



MEMORANDUM

Missouri Department of Transportation Construction - Materials Central Laboratory

TO: Paul Huskey-se/gs

CC/ATT: Joe Crader-se/cm

FROM: Alan Miller
Geotechnical Engineer

DATE: June 11, 2015

SUBJECT: Materials
Geotechnical Section
Foundation Investigation for
Structure Design No. FI2301 Pole Building
Job No. R35G
Route 62, Scott County

Attached are logs of borings for the above noted structure, a proposed pole building at the Sikeston Maintenance Shed.

We encountered loose sand at the Sikeston site. An allowable bearing of 1000 psf may be used for the foundation soil below a depth of 4.0 feet, and 2000 psf below a depth of 7.5 feet. Previous plans have indicated that 2000 psf was required for the typical building design. The building manufacturer should size the footings and provide calculations not to exceed the allowable bearing pressure.

cs
j:\sublec\alan\fi2301 pole barn ltr.doc
Attachments

**Missouri Department of Transportation
Construction and Materials**

BORING NO. A-15-6

Page 1 of 1

Job No.: R35G-Fi2301
 Design: Fi2301
 Bent: _____
 Station: _____
 Offset: _____
 Elevation: 310.1
 Requested Station: _____
 Requested Offset: _____
 Requested Elevation: _____
 Drill No.: G-7887

County: Scott
 Skew: _____
 Logged By: Kevin Moore
 Northing: 385294.2
 Easting: 1097623.9
 Requested Northing: _____
 Requested Easting: _____
 Equipment: Failing 1500 ,Split-Spoon Sampler
 Location Note: SW Corner
 Hammer Efficiency: 79%

Route: Bussiness 60/114
 Location: Scott County
 Operator: Ken Farrow
 Date of Work: 05/27/15-05/27/15
 Depth to Water: _____
 Depth Hole Open: _____
 Time Change: _____
 Drilling Method: Mud Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N ₆₀)	Shear Data	Field Tests	Index Tests
0			310						
		0-11.5' Light yellowish orange and very light brown, SILTY SAND trace lean clay, very loose to medium dense, moist, fine grained, poorly graded							
				X	53	2-1-2 (4)			
5			305	X	67	3-4-4 (11)			
				X	73	3-6-8 (18)			
10			300	X	67	7-9-9 (24)			
		Bottom of borehole at 11.5 feet.							

N₆₀ = (Em/60)Nm N₆₀ - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value
 (1) = Assumed, (2) = Actual

Coordinate System: U.S. State Plane 1983 Coordinate Zone: Missouri East Coordinate Proj. Factor: _____
 Coordinate Datum: NAD 83 (CONUS) Coordinate Units: U.S. Survey Feet

* Persons using this information are cautioned that the materials shown are determined by the equipment noted and accuracy of the "log of materials" is limited thereby and by judgement of the operator. THIS INFORMATION IS FOR DESIGN PURPOSES ONLY.

LETTER BOREHOLE - R35G-S2109.GPJ - 6/10/15 16:35 - J:\SG\GINT\PROJECT FILES\R35G-Fi2301.GPJ

**Missouri Department of Transportation
Construction and Materials**

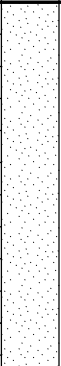
BORING NO. A-15-7

Page 1 of 1

Job No.: R35G-Fi2301
 Design: Fi2301
 Bent: _____
 Station: _____
 Offset: _____
 Elevation: 309.9
 Requested Station: _____
 Requested Offset: _____
 Requested Elevation: _____
 Drill No.: G-7887

County: Scott
 Skew: _____
 Logged By: Kevin Moore
 Northing: 385435.7
 Easting: 1097574.3
 Requested Northing: _____
 Requested Easting: _____
 Equipment: Failing 1500 ,Split-Spoon Sampler
 Location Note: NW Corner
 Hammer Efficiency: 79%

Route: Bussiness 60/114
 Location: Scott County
 Operator: Ken Farrow
 Date of Work: 05/27/15-05/27/15
 Depth to Water: _____
 Depth Hole Open: _____
 Time Change: _____
 Drilling Method: Mud Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N ₆₀)	Shear Data	Field Tests	Index Tests
0									
5		0-11.5' Light yellowish orange and very light brown, SILTY SAND trace lean clay, loose to medium dense, moist, fine grained, poorly graded	305	<input checked="" type="checkbox"/>	67	2-2-2 (5)			
				<input checked="" type="checkbox"/>	53	3-2-1 (4)			
10			300	<input checked="" type="checkbox"/>	60	2-3-4 (9)			
				<input checked="" type="checkbox"/>	67	5-7-6 (17)			
		Bottom of borehole at 11.5 feet.							

N₆₀ = (Em/60)Nm N₆₀ - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value
 (1) = Assumed, (2) = Actual

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**Missouri Department of Transportation
Construction and Materials**

BORING NO. A-15-8

Page 1 of 1

Job No.: R35G-Fi2301
 Design: Fi2301
 Bent: _____
 Station: _____
 Offset: _____
 Elevation: 310.2
 Requested Station: _____
 Requested Offset: _____
 Requested Elevation: _____
 Drill No.: G-7887

County: Scott
 Skew: _____
 Logged By: Kevin Moore
 Northing: 385452.5
 Easting: 1097621.6
 Requested Northing: _____
 Requested Easting: _____
 Equipment: Failing 1500 ,Split-Spoon Sampler
 Location Note: NE Corner
 Hammer Efficiency: 79%

Route: Bussiness 60/114
 Location: Scott County
 Operator: Ken Farrow
 Date of Work: 05/27/15-05/27/15
 Depth to Water: _____
 Depth Hole Open: _____
 Time Change: _____
 Drilling Method: Mud Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N ₆₀)	Shear Data	Field Tests	Index Tests
0			310						
		0-11.5' Light yellowish orange and very light brown, SILTY SAND trace lean clay, loose to medium dense, moist, fine grained, poorly graded							
				X	60	2-2-3 (7)			
5			305	X	60	3-4-3 (9)			
				X	67	3-4-6 (13)			
10			300	X	67	3-7-9 (21)			
		Bottom of borehole at 11.5 feet.							

N₆₀ = (Em/60)Nm N₆₀ - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value
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**Missouri Department of Transportation
Construction and Materials**


BORING NO. A-15-9

Page 1 of 1

Job No.: R35G-Fi2301
 Design: Fi2301
 Bent: _____
 Station: _____
 Offset: _____
 Elevation: 309.9
 Requested Station: _____
 Requested Offset: _____
 Requested Elevation: _____
 Drill No.: G-7887

County: Scott
 Skew: _____
 Logged By: Kevin Moore
 Northing: 385311.9
 Easting: 1097673.7
 Requested Northing: _____
 Requested Easting: _____
 Equipment: Failing 1500 ,Split-Spoon Sampler
 Location Note: SE Corner
 Hammer Efficiency: 79%

Route: Bussiness 60/114
 Location: Scott County
 Operator: Ken Farrow
 Date of Work: 05/27/15-05/27/15
 Depth to Water: _____
 Depth Hole Open: _____
 Time Change: _____
 Drilling Method: Mud Rotary

Depth (ft)	Graphic	Description	Elevation (ft)	Sample Type	REC % (RQD %)	Blow Counts (N ₆₀)	Shear Data	Field Tests	Index Tests
0									
5		0-11.5' Light yellowish orange and very light brown, SILTY SAND trace lean clay, very loose to medium dense, moist, fine grained, poorly graded	305	X	47	1-1-1 (3)			
				X	60	4-4-5 (12)			
				X	60	4-6-7 (17)			
10			300	X	60	6-5-6 (14)			
		Bottom of borehole at 11.5 feet.							

N₆₀ = (Em/60)Nm N₆₀ - Corrected N value for standard 60% SPT efficiency; Em - Measured hammer efficiency in percent; Nm - Observed N-value
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MoDOT Geotechnical Section
1617 Missouri Boulevard
Jefferson City, Missouri 65101

KEY TO SYMBOLS

CLIENT _____ PROJECT NAME Sikeston Maintenance Shed
PROJECT NUMBER R35G-Fi2301 PROJECT LOCATION Scott County

LITHOLOGIC SYMBOLS (Unified Soil Classification System)



SP: USCS Poorly-graded Sand

SAMPLER SYMBOLS



Split-Spoon Sampler

WELL CONSTRUCTION SYMBOLS

ABBREVIATIONS

LL - LIQUID LIMIT (%)
PI - PLASTIC INDEX (%)
W - MOISTURE CONTENT (%)
DD - DRY DENSITY (PCF)
NP - NON PLASTIC
-200 - PERCENT PASSING NO. 200 SIEVE
PP - POCKET PENETROMETER (TSF)

TV - TORVANE
PID - PHOTOIONIZATION DETECTOR
UC - UNCONFINED COMPRESSION
ppm - PARTS PER MILLION

▽ Water Level at Time of Drilling

▼ Water Level at End of Drilling

▽ Water Level after Drilling



GARWOOD AVE

Figure 1
Sikeston Proposed Pole Building
Route 62. Scott Co.



EDWARD AVE

NW
NE

SW
SE

1 in = 50 ft

62

MALONE ST