



Scale: 1"=300'

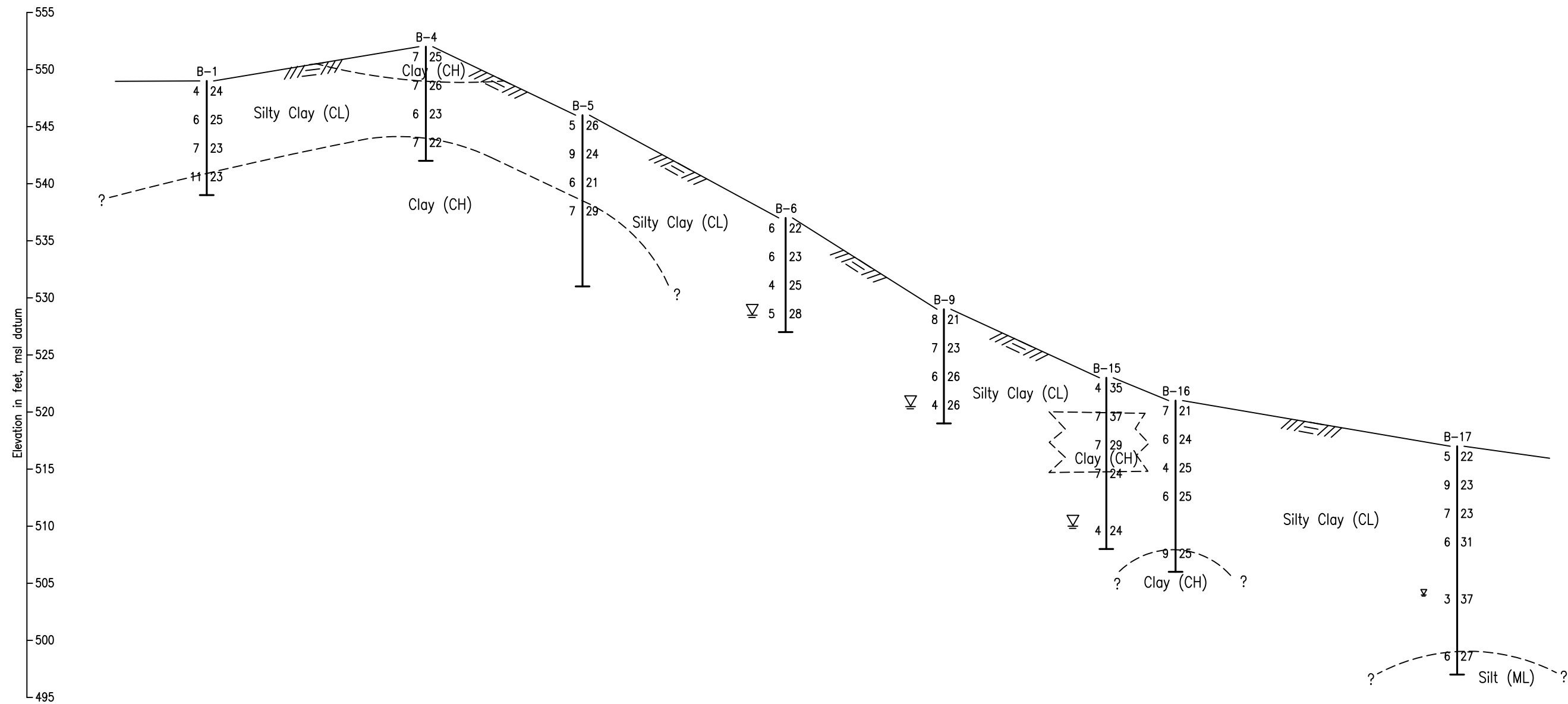
LEGEND

⊕ Boring location

BORING PLAN
 Oldenburg Industrial Park
 Washington, Missouri

Figure 1

SECTION A-A



SCALES

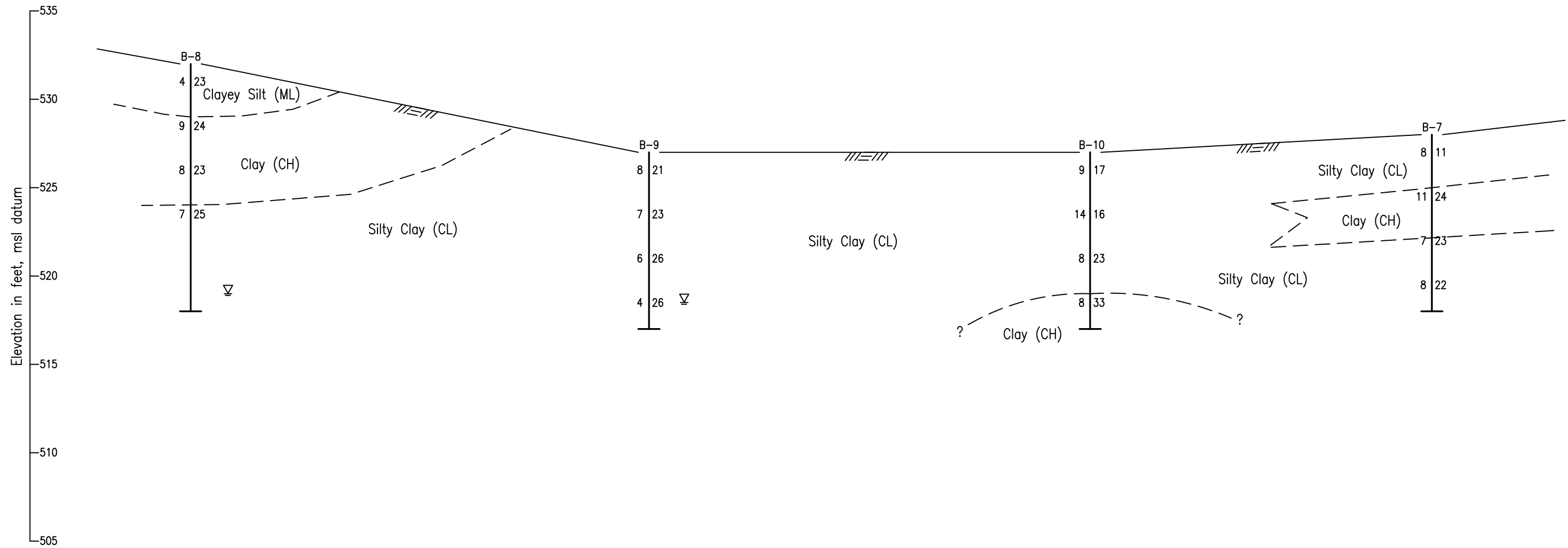
Horizontal: 1" = 300'
Vertical: 1" = 10'

NOTES

- 1) See Figure 1 for location of section.
- 2) See Figure 4 for legend.

GENERALIZED SOIL PROFILE
Oldenburg Industrial Park
Washington, Missouri

SECTION B-B



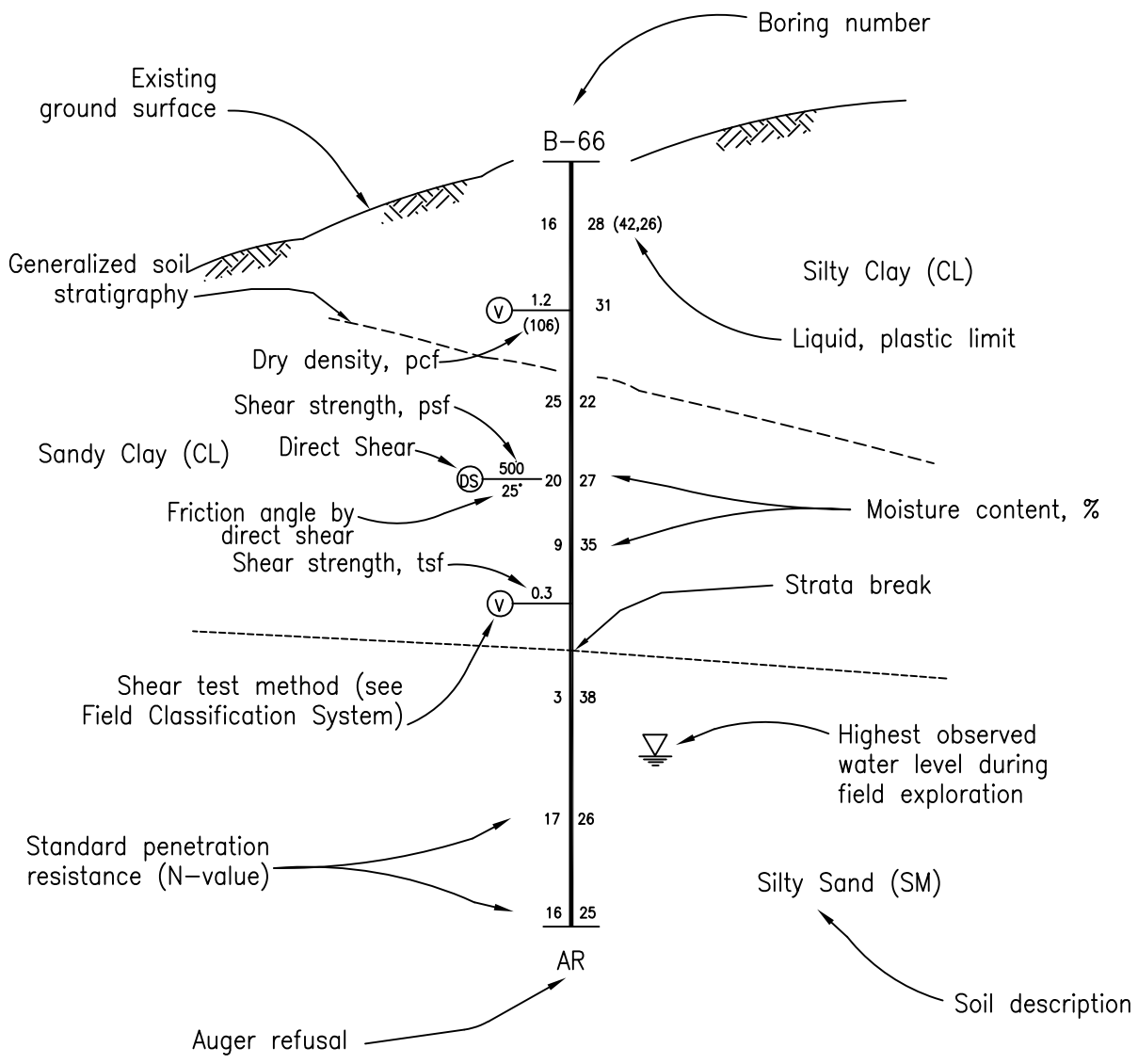
SCALES

Horizontal: 1" = 80'
 Vertical: 1" = 6'

NOTES

- 1) See Figure 1 for location of section.
- 2) See Figure 4 for legend.

GENERALIZED SOIL PROFILE
 Oldenburg Industrial Park
 Washington, Missouri



NOTE
 This is an example and does not represent an actual boring drilled at the site.

NOT TO SCALE

SOIL PROFILE LEGEND
 Oldenburg Industrial Park
 Washington, Missouri

15599

Figure 4

PROJECT NO. 15599

DATE: 5/10/23

LOCATION:

See Figure 1

DEPTH, FT.	COMPLETION DEPTH 10 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 549 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated									
			SPLIT SPOON	BLOWS/6 in. THREE 6-in. INCREMENTS UNDISTURBED SAMPLE			Dry Density, pcf	Water Content, %	Plastic Limit	Liquid Limit	Standard Penetration Resistance, Blows/Ft.	1	2	3	4	5
5	3 in. Topsoil Browish-gray soft Silty Clay (CL) - increasing clay, medium stiff below 3 feet		2 2 2	2 3 3			90	100	110	120	130					
10	Reddish-brown stiff Clay (CH) with rock fragments Boring terminated at 10 feet	8.0 10.0	2 3 4	4 5 6												
15																
20																
25																
30																
35																

WATER LEVEL OBSERVATIONS			NOTES
DURING DRILLING	Dry	FT.	Elevations approximated using Google Earth
AT COMPLETION	Dry	FT.	
AFTER	HRS.	FT.	

Shear Test Types - Static Cone: ● Pocket Penetrometer: ■ Unconf. Compr.: ▼ Miniature Vane: ▲ Field Vane: ◆

PROJECT NO. 15599

DATE: 5/10/23

LOCATION:

See Figure 1

DEPTH, FT.	COMPLETION DEPTH 6 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 587 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated												
			SPLIT SPOON	BLOWS/6 in. THREE 6-in. INCREMENTS UNDISTURBED SAMPLE			1	2	3	4	5								
							○ Dry Density, pcf 90 100 110 120 130												
							Plastic Limit Water Content, % Liquid Limit												
							⊗ Standard Penetration Resistance, Blows/Ft. 10 20 30 40 50												
	1 in. Topsoil																		
	Reddish-brown medium stiff silty Clay (CL)																		
		3.0		2 3 4															
5	Reddish-brown stiff Clay (CH) with rock fragments			8 7 8															
	Weathered rock	5.0																	
	Auger refusal at 6 feet	6.0																	
10																			
15																			
20																			
25																			
30																			
35																			

WATER LEVEL OBSERVATIONS			NOTES
DURING DRILLING	Dry	FT.	Elevations approximated using Google Earth
AT COMPLETION	Dry	FT.	
AFTER	HRS.	FT.	

Shear Test Types - Static Cone: ● Pocket Penetrometer: ■ Unconf. Compr.: ▼ Miniature Vane: ▲ Field Vane: ◆

PROJECT NO. 15599

DATE: 5/9/23

LOCATION:

See Figure 1

DEPTH, FT.	COMPLETION DEPTH 14 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 539 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated											
			SPLIT SPOON	BLOWS/6 in. THREE 6-in. INCREMENTS UNDISTURBED SAMPLE			1	2	3	4	5							
							Dry Density, pcf		Water Content, %			Standard Penetration Resistance, Blows/Ft.						
							90	100	110	120	130	10	20	30	40	50		
							Plastic Limit		Liquid Limit									
							⊗											
5	1 in. Topsoil Brownish-gray medium stiff Silty Clay (CL) with trace roots - gray, stiff below 3 feet	14.0		2 3 4														
10	- increasing silt, medium stiff below 6 feet			8 7 8														
15	- increasing clay below 12 feet			1 2 3														
20				2 3 3														
25																		
30																		
35																		
WATER LEVEL OBSERVATIONS			NOTES															
DURING DRILLING Dry FT.			Elevations approximated using Google Earth															
AT COMPLETION Dry FT.																		
AFTER HRS. FT.																		

PROJECT NO. 15599

DATE: 5/10/23

LOCATION:

See Figure 1

DEPTH, FT.	COMPLETION DEPTH 10 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 552 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated											
			SPLIT SPOON	BLOWS/6 in. THREE 6-in. INCREMENTS UNDISTURBED SAMPLE			○	●	■	▼	▲	◆						
							Dry Density, pcf	Water Content, %	Plastic Limit	Liquid Limit	⊗	Standard Penetration Resistance, Blows/Ft.						
							90	100	110	120	130	10	20	30	40	50		
	2 in. Topsoil																	
	Brown medium stiff Clay (CH) with trace roots			3														
		3.0		3														
5	Brown medium stiff Silty Clay (CL)			2														
				3														
				4														
	- reddish-brown below 6 feet			2														
				3														
				3														
10	Reddish-brown medium stiff Clay (CH) with trace rock fragments	8.0		2														
				3														
				4														
	Boring terminated at 10 feet	10.0																
15																		
20																		
25																		
30																		
35																		
WATER LEVEL OBSERVATIONS		NOTES																
DURING DRILLING	Dry	FT.	Elevations approximated using Google Earth															
AT COMPLETION	Dry	FT.																
AFTER	HRS.	FT.	Shear Test Types - Static Cone: ● Pocket Penetrometer: ■ Unconf. Compr.: ▼ Miniature Vane: ▲ Field Vane: ◆															

PROJECT NO. 15599

DATE: 5/9/23

LOCATION: See Figure 1

DEPTH, FT.	COMPLETION DEPTH 14 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 546 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated														
			SPLIT SPOON	BLOWS/6 in. THREE 6-in. INCREMENTS UNDISTURBED SAMPLE			1	2	3	4	5										
5	2 in. Topsoil Brownish-gray medium stiff Silty Clay (CL) - stiff below 3 feet - increasing silt, medium stiff below 6 feet			2 2 3																	
10	Reddish-brown and gray medium stiff Clay (CH)	8.0		3 3 3																	
15	Boring terminated at 14 feet	14.0		2 3 4																	
20																					
25																					
30																					
35																					
WATER LEVEL OBSERVATIONS		NOTES																			
DURING DRILLING Dry FT.		Elevations approximated using Google Earth																			
AT COMPLETION Dry FT.																					
AFTER HRS. FT.																					

PROJECT NO. 15599

DATE: 5/10/23

LOCATION:

See Figure 1

DEPTH, FT.	COMPLETION DEPTH 10 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 535 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated													
			SPLIT SPOON	BLOWS/6 in. THREE 6-in. INCREMENTS UNDISTURBED SAMPLE			1	2	3	4	5									
	4 in. Topsoil Brown medium stiff Silty Clay (CL)			2 3 3																
5	- increasing silt below 3 feet			2 3 3																
	- gray, soft below 6 feet			1 2 2																
10	-medium stiff below 8 feet			1 2 3																
	Boring terminated at 10 feet	10.0																		
15																				
20																				
25																				
30																				
35																				

WATER LEVEL OBSERVATIONS			NOTES		
DURING DRILLING	8.5	FT.	Elevations approximated using Google Earth		
AT COMPLETION		FT.			
AFTER	HRS.	FT.			

Shear Test Types - Static Cone: ● Pocket Penetrometer: ■ Unconf. Compr.: ▼ Miniature Vane: ▲ Field Vane: ◆

PROJECT NO. 15599

DATE: 5/9/23

LOCATION:

See Figure 1

DEPTH, FT.	COMPLETION DEPTH 10.5 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 538 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated													
			SPLIT SPOON	BLOWS/6 in. THREE 6-in. INCREMENTS UNDISTURBED SAMPLE			1	2	3	4	5									
	3 in. Topsoil Brown medium stiff Silty Clay (CL)			3 4 4																
5	Gray stiff Clay (CH)	3.0		4 4 7																
	Gray medium stiff silty Clay (CL)	6.0		2 3 4																
10	- increasing clay, brown and gray below 8 feet			3 3 5																
	Boring terminated at 10.5 feet	10.5																		
15																				
20																				
25																				
30																				
35																				
WATER LEVEL OBSERVATIONS		NOTES																		
DURING DRILLING	Dry FT.	Elevations approximated using Google Earth																		
AT COMPLETION	Dry FT.																			
AFTER	HRS. FT.																			

PROJECT NO. 15599

DATE: 5/9/23

LOCATION:

See Figure 1

DEPTH, FT.	COMPLETION DEPTH 14 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 532 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated	
			SPLIT SPOON	BLOWS/6 in. THREE 6-in. INCREMENTS UNDISTURBED SAMPLE			Dry Density, pcf	Water Content, %
0	3 in. Topsoil Brown soft Clayey Silt (ML)			1				
5	Brown and gray stiff Clay (CH) - medium stiff below 6 feet	3.0		2 3 3				
10	Gray medium stiff Silty Clay (CL)	8.0		3 3 4				
15	Boring terminated at 14 feet	14.0						
20								
25								
30								
35								

WATER LEVEL OBSERVATIONS	NOTES
DURING DRILLING 13 FT.	Elevations approximated using Google Earth
AT COMPLETION FT.	
AFTER HRS. FT.	

Shear Test Types - Static Cone: ● Pocket Penetrometer: ■ Unconf. Compr.: ▼ Miniature Vane: ▲ Field Vane: ◆

PROJECT NO. 15599

DATE: 5/9/23

LOCATION:

See Figure 1

DEPTH, FT.	COMPLETION DEPTH 10 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 527 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated													
			SPLIT SPOON	UNDISTURBED SAMPLE			●	■	▼	▲	◆									
			BLOWS/6 in. THREE 6-in. INCREMENTS																	
5	5 in. Topsoil Dark brown medium stiff Silty Clay (CL) with trace roots - dark gray below 3 feet	10.0	3 4 4																	
	- increasing silt below 6 feet		3 3 4																	
	- soft below 8 feet		2 3 3																	
10	Boring terminated at 10 feet		1 2 2																	
15																				
20																				
25																				
30																				
35																				
WATER LEVEL OBSERVATIONS			NOTES																	
DURING DRILLING	8.5 FT.	Elevations approximated using Google Earth																		
AT COMPLETION	FT.																			
AFTER	HRS.	FT.	Shear Test Types - Static Cone: ● Pocket Penetrometer: ■ Unconf. Compr.: ▼ Miniature Vane: ▲ Field Vane: ◆																	

Oldenburg Industrial Park
Washington, Missouri

LOG OF BORING 10

PROJECT NO. 15599

DATE: 5/10/23

LOCATION:

See Figure 1

DEPTH, FT.	COMPLETION DEPTH 10 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 527 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated																		
			SPLIT SPOON	BLOWS/6 in. THREE 6-in. INCREMENTS UNDISTURBED SAMPLE			1	2	3	4	5														
5	2 in. Topsoil Gray stiff Silty Clay (CL) - medium stiff below 6 feet	5		3 4 5																					
10	Gray medium stiff Clay (CH)	8.0		3 3 5																					
10	Boring terminated at 10 feet	10.0		4 4 4																					

WATER LEVEL OBSERVATIONS			NOTES
DURING DRILLING	Dry	FT.	Elevations approximated using Google Earth
AT COMPLETION	Dry	FT.	
AFTER	HRS.	FT.	

Shear Test Types - Static Cone: ● Pocket Penetrometer: ■ Unconf. Compr.: ▼ Miniature Vane: ▲ Field Vane: ◆

PROJECT NO. 15599

DATE: 5/10/23

LOCATION:

See Figure 1

DEPTH, FT.	COMPLETION DEPTH 10 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 528 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated														
			SPLIT SPOON	BLOWS/6 in. THREE 6-in. INCREMENTS UNDISTURBED SAMPLE			Dry Density, pcf	Water Content, %	Plastic Limit	Liquid Limit	Standard Penetration Resistance, Blows/Ft.										
5	3 in. Topsoil Brownish-gray very soft Clayey Silt (ML)		1	1																	
		6.0	1	2																	
	Gray medium stiff Silty Clay (CL)		3	3																	
		8.0	3	5																	
10	Gray medium stiff Clay (CH) with trace rock fragments		3	3																	
	Boring terminated at 10 feet	10.0	3	4																	
15																					
20																					
25																					
30																					
35																					
WATER LEVEL OBSERVATIONS		NOTES																			
DURING DRILLING	Dry FT.	Elevations approximated using Google Earth																			
AT COMPLETION	Dry FT.																				
AFTER	HRS. FT.																				

Shear Test Types - Static Cone: ● Pocket Penetrometer: ■ Unconf. Compr.: ▼ Miniature Vane: ▲ Field Vane: ◆

Oldenburg Industrial Park
Washington, Missouri

LOG OF BORING 12

PROJECT NO. 15599

DATE: 5/10/23

LOCATION:

See Figure 1

DEPTH, FT.	COMPLETION DEPTH 10 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 526 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated													
			SPLIT SPOON BLOWS/6 in. THREE 6-in. INCREMENTS	UNDISTURBED SAMPLE			1	2	3	4	5									
	1 in. Topsoil Brown medium stiff Clay (CH)																			
5	- gray, stiff below 3 feet - medium stiff below 6 feet																			
10	Boring terminated at 10 feet	10.0																		
15																				
20																				
25																				
30																				
35																				

WATER LEVEL OBSERVATIONS			NOTES
DURING DRILLING	Dry	FT.	Elevations approximated using Google Earth
AT COMPLETION	Dry	FT.	
AFTER	HRS.	FT.	

Shear Test Types - Static Cone: ● Pocket Penetrometer: ■ Unconf. Compr.: ▼ Miniature Vane: ▲ Field Vane: ◆

PROJECT NO. 15599

DATE: 5/9/23

LOCATION:

See Figure 1

DEPTH, FT.	COMPLETION DEPTH 10 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 528 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated												
			SPLIT SPOON	BLOWS/6 in. THREE 6-in. INCREMENTS UNDISTURBED SAMPLE			Dry Density, pcf	Water Content, %	Plastic Limit	Liquid Limit	Standard Penetration Resistance, Blows/Ft.								
0	2 in. Topsoil Brown stiff Silty Clay (CL)			3 4 5															
5	- gray below 3 feet			3 3 6															
10	- medium stiff below 6 feet			2 3 4															
10	Boring terminated at 10 feet	10.0		2 3 4															
15																			
20																			
25																			
30																			
35																			

WATER LEVEL OBSERVATIONS			NOTES
DURING DRILLING	Dry	FT.	Elevations approximated using Google Earth
AT COMPLETION	Dry	FT.	
AFTER	HRS.	FT.	

Shear Test Types - Static Cone: ● Pocket Penetrometer: ■ Unconf. Compr.: ▼ Miniature Vane: ▲ Field Vane: ◆

PROJECT NO. 15599

DATE: 5/10/23

LOCATION:

See Figure 1

DEPTH, FT.	COMPLETION DEPTH 15 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 521 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated												
			SPLIT SPOON	BLOWS/6 in. THREE 6-in. INCREMENTS UNDISTURBED SAMPLE			Dry Density, pcf	Water Content, %	Plastic Limit	Liquid Limit	Standard Penetration Resistance, Blows/Ft.								
0	3 in. Topsoil Brown and gray soft Silty Clay (CL)	3.0	1	2															
5	Gray medium stiff Clay (CH) - some silt below 6 feet		2	3	4														
10	Gray medium stiff silty Clay (CL) - with some fine sand below 13 feet	8.0	3	3	4														
15	Boring terminated at 15 feet		1	2	2														
20																			
25																			
30																			
35																			
WATER LEVEL OBSERVATIONS		NOTES																	
DURING DRILLING	12.5 FT.	Elevations approximated using Google Earth																	
AT COMPLETION	FT.																		
AFTER	HRS. FT.	Shear Test Types - Static Cone: ● Pocket Penetrometer: ■ Unconf. Compr.: ▼ Miniature Vane: ▲ Field Vane: ◆																	

PROJECT NO. 15599

DATE: 5/10/23

LOCATION:

See Figure 1

DEPTH, FT.	COMPLETION DEPTH 15 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 519 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated													
			SPLIT SPOON	BLOWS/6 in. THREE 6-in. INCREMENTS UNDISTURBED SAMPLE			1	2	3	4	5									
0	4 in. Topsoil Dark brown medium stiff Silty Clay (CL)			3 3 4																
5	- gray, increasing silt below 3 feet			3 3 3																
10	- brownish-gray, soft below 6 feet - medium stiff below 8 feet			1 2 2																
15	Boring terminated at 15 feet	13.0 15.0		2 4 5																
20																				
25																				
30																				
35																				
WATER LEVEL OBSERVATIONS		NOTES																		
DURING DRILLING	Dry FT.	Elevations approximated using Google Earth																		
AT COMPLETION	Dry FT.																			
AFTER	HRS. FT.																			

PROJECT NO. 15599

DATE: 5/10/23

LOCATION:

See Figure 1

DEPTH, FT.	COMPLETION DEPTH 20 FT. BORING METHOD CFA ROCK CORE DIAMETER N/A IN. SURFACE ELEVATION 515 FT.	STRATUM DEPTH, FT.	SPT		PERCENT RECOVERY	ROCK CORE	Shear Strength from Indicated													
			SPLIT SPOON	BLOWS/6 in. THREE 6-in. INCREMENTS UNDISTURBED SAMPLE			○ Dry Density, pcf 90 100 110 120 130	□ Water Content, % Plastic Limit Liquid Limit	⊗ Standard Penetration Resistance, Blows/Ft. 10 20 30 40 50	●	■	▼	▲	◆						
5	5 in. Topsoil Dark brown medium stiff Silty Clay (CL) with trace roots - stiff, increasing clay below 3 feet			2 2 3																
10	- medium stiff, decreasing clay below 6 feet			2 3 4																
15	- soft below 13 feet			2 3 3																
20	Gray medium stiff Silt (ML) with trace fine sand Boring terminated at 20 feet	18.0 20.0		1 1 2 4 2 4																
25																				
30																				
35																				
WATER LEVEL OBSERVATIONS		NOTES																		
DURING DRILLING 13 FT.		Elevations approximated using Google Earth																		
AT COMPLETION FT.																				
AFTER HRS. FT.		Shear Test Types - Static Cone: ● Pocket Penetrometer: ■ Unconf. Compr.: ▼ Miniature Vane: ▲ Field Vane: ◆																		

FIELD CLASSIFICATION SYSTEM

BORING METHOD

HSA	Hollow-stem auger
CFA	Continuous-flight auger
RB	Rollerbit
MR	Mud rotary
RC	Rock coring
CA	Casing advancer
DC	Driven casing
HA	Hand-auger

SHEAR STRENGTH DATA

UC	Unconfined compression
TX-UU	Unconsolidated-undrained triaxial
TX-CU	Consolidated-undrained triaxial
V	Miniature vane
FV	Field vane
T	Torvane
PP	Pocket penetrometer
SCP	Static cone penetrometer

SOIL PARTICLE SIZE

Cohesive		Granular or Non-Cohesive							
Clay	Silt	Sand			Gravel			Cobbles	Boulders
		Fine	Medium	Coarse	Fine	Medium	Coarse		
0.002 mm	0.05 mm	0.02 mm	0.6 mm	0.25 in.	0.5 in.	1 in.	3 in.	8 in.	

STANDARD PENETRATION TEST (ASTM D 1586)

Driving a 3.0-inch O.D. split-spoon sampler 18 inches with a 140-pound hammer free-falling a distance of 30 inches. The number of blows to drive the sampler these three successive 6-inch increments is recorded; the sum of the last two increments being the N-value.

N-VALUE & SHEAR STRENGTH CORRELATIONS

Granular Soils		Cohesive Soils		
<u>N-Value</u>	<u>Relative Density</u>	<u>N-Value</u>	<u>Shear Strength, tsf</u>	<u>Consistency</u>
		0-2	< 0.125	Very soft
0-4	Very loose	3-4	0.125 – 0.25	Soft
5-10	Loose	5-8	0.25 – 0.5	Medium stiff
11-30	Medium dense	9-15	0.5– 1.0	Stiff
31-50	Dense	16-30	1.0 – 2.0	Very stiff
Over 50	Very dense	Over 30	> 2.0	Hard

SOIL CLASSIFICATIONS of samples are made by visual inspection and/or laboratory test results in accordance with the Unified Soil Classification System, the symbol of which is indicated in parentheses following the description.

RELATIVE PROPORTIONS are indicated by the following descriptive terms: trace (0-15%), some (15-35%), and (35-50%).

STRATA CHANGES are indicated on the boring logs by horizontal lines. A solid line represents an observed change while a dashed line indicates an estimated change.

GROUND WATER OBSERVATIONS are made at the times and under the conditions stated on the boring logs. Fluctuations may occur due to changes in precipitation, temperature, site topography, etc.