GEOTECHNICAL SUBSURFACE INVESTIGATION REPORT

Montgomery County Task Order #13
Montgomery County, Maryland

PREPARED FOR:

McCormick Taylor
509 South Exeter Street, 4th Floor
Baltimore, Maryland 21202

PREPARED BY:

AB CONSULTANTS, INC.
9450 ANNAPOLIS ROAD
LANHAM, MARYLAND 20706

June 24, 2011

AB CONSULTANTS, INC.
9450 Annapolis Road
Lanham, Maryland 20706

Ph: (301) 306-3091
Fax: (301) 306-3092
www.abconsultantsinc.com

Engineers Planners Surveyors Contractors

June 24, 2011

Attn: Ms. Kimi Schmidt
McCormick Taylor
509 South Exeter Street, 4th Floor
Baltimore, Maryland 21202

REF: Report of Subsurface Investigation and Studies
Montgomery County Task Order #13
Roadway LID – Forest Estates & Four Corners Area
Montgomery County, Maryland
AB Job No. 10-368

Dear Ms. Schmidt:

AB Consultants, Inc. (ABC) is pleased to submit this soil report containing the results of geotechnical investigation for the above referenced site. To obtain information of the subsurface condition, twenty-five (25) 10-ft deep soil borings were drilled and twenty-five (25) on-site infiltration tests were performed at the sites. The purpose of this study was to explore the subsurface conditions of this storm water management (SWM) improvement project. The following report sections discuss the results of field and laboratory studies, design recommendations and construction methods for the proposed structures.

All samples obtained from soil test borings will be retained in our laboratory for a period of thirty (30) days from the date of this report. They will be available for inspection during this period. After that time, the samples will be discarded.

It has been a pleasure serving you on this project. If you have any questions regarding this report, or if we can be of further service in any way, please contact us.

Very truly yours,
AB Consultants, Inc.

Kim-Hou Chan, P.E.
Director, Geotechnical & Field Services

TABLE OF CONTENT

1.0 INTRODUCTION

1.1 General

This report summarizes the findings from subsurface soil investigations conducted by ABC for the storm water management (SWM) improvement project located in Montgomery County, Maryland. Per information provide to us, multiple Low Impact Design SWM facilities are proposed on various streets in Montgomery County, Maryland. The objective was accomplished by conducting field and laboratory tests. The results of these tests constitute the bases for determining pertinent design parameters for the proposed improvement. This study was conducted for McCormick Taylor and has been performed in general accordance with our letter proposal dated on December, 2010 and subsequence conversations.

1.2 Scope of Work

The investigation of existing subsurface soil conditions at the site consisted of the following:

- Planning and executing subsurface exploration programs to evaluate soil and ground conditions for SWM improvements.
- Conducting on-site infiltration tests.
- Performing laboratory tests on soil samples obtained from the borings.
- Providing geotechnical report that includes results of field and laboratory studies.

1.3 Site Location

The field study was performed at various locations in Silver Spring, Montgomery County, Maryland. Soil borings and infiltration test holes are located on Imperial Drive, Woodman Avenue, Folk Street, Julep Avenue, Julep Court and Inwood Avenue.

2.0 FIELD ACTIVITIES AND SUBSURFACE EXPLORATION

2.1 Soil Borings

A total of twenty-five (25) soil borings were drilled for subsurface study on this project site. Several more borings were canceled due to utilities conflicts or changes in the scope of the project. Borings were drilled at the referenced site to depth of 10-ft below the existing ground surface on May 31, June 11 to June 14, 2011. Soil borings

were staked out in the field by ABC. Site locations and boring plans are included in the Appendix.

2.2 Subsurface Investigation

Borings were drilled using ATV-mounted drill rig, CME-55. Test borings were advanced by using hollow-stem augers and soil samples were obtained using the Standard Penetration Tests (SPT) in accordance with ASTM D1586. SPT samples were obtained for each boring at depth intervals of every 2.5 feet. A representative portion of each split spoon sample was placed in a glass jar and was transported to our laboratory.

In the split-barrel sampling procedure, a 2.0-inch O.D. split-barrel sampling spoon is driven into the ground with a 140-pound hammer, free falling a distance of 30 inches. The blows required to advance the sampling spoon to a specified distance are reported as the penetration resistance values. The values are shown on boring logs at the depths of their occurrence. The N-value is the sum of standard penetration resistance values that advanced through the last 12-inches of sampling. The N-value is an indication of the relative density of in-place granular soils and, to a lesser degree of accuracy, the consistency of cohesive soils.

Groundwater level was monitored in the boring. Samples obtained from the boring were inspected by a geotechnical engineer and the field logs were edited accordingly. The final logs that indicate the subsurface conditions encountered are included in the Appendix.

2.3 On-site Infiltration Test and Results

A total of twenty-five (25) infiltration tests were performed in auger borings drilled at a 5-ft offset from the soil sample boring. Test holes were drilled with 8-inch diameter auger to a depth of 2.5- to 6-ft below existing ground. 5-inch diameter solid PVC casings were inserted and water was then introduced for an overnight presoak period. Infiltration tests were performed the next day by refilling PVC casings with water to the presoak level and then monitoring water levels at one hour intervals for four hours. Field in-situ infiltration test data are included in the Appendix and results are summarized as follows:

SUMMARY OF IN-SITU INFILTRATION TEST RESULTS				
Boring No.	Test Hole Depth	Existing Elevation	Sample Description at Bottom of Test Hole	Suggested Average Infiltration Rate (in./hr)
B-1	5.5	309.5	Silty fine sand	0.4
B-2	6	305	Silty fine sand	1.3
B-3	5.5	302	Silty fine sand	0.9
B-4	4.5	297.5	Silty fine sand	0.4
B-5	5	300	Silty fine sand	0.6
B-6	6	302	Clayey fine sand	0.1
B-7	2.5	302	Silty fine sand	0.55
B-8	5	297.5	Silty fine sand	1.0
B-9	-	-	Canceled*	-
B-10	4.5	290.5	Clayey fine sand	0.4
B-11	6	293	Silty fine sand	2.45
B-12	-	-	Canceled*	-
B-13	-	-	Canceled*	-
B-14	4.5	317	Silty fine sand	0.95
B-15	2.5	301.5	Clayey fine sand	0.1
B-16	6.5	306	Clayey fine sand	0.3
B-17	6	313	Fine sandy clay	0.0
B-18	6	325	Fine sandy silt	0.95
B-19	5	320	Silty fine sand	7.1
B-20	5.5	333.5	Silty fine sand	0.5
B-21	5.5	333	Silty fine sand	1.3
B-22	2.5	330	Fine sandy silt	0.75
B-23	5.5	318.5	Silty fine sand	6.45
B-24	5.5	314.5	Silty fine sand	0.9
B-25	2.5	321	Silty fine sand	0.55
B-26	4.5	319	Silty fine sand	0.55
B-27	6	334	Silty fine sand	1.4
B-28	5.5	338.5	Silty fine sand	2.3

* Canceled due to utilities conflicts or change in the scope of the project.

3.0 LABORATORY TESTING PROGRAM

3.1 Laboratory Testing Program

Laboratory tests were performed on selected representative samples. Natural moisture contents were performed on all soil samples, and results are included in boring logs. Atterberg limits and sieve analysis were conducted on selected samples. Atterberg

limits results are shown in boring logs in correspondence with the sample depths and results of sieve analyses are presented in the Appendix.

4.0 GENERAL SITE AND SUBSURFACE CONDITIONS

4.1 Site Condition

The SWM facilities are proposed on various streets in the Forest Estates community in Silver Spring, Maryland. Borings on this project site are located in the vicinity of single residential homes. Utilities in the vicinity of boring holes include underground water, sewer and gas, cable and overhead power.

4.2 Site Geology

Geologically, the project site is in the Lower Pelitic Schist of the Eastern Piedmont Metasedimentary Rocks Series of the Piedmont Plateau Province, which is composed of hard, crystalline igneous and metamorphic rock. The major soils in this association consist of medium- to coarse-grained biotite-oligoclase-muscovite-quartz schist with garnet, staurolite, and kyanite; fine- to medium-grained semipelitic schist; and fine-grained granular to weakly schistose psammitic granulite. Differential erosion of these contrasting rock types has produced a distinctive topography in this part of the Piedmont.

4.3 Subsurface Soil Condition

Various soil types were grouped into the major zones noted on the boring logs. A brief explanation of the terms and notes used in the logs is included with this report. The stratification lines designating the interfaces between earth materials on the boring logs are approximate; in situ, the transitions may be gradual. Detailed soil description and depth of various soil strata are given in boring logs, together with SPT blow counts with depth. In general, the encountered soils are grouped and summarized as follows:

Topsoil: Topsoil was encountered in all boring. Topsoil is defined as the more high-organic, weathered surficial soils horizon capable of supporting vegetation.

Type A *Silty Fine Sand*: Brown sandy soil with mica and trace of rock fragments was encountered in most of boring and extended to completion depth of borings. N-values in this layer were ranging from 4 to more than 50 blows

per foot. Some of the higher blow counts were due to the presence of rock fragments in the layer.

Type B *Clayey Fine sand to Fine Sandy Clay:* Brown and gray clayey and sandy soils with mica was encountered in borings B-6, B-15, B-16 and B-17 and extended to completion depth of some borings. N-values in these soils were ranging from 9 to more than 50 blows per foot. This clayey soil exhibited low to moderate plasticity.

Type C *Fine Sandy Silt:* Reddish brown silty soil with mica was encountered in boring B-10, B-18 and B-22 and extended to completion depth of some borings. N-values in these soils were ranging from 6 to 30 blows per foot.

4.4 Groundwater Observations

Groundwater observations were made in every borehole during drilling, and after completion of drilling operations. As noted on boring logs, groundwater was **not encountered** in most borings during and after drilling. Water level observations are presented at the lower left hand corner of boring logs. Fluctuations in the level and quantity of ground water will occur due to variations in rainfall, temperature, soil permeability and other factors not evident at the time of the water level measurements recorded on boring logs.

5.0 ANALYSIS AND RECOMMENDATIONS

5.1 SWM Facility Considerations

Proposed plan or structural detail of the proposed SWM facilities were not provided by the date of this report. Based upon the information provided from McCormick Taylor, infiltration structures are considered in this project for storm water management. Based on information revealed from borings, laboratory results, and our visual classification of the recovered soil samples, the encountered subsoils are classified per the USDA classification system and are summarized in the following table.

SUMMARY OF SOIL PROPERTIES PER USDA CLASSIFICATION				
Boring No.	Sample Depth (ft)	USDA Textural Classification	Minimum Infiltration Rate (in/hr)	Hydrologic Soil Grouping
B-1	0.5 to 10	Loam	0.52	B
B-2	0.5 to 10	Sandy loam	1.02	A
B-3	0.5 to10	Sandy loam	1.02	A
B-4	0.5 to10	Loam	0.52	B
B-5	0.5 to 8	Loam	0.52	B
B-6	0.5 to 4.5	Loam	0.52	B
	4.5 to 10	Sandy clay loam	0.17	C
B-7	0.5 to 5	Loam	0.52	B
B-8	0.5 to 5	Sandy loam	1.02	A
B-10	0.5 to 4	Loam	0.52	B
	4 to 6.5	Sandy clay loam	0.17	C
	6.5 to 10	Loam	0.52	B
B-11	0.5 to 6.5	Loamy sand	2.41	A
	6.5 to 10	Sandy loam	1.02	A
B-14	0.5 to 10	Loam	0.52	B
B-15	0.5 to 10	Sandy clay loam	0.17	C
B-16	0.5 to 7.5	Sandy clay loam	0.17	C
	7.5 to 10	Loam	0.52	B
B-17	0.5 to 10	Sandy clay	0.05	D
B-18	0.5 to 10	Loam	0.52	B
B-19	0.5 to 7.5	Loamy sand	2.41	A
	7.5 to 10	Loamy sand	2.41	A
B-20	0.5 to 8	Loam	0.52	B
	8 to 10	Loam	0.52	B
B-21	0.5 to 10	Sandy loam	1.02	A
B-22	0.5 to 10	Loam	0.52	B
B-23	0.5 to 7.5	Loamy sand	2.41	A
	7.5 to 10	Sandy loam	1.02	A
B-24	0.5 to 10	Loam	0.52	B
B-25	0.5 to 10	Loam	0.52	B
B-26	0.5 to 10	Loam	0.52	B
B-27	0.5 to 10	Sandy loam	1.02	A
B-28	0.5 to 10	Sandy loam	1.02	A

The infiltration design criteria established by the Maryland Department of the Environment (MDE) Water Management Administration advises that infiltration

practices are not recommended to be utilized: (a) in regions where the bottom of the infiltration facility is in existing or newly placed fill, or (b) in materials that exhibit an infiltration rates less than 0.52 inches per hour, or (c) where the groundwater table or bedrock is within 4 feet of the bottom of the infiltration facility.

Considering the USDA classification, boring information, on-site infiltration tests and groundwater observation, most of the proposed SWM areas are considered suitable for infiltration design in accordance with general design criteria. Results of our findings are summarized in the following table.

SUMMARY OF SWM CONSIDERATIONS AT 2.5- to 6-ft BELOW GROUND					
Boring No.	Existing Elevation	Facility Bottom Elevation	On-site Infiltration Rate (in/hr)	Infiltration Rate per USDA (in/hr)	Infiltration SWM Facility
B-1	309.5	304.2	0.4	0.52	Marginal*
B-2	305	299.2	1.3	1.02	Acceptable
B-3	302	296.5	0.9	1.02	Acceptable
B-4	297.5	293.2	0.4	0.52	Marginal*
B-5	300	294.9	0.6	0.52	Acceptable
B-6	302	296.1	0.1	0.17	Not acceptable
B-7	302	299.5	0.55	0.52	Acceptable
B-8	297.5	292.4	1.0	1.02	Acceptable
B-10	290.5	285.8	0.4	0.17	Not acceptable
B-11	293	287.0	2.45	2.41	Acceptable
B-14	317	312.3	0.95	0.52	Acceptable
B-15	301.5	299.0	0.1	0.17	Not acceptable
B-16	306	299.7	0.3	0.17	Not acceptable
B-17	313	307.1	0.0	0.05	Not acceptable
B-18	325	318.9	0.95	0.52	Acceptable
B-19	320	314.8	7.1	2.41	Acceptable
B-20	333.5	327.9	0.5	0.52	Acceptable
B-21	333	327.3	1.3	1.02	Acceptable
B-22	330	327.5	0.75	0.52	Acceptable
B-23	318.5	308.9	6.45	2.41	Acceptable
B-24	314.5	308.9	0.9	0.52	Acceptable
B-25	321	318.5	0.55	0.52	Acceptable
B-26	319	314.6	0.55	0.52	Acceptable
B-27	334	328.0	1.4	1.02	Acceptable
B-28	338.5	332.8	2.3	1.02	Acceptable

It is recommended that during construction of the SWM facility, the soil encountered at and below the planned elevation, to be verified along with their infiltration characteristics.

6.0 SITE GRADING AND CONSTRUCTION CONSIDERATIONS

6.1 Site Grading

Grading preparation should include clearing within the limits of construction, grubbing and removal of the organic surficial soils. The potential thickness of material subject to stripping will vary from zero inches in grades areas without topsoil to six (6) inches in other grass and wooded areas. Design and construction should include provisions for temporary storage, hauling, and disposal of stripped materials at an approved off-site location.

Following stripping, cutting, the subgrade should be verified prior to the installation of SWM structures. Areas identified during the verification process as soft or exhibiting "pumping" tendencies should be undercut, processed and recompacted or removed and replaced with suitable fill, whichever is appropriate.

6.2 Suitable Fill Material

Fill and backfill for general areas should be free of organics and debris and rock fragments in excess of 3-in. in any dimension. In the upper 18 inches of fill, maximum particle size should be limited to about 1.5 inches. As per ASTM D2478 classification, imported select fill should consist of sandy gravel (GM), clayey gravel (GC), gravelly sand (SP), silty sand (SM), clayey sand (SC), or low-plasticity sandy clay (CL) with a liquid limit and plasticity index of less than 40 and 15 respectively, or an approved alternate.

6.3 Compaction Requirement

Fill soils should be compacted to a minimum of 95 percent of maximum Standard Proctor dry density (ASTM D698), with a moisture content range of minus to plus 2 percent of optimum. Fill should be placed in a nominal 10-inch-thick loose lifts. Each lift of fill should be properly compacted, tested and approved prior to placing subsequent lifts.

7.0 CONSTRUCTION CONSIDERATIONS

Positive surface drainage should be established at the start of work, be maintained during construction and following completion of the project to prevent surface water ponding and subsequent saturation of subgrade soils. Prolonged exposure or saturation of subgrade soils by ponding or runoff water may result in significant changes in strength and compressibility characteristics. Saturated subgrade soils should be excavated and replaced with suitable materials.

Depending upon weather conditions during and prior to construction, groundwater may be encountered in the excavation areas. Any seepage into the construction excavation could be controlled by pumping from sump pits. During site preparation, surface runoff should be directed away from the construction areas.

8.0 GENERAL COMMENTS

The soil classifications presented in this report are based upon the data obtained from the soil borings performed at indicated locations and from any other information discussed in this report. This report does not reflect any variations that may occur across the site. The nature and extent of such variations may not become evident until construction. If variations appear evident, the conclusion and recommendations of this report should then be reviewed by ABC geotechnical engineer in light of the new information.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No other warranties, either expressed or implied, are intended or made. In the event that any changes in the nature, design or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report modified or verified in writing by ABC geotechnical engineer of record.

APPENDIX

A. General Notes

B. Vicinity Map

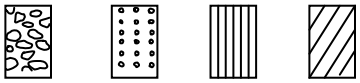
C. Boring Plan

D. Boring Logs and Lab Test Results

E. Field Infiltration Test Results

GENERAL NOTES

Drilling and Sampling Symbols



Gravel Sand Silt Clay

Split Spoon (SS) Auger Cutting (AU) Shelby Tube (ST) Rock Core (RC)

N = Standard penetration, blows per foot of a 140 lbs hammer for 30" drop
RQD = Rock Quality Designation
LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index

Cohesionless Soils

If the sand or silt content of a soil is great enough, the soil becomes non-cohesive or semi-cohesive. The soil classification becomes SAND or SILT with the other soil constituents being modifying.

Based on N-Value

0 to 4 Blows…….Very Loose	30 to 59 Blows…….Dense
5 to 9 Blows…….Loose	Over 60 Blows…….Very Dense
10 to 29 Blows…….Medium Dense	

Cohesive Soils

If clay content is sufficient so that clay dominates soil properties, then CLAY becomes the major soil constituent as modifier. Other minor soil constituents may be added according to classification breakdown for cohesion less soils: i.e. silty clay, trace of some sand, trace of gravel.

Based on N-Value

0 to 3 Blows…….Very Soft	16 to 30 Blows……..Stiff
4 to 5 Blows…….Soft	30 to 60 Blows……..Very Stiff
6 to 16 Blows……...Firm	Over 61 Blows……..Hard

Based on Penetrometer Value

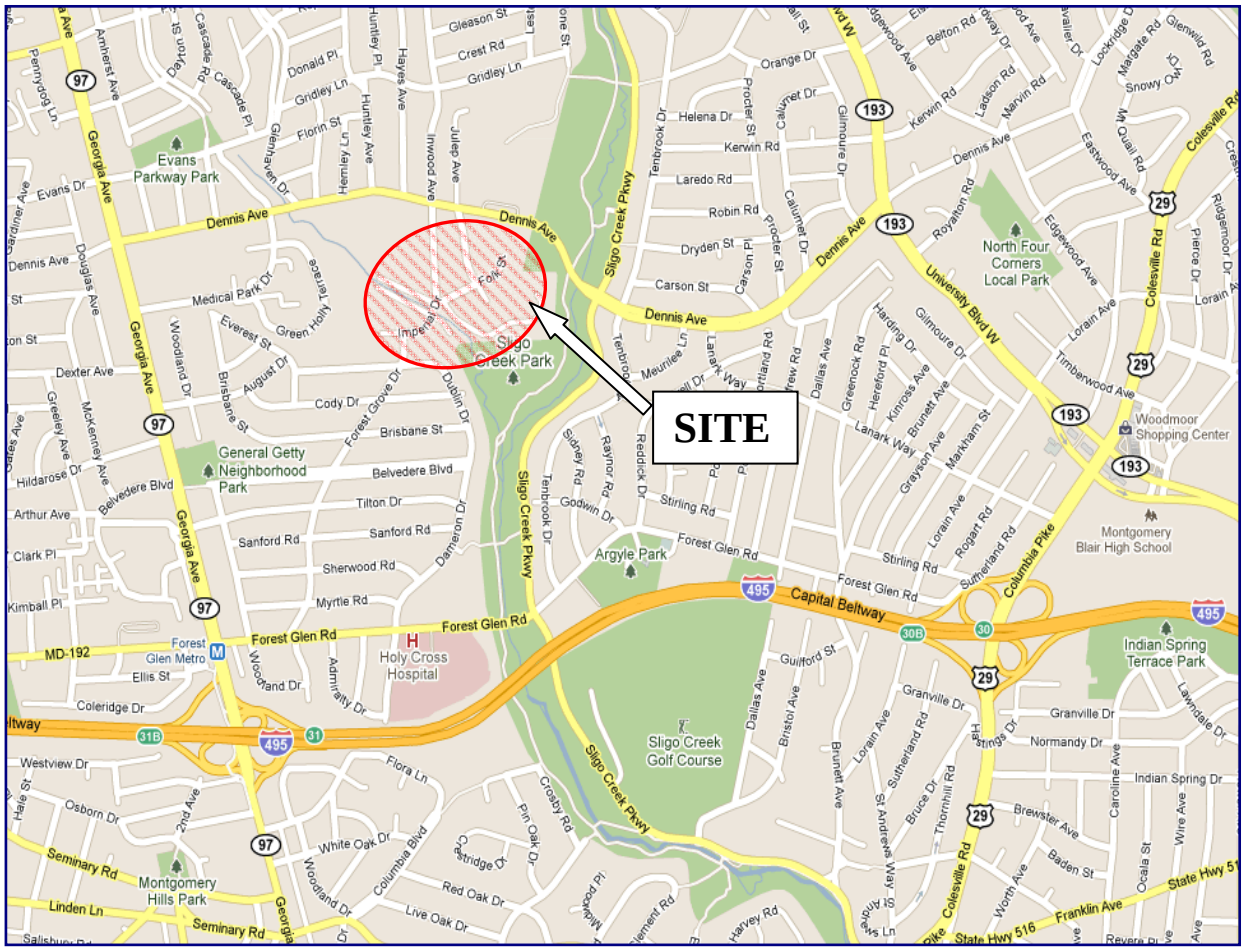
Below 0.25……...Very Soft	1.00 to 1.99……..Stiff
0.25 to 0.49……..Soft	2.00 to 3.99……..Very Stiff
0.50 to 0.99……..Firm	Over 4.00…….Hard

Quantity Modifiers

Term	% of Dry Weight
trace	0 to 10
little	11 to 20
some	21 to 35
and/with	36 to 50

Particle Size Identifications

Boulder …….....Over 8 inch diameter
Cobbles……...3 inch to 8 inch
Gravel……..Coarse……1 inch to 3 inch
Medium…….1/2 inch to 1 inch
Fine……....4.75 mm to 1/2 inch
Sand……....Coarse……....2 mm to 4.75 mm
Medium……..0.425 mm to 2 mm
Fine……....0.075 mm to 0.425 mm
Silt/Clay…….....Below 0.075 mm



VICINITY MAP

Montgomery County Task Order #13
Montgomery County, Maryland

JOB NO.: 10-368
SCALE: N.T.S.
DATE: 6/17/2011

AB CONSULTANTS, INC.

BORING PLAN

N

W E

S

0 50 100

Feet

Legend

- BMP Boring Locations
- Sidewalk Boring Locations

DENNIS AVE

INWOOD AVE

FOLK ST

FOLK ST

JULEP CT

WOODMAN AVE

IMPERIAL DR

B-18
B-19
B-20
B-21
B-17
B-17
B-22
B-28
B-27
B-16
B-7
B-23
B-19
B-6
B-15
B-24
B-26
B-14
B-5
B-8
B-4
B-25
B-9
B-12
B-13
B-3
B-1
B-2
B-11
B-10
B-11

BORING LOGS and LAB TEST RESULTS

Project No. 10-368

LOG OF BOREHOLE B-01

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **309.5** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.4										
	5" Topsoil 309.1									
	Medium dense brown SILTY FINE SAND (SM) with mica and rock fragments	4-8-8 N=16	1	SS	6/18 33%	6				
		6-9-6 N=15	2	SS	12/18 67%	15			38	
5	-become loose between 5 to 7.5 ft	2-2-2 N=4	3	SS	15/18 83%	19				
		5-6-9 N=15	4	SS	12/18 67%	13				
10.0	299.5									
10	End of Boring @ 10 ft Upon completion, borehole was backfilled.									

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, caved in 8 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	5/31/11	FINISHED:	5/31/11
DRILL CO.:	ABC	DRILL RIG:	B61
DRILLER:	PS	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

Project No. 10-368

LOG OF BOREHOLE B-02

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **305.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.2 3" Topsoil 304.8 Medium dense brown SILTY FINE SAND (SM) with mica		6-7-9 N=16	1	SS	18/18 100%	7				
		4-4-8 N=12	2	SS	18/18 100%	13			13	
5		3-3-8 N=11	3	SS	18/18 100%	29				
10.0 295.0		6-8-12 N=20	4	SS	18/18 100%	11				
10										
End of Boring @ 10 ft Upon completion, borehole was backfilled.										

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, caved in 4 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/11/11	FINISHED:	6/11/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-03

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **302.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1										
		10-18-21 N=39	1	SS	18/18 100%	4				
		25-50/6"	2	SS	12/12 100%	9			15	
5		25-36-50/4"	3	SS	12/16 75%	13				
		27-50/5"	4	SS	8/12 67%	7				
10										

2" Topsoil — 301.9

Dense to very dense brown SILTY FINE SAND (SM) with rock fragments and mica

10.0 — 292.0

End of Boring @ 10 ft

Upon completion, borehole was backfilled.

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, caved in 4 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/11/11	FINISHED:	6/11/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-04

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **297.5** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1 2" Topsoil 297.4 Dense to medium dense brown SILTY FINE SAND (SM) with mica		6-15-35 N=50	1	SS	14/18 78%	4				
-become loose between 2.5 to 5 ft		3-5-2 N=7	2	SS	18/18 100%	6				
5		5-6-8 N=14	3	SS	12/18 67%	24			46	
10.0 287.5		26-16-11 N=27	4	SS	12/18 67%	5				
10										
End of Boring @ 10 ft Upon completion, borehole was backfilled.										

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, caved in 5.5 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/11/11	FINISHED:	6/11/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-05

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **300.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.2 3" Topsoil (299.8)										
Medium dense brown and gray SILTY FINE SAND (SM) with mica		15-8-6 N=14	1	SS	8/18 44%	8				
		12-10-11 N=21	2	SS	12/18 67%	16			41	
5		6-7-12 N=19	3	SS	8/18 44%	22				
		2-3-4 N=7	4	SS	18/18 100%	28				
10.0 (290.0) 10										
End of Boring @ 10 ft										
Upon completion, borehole was backfilled.										

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, caved in 5 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/11/11	FINISHED:	6/11/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-06

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **302.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1 2" Topsoil 301.9 Medium dense brown SILTY FINE SAND (SM) with mica		8-6-5 N=11	1	SS	6/18 33%	11				
		8-10-12 N=22	2	SS	18/18 100%	18				
4.5 297.5 Medium dense gray and tan CLAYEY FINE SAND (SC) with mica		4-4-13 N=17	3	SS	12/18 67%	33			47	
10.0 292.0		4-4-8 N=12	4	SS	12/18 67%	22				LL = 37 PL = 25 PI = 12
End of Boring @ 10 ft Upon completion, borehole was backfilled.										

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, caved in 5 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/11/11	FINISHED:	6/11/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-07

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **302.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1 2" Topsoil 301.9 Medium dense brown SILTY FINE SAND (SM)		6-6-7 N=13	1	SS	12/18 67%	21				
		7-7-11 N=18	2	SS	18/18 100%	10			43	
5.0 297.0		11-6-6 N=12	3	SS	4/18 22%	3				
5										

End of Boring @ 5 ft

Upon completion, borehole was backfilled.

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, caved in 2.5 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/11/11	FINISHED:	6/11/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

Project No. 10-368

LOG OF BOREHOLE B-08

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **297.5** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1		1" Topsoil								
		Medium dense brown SILTY FINE SAND (SM)								
		6-6-8 N=14	1	SS	12/18 67%	19				
		6-8-8 N=16	2	SS	12/18 67%	14			25	
5		14-10-12 N=22	3	SS	10/18 56%	17				
		6-6-8 N=14	4	SS	8/18 44%	25				
10.0		287.5								
10		End of Boring @ 10 ft								
		Upon completion, borehole was backfilled.								

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, caved in 5 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/11/11	FINISHED:	6/11/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-10

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **290.5** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1										
0.1 – 4.0		10-8-6 N=14	1	SS	8/18 44%	7				
4.0 – 6.5		4-3-3 N=6	2	SS	18/18 100%	32			59	
5		6-24-36 N=60	3	SS	6/18 33%	44				
6.5 – 10.0		5-6-8 N=14	4	SS	6/18 33%	9				
10										

0.1 1" Topsoil — 290.4

Medium dense to loose brown FINE SANDY SILT (ML)

4.0 — 286.5

Very dense brown CLAYEY FINE SAND (SC)

6.5 — 284.0

Medium dense brown SILTY FINE SAND (SM)

10.0 — 280.5

End of Boring @ 10 ft

Upon completion, borehole was backfilled.

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, caved in 5.5 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/13/11	FINISHED:	6/13/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

Project No. 10-368

LOG OF BOREHOLE B-11

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **293.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1 2" Topsoil 292.9 Medium dense brown SILTY FINE SAND (SM) with mica		5-10-14 N=24	1	SS	14/18 78%	9				
-become dense between 2.5 to 4 ft		10-12-24 N=36	2	SS	18/18 100%	12			21	
5		10-11-16 N=27	3	SS	18/18 100%	17				
6.5 286.5 Very dense brown SILTY FINE SAND (SM) with disintegrated rock										
		50/6"	4	SS	5/6 83%	10				
10.0 283.0 10										
End of Boring @ 10 ft Upon completion, borehole was backfilled.										

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, caved in 4 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/13/11	FINISHED:	6/13/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-14

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **317.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1										
		6-7-10 N=17	1	SS	12/18 67%	6				
		4-10-11 N=21	2	SS	12/18 67%	9			32	
5		9-9-13 N=22	3	SS	10/18 56%	15				
		4-5-8 N=13	4	SS	8/18 44%	16				
10										

1" Topsoil — 316.9

Medium dense brown SILTY FINE SAND (SM)

10.0 — 307.0

End of Boring @ 10 ft

Upon completion, borehole was backfilled.

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, caved in 4 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/13/11	FINISHED:	6/13/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

Project No. 10-368

LOG OF BOREHOLE B-15

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **301.5** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1 2" Topsoil 301.4 Medium dense to dense brown CLAYEY FINE SAND (SC) with trace of organic		4-5-6 N=11	1	SS	8/18 44%	17				
		6-5-8 N=13	2	SS	12/18 67%	16			43	
5		3-4-5 N=9	3	SS	1/18 6%	25				
-with more gravel below 8 ft		18-21-16 N=37	4	SS	18/18 100%	11				
10.0 291.5 End of Boring @ 10 ft Upon completion, borehole was backfilled.										
10										

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, caved in 5 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/13/11	FINISHED:	6/13/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

Project No. 10-368

LOG OF BOREHOLE B-16

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **306.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1 2" Topsoil / Medium dense brown CLAYEY FINE SAND (SC) with gravel — 305.9		10-10-10 N=20	1	SS	8/18 44%	12				
		5-7-11 N=18	2	SS	12/18 67%	19			36	
5		9-11-13 N=24	3	SS	18/18 100%	30				LL = 52 PL = 27 PI = 25
7.5 — 298.5 Dense brown and gray SILTY FINE SAND (SM) with mica										
		11-13-25 N=38	4	SS	18/18 100%	15				
10.0 — 296.0										
10										

End of Boring @ 10 ft

Upon completion, borehole was backfilled.

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, caved in 4 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/13/11	FINISHED:	6/13/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-17

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **313.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1 2" Topsoil 312.9 Medium dense to dense brown FINE SANDYCLAY (CL) with mica and gravel		6-8-7 N=15	1	SS	18	16				
-become loose between 2.5 to 5 ft		3-3-5 N=8	2	SS	18	24			68	
5		4-4-7 N=11	3	SS	18	30				LL = 50 PL = 25 PI = 25
10.0 303.0		6-16-20 N=36	4	SS	18	21				
10										
End of Boring @ 10 ft Upon completion, borehole was backfilled.										

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, caved in 4.5 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/13/11	FINISHED:	6/13/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-18

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **325.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1										
		6-6-6 N=12	1	SS	18/18 100%	15				
		3-5-5 N=10	2	SS	6/18 33%	19			55	
5		6-6-5 N=11	3	SS	18/18 100%	19				
		4-6-7 N=13	4	SS	18/18 100%	21				
10										

0.1 2" Topsoil — 324.9

Medium dense brown FINE SANDY SILT (ML) with mica and gravel

10.0 — 315.0

End of Boring @ 10 ft

Upon completion, borehole was backfilled.

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, caved in 5 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/14/11	FINISHED:	6/14/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-19

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **320.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1										
	2" Topsoil	3-3-3 N=6	1	SS	18/18 100%	13				
	Loose to medium dense brown SILTY FINE SAND (SM)	5-6-7 N=13	2	SS	18/18 100%	11			23	
5		6-9-7 N=16	3	SS	18/18 100%	11				
7.5	319.9 / 312.5									
	Dense brown SILTY FINE SAND (SM) with rock fragments	6-16-21 N=37	4	SS	18/18 100%	12				
10.0	310.0									
10										
	End of Boring @ 10 ft									
	Upon completion, borehole was backfilled.									

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, caved in 4 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/14/11	FINISHED:	6/14/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-20

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **333.5** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.2 (333.3) 3" topsoil Medium dense to loose brown SILTY FINE SAND (SM) with mica		6-6-6 N=12	1	SS	18/18 100%	12				
		4-5-5 N=10	2	SS	18/18 100%	8			20	
5		4-4-5 N=9	3	SS	18/18 100%	9				
8.0 (325.5) Dense gray and brown SILTY FINE SNAD (SM) with mica and trace of clay		10-12-18 N=30	4	SS	18/18 100%	19				
10.0 (323.5)										
10										

End of Boring @ 10 ft

Upon completion, borehole was backfilled.

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, caved in 4 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/14/11	FINISHED:	6/14/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-21

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **333.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1										
	2" Topsoil 332.9									
	Loose to medium dense brown SILTY FINE SAND (SM) with mica	4-4-5 N=9	1	SS	18/18 100%	11				
		2-3-3 N=6	2	SS	18/18 100%	13				
5		2-2-2 N=4	3	SS	14/18 78%	12			26	
		4-5-6 N=11	4	SS	18/18 100%	11				
10.0	323.0									
10										
	End of Boring @ 10 ft									
	Upon completion, borehole was backfilled.									

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, caved in 5 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/14/11	FINISHED:	6/14/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-22

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **330.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1										
	2" Topsoil	6-7-8 N=15	1	SS	14/18 78%	14				
	Medium dense brown FINE SANDY SILTY (ML) with mica	6-8-11 N=19	2	SS	18/18 100%	23			63	
5		6-8-8 N=16	3	SS	18/18 100%	17				
		8-14-16 N=30	4	SS	18/18 100%	11				
10.0	329.9 / 320.0									
10	End of Boring @ 10 ft									
	Upon completion, borehole was backfilled.									

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, caved in 4.5 ft	@ 0 hr

AB Consultants, Inc.
9450 Annapolis Road
Lanham, MD 20706
Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/14/11	FINISHED:	6/14/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-23

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **318.5** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.2 (318.3) 3" Topsoil Medium dense brown SILTY FINE SAND (SM) with mica		6-7-8 N=15	1	SS	18/18 100%	7				
		7-9-11 N=20	2	SS	18/18 100%	12			22	
5		6-7-8 N=15	3	SS	18/18 100%	11				
7.5 (311.0) Very dense brown SILTY FINE SAND (SM) with mica and disintegrated rock										
		26-27-50 N=77	4	SS	18/18 100%	28				
10.0 (308.5) 10										
End of Boring @ 10 ft Upon completion, borehole was backfilled.										

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, caved in 4 ft	@ 0 hr

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Fax: 301-306-3092

STARTED:	6/14/11	FINISHED:	6/14/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-24

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **314.5** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.2 (314.3) 3" Topsoil Medium dense brown SILTY FINE SAND (SM) with mica		6-8-9 N=17	1	SS	12/18 67%	12				
-become dense between 2.5 to 4 ft		16-17-18 N=35	2	SS	18/18 100%	11			44	
5		5-6-9 N=15	3	SS	18/18 100%	21				
		10-11-18 N=29	4	SS	18/18 100%	19				
10.0 (304.5)										
10										
End of Boring @ 10 ft Upon completion, borehole was backfilled.										

WATER LEVEL OBSERVATIONS		
WL	Dry	@ Drilling
WL	Dry, caved in 3 ft	@ 0 hr

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Fax: 301-306-3092

STARTED:	6/15/11	FINISHED:	6/15/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-25

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **321.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.2										
	3" Topsoil 320.8									
	Medium dense to loose brown SILTY FINE SAND (SM) with mica	5-6-7 N=13	1	SS	16/18 89%	10				
		6-6-9 N=15	2	SS	18/18 100%	17			43	
5		3-4-4 N=8	3	SS	18/18 100%	17				
	-become dense below 8.5 ft									
10.0	311.0	16-18-20 N=38	4	SS	18/18 100%	6				
10										
	End of Boring @ 10 ft									
	Upon completion, borehole was backfilled.									

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, caved in 4 ft	@ 0 hr

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Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/15/11	FINISHED:	6/15/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

Project No. 10-368

LOG OF BOREHOLE B-26

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **319.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.2										
	3" Topsoil	4-6-9 N=15	1	SS	18/18 100%	14				
	Medium dense brown SILTY FINE SAND (SM) with mica	6-9-11 N=20	2	SS	18/18 100%	10			24	
5		6-10-11 N=21	3	SS	18/18 100%	13				
		8-12-15 N=27	4	SS	18/18 100%	15				
10.0	318.8 / 309.0									
10										

End of Boring @ 10 ft

Upon completion, borehole was backfilled.

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, caved in 4 ft	@ 0 hr

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Phone: 301-306-3091
Fax: 301-306-3092

STARTED:	6/15/11	FINISHED:	6/15/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

Project No. 10-368

LOG OF BOREHOLE B-27

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **334.0** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1 2" Topsoil 333.9 Medium dense brown SILTY FINE SAND (SM) with mica		4-6-6 N=12	1	SS	18/18 100%	26				
		3-5-6 N=11	2	SS	18/18 100%	8			19	
5 -become loose between 5 to 6.5 ft		2-2-3 N=5	3	SS	18/18 100%	13				
		5-6-6 N=12	4	SS	18/18 100%	11				
10.0 324.0 10 End of Boring @ 10 ft Upon completion, borehole was backfilled.										

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, caved in 4 ft	@ 0 hr

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STARTED:	6/15/11	FINISHED:	6/15/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

Project No. 10-368

LOG OF BOREHOLE B-28

CLIENT: McCormick Taylor

PROJECT: **MO County Task #13**

ARCHITECT/ENGINEER:

SITE: **MO County, Maryland**

SURFACE ELEV.: **338.5** ft.

DEPTH (FT)	GRAPHIC LOG	SAMPLES: BLOWS/6" N - VALUE RQD	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: IN. RECOVERED IN. DRIVEN	TESTS: MOISTURE (%)	TESTS: DRY DENSITY (PCF)	TESTS: Qu (TSF)	TESTS: % PASSING #200 SIEVE	REMARKS/ ADDITIONAL DATA
0.1										
		6-6-6 N=12	1	SS	18/18 100%	7				
		5-5-5 N=10	2	SS	18/18 100%	13			25	
5		2-9-17 N=26	3	SS	14/18 78%	14				
		5-5-7 N=12	4	SS	18/18 100%	11				
10										

1" Topsoil — 338.4

Medium dense brown SILTY FINE SAND (SM) with mica

10.0 — 328.5

End of Boring @ 10 ft

Upon completion, borehole was backfilled.

WATER LEVEL OBSERVATIONS

WL	Dry	@ Drilling
WL	Dry, caved in 4 ft	@ 0 hr

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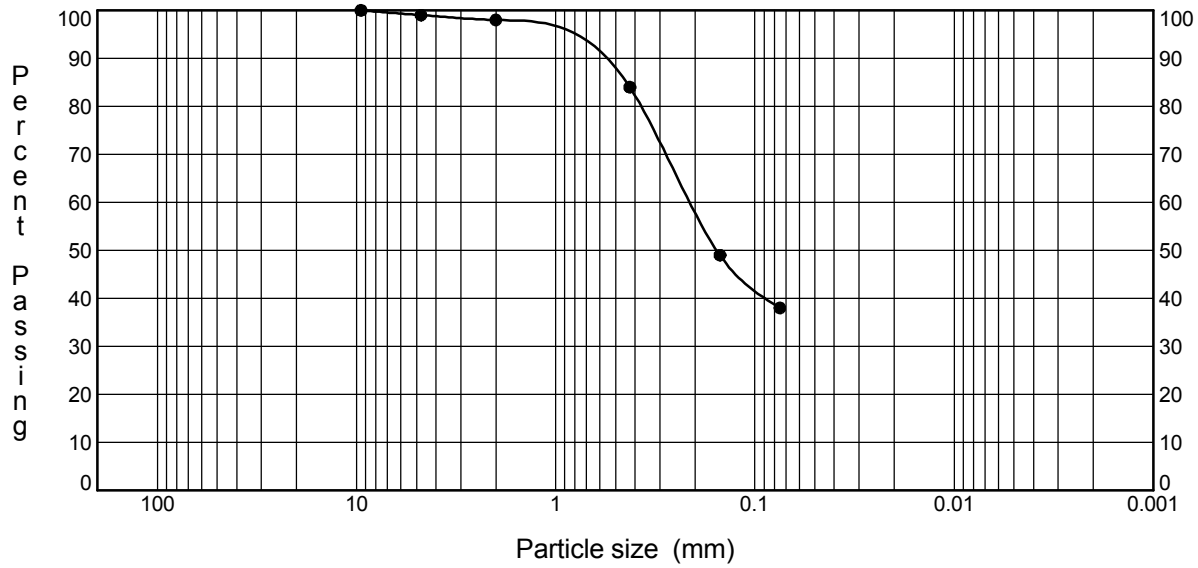
Fax: 301-306-3092

STARTED:	6/15/11	FINISHED:	6/15/11
DRILL CO.:	ABC	DRILL RIG:	CME 55
DRILLER:	AR	ASS'T DRILLER:	
LOGGED BY:		APPROVED:	

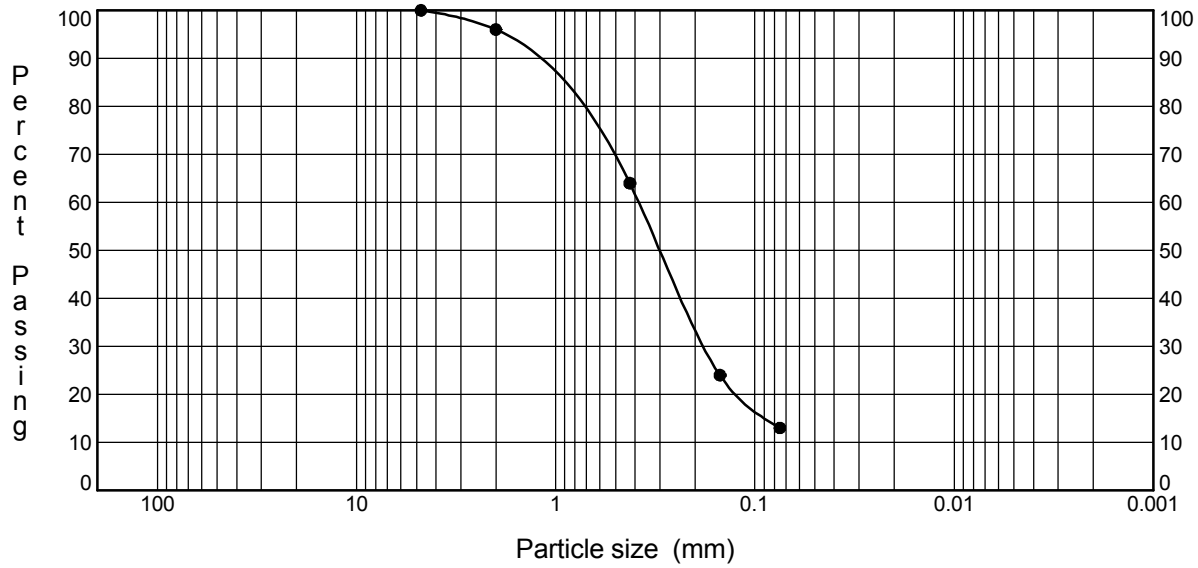
BORING LOG AB09 10-368 MO COUNTY TASK #13.GPJ AB_CONS.GDT 6/24/11

BOREHOLE NO. **B-01** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

BOREHOLE NO. **B-02** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

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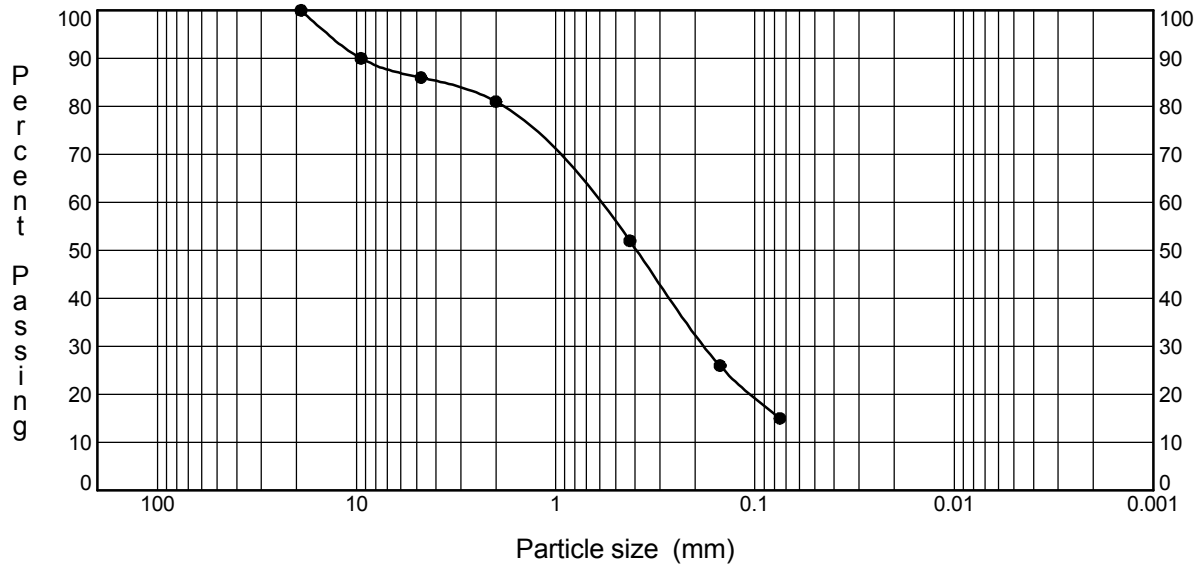
Phone: 301-306-3091
Fax: 301-306-3092

GRAIN SIZE DISTRIBUTION

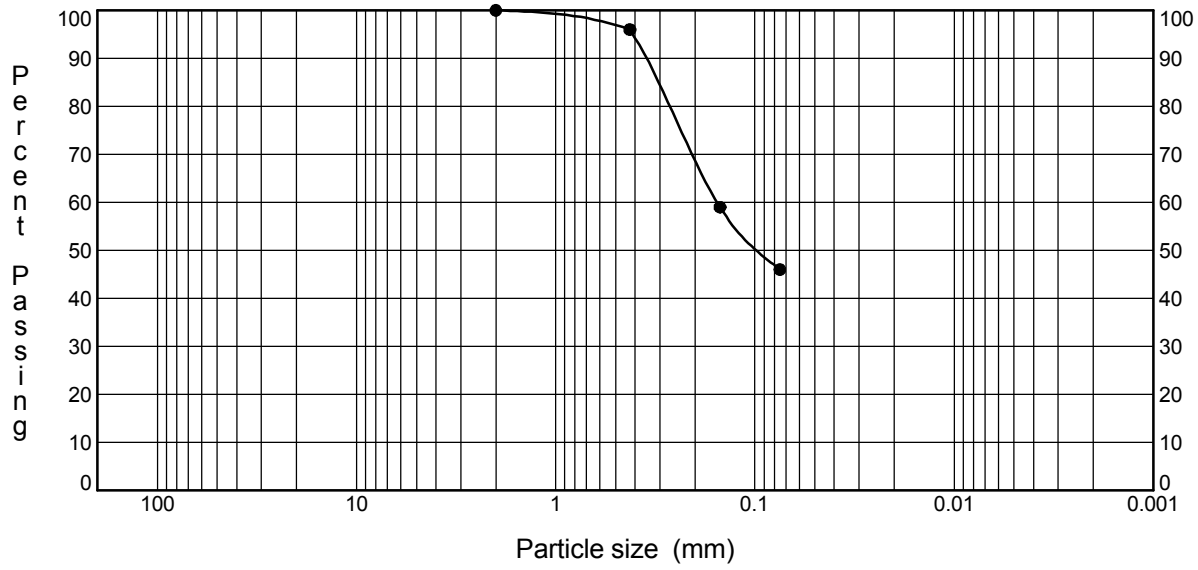
CLIENT: McCormick Taylor
PROJECT NO.: 10-368
PROJECT: MO County Task #13
SITE:
MO County, Maryland

BOREHOLE NO. **B-03** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

BOREHOLE NO. **B-04** DEPTH **5.0**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

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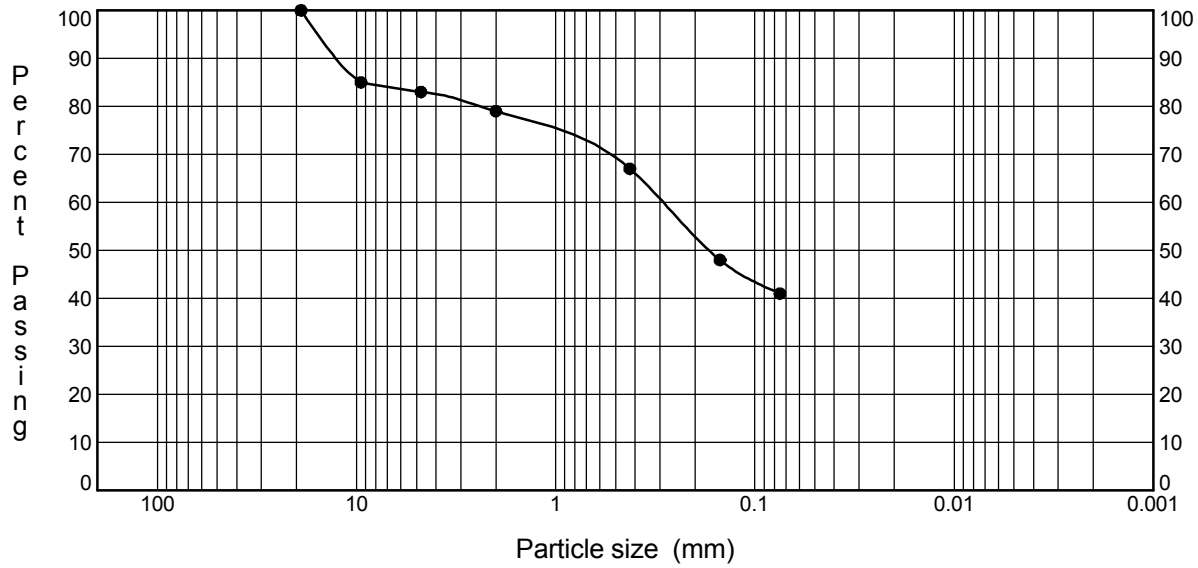
GRAIN SIZE DISTRIBUTION

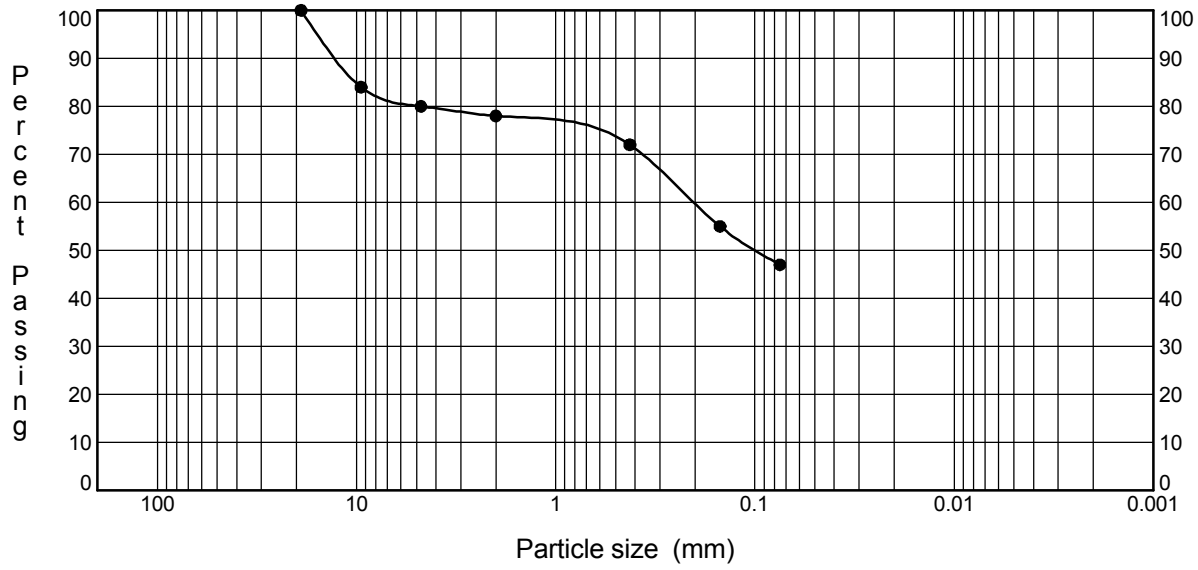
CLIENT: McCormick Taylor
PROJECT NO.: 10-368
PROJECT: MO County Task #13
SITE:
MO County, Maryland

BOREHOLE NO. **B-05** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

BOREHOLE NO. **B-06** DEPTH **5.0**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

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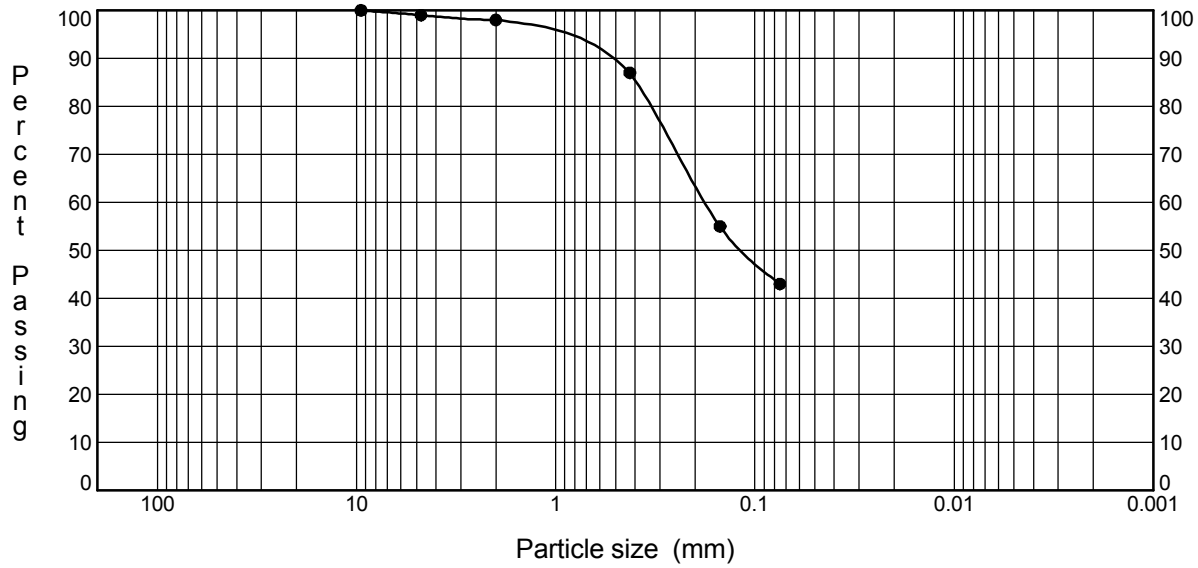
GRAIN SIZE DISTRIBUTION

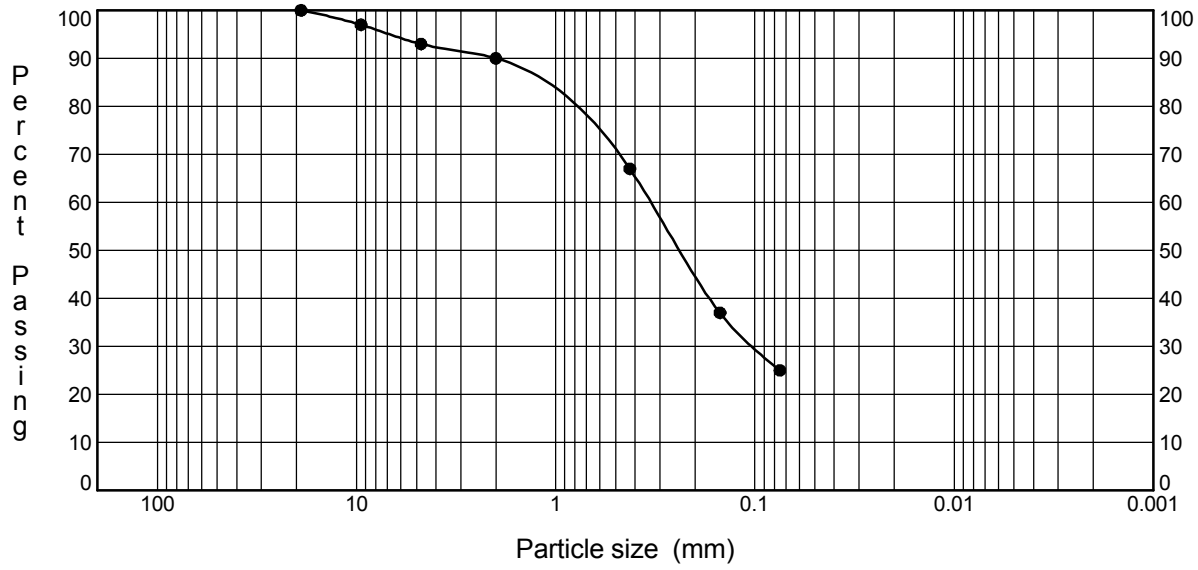
CLIENT: McCormick Taylor
PROJECT NO.: 10-368
PROJECT: MO County Task #13
SITE:
MO County, Maryland

BOREHOLE NO. **B-07** DEPTH **2.0**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

BOREHOLE NO. **B-08** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

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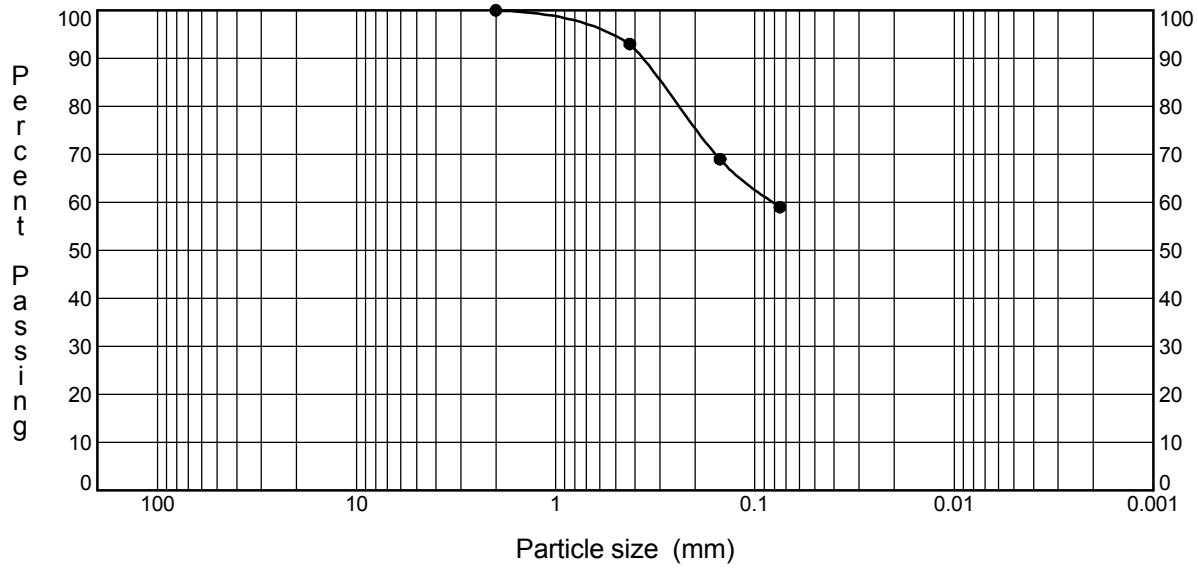
GRAIN SIZE DISTRIBUTION

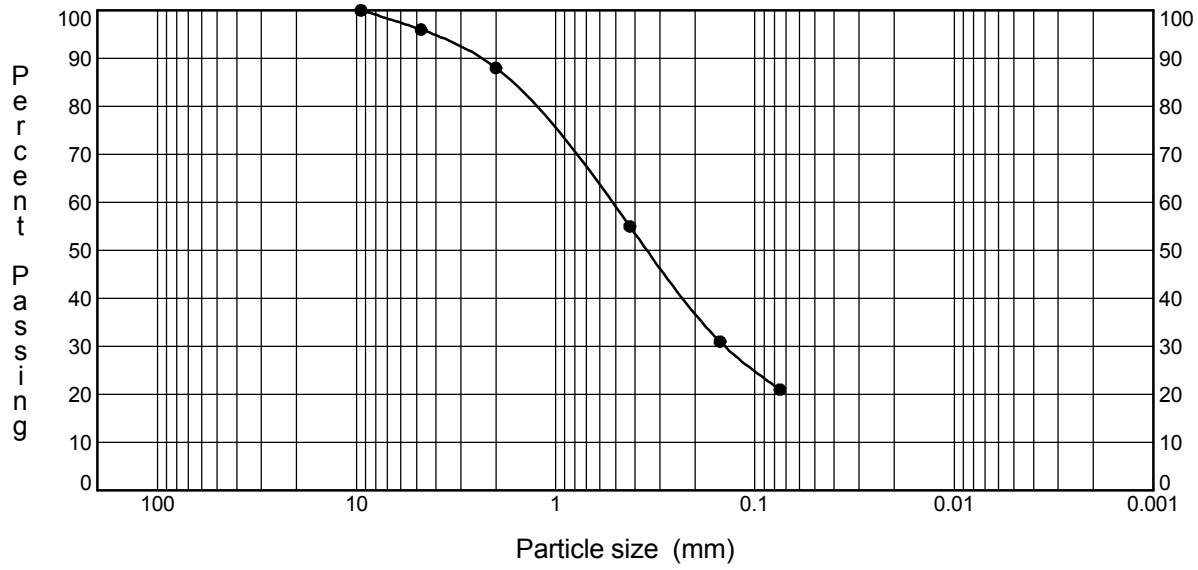
CLIENT: McCormick Taylor
PROJECT NO.: 10-368
PROJECT: MO County Task #13
SITE:
MO County, Maryland

BOREHOLE NO. **B-10** DEPTH **2.5**



Cobbles	Gravel: coarse	Gravel: fine	Sand: coarse	Sand: medium	Sand: fine	Silt	Clay

BOREHOLE NO. **B-11** DEPTH **2.5**



Cobbles	Gravel: coarse	Gravel: fine	Sand: coarse	Sand: medium	Sand: fine	Silt	Clay

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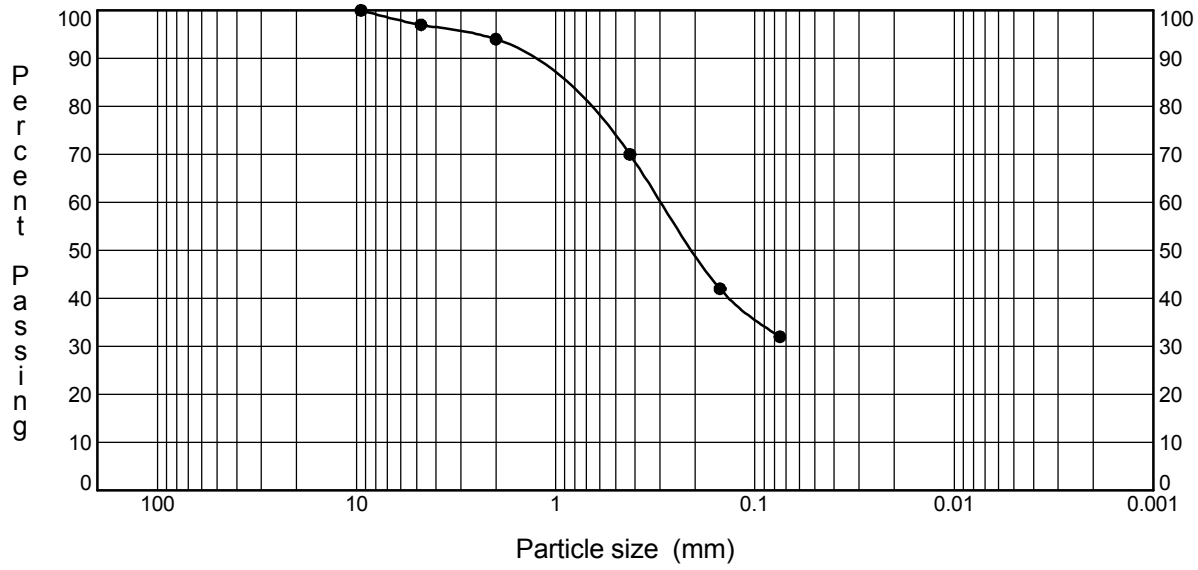
GRAIN SIZE DISTRIBUTION

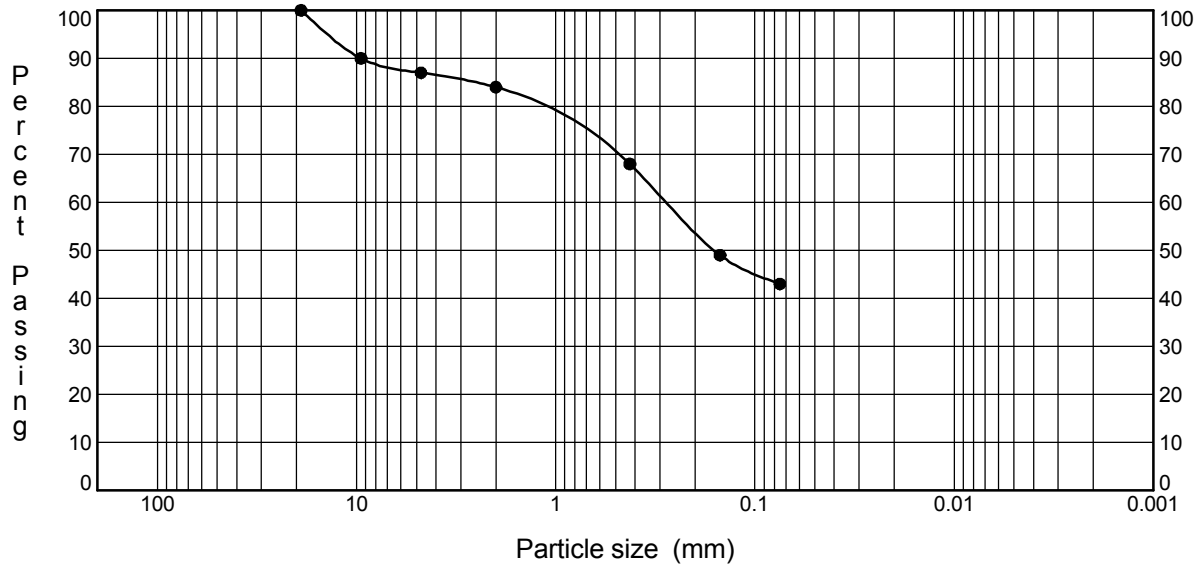
CLIENT: McCormick Taylor
PROJECT NO.: 10-368
PROJECT: MO County Task #13
SITE:
MO County, Maryland

BOREHOLE NO. **B-14** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

BOREHOLE NO. **B-15** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

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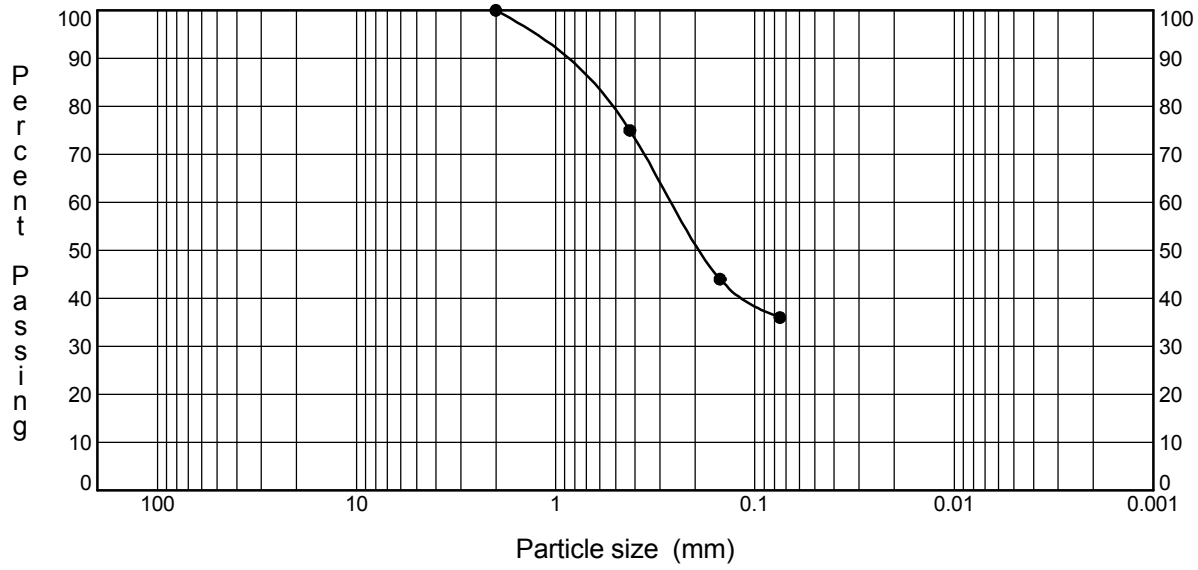
GRAIN SIZE DISTRIBUTION

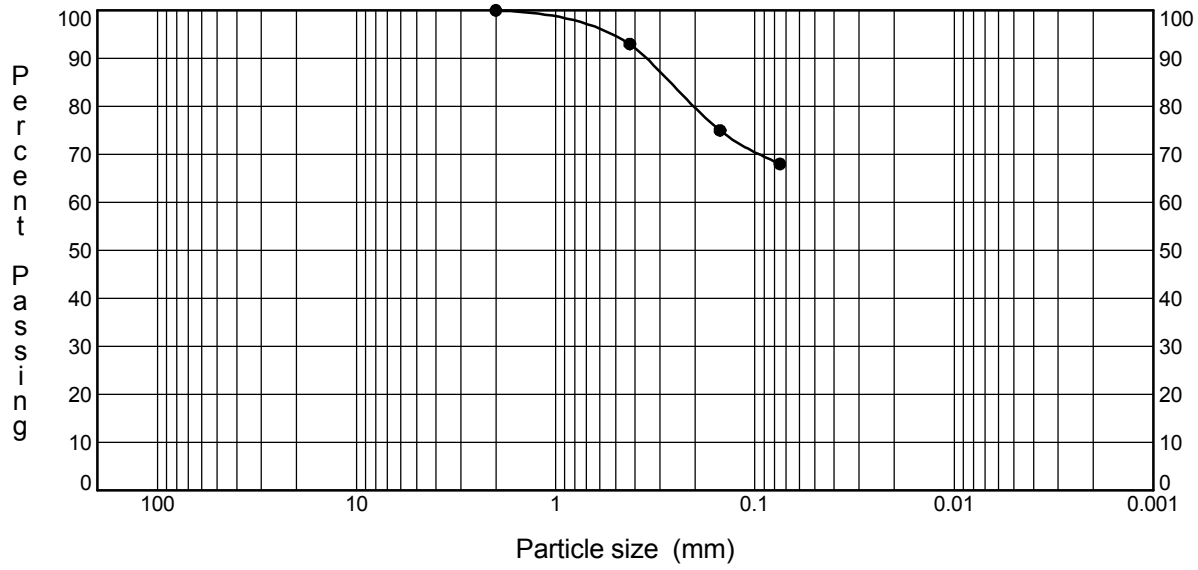
CLIENT: McCormick Taylor
PROJECT NO.: 10-368
PROJECT: MO County Task #13
SITE:
MO County, Maryland

BOREHOLE NO. **B-16** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

BOREHOLE NO. **B-17** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

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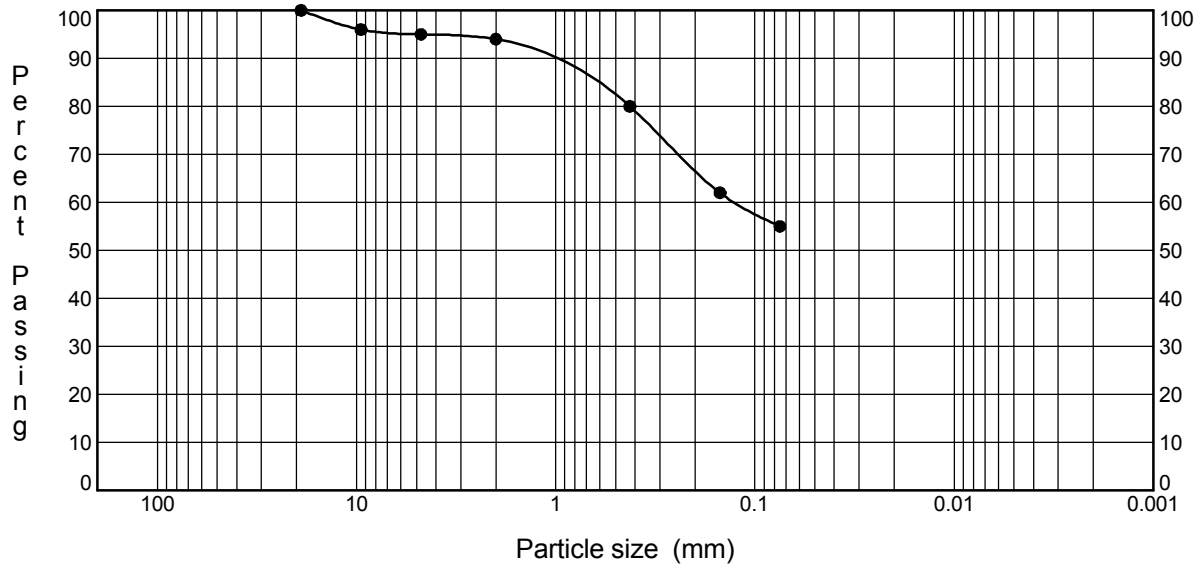
GRAIN SIZE DISTRIBUTION

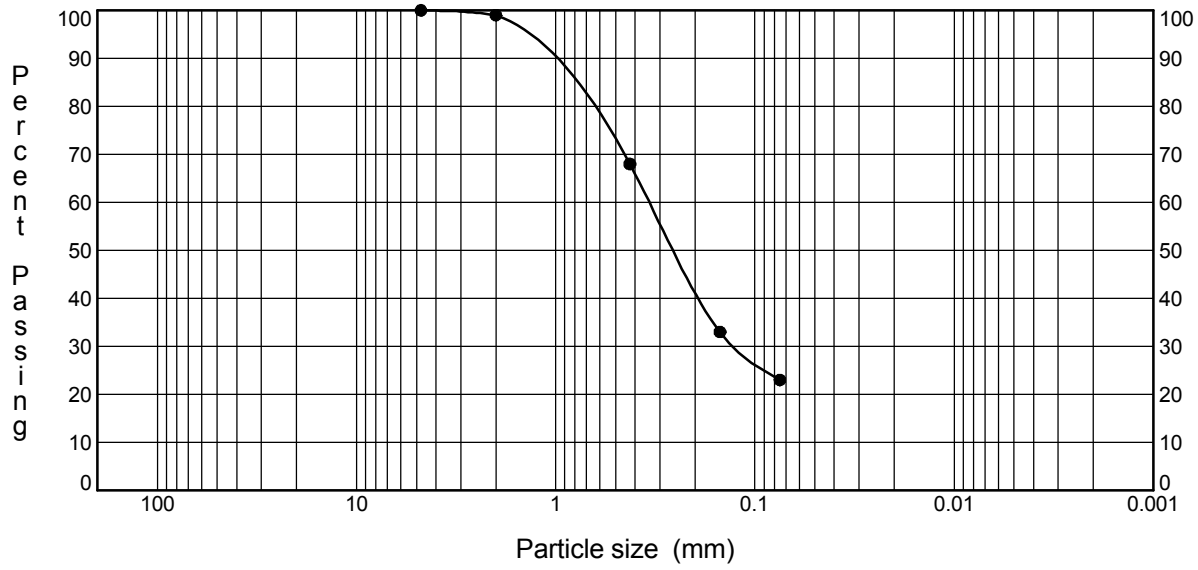
CLIENT: McCormick Taylor
PROJECT NO.: 10-368
PROJECT: MO County Task #13
SITE:
MO County, Maryland

BOREHOLE NO. **B-18** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

BOREHOLE NO. **B-19** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

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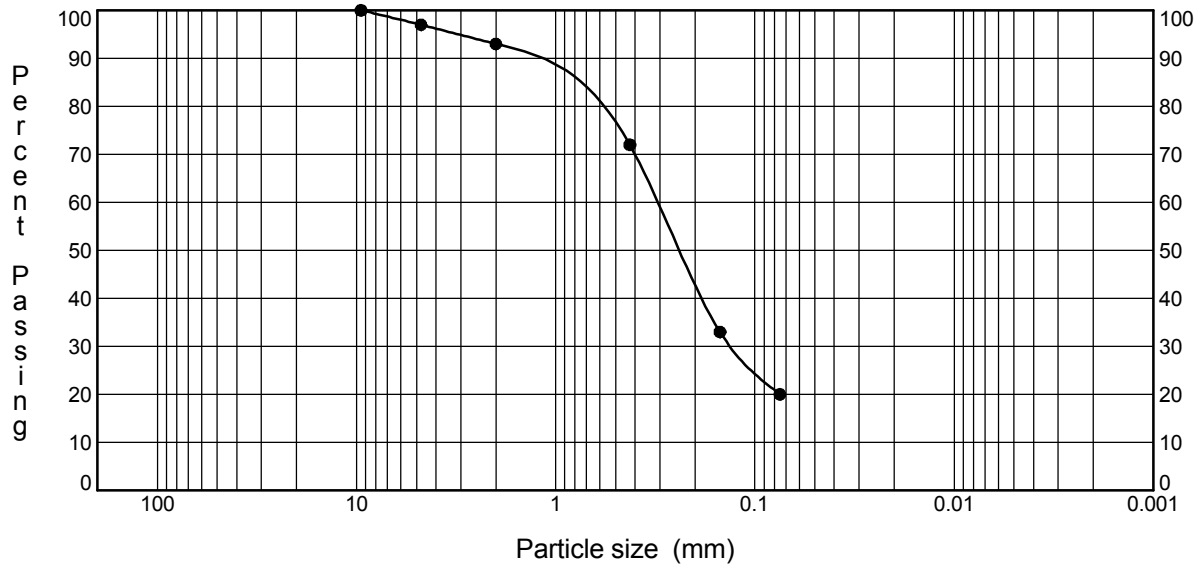
GRAIN SIZE DISTRIBUTION

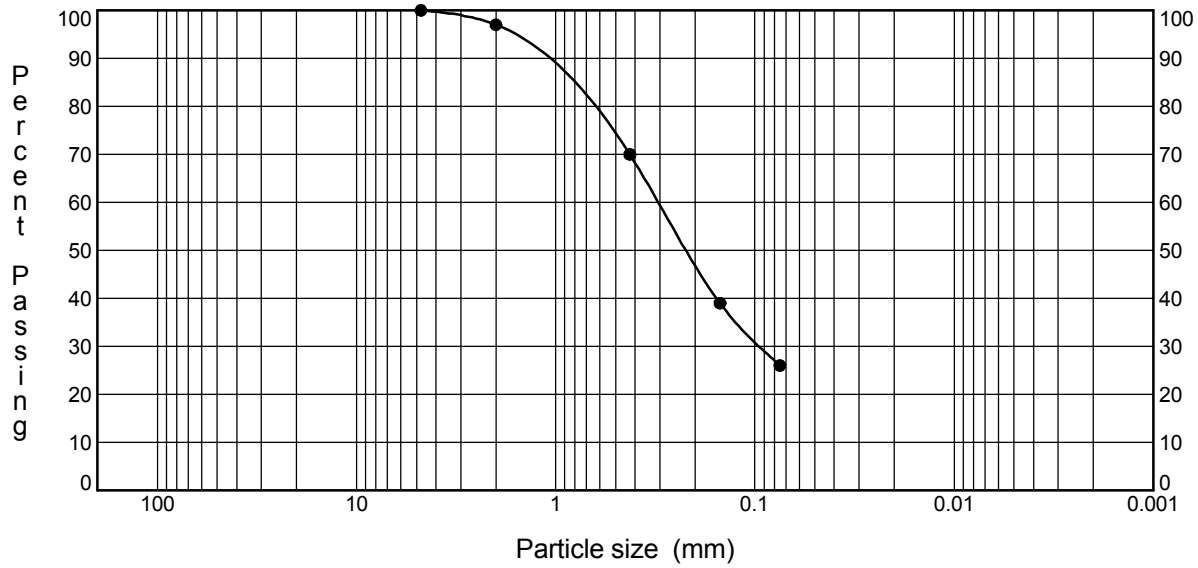
CLIENT: McCormick Taylor
PROJECT NO.: 10-368
PROJECT: MO County Task #13
SITE:
MO County, Maryland

BOREHOLE NO. **B-20** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

BOREHOLE NO. **B-21** DEPTH **5.0**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

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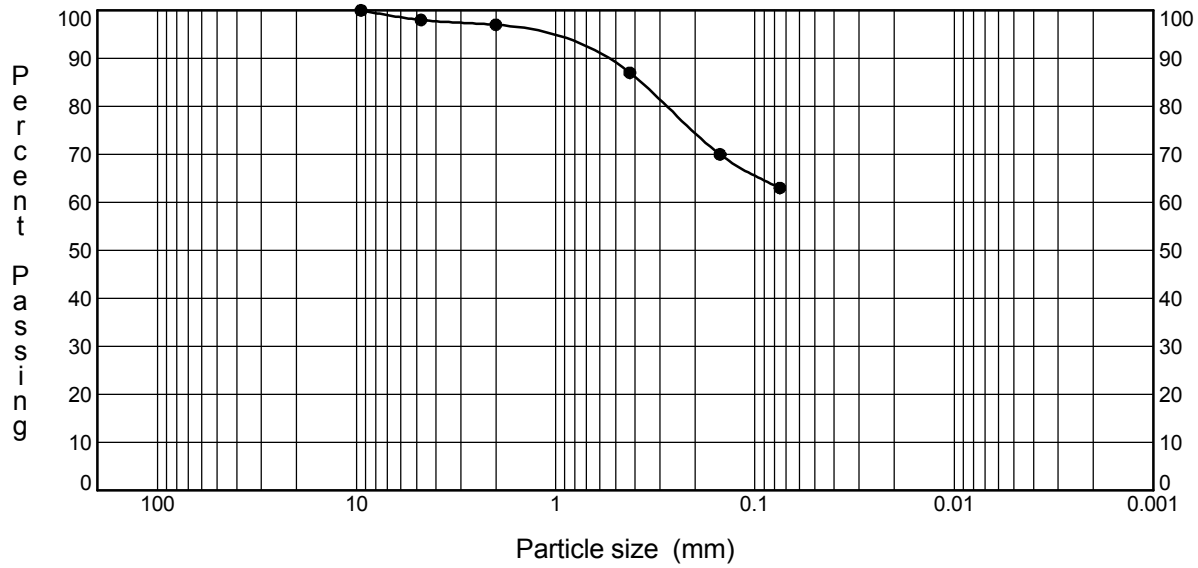
GRAIN SIZE DISTRIBUTION

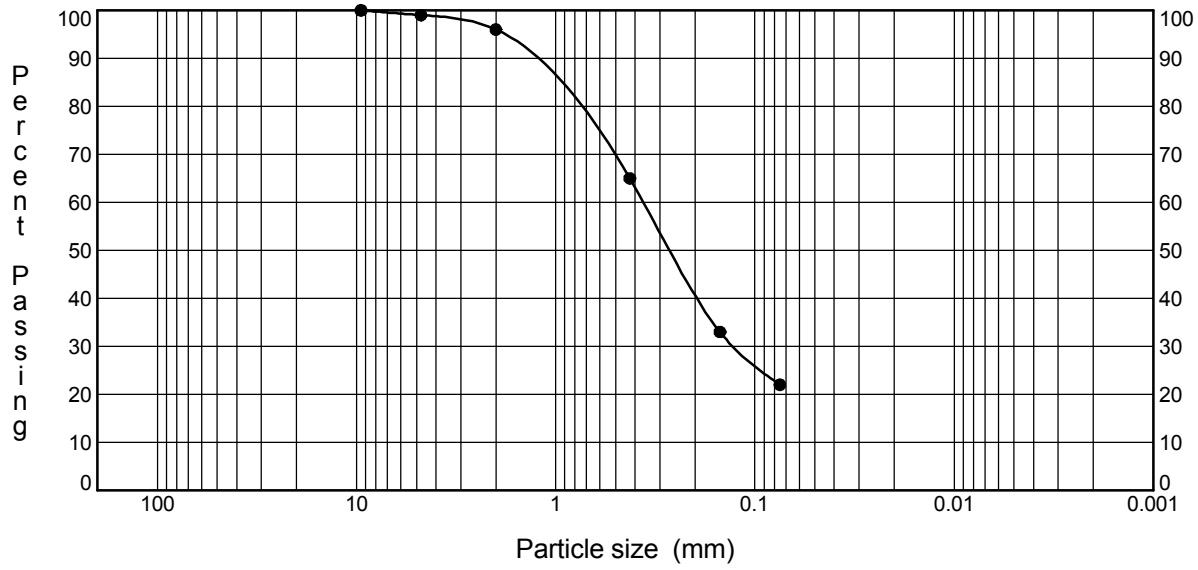
CLIENT: McCormick Taylor
PROJECT NO.: 10-368
PROJECT: MO County Task #13
SITE:
MO County, Maryland

BOREHOLE NO. **B-22** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

BOREHOLE NO. **B-23** DEPTH **2.5**



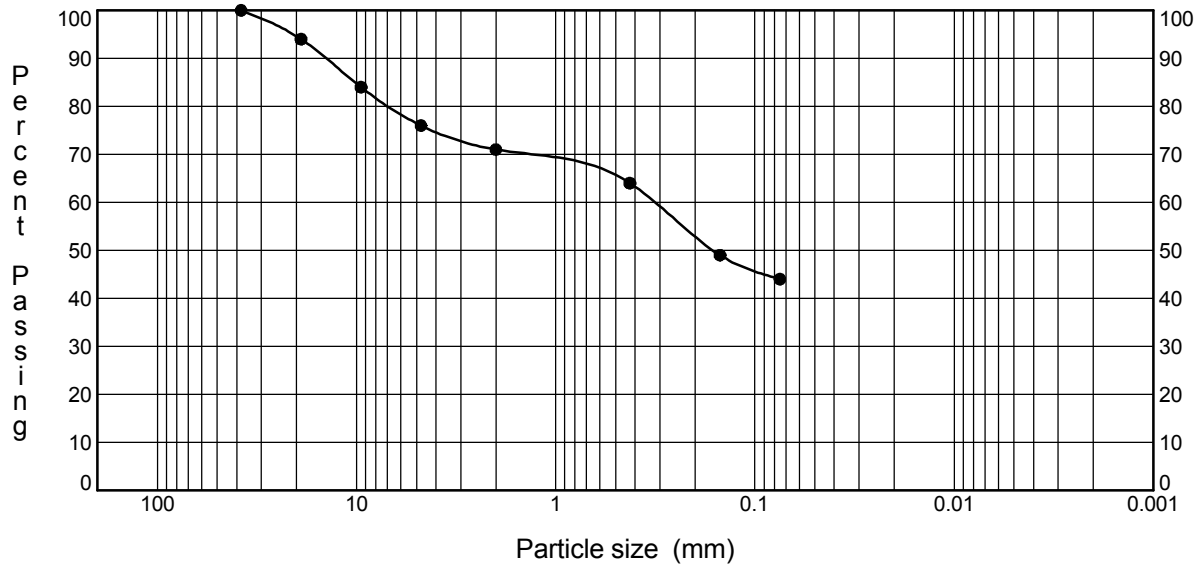
Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

AB Consultants, Inc.
9450 Annapolis Road
Lanham, Maryland 20706
Phone: 301-306-3091
Fax: 301-306-3092

GRAIN SIZE DISTRIBUTION

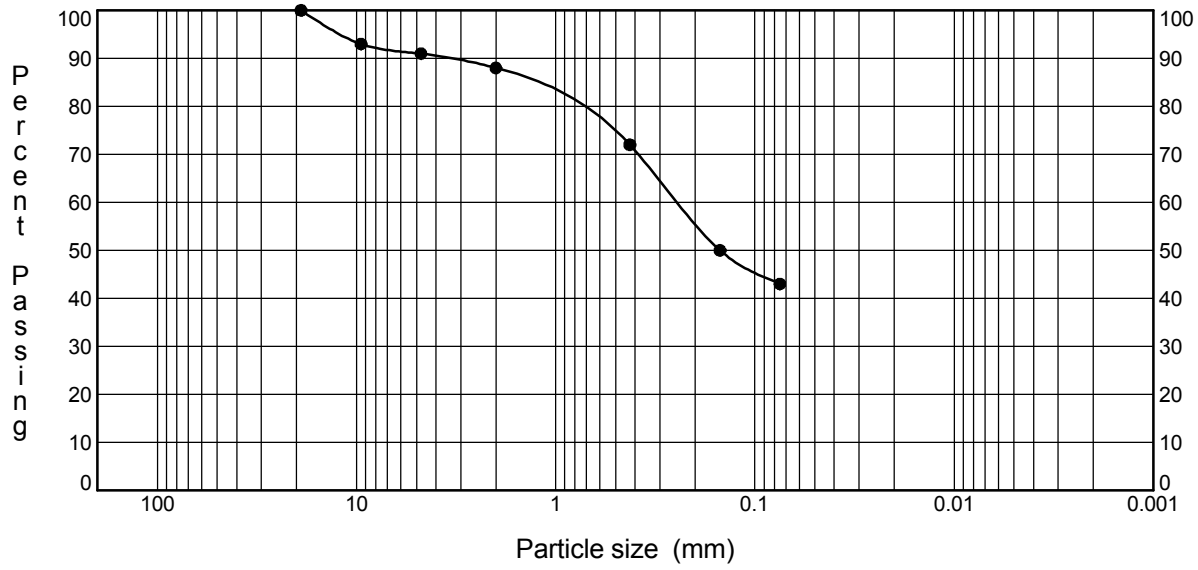
CLIENT: McCormick Taylor
PROJECT NO.: 10-368
PROJECT: MO County Task #13
SITE:
MO County, Maryland

BOREHOLE NO. **B-24** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

BOREHOLE NO. **B-25** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

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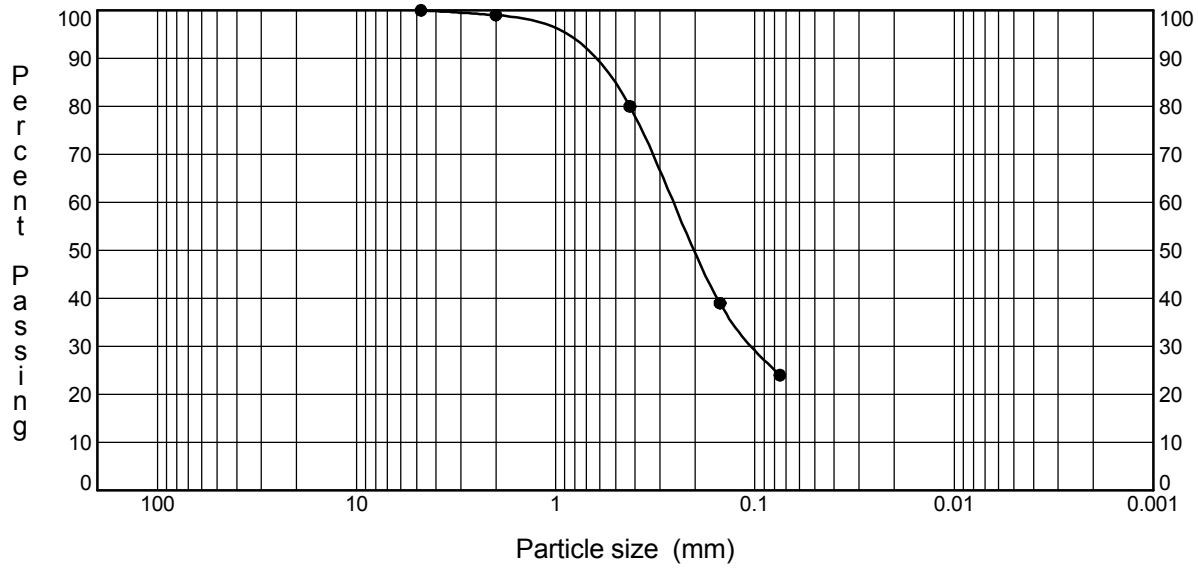
Lanham, Maryland 20706
Phone: 301-306-3091
Fax: 301-306-3092

GRAIN SIZE DISTRIBUTION

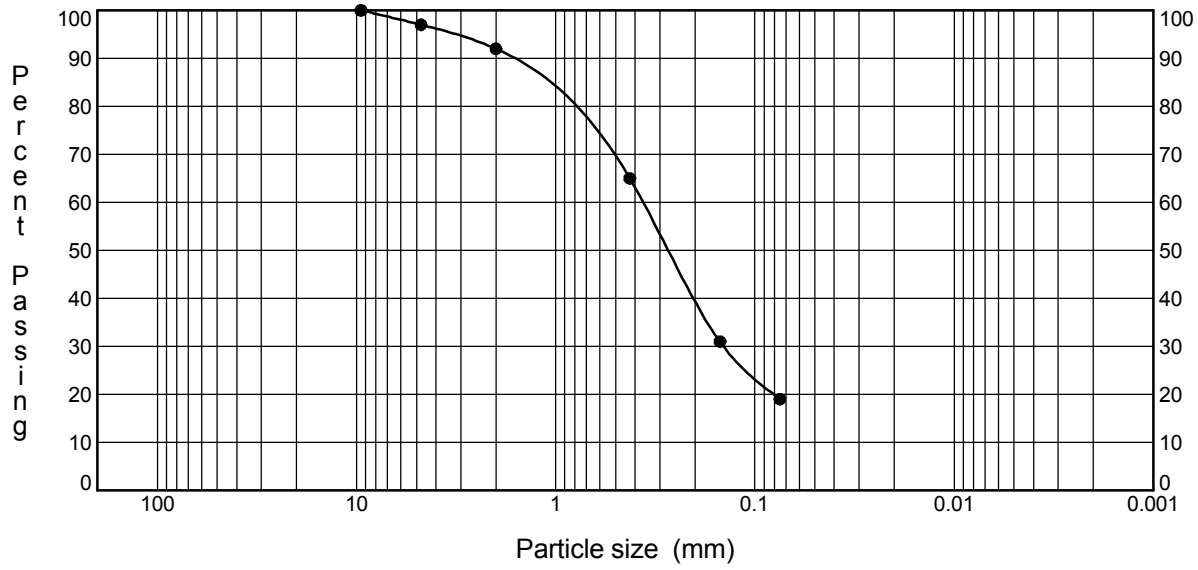
CLIENT: McCormick Taylor
PROJECT NO.: 10-368
PROJECT: MO County Task #13
SITE:
MO County, Maryland

BOREHOLE NO. **B-26** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

BOREHOLE NO. **B-27** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

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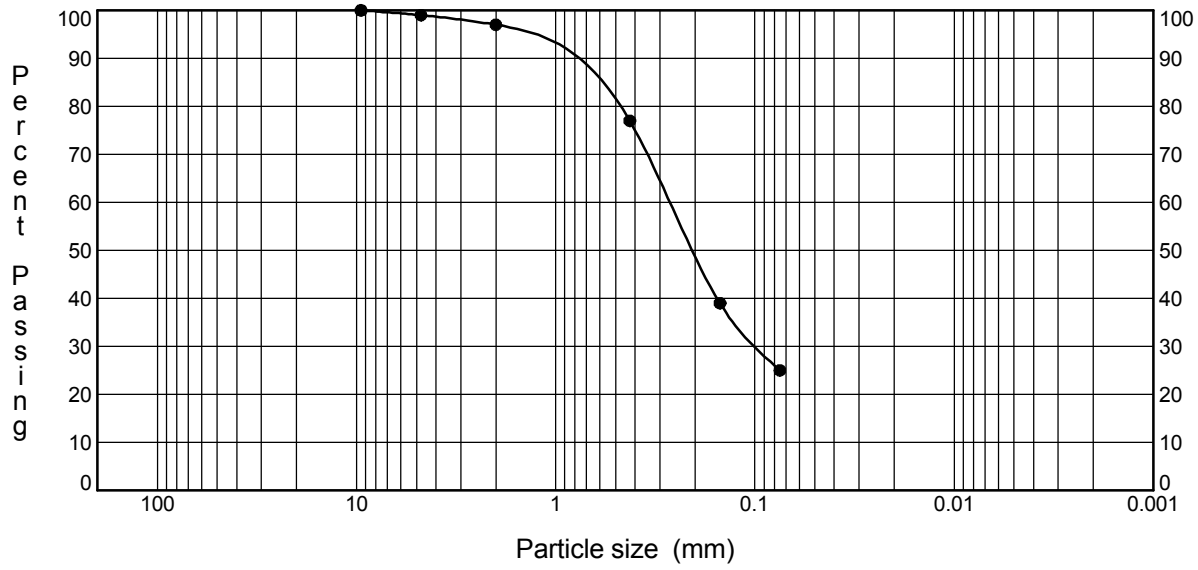
Lanham, Maryland 20706
Phone: 301-306-3091
Fax: 301-306-3092

GRAIN SIZE DISTRIBUTION

CLIENT: McCormick Taylor
PROJECT NO.: 10-368
PROJECT: MO County Task #13
SITE:
MO County, Maryland

BOREHOLE NO. **B-28** DEPTH **2.5**



Cobbles	Gravel		Sand			Silt	Clay
	coarse	fine	coarse	medium	fine		

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Lanham, Maryland 20706
Phone: 301-306-3091
Fax: 301-306-3092

GRAIN SIZE DISTRIBUTION

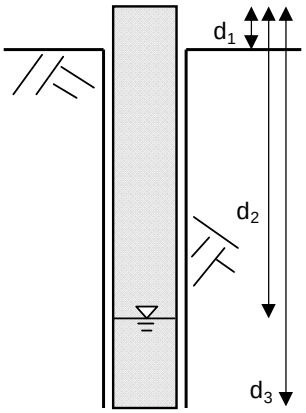
CLIENT: McCormick Taylor
PROJECT NO.: 10-368
PROJECT: MO County Task #13
SITE:
MO County, Maryland

FIELD INFILTRATION TEST RESULTS

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/11/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-1	4
HOLE DEPTH:	79	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	5/31/2011	
		47
PIPE DIAMETER:	5	
PIPE MATERIAL:	PVC	
TESTED BY:	SP	
TESTED DATE:	6/1/2011	70 1/2



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 23 1/2

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
9:30		36 3/16	---	---
10:30	60	36 8/16	5/16	0.31
11:30	60	37	8/16	0.50
12:30	60	37 6/16	6/16	0.38
1:30	60	37 12/16	6/16	0.38

NOTE: * Reading accuracy to 1/16"

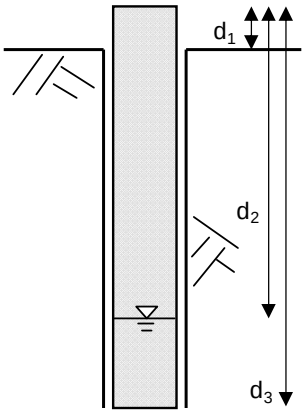
Average of 4-hr Monitoring Period:	**0.39**	**in./hr**
Recommended Infiltration Rate:	**0.40**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/11/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-2	7
HOLE DEPTH:	71	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/11/2011	
		72 1/2
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP	
TESTED DATE:	6/12/2011	78



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 5 1/2

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
8:45		51 7/16	---	---
9:45	60	52 13/16	1 6/16	1.38
10:45	60	54 3/16	1 6/16	1.38
11:45	60	55 7/16	1 4/16	1.25
12:45	60	56 11/16	1 4/16	1.25

NOTE: * Reading accuracy to 1/16"

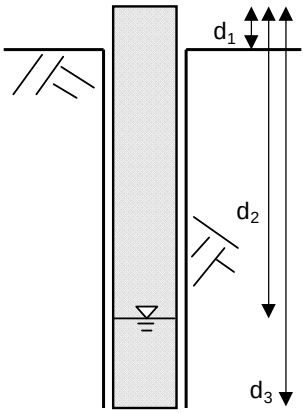
Average of 4-hr Monitoring Period:	**1.31**	**in./hr**
Recommended Infiltration Rate:	**1.30**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/11/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-3	12
HOLE DEPTH:	66	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/11/2011	
		66 7/8
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP	
TESTED DATE:	6/12/2011	78



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 11 1/8

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
8:30		50 4/16	---	---
9:30	60	51 7/16	1 3/16	1.19
10:30	60	52 6/16	15/16	0.94
11:30	60	53 2/16	12/16	0.75
12:30	60	53 14/16	12/16	0.75

NOTE: * Reading accuracy to 1/16"

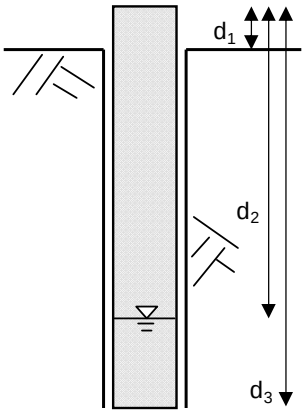
Average of 4-hr Monitoring Period:	**0.91**	**in./hr**
Recommended Infiltration Rate:	**0.90**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/11/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-4	9
HOLE DEPTH:	79	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/11/2011	
		58 1/2
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP	
TESTED DATE:	6/12/2011	70



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 11 1/2

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
9:00		46	---	---
10:00	60	46 6/16	6/16	0.38
11:00	60	46 12/16	6/16	0.38
12:00	60	47 2/16	6/16	0.38
1:00	60	47 9/16	7/16	0.44

NOTE: * Reading accuracy to 1/16"

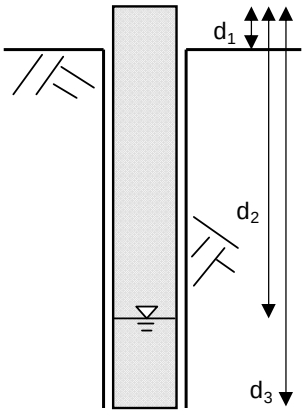
Average of 4-hr Monitoring Period:	**0.39**	**in./hr**
Recommended Infiltration Rate:	**0.40**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/11/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-5	14
HOLE DEPTH:	59	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/11/2011	
		64 3/4
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP	
TESTED DATE:	6/12/2011	73



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 8 1/4

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
9:00		46 15/16	---	---
10:00	60	47 8/16	9/16	0.56
11:00	60	48 1/16	9/16	0.56
12:00	60	48 14/16	13/16	0.81
1:00	60	49 6/16	8/16	0.50

NOTE: * Reading accuracy to 1/16"

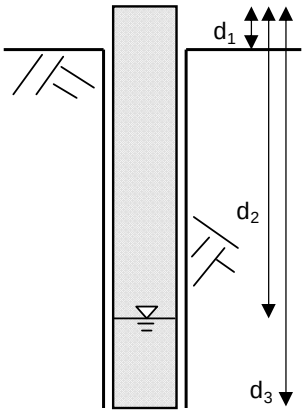
Average of 4-hr Monitoring Period:	**0.61**	**in./hr**
Recommended Infiltration Rate:	**0.60**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/11/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-6	14
HOLE DEPTH:	68	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/11/2011	
		59 7/8
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP	
TESTED DATE:	6/12/2011	82



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 22 1/8

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
10:20		58 8/16	---	---
11:20	60	58 10/16	2/16	0.13
12:20	60	58 12/16	2/16	0.13
13:20	60	58 13/16	1/16	0.06
14:20	60	58 14/16	1/16	0.06

NOTE: * Reading accuracy to 1/16"

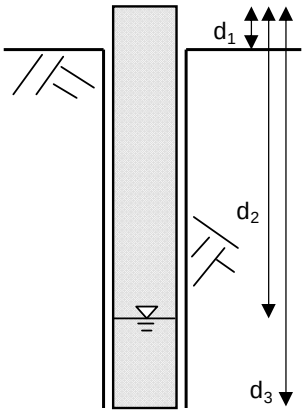
Average of 4-hr Monitoring Period:	**0.09**	**in./hr**
Recommended Infiltration Rate:	**0.10**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/11/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-7	2
HOLE DEPTH:	38	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/11/2011	
		23 4/7
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP	
TESTED DATE:	6/12/2011	40



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 16 4/9

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
10:55		15 15/16	---	---
11:55	60	16 7/16	8/16	0.50
12:55	60	17 1/16	10/16	0.63
13:55	60	17 9/16	8/16	0.50
14:55	60	18 2/16	9/16	0.56

NOTE: * Reading accuracy to 1/16"

Average of 4-hr Monitoring Period: **0.55** **in./hr**

Recommended Infiltration Rate: **0.55** **in./hr**

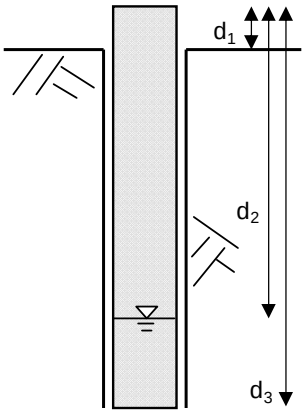
Report Reviewed and Prepared By:

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/11/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-8	32 1/2
HOLE DEPTH:	69.5	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/11/2011	
		95 1/4
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP	
TESTED DATE:	6/12/2011	102



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 6 3/4

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
10:40		74 1/16	---	---
11:40	60	75	15/16	0.94
12:40	60	75 15/16	15/16	0.94
13:40	60	77 1/16	1 2/16	1.13
14:40	60	78 7/16	1 6/16	1.38

NOTE: * Reading accuracy to 1/16"

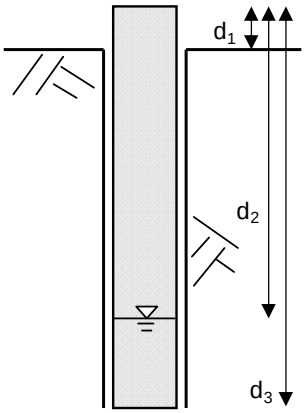
Average of 4-hr Monitoring Period:	**1.09**	**in./hr**
Recommended Infiltration Rate:	**1.00**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/11/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-10	9
HOLE DEPTH:	53	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/11/2011	
		48 5/8
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP	
TESTED DATE:	6/12/2011	62



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 13 3/8

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
9:45		36 12/16	---	---
10:45	60	37 2/16	6/16	0.38
11:45	60	37 7/16	5/16	0.31
12:45	60	37 14/16	7/16	0.44
13:45	60	38 5/16	7/16	0.44

NOTE: * Reading accuracy to 1/16"

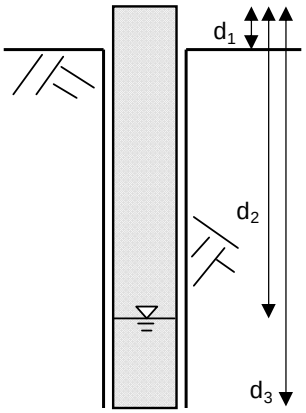
Average of 4-hr Monitoring Period:	**0.39**	**in./hr**
Recommended Infiltration Rate:	**0.40**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/11/2011
LOCATION:			

HOLE NO.:	B-11
HOLE DEPTH:	72
HOLE DIAMETER:	8
PRE-SOAK DATE:	6/11/2011
PIPE DIAMETER:	6
PIPE MATERIAL:	PVC
TESTED BY:	SP/AP
TESTED DATE:	6/12/2011



Measurements (in.)	
d_1	9
d_2	0
d_3	81

Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 81

Time	**Time Escaped** (min)	**Water Level* (Below Reference)** (in.)	**Drop in Level** (in.)	**Infiltration Rate** (in./hr)
9:50		49 1/16	---	---
10:50	60	51 15/16	2 14/16	2.88
11:50	60	54 8/16	2 9/16	2.56
12:50	60	56 11/16	2 3/16	2.19
13:50	60	58 14/16	2 3/16	2.19

NOTE: * Reading accuracy to 1/16"

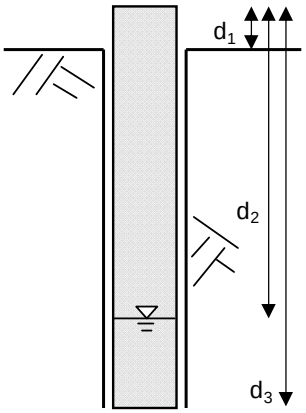
Average of 4-hr Monitoring Period:	**2.45**	**in./hr**
Recommended Infiltration Rate:	**2.45**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/11/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-14	13
HOLE DEPTH:	55	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/11/2011	
		59 1/2
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP	
TESTED DATE:	6/12/2011	68



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 8 1/2

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
10:10		43 14/16	---	---
11:10	60	44 12/16	14/16	0.88
12:10	60	45 10/16	14/16	0.88
13:10	60	46 11/16	1 1/16	1.06
14:10	60	47 12/16	1 1/16	1.06

NOTE: * Reading accuracy to 1/16"

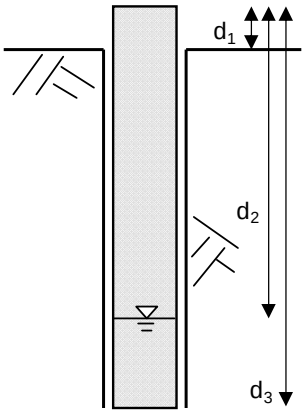
Average of 4-hr Monitoring Period:	**0.97**	**in./hr**
Recommended Infiltration Rate:	**0.95**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/11/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-15	20
HOLE DEPTH:	16.5	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/11/2011	
		28 1/2
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP	
TESTED DATE:	6/12/2011	45



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 16 1/2

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
10:40		19 6/16	---	---
11:40	60	19 8/16	2/16	0.13
12:40	60	19 10/16	2/16	0.13
13:40	60	19 11/16	1/16	0.06
14:40	60	19 12/16	1/16	0.06

NOTE: * Reading accuracy to 1/16"

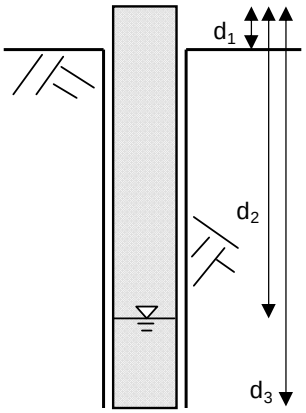
Average of 4-hr Monitoring Period:	**0.09**	**in./hr**
Recommended Infiltration Rate:	**0.10**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/13/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-16	12
HOLE DEPTH:	79	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/13/2011	
		74 1/4
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP/FB	
TESTED DATE:	6/14/2011	91



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 16 3/4

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
9:30		59 14/16	---	---
10:30	60	60 3/16	5/16	0.31
11:30	60	60 8/16	5/16	0.31
12:30	60	60 13/16	5/16	0.31
13:30	60	61 1/16	4/16	0.25

NOTE: * Reading accuracy to 1/16"

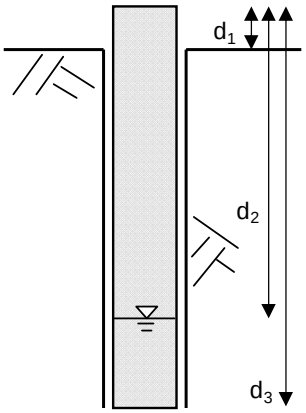
Average of 4-hr Monitoring Period:	**0.30**	**in./hr**
Recommended Infiltration Rate:	**0.30**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/13/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-17	1
HOLE DEPTH:	78	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/13/2011	
		37 7/8
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP/FB	
TESTED DATE:	6/14/2011	79



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 41 1/8

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
9:00		37 14/16	---	---
10:00	60	37 14/16	0	0.00
11:00	60	37 14/16	0	0.00
12:00	60	37 14/16	0	0.00
13:00	60	37 14/16	0	0.00

NOTE: * Reading accuracy to 1/16"

Average of 4-hr Monitoring Period: **0.00** **in./hr**

Recommended Infiltration Rate: **0.00** **in./hr**

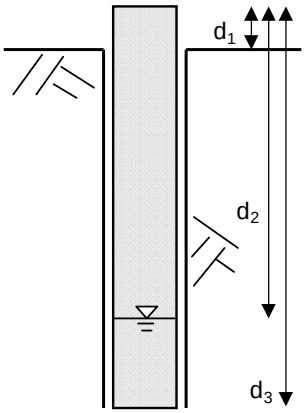
Report Reviewed and Prepared By: KC

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/14/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-18	6
HOLE DEPTH:	72	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/14/2011	
		67 1/4
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP/FB	
TESTED DATE:	6/15/2011	78



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 10 3/4

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
8:30		55 1/16	---	---
9:30	60	56 9/16	1 8/16	1.50
10:30	60	58 1/16	1 8/16	1.50
11:30	60	58 7/16	6/16	0.38
12:30	60	58 14/16	7/16	0.44

NOTE: * Reading accuracy to 1/16"

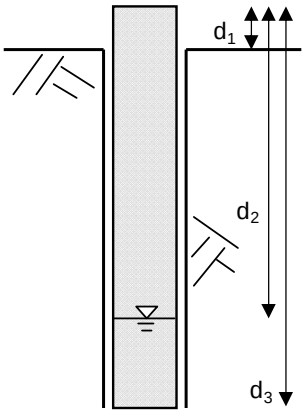
Average of 4-hr Monitoring Period:	**0.95**	**in./hr**
Recommended Infiltration Rate:	**0.95**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/14/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-19	18
HOLE DEPTH:	58	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/14/2011	
		0
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP/FB	
TESTED DATE:	6/15/2011	76



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 76

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
9:50		52 12/16	---	---
10:50	60	64 1/16	11 5/16	11.31
11:50	60	69 15/16	5 14/16	5.88
12:50	60	74 2/16	4 3/16	4.19
13:50	60			

NOTE: * Reading accuracy to 1/16"

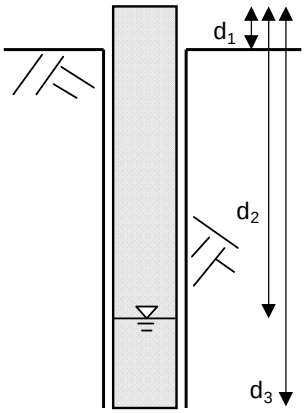
Average of 4-hr Monitoring Period:	**7.13**	**in./hr**
Recommended Infiltration Rate:	**7.10**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS: All water was gone at 13:50 PM

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/14/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-20	7
HOLE DEPTH:	69	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/14/2011	
		55 7/8
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP/FB	
TESTED DATE:	6/15/2011	76



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 20 1/8

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
9:00		50 8/16	---	---
10:00	60	50 15/16	7/16	0.44
11:00	60	51 8/16	9/16	0.56
12:00	60	52 1/16	9/16	0.56
13:00	60	52 8/16	7/16	0.44

NOTE: * Reading accuracy to 1/16"

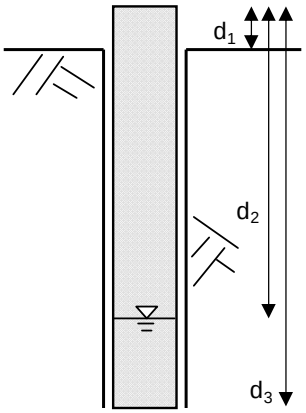
Average of 4-hr Monitoring Period:	**0.50**	**in./hr**
Recommended Infiltration Rate:	**0.50**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/14/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-21	24
HOLE DEPTH:	72	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/14/2011	
		91 5/8
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP/FB	
TESTED DATE:	6/15/2011	96



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 4 3/8

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
9:10		70 14/16	---	---
10:10	60	72 8/16	1 10/16	1.63
11:10	60	74	1 8/16	1.50
12:10	60	75 2/16	1 2/16	1.13
13:10	60	76 1/16	15/16	0.94

NOTE: * Reading accuracy to 1/16"

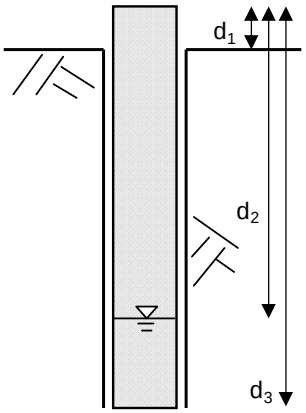
Average of 4-hr Monitoring Period:	**1.30**	**in./hr**
Recommended Infiltration Rate:	**1.30**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/14/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-22	12
HOLE DEPTH:	36	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/14/2011	
		37 1/8
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP/FB	
TESTED DATE:	6/15/2011	48



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 10 7/8

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
9:10		23	---	---
10:10	60	23 11/16	11/16	0.69
11:10	60	24 7/16	12/16	0.75
12:10	60	25 4/16	13/16	0.81
13:10	60	26	12/16	0.75

NOTE: * Reading accuracy to 1/16"

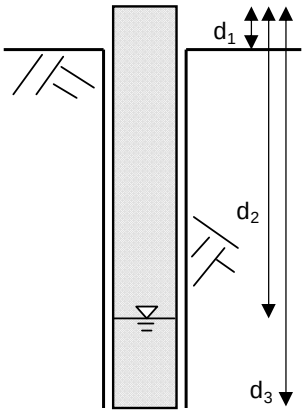
Average of 4-hr Monitoring Period:	**0.75**	**in./hr**
Recommended Infiltration Rate:	**0.75**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/14/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-23	24
HOLE DEPTH:	64	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/14/2011	
		0
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/AP/FB	
TESTED DATE:	6/15/2011	88



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 88

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
9:40		59 7/16	---	---
10:40	60	78 4/16	18 13/16	18.81
11:40	60	83 4/16	5	5.00
12:40	60	84 5/16	1 1/16	1.06
13:40	60	85 3/16	14/16	0.88

NOTE: * Reading accuracy to 1/16"

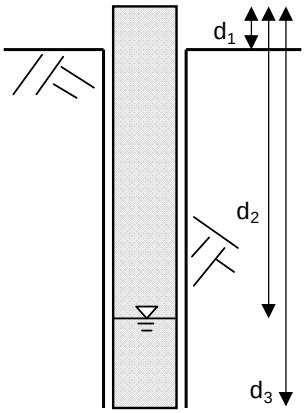
Average of 4-hr Monitoring Period:	**6.44**	**in./hr**
Recommended Infiltration Rate:	**6.45**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS: Water became muddy at the last three readings

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/15/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-24	13
HOLE DEPTH:	68	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/15/2011	
		67 4/9
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/FB	
TESTED DATE:	6/16/2011	81



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 13 4/7

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
8:40		56 2/16	---	---
9:40	60	57 12/16	1 10/16	1.63
10:40	60	59 1/16	1 5/16	1.31
11:40	60	59 9/16	8/16	0.50
12:40	60	59 12/16	3/16	0.19

NOTE: * Reading accuracy to 1/16"

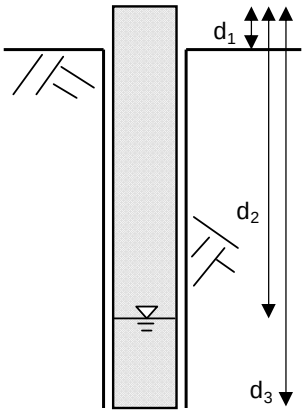
Average of 4-hr Monitoring Period:	**0.91**	**in./hr**
Recommended Infiltration Rate:	**0.90**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/15/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-25	13
HOLE DEPTH:	31	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/15/2011	
		35 1/2
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/FB	
TESTED DATE:	6/16/2011	44



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 8 1/2

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
8:20		19 11/16	---	---
9:20	60	20 6/16	11/16	0.69
10:20	60	20 15/16	9/16	0.56
11:20	60	21 6/16	7/16	0.44
12:20	60	21 13/16	7/16	0.44

NOTE: * Reading accuracy to 1/16"

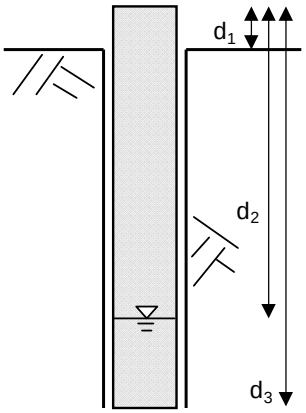
Average of 4-hr Monitoring Period:	**0.53**	**in./hr**
Recommended Infiltration Rate:	**0.55**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/15/2011
LOCATION:			

HOLE NO.:	B-26
HOLE DEPTH:	54
HOLE DIAMETER:	8
PRE-SOAK DATE:	6/15/2011
PIPE DIAMETER:	6
PIPE MATERIAL:	PVC
TESTED BY:	SP/FB
TESTED DATE:	6/16/2011



Measurements (in.)	
d_1	12
d_2	0
d_3	66

Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 66

Time	**Time Escaped** (min)	**Water Level* (Below Reference)** (in.)	**Drop in Level** (in.)	**Infiltration Rate** (in./hr)
8:30		19 11/16	---	---
9:30	60	20 6/16	11/16	0.69
10:30	60	20 15/16	9/16	0.56
11:30	60	21 6/16	7/16	0.44
12:30	60	21 13/16	7/16	0.44

NOTE: * Reading accuracy to 1/16"

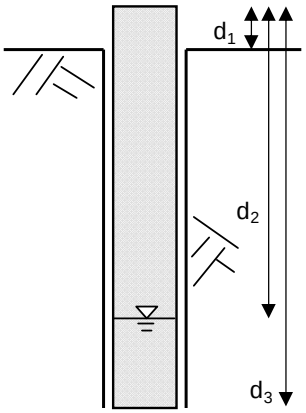
Average of 4-hr Monitoring Period:	**0.53**	**in./hr**
Recommended Infiltration Rate:	**0.55**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/15/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-27	20
HOLE DEPTH:	67	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/15/2011	
		0
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/FB	
TESTED DATE:	6/16/2011	87



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 87

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
8:50		57 9/16	---	---
9:50	60	59 9/16	2	2.00
10:50	60	61	1 7/16	1.44
11:50	60	62 1/16	1 1/16	1.06
12:50	60	63 3/16	1 2/16	1.10

NOTE: * Reading accuracy to 1/16"

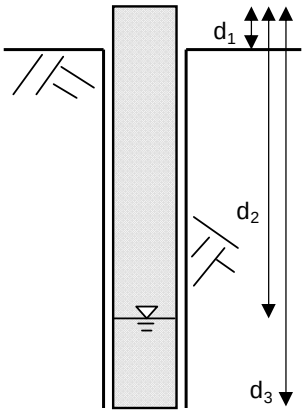
Average of 4-hr Monitoring Period:	**1.40**	**in./hr**
Recommended Infiltration Rate:	**1.40**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS:

ON-SITE INFILTRATION TEST

JOB NO.:	10-368	**DRILLED BY:**	
PROJECT:	MO County Task # 13	**DATE:**	6/15/2011
LOCATION:			

		Measurements (in.)
HOLE NO.:	B-28	22
HOLE DEPTH:	60	
HOLE DIAMETER:	8	
PRE-SOAK DATE:	6/15/2011	
		0
PIPE DIAMETER:	6	
PIPE MATERIAL:	PVC	
TESTED BY:	SP/FB	
TESTED DATE:	6/16/2011	82



Pre-soak water remaining in the hole: Yes / No **Depth:** (from bottom) 82

Time	Time Escaped (min)	Water Level* (Below Reference) (in.)	Drop in Level (in.)	Infiltration Rate (in./hr)
9:00		54 7/16	---	---
10:00	60	56 15/16	2 8/16	2.50
11:00	60	59 4/16	2 5/16	2.31
12:00	60	62	2 12/16	2.75
13:00	60	63 12/16	1 12/16	1.75

NOTE: * Reading accuracy to 1/16"

Average of 4-hr Monitoring Period:	**2.33**	**in./hr**
Recommended Infiltration Rate:	**2.30**	**in./hr**
Report Reviewed and Prepared By:	KC	

REMARKS: