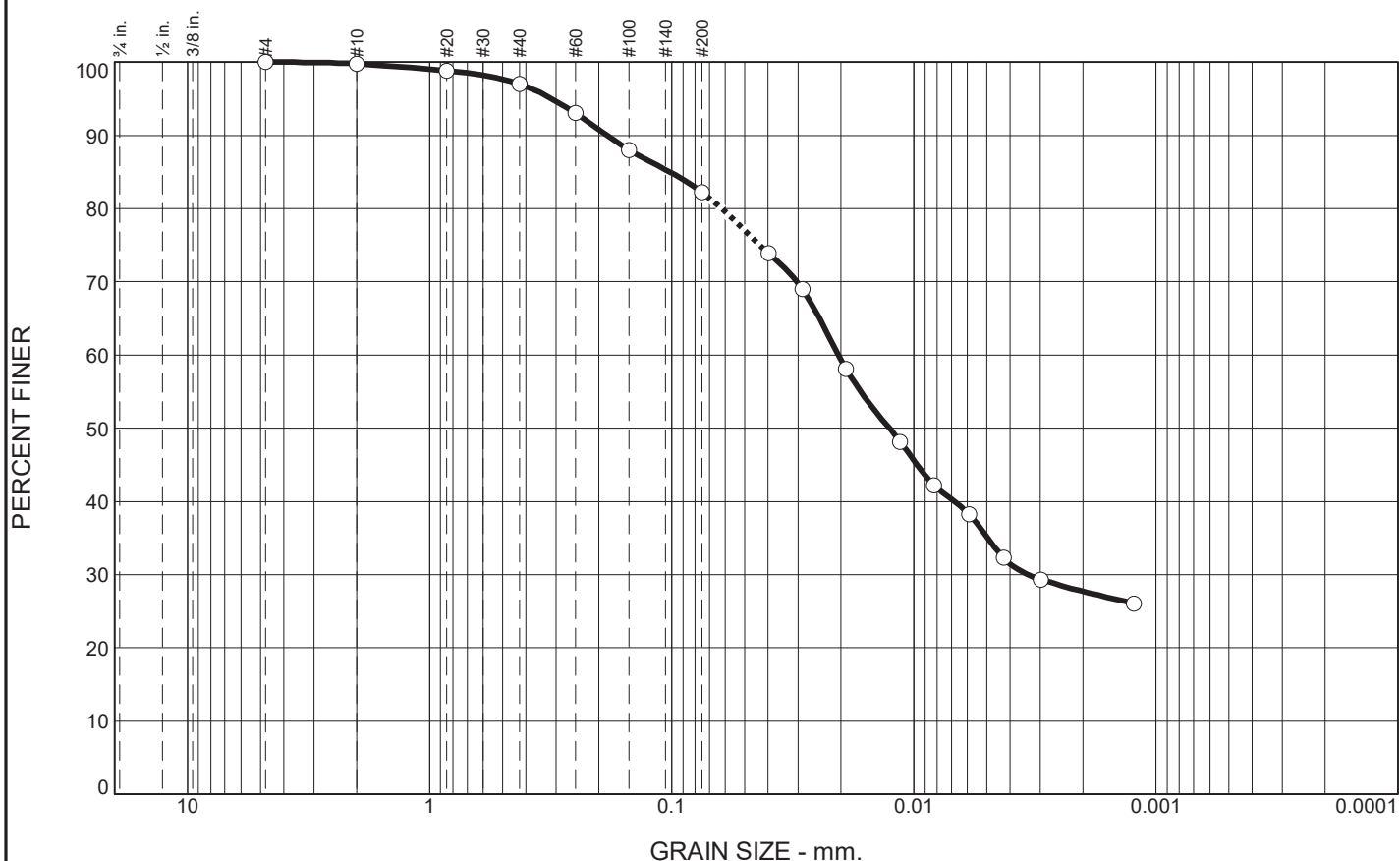
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	2.8	14.8	47.0	35.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.8		
#20	98.8		
#40	97.0		
#60	93.0		
#100	88.0		
#200	82.2		
0.0398 mm.	73.9		
0.0288 mm.	69.0		
0.0190 mm.	58.1		
0.0114 mm.	48.2		
0.0082 mm.	42.2		
0.0059 mm.	38.3		
0.0043 mm.	32.3		
0.0030 mm.	29.3		
0.0012 mm.	26.1		

\* (no specification provided)

**Soil Description**  
DARK BROWN TO DARK GRAY LEAN CLAY WITH SAND

**Atterberg Limits**  
 PL= 15      LL= 37      PI= 22

**Coefficients**  
 D<sub>90</sub>= 0.1848      D<sub>85</sub>= 0.1019      D<sub>60</sub>= 0.0205  
 D<sub>50</sub>= 0.0126      D<sub>30</sub>= 0.0034      D<sub>15</sub>=  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= CL                      AASHTO= A-6(17)

**Remarks**  
 F.M.=0.20

Source of Sample: SB-301  
Sample Number: 0946

Depth: 98.0'-100.0'

Date: 3-2-21



Client: RAMBOLL ENVIRON US CORP.  
Project: NEWTON POWER STATION

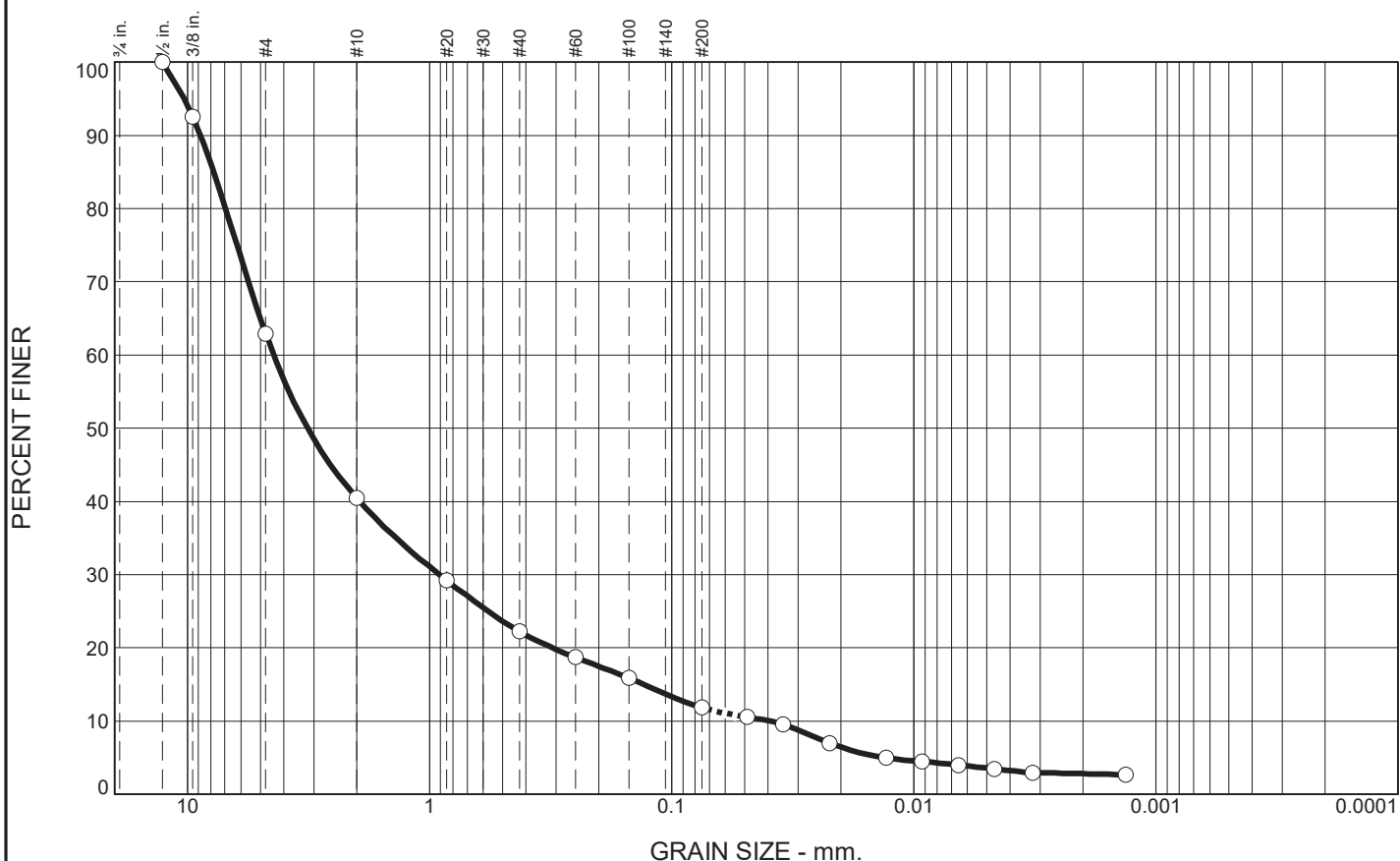
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	37.1	22.4	18.2	10.5	8.2	3.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.5	100.0		
.375	92.6		
#4	62.9		
#10	40.5		
#20	29.2		
#40	22.3		
#60	18.7		
#100	15.9		
#200	11.8		
0.0489 mm.	10.5		
0.0348 mm.	9.5		
0.0223 mm.	7.0		
0.0130 mm.	5.0		
0.0092 mm.	4.5		
0.0065 mm.	4.0		
0.0046 mm.	3.5		
0.0032 mm.	2.9		
0.0013 mm.	2.7		

**Soil Description**  
DARK GRAY AND BROWN POORLY GRADED SAND WITH SILT AND GRAVEL

**Atterberg Limits**  
PL= 57      LL= 47      PI= NP

**Coefficients**  
D<sub>90</sub>= 8.8427      D<sub>85</sub>= 7.7995      D<sub>60</sub>= 4.4077  
D<sub>50</sub>= 3.1925      D<sub>30</sub>= 0.9113      D<sub>15</sub>= 0.1303  
D<sub>10</sub>= 0.0394      C<sub>u</sub>= 111.78      C<sub>c</sub>= 4.78

**Classification**  
USCS= SP-SM      AASHTO= A-1-a

**Remarks**  
F.M.=4.07

\* (no specification provided)

Source of Sample: XPW-01  
Sample Number: 0820

Depth: 8.5'-9.0'

Date: 3-16-21



Client: RAMBOLL ENVIRON US CORP.  
Project: NEWTON POWER STATION

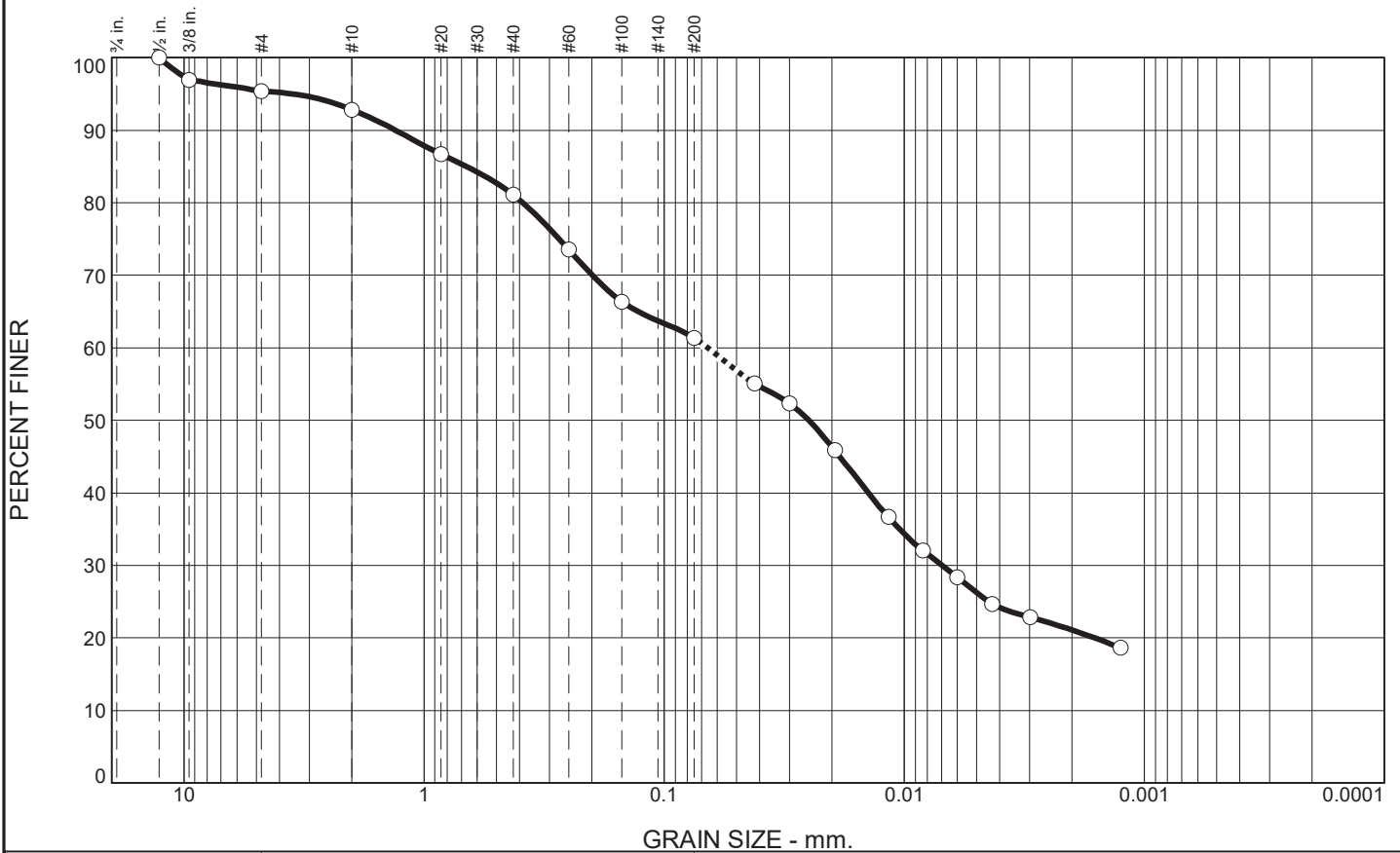
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	4.6	2.6	11.7	19.8	35.1	26.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.5	100.0		
.375	96.9		
#4	95.4		
#10	92.8		
#20	86.7		
#40	81.1		
#60	73.5		
#100	66.3		
#200	61.3		
0.0419 mm.	55.1		
0.0300 mm.	52.3		
0.0195 mm.	45.9		
0.0116 mm.	36.7		
0.0084 mm.	32.1		
0.0060 mm.	28.4		
0.0043 mm.	24.7		
0.0030 mm.	22.9		
0.0013 mm.	18.7		

\* (no specification provided)

**Soil Description**  
GRAY AND BROWN SANDY LEAN CLAY

**Atterberg Limits**  
 PL= 17      LL= 35      PI= 18

**Coefficients**  
 D<sub>90</sub>= 1.3206      D<sub>85</sub>= 0.6662      D<sub>60</sub>= 0.0657  
 D<sub>50</sub>= 0.0250      D<sub>30</sub>= 0.0070      D<sub>15</sub>=  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= CL                      AASHTO= A-6(8)

**Remarks**  
 F.M.=0.98

Source of Sample: XPW-01  
Sample Number: 0840

Depth: 15.5'-16.0'

Date: 3-16-21



Client: RAMBOLL ENVIRON US CORP.

Project: NEWTON POWER STATION

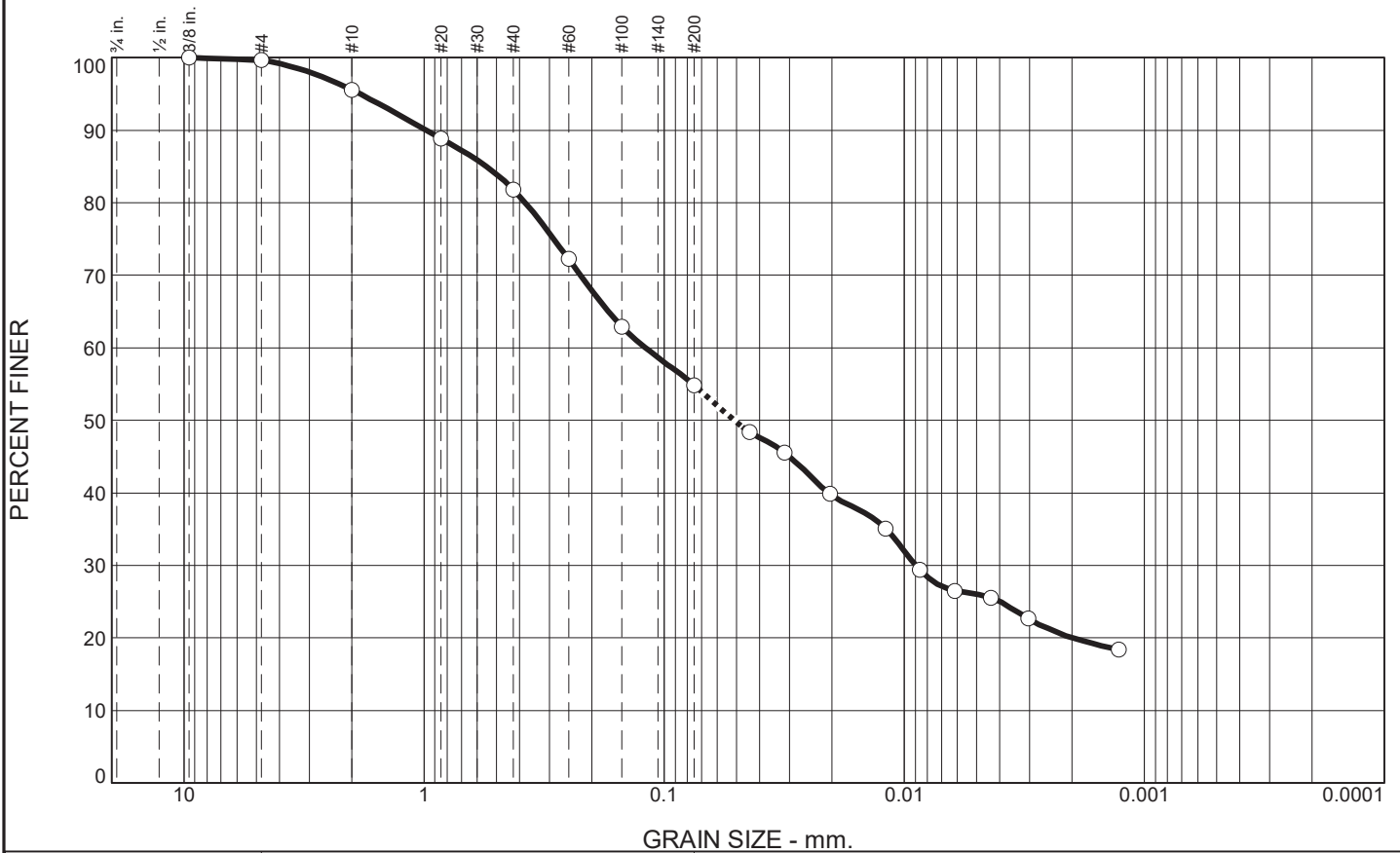
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.3	4.1	13.8	26.9	28.9	26.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	99.7		
#10	95.6		
#20	88.8		
#40	81.8		
#60	72.2		
#100	62.9		
#200	54.9		
0.0440 mm.	48.4		
0.0315 mm.	45.5		
0.0203 mm.	39.8		
0.0119 mm.	35.1		
0.0086 mm.	29.4		
0.0061 mm.	26.5		
0.0044 mm.	25.5		
0.0030 mm.	22.7		
0.0013 mm.	18.4		

**Soil Description**  
 VERY DARK GRAY, GRAY AND BROWN SANDY LEAN CLAY

**Atterberg Limits**  
 PL= 16      LL= 36      PI= 20

**Coefficients**  
 D<sub>90</sub>= 0.9818      D<sub>85</sub>= 0.5511      D<sub>60</sub>= 0.1197  
 D<sub>50</sub>= 0.0512      D<sub>30</sub>= 0.0090      D<sub>15</sub>=  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= CL                      AASHTO= A-6(8)

**Remarks**  
 F.M.=0.88

\* (no specification provided)

Source of Sample: XPW-02  
 Sample Number: 1530

Depth: 8.0'-8.5'

Date: 3-16-21



Client: RAMBOLL ENVIRON US CORP.

Project: NEWTON POWER STATION

Project No: 11215019

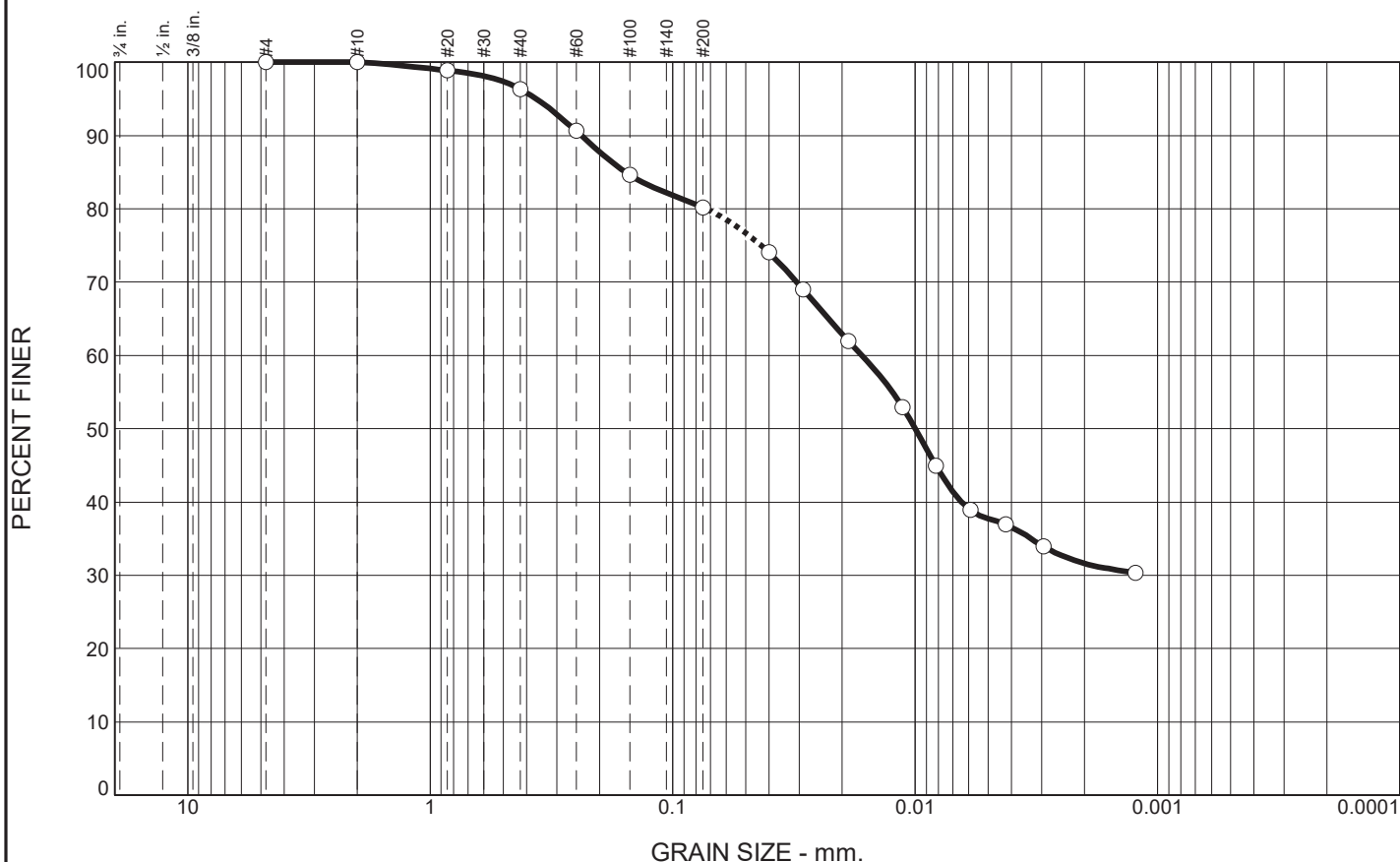
Figure

Tested By: SJH

Checked By: WPQ



# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	3.7	16.1	42.5	37.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	98.9		
#40	96.3		
#60	90.6		
#100	84.6		
#200	80.2		
0.0401 mm.	74.0		
0.0290 mm.	69.0		
0.0189 mm.	62.0		
0.0113 mm.	53.0		
0.0082 mm.	44.9		
0.0059 mm.	38.9		
0.0042 mm.	36.9		
0.0030 mm.	33.9		
0.0012 mm.	30.4		

\* (no specification provided)

**Soil Description**  
GRAY AND DARK BROWN LEAN CLAY WITH SAND

**Atterberg Limits**  
 PL= 14      LL= 36      PI= 22

**Coefficients**  
 D<sub>90</sub>= 0.2379      D<sub>85</sub>= 0.1563      D<sub>60</sub>= 0.0166  
 D<sub>50</sub>= 0.0100      D<sub>30</sub>=                      D<sub>15</sub>=  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= CL      AASHTO= A-6(16)

**Remarks**  
 F.M.=0.25

Source of Sample: XPW-02  
Sample Number: 1545

Depth: 16.5'-17.0'

Date: 3-16-21



Client: RAMBOLL ENVIRON US CORP.  
Project: NEWTON POWER STATION

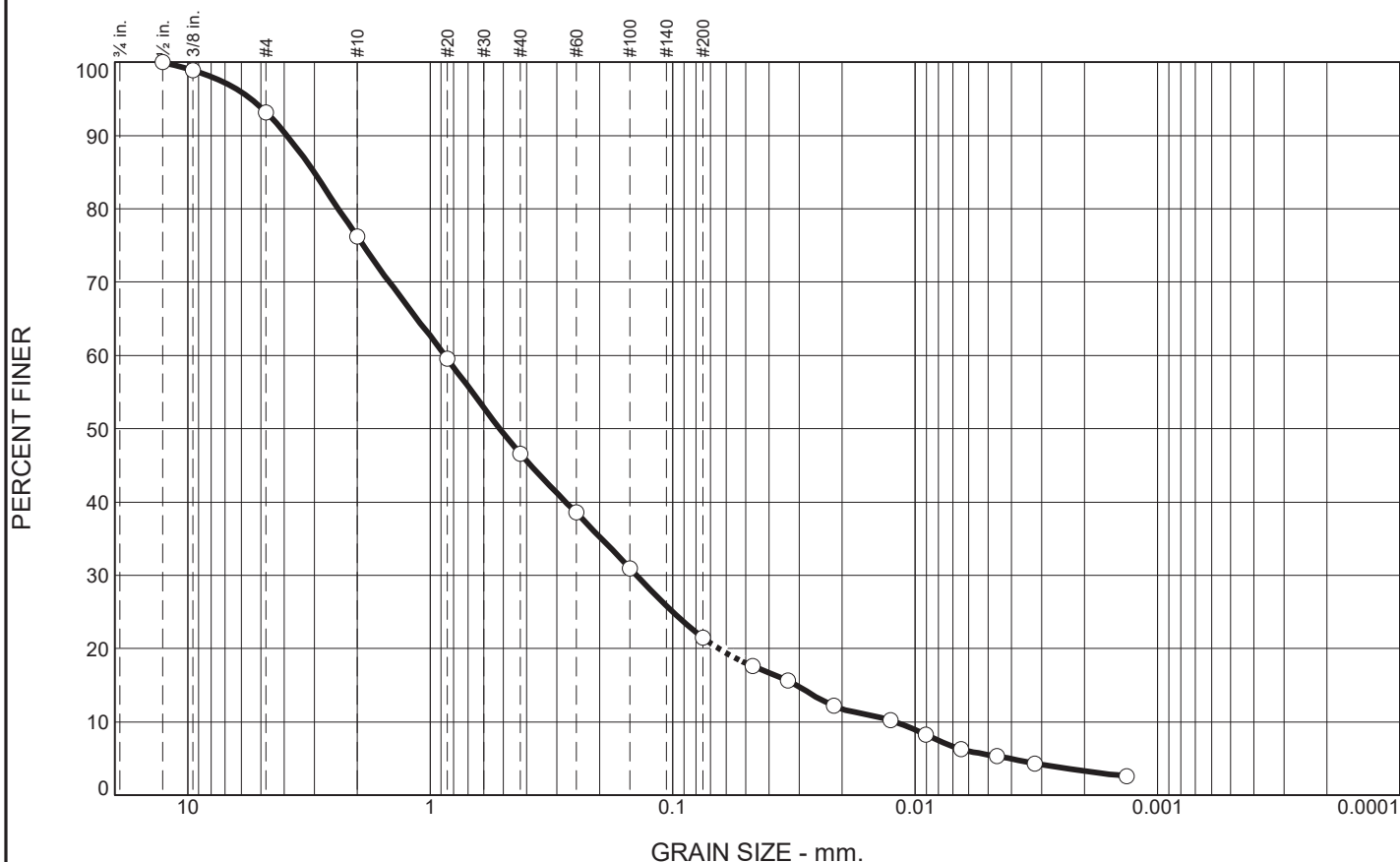
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	6.8	17.0	29.6	25.1	16.0	5.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.5	100.0		
.375	98.9		
#4	93.2		
#10	76.2		
#20	59.5		
#40	46.6		
#60	38.6		
#100	30.9		
#200	21.5		
0.0468 mm.	17.6		
0.0335 mm.	15.6		
0.0217 mm.	12.2		
0.0127 mm.	10.2		
0.0091 mm.	8.3		
0.0065 mm.	6.3		
0.0046 mm.	5.3		
0.0032 mm.	4.3		
0.0013 mm.	2.6		

**Soil Description**  
DARK BROWNISH GRAY SILTY SAND

**Atterberg Limits**  
 PL= 27      LL= 33      PI= 6

**Coefficients**  
 D<sub>90</sub>= 3.8998      D<sub>85</sub>= 3.0199      D<sub>60</sub>= 0.8711  
 D<sub>50</sub>= 0.5157      D<sub>30</sub>= 0.1410      D<sub>15</sub>= 0.0309  
 D<sub>10</sub>= 0.0121      C<sub>u</sub>= 72.20      C<sub>c</sub>= 1.89

**Classification**  
 USCS= SM      AASHTO= A-1-b

**Remarks**  
 F.M.=2.37

\* (no specification provided)

Source of Sample: XPW-03  
Sample Number: 1355

Depth: 6.0'-6.5'

Date: 3-16-21



Client: RAMBOLL ENVIRON US CORP.

Project: NEWTON POWER STATION

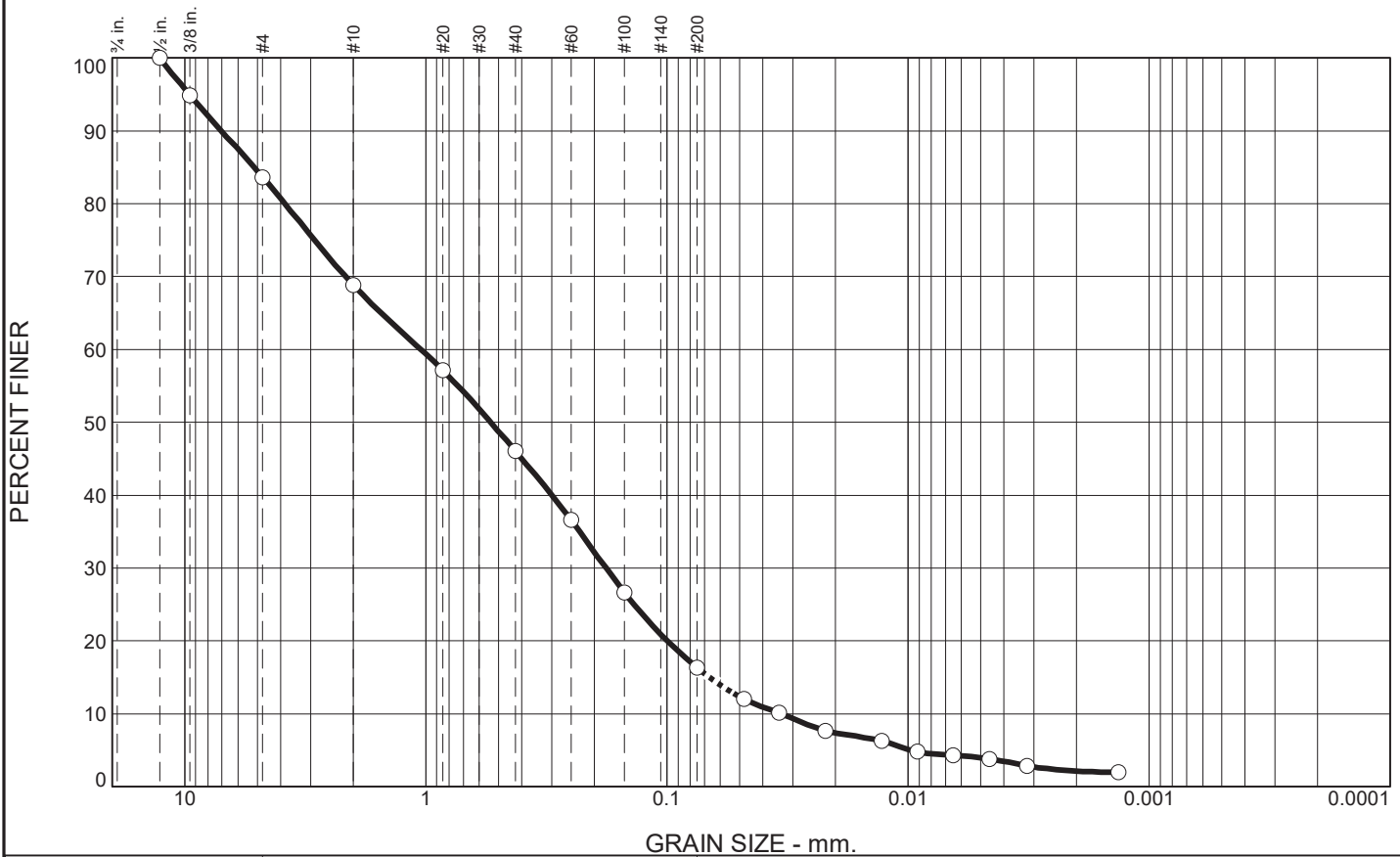
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	16.4	14.8	22.7	29.8	12.3	4.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.5	100.0		
.375	94.9		
#4	83.6		
#10	68.8		
#20	57.1		
#40	46.1		
#60	36.6		
#100	26.6		
#200	16.3		
0.0480 mm.	12.0		
0.0343 mm.	10.1		
0.0220 mm.	7.7		
0.0128 mm.	6.2		
0.0091 mm.	4.8		
0.0065 mm.	4.3		
0.0046 mm.	3.8		
0.0032 mm.	2.9		
0.0013 mm.	2.0		

\* (no specification provided)

**Soil Description**  
BROWNISH GRAY SILTY SAND WITH GRAVEL

**Atterberg Limits**  
 PL= 19      LL= 12      PI= NP

**Coefficients**  
 D<sub>90</sub>= 7.0585      D<sub>85</sub>= 5.1581      D<sub>60</sub>= 1.0482  
 D<sub>50</sub>= 0.5380      D<sub>30</sub>= 0.1789      D<sub>15</sub>= 0.0667  
 D<sub>10</sub>= 0.0337      C<sub>u</sub>= 31.15      C<sub>c</sub>= 0.91

**Classification**  
 USCS= SM      AASHTO= A-1-b

**Remarks**  
 F.M.=2.70

Source of Sample: XPW-03  
Sample Number: 1315

Depth: 15.5'-16.0'

Date: 3-11-21



Client: RAMBOLL ENVIRON US CORP.

Project: NEWTON POWER STATION

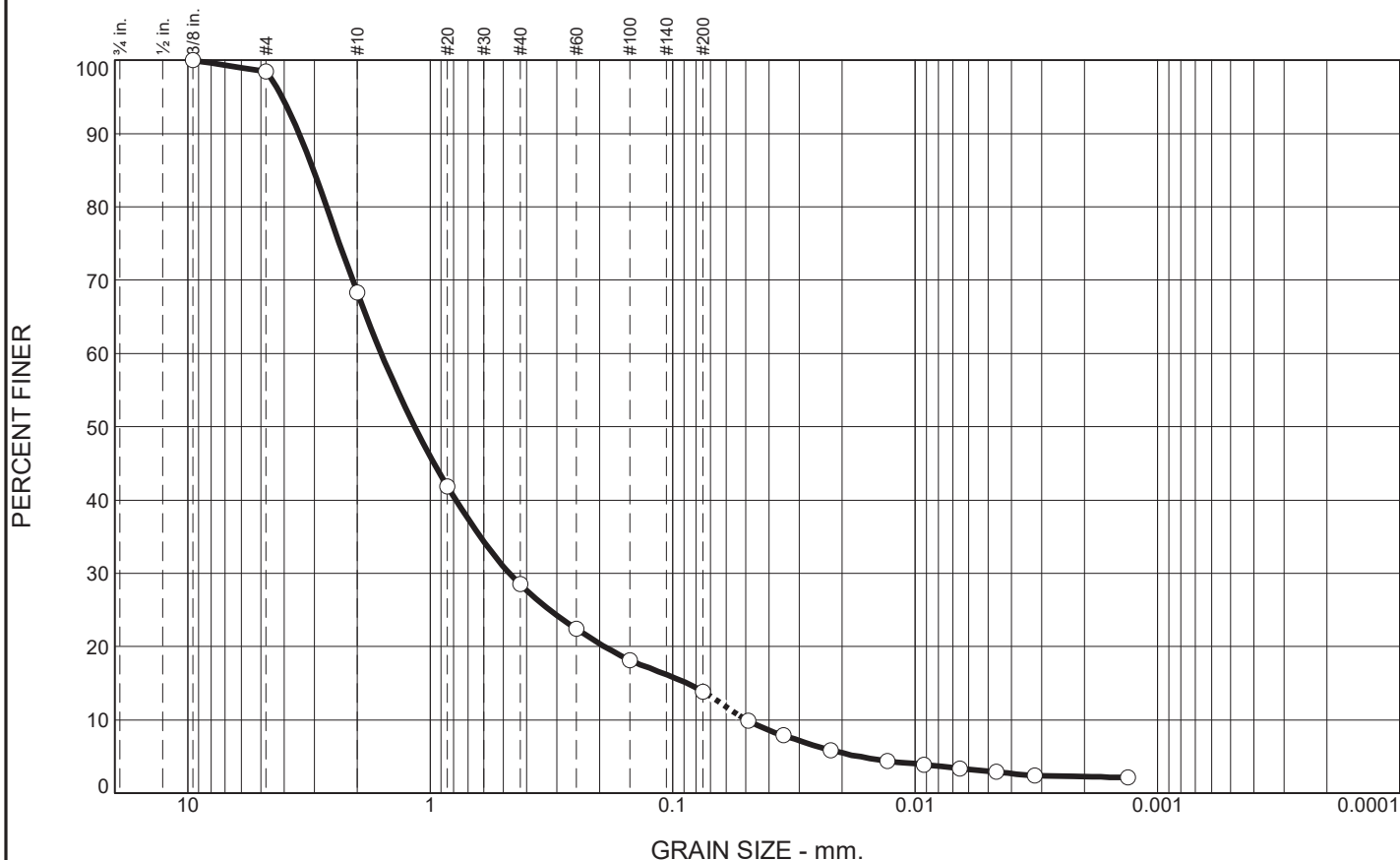
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	1.6	30.1	39.8	14.6	10.9	3.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375	100.0		
#4	98.4		
#10	68.3		
#20	41.9		
#40	28.5		
#60	22.4		
#100	18.2		
#200	13.9		
0.0487 mm.	9.9		
0.0348 mm.	7.9		
0.0223 mm.	5.9		
0.0130 mm.	4.4		
0.0092 mm.	3.9		
0.0065 mm.	3.4		
0.0046 mm.	2.9		
0.0032 mm.	2.4		
0.0013 mm.	2.1		

**Soil Description**  
GRAY SILTY SAND

**Atterberg Limits**  
 PL= 38      LL= 41      PI= 3

**Coefficients**  
 D<sub>90</sub>= 3.4781      D<sub>85</sub>= 3.0339      D<sub>60</sub>= 1.5927  
 D<sub>50</sub>= 1.1581      D<sub>30</sub>= 0.4698      D<sub>15</sub>= 0.0872  
 D<sub>10</sub>= 0.0496      C<sub>u</sub>= 32.14      C<sub>c</sub>= 2.80

**Classification**  
 USCS= SM      AASHTO= A-1-b

**Remarks**  
 F.M.=2.99

\* (no specification provided)

Source of Sample: XPW-04  
Sample Number: 1000

Depth: 6.5'-7.0'

Date: 3-16-21



Client: RAMBOLL ENVIRON US CORP.

Project: NEWTON POWER STATION

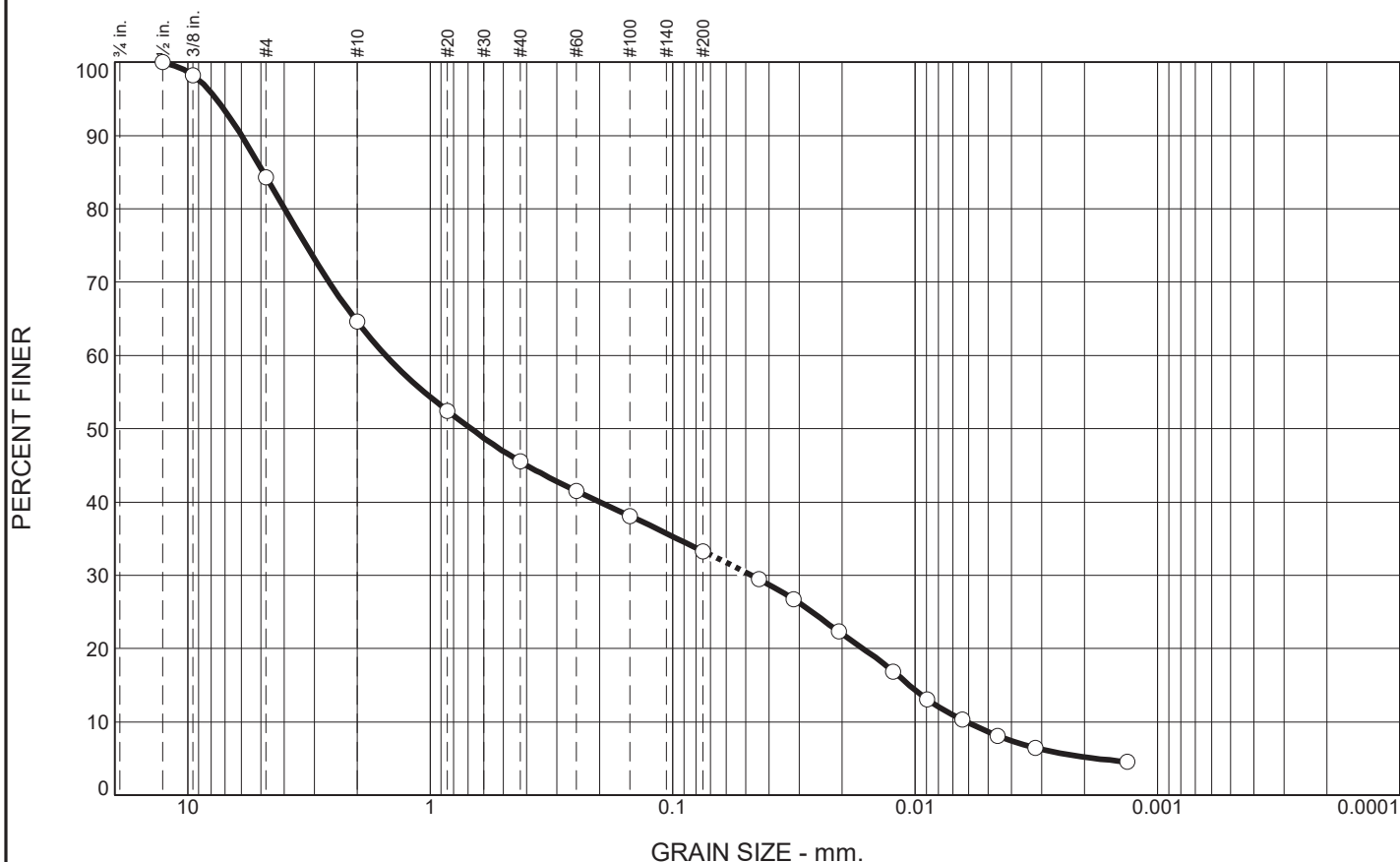
Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

# Particle Size Analysis of Soils ASTM D6913 and D7928



% Gravel		% Sand			% Fines	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	15.7	19.7	19.1	12.2	24.7	8.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.5	100.0		
.375	98.2		
#4	84.3		
#10	64.6		
#20	52.4		
#40	45.5		
#60	41.5		
#100	38.1		
#200	33.3		
0.0441 mm.	29.5		
0.0318 mm.	26.7		
0.0207 mm.	22.3		
0.0123 mm.	16.9		
0.0089 mm.	13.0		
0.0064 mm.	10.3		
0.0046 mm.	8.1		
0.0032 mm.	6.5		
0.0013 mm.	4.5		

\* (no specification provided)

**Soil Description**  
DARK BROWNISH GRAY SILTY SAND WITH GRAVEL

**Atterberg Limits**  
 PL= 42      LL= 46      PI= 4

**Coefficients**  
 D<sub>90</sub>= 6.0007      D<sub>85</sub>= 4.8822      D<sub>60</sub>= 1.5250  
 D<sub>50</sub>= 0.6794      D<sub>30</sub>= 0.0473      D<sub>15</sub>= 0.0106  
 D<sub>10</sub>= 0.0061      C<sub>u</sub>= 248.95      C<sub>c</sub>= 0.24

**Classification**  
 USCS= SM      AASHTO= A-2-5(0)

**Remarks**  
 F.M.=2.64

Source of Sample: XPW-04  
Sample Number: 1020

Depth: 15.5'-16.0'

Date: 3-16-21



Client: RAMBOLL ENVIRON US CORP.

Project: NEWTON POWER STATION

Project No: 11215019

Figure

Tested By: SJH

Checked By: WPQ

Hydraulic Conductivity of Saturated Porous Materials  
Using a Flexible-Wall Permeameter  
ASTM D5084

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP.**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. APW-11  
TIME SAMPLED: 8:05  
DEPTH: 10.0'-12.0'  
CLASSIFICATION BROWN SANDY LEAN CLAY

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	111.7	112.0
WATER CONTENT (%)	17.8	17.7
DIAMETER (cm)	7.131	7.163
LENGTH (cm)	10.248	10.130
B VALUE PARAMETER:	0.99	
HYDRAULIC GRADIENT (MAXIMUM)	19.49	
PERCENT SATURATION	99.5	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>8.57E-08</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP.**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. APW-11  
TIME SAMPLED: 10:50  
DEPTH: 60.5'-61.0'  
CLASSIFICATION GRAYISH BROWN LEAN CLAY WITH SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	110.5	117.8
WATER CONTENT (%)	17.8	15.6
DIAMETER (cm)	6.070	5.968
LENGTH (cm)	14.172	13.755
B VALUE PARAMETER:	0.99	
HYDRAULIC GRADIENT (MAXIMUM)	16.57	
PERCENT SATURATION	99.5	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>1.87E-07</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.



TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP.**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. APW-11  
TIME SAMPLED: 11:15  
DEPTH: 80.0'-82.0'  
CLASSIFICATION DARK GRAY LEAN CLAY WITH SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	116.1	117.2
WATER CONTENT (%)	16.5	16.0
DIAMETER (cm)	7.258	7.230
LENGTH (cm)	10.762	10.739
B VALUE PARAMETER:	0.98	
HYDRAULIC GRADIENT (MAXIMUM)	18.56	
PERCENT SATURATION	99.2	
HYDRAULIC CONDUCTIVITY k (cm/sec)	2.94E-08	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. APW-12  
TIME SAMPLED: 8:20  
DEPTH: 20.0'-22.0'  
CLASSIFICATION BROWN AND RUST BROWN CLAYEY SAND - ROOTS NOTED

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	118.3	120.4
WATER CONTENT (%)	15.1	14.5
DIAMETER (cm)	7.256	7.229
LENGTH (cm)	8.539	8.448
B VALUE PARAMETER:	0.96	
HYDRAULIC GRADIENT (MAXIMUM)	23.39	
PERCENT SATURATION	99.6	
HYDRAULIC CONDUCTIVITY k (cm/sec)	1.07E-07	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. APW-12  
TIME SAMPLED: 8:45  
DEPTH: 26.0'-26.5'  
CLASSIFICATION BROWN SILTY SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	113.0	114.8
WATER CONTENT (%)	8.4	16.3
DIAMETER (cm)	6.163	6.121
LENGTH (cm)	15.243	15.219
B VALUE PARAMETER:	0.95	
HYDRAULIC GRADIENT (MAXIMUM)	3.88	
PERCENT SATURATION	98.4	
HYDRAULIC CONDUCTIVITY k (cm/sec)	8.43E-06	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. APW-12  
TIME SAMPLED: 12:45  
DEPTH: 85.0'-87.0'  
CLASSIFICATION DARK GRAY LEAN CLAY WITH SAND - SILT POCKETS NOTED

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	116.4	118.0
WATER CONTENT (%)	14.4	15.9
DIAMETER (cm)	7.234	7.202
LENGTH (cm)	7.464	7.431
B VALUE PARAMETER:	0.95	
HYDRAULIC GRADIENT (MAXIMUM)	22.05	
PERCENT SATURATION	99.8	
HYDRAULIC CONDUCTIVITY k (cm/sec)	2.36E-08	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAN=MBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. APW-13  
TIME SAMPLED: 8:45  
DEPTH: 85.0'-87.0'  
CLASSIFICATION DARK GRAY AND GRAY POORLY GRADED SAND WITH SILT

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	87.1	89.2
WATER CONTENT (%)	21.2	32.0
DIAMETER (cm)	7.090	7.039
LENGTH (cm)	9.808	9.718
B VALUE PARAMETER:	0.96	
HYDRAULIC GRADIENT (MAXIMUM)	6.03	
PERCENT SATURATION	99.7	
HYDRAULIC CONDUCTIVITY k (cm/sec)	9.63E-05	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. APW-13  
TIME SAMPLED: 13:45  
DEPTH: 61.0'-61.5'  
CLASSIFICATION BROWN SILTY SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	114.3	117.3
WATER CONTENT (%)	14.5	15.4
DIAMETER (cm)	6.038	6.126
LENGTH (cm)	10.971	10.386
B VALUE PARAMETER:	0.96	
HYDRAULIC GRADIENT (MAXIMUM)	5.39	
PERCENT SATURATION	99.5	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>2.18E-04</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. APW-14  
TIME SAMPLED: 9:55  
DEPTH: 45.0'-47.0'  
CLASSIFICATION BROWN SANDY LEAN CLAY

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	119.6	120.3
WATER CONTENT (%)	12.4	14.2
DIAMETER (cm)	7.380	7.372
LENGTH (cm)	10.775	10.736
B VALUE PARAMETER:	0.98	
HYDRAULIC GRADIENT (MAXIMUM)	18.54	
PERCENT SATURATION	100.5	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>9.65E-08</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
 PROJECT NAME: **NEWTON POWER STATION**  
 CLIENT: **RAMBOLL ENVIRON US CORP**  
 LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. APW-14  
 TIME SAMPLED: 10:35  
 DEPTH: 56.0'-56.5'  
 CLASSIFICATION GRAY AND BROWNISH GRAY LEAN CLAY WITH SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	104.6	107.9
WATER CONTENT (%)	18.0	20.7
DIAMETER (cm)	6.049	6.023
LENGTH (cm)	9.965	9.749
B VALUE PARAMETER:	0.97	
HYDRAULIC GRADIENT (MAXIMUM)	20.05	
PERCENT SATURATION	99.6	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>2.74E-07</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.



TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. APW-15  
TIME SAMPLED: 10:05  
DEPTH: 20.0'-22.0'  
CLASSIFICATION BROWN SANDY LEAN CLAY

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	109.8	109.9
WATER CONTENT (%)	18.5	19.0
DIAMETER (cm)	7.189	7.201
LENGTH (cm)	8.227	8.190
B VALUE PARAMETER:	0.95	
HYDRAULIC GRADIENT (MAXIMUM)	24.28	
PERCENT SATURATION	97.7	
HYDRAULIC CONDUCTIVITY k (cm/sec)	3.21E-08	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

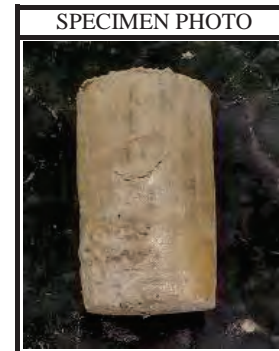
TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. APW-15  
TIME SAMPLED: 7:55  
DEPTH: 101.0'-101.5'  
CLASSIFICATION GRAY SILTY SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	116.4	122.2
WATER CONTENT (%)	12.1	13.4
DIAMETER (cm)	5.990	5.964
LENGTH (cm)	10.539	10.126
B VALUE PARAMETER:	0.96	
HYDRAULIC GRADIENT (MAXIMUM)	8.95	
PERCENT SATURATION	97.6	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>3.50E-06</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. APW-15  
TIME SAMPLED: 9:05  
DEPTH: 105.0'-107.0'  
CLASSIFICATION DARK GRAY LEAN CLAY WITH SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	107.8	109.3
WATER CONTENT (%)	19.1	19.6
DIAMETER (cm)	7.178	7.136
LENGTH (cm)	5.565	5.551
B VALUE PARAMETER:	0.96	
HYDRAULIC GRADIENT (MAXIMUM)	29.58	
PERCENT SATURATION	99.5	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>8.20E-08</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. APW-17  
TIME SAMPLED: 9:45  
DEPTH: 40.0'-42.0'  
CLASSIFICATION GRAY LEAN CLAY WITH SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	108.8	109.5
WATER CONTENT (%)	16.6	19.6
DIAMETER (cm)	7.262	7.262
LENGTH (cm)	9.605	9.545
B VALUE PARAMETER:	0.98	
HYDRAULIC GRADIENT (MAXIMUM)	28.12	
PERCENT SATURATION	98.4	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>3.34E-08</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRN US CORP**  
LOCATION : **NEWTON , IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. SB-300  
TIME SAMPLED: 8:25  
DEPTH: 50.0'-52.0'  
CLASSIFICATION GRAY LEAN CLAY WITH SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	122.7	123.5
WATER CONTENT (%)	12.9	13.3
DIAMETER (cm)	7.242	7.217
LENGTH (cm)	10.288	10.288
B VALUE PARAMETER:	0.98	
HYDRAULIC GRADIENT (MAXIMUM)	19.42	
PERCENT SATURATION	99.1	
HYDRAULIC CONDUCTIVITY k (cm/sec)	7.29E-08	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON , IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. SB-300  
TIME SAMPLED: 9:05  
DEPTH: 61.5'-62.0'  
CLASSIFICATION GRAYISH BROWN SILTY SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	109.6	113.2
WATER CONTENT (%)	13.6	17.7
DIAMETER (cm)	5.903	5.916
LENGTH (cm)	7.615	7.338
B VALUE PARAMETER:	0.98	
HYDRAULIC GRADIENT (MAXIMUM)	26.23	
PERCENT SATURATION	99.7	
HYDRAULIC CONDUCTIVITY k (cm/sec)	1.85E-05	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. SB-300  
TIME SAMPLED: 9:20  
DEPTH: 62.0'-62.5'  
CLASSIFICATION GRAYISH BROWN SANDY SILTY CLAY

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	124.6	128.9
WATER CONTENT (%)	11.1	13.3
DIAMETER (cm)	6.067	6.043
LENGTH (cm)	13.366	13.026
B VALUE PARAMETER:	0.98	
HYDRAULIC GRADIENT (MAXIMUM)	7.06	
PERCENT SATURATION	119.5	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>4.32E-06</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. SB-300  
TIME SAMPLED: 13:50  
DEPTH: 105.0'-107.0'  
CLASSIFICATION DARK GRAY SANDY LEAN CLAY

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	116.4	116.5
WATER CONTENT (%)	14.1	16.4
DIAMETER (cm)	7.328	7.336
LENGTH (cm)	7.558	7.534
B VALUE PARAMETER:	0.96	
HYDRAULIC GRADIENT (MAXIMUM)	26.43	
PERCENT SATURATION	98.8	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>4.28E-08</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.



TERRACON PROJECT NO. **11215019**  
 PROJECT NAME: **NEWTON POWER STATION**  
 CLIENT: **RAMBOLL ENVIRON US CORP**  
 LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. SB-301  
 TIME SAMPLED: 13:30  
 DEPTH: 48.0'-50.0'  
 CLASSIFICATION BROWN AND GRAY SANDY LEAN CLAY

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	117.3	117.7
WATER CONTENT (%)	14.1	15.8
DIAMETER (cm)	7.204	7.230
LENGTH (cm)	10.348	10.239
B VALUE PARAMETER:	0.99	
HYDRAULIC GRADIENT (MAXIMUM)	19.30	
PERCENT SATURATION	99.6	
HYDRAULIC CONDUCTIVITY k (cm/sec)	6.63E-08	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. SB-301  
TIME SAMPLED: 16:00  
DEPTH: 68.5'-69.0'  
CLASSIFICATION GRAY LEAN CLAY WITH SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	121.3	124.0
WATER CONTENT (%)	13.1	13.4
DIAMETER (cm)	6.062	6.049
LENGTH (cm)	8.581	8.434
B VALUE PARAMETER:	0.96	
HYDRAULIC GRADIENT (MAXIMUM)	23.28	
PERCENT SATURATION	99.2	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>4.05E-08</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. SB-301  
TIME SAMPLED: 9:46  
DEPTH: 98.0'-100.0'  
CLASSIFICATION DARK BROWN TO DARK GRAY LEAN CLAY WITH SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	118.2	119.1
WATER CONTENT (%)	15.7	15.9
DIAMETER (cm)	7.200	7.196
LENGTH (cm)	9.694	9.629
B VALUE PARAMETER:	0.96	
HYDRAULIC GRADIENT (MAXIMUM)	16.98	
PERCENT SATURATION	102.5	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>6.13E-08</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. SB-301  
TIME SAMPLED: 9:46  
DEPTH: 98.0'-100.0'  
CLASSIFICATION DARK BROWN TO DARK GRAY LEAN CLAY WITH SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	118.2	119.1
WATER CONTENT (%)	15.7	15.9
DIAMETER (cm)	7.200	7.196
LENGTH (cm)	9.694	9.629
B VALUE PARAMETER:	0.96	
HYDRAULIC GRADIENT (MAXIMUM)	16.98	
PERCENT SATURATION	102.5	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>6.13E-08</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO. XPW-01  
TIME SAMPLED: 8:40  
DEPTH: 15.0'-15.5'  
CLASSIFICATION GRAY AND BROWN SANDY LEAN CLAY  
NOTE: SAMPLE DISTURBED, SAND LAYERS NOTED

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	84.4	85.6
WATER CONTENT (%)	12.6	31.3
DIAMETER (cm)	6.152	6.120
LENGTH (cm)	15.217	15.168
B VALUE PARAMETER:	0.96	
HYDRAULIC GRADIENT (MAXIMUM)	13.13	
PERCENT SATURATION	86.1	
HYDRAULIC CONDUCTIVITY k (cm/sec)	1.58E-05	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
 PROJECT NAME: **NEWTON POWER STATION**  
 CLIENT: **RAMBOLL ENVIRON US CORP**  
 LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO.                   XPW-02  
 TIME SAMPLED:               15:30  
 DEPTH:                        7.5'-8.0'  
 CLASSIFICATION              VERY DARK GRAY TO GRAY AND BROWN SANDY LEAN CLAY

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	92.9	98.3
WATER CONTENT (%)	29.1	26.1
DIAMETER (cm)	6.069	6.042
LENGTH (cm)	12.025	11.469
B VALUE PARAMETER:	0.98	
HYDRAULIC GRADIENT (MAXIMUM)	13.69	
PERCENT SATURATION	99.5	
HYDRAULIC CONDUCTIVITY k (cm/sec)	6.07E-08	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO.                   XPW-02  
TIME SAMPLED:               15:45  
DEPTH:                        16.0'-16.5'  
CLASSIFICATION              GRAY AND DARK BROWN LEAN CLAY WITH SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	103.7	106.6
WATER CONTENT (%)	21.8	20.9
DIAMETER (cm)	6.002	5.979
LENGTH (cm)	11.395	11.179
B VALUE PARAMETER:	0.97	
HYDRAULIC GRADIENT (MAXIMUM)	17.53	
PERCENT SATURATION	98.2	
HYDRAULIC CONDUCTIVITY k (cm/sec)	7.38E-08	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON , IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO.                   XPW-02  
TIME SAMPLED:               15:45  
DEPTH:                        16.0'-16.5'  
CLASSIFICATION              GRAY AND DARK BROWN LEAN CLAY WITH SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	103.7	106.6
WATER CONTENT (%)	21.8	20.9
DIAMETER (cm)	6.002	5.979
LENGTH (cm)	11.395	11.179
B VALUE PARAMETER:	0.97	
HYDRAULIC GRADIENT (MAXIMUM)	17.53	
PERCENT SATURATION	98.2	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>7.38E-08</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.



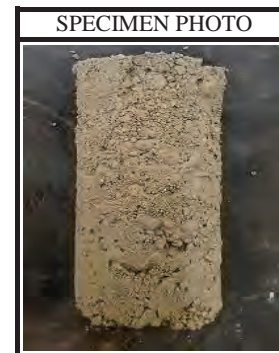
TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO.           XPW-04  
TIME SAMPLED:       10:00  
DEPTH:                7.0'-7.5'  
CLASSIFICATION       GRAY SILTY SAND

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	73.9	75.6
WATER CONTENT (%)	31.1	45.1
DIAMETER (cm)	6.133	6.116
LENGTH (cm)	15.283	15.019
B VALUE PARAMETER:	0.95	
HYDRAULIC GRADIENT (MAXIMUM)	6.17	
PERCENT SATURATION	99.7	
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>1.61E-04</b>	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

TERRACON PROJECT NO. **11215019**  
PROJECT NAME: **NEWTON POWER STATION**  
CLIENT: **RAMBOLL ENVIRON US CORP**  
LOCATION : **NEWTON, IL**

4/9/2021

**SUMMARY OF TEST RESULTS**

BORING NO.                   XPW-04  
TIME SAMPLED:               10:20  
DEPTH:                        16.0'-16.5'  
CLASSIFICATION              DARK BROWN GRAY SILTY SAND WITH GRAVEL

	<u>INITIAL</u>	<u>FINAL</u>
DRY UNIT WEIGHT (pcf)	80.8	84.8
WATER CONTENT (%)	31.1	35.6
DIAMETER (cm)	6.118	6.068
LENGTH (cm)	14.041	13.607
B VALUE PARAMETER:	0.95	
HYDRAULIC GRADIENT (MAXIMUM)	6.72	
PERCENT SATURATION	97.9	
HYDRAULIC CONDUCTIVITY k (cm/sec)	7.83E-05	



(Percent saturation calculation is based on final measurements and a measured specific gravity.)

Deaired water was used as the liquid permeant.

Permeability of Granular Soils (Constant Head)  
ASTM D2434

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Laboratory Services Group      192 Exchange Blvd      Glendale Heights, Illinois 60139      Ph. (630) 717-4263

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PROJECT NO.:                      11215019

PROJECT:                              NEWTON POWER STATION

DATE:                                  3/18/2021

### SAMPLE INFORMATION

BORING NO.                      APW-17

TIME SAMPLED:                      10:45

DEPTH:                                70.5'-71.0'

CLASSIFICATION                      GRAY WELL GRADED SAND WITH SILT

	<u>INITIAL</u>
DRY UNIT WEIGHT (pcf)	110.2
WATER CONTENT (%)	7.8
DIAMETER (cm)	2.57
LENGTH (cm)	11.85



### SUMMARY OF TEST RESULTS

HYDRAULIC GRADIENT	1.3
HEAD HEIGHT (cm)	15.00
VOID RATIO	0.577
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>7.21E-04</b>

Laboratory Services Group	192 Exchange Blvd	Glendale Heights, Illinois 60139	Ph. (630) 717-4263
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PROJECT NO.:	11215019
PROJECT:	NEWTON POWER STATION
DATE:	3/18/2021

### SAMPLE INFORMATION

<u>BORING NO.</u>	APW-17
TIME SAMPLED:	12:00
DEPTH:	91.0'-91.5'
CLASSIFICATION	GRAY WELL GRADED SAND WITH SILT

	<u>INITIAL</u>
DRY UNIT WEIGHT (pcf)	116.8
WATER CONTENT (%)	6.1
DIAMETER (cm)	2.57
LENGTH (cm)	11.85



### SUMMARY OF TEST RESULTS

HYDRAULIC GRADIENT	1.3
HEAD HEIGHT (cm)	15.00
VOID RATIO	0.488
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>6.39E-04</b>

**PERMEABILITY OF GRANULAR SOILS  
CONSTANT HEAD METHOD IN RIGID WALL PERMEAMETER  
ASTM D 2434**

Laboratory Services Group	192 Exchange Blvd	Glendale Heights, Illinois 60139	Ph. (630) 717-4263
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PROJECT NO.:	11215019
PROJECT:	NEWTON POWER STATION
DATE:	3/18/2021

SAMPLE INFORMATION

<u>BORING NO.</u>	XPW-03
TIME SAMPLED:	12:55
DEPTH:	5.5'-6.0'
CLASSIFICATION	DARK BROWNISH GRAY SILTY SAND

	<u>INITIAL</u>
DRY UNIT WEIGHT (pcf)	75.3
WATER CONTENT (%)	17.4
DIAMETER (cm)	2.57
LENGTH (cm)	11.85



SUMMARY OF TEST RESULTS

HYDRAULIC GRADIENT	1.3
HEAD HEIGHT (cm)	15.00
VOID RATIO	1.202
HYDRAULIC CONDUCTIVITY k (cm/sec)	<b>1.34E-03</b>

## **APPENDIX E GROUNDWATER CONTOUR MAPS AND ELEVATIONS**

## **GROUNDWATER CONTOUR MAPS**