

September 10, 2012

Alliance Consulting Engineers, Inc. P.O. Box 8147 Columbia, South Carolina 29202-8147

Attention: Rebecca J. Murrell, EIT

Engineering Associate

Reference: Evaluation of Seismic Site Classification

Westgate Certified Site – US Highway 321

Clover, South Carolina

S&ME Project No. 1614-12-301

Dear Ms. Murrell:

S&ME, Inc. has completed evaluation of the seismic site classification for the Westgate Certified Site on US Hwy 321 in Clover, South Carolina. Our services were performed in general accordance with our proposal No. 1614-8368-11 dated August 9, 2012.

PROJECT DESCRIPTION

Information about the project was obtained through e-mail correspondence between you and Mr. Marty Baltzegar of S&ME on September 1, 2011. In this e-mail chain, a Site Location Map and a *Preliminary Geotechnical Investigation – Westgate Industrial Park* dated March 4, 1997 and prepared by F&ME Consultants were provided.

The Westgate Industrial Park consists of approximately 130 acres located west of the intersection of Ballycastle Drive and Old North Main Street in Clover, York County, South Carolina. Infrastructure (roads, water and sewer lines, pump station, etc.) have been previously constructed and, based on aerial photographs obtained from Google Earth®, some parcels within the industrial park have already been developed.

We understand Alliance is preparing documents to submit the undeveloped parcels within the industrial park into the South Carolina Certified Site Program. Alliance has requested S&ME perform a Wetlands Delineation and prepare a letter outlining the Seismic Site Classification based on the previously performed borings. This Letter outlines the Seismic Site Classification; results of the wetlands delineation have been provided under separate cover.

SEISMIC DESIGN PARAMETERS

Sixteen soil test borings (B-1 through B-16) and eight hand auger borings (HA-1 through HA-8) were performed by F&ME in 1997. We have attached the boring locations (Figure 1) and boring logs from the F&ME Report for reference.

The Standard Penetration Resistances (N-values) indicated on the F&ME boring logs were reviewed in order to evaluate the Seismic Site Classification in accordance with Section 1613 of the South Carolina Building Code. The borings located in the eastern portion of the site (B-1, B-2, B-3, B-14, and B-16) exhibit average N-values greater than 50 bpf in the upper 100 feet and the remainder of the borings exhibit average N-values between 15 and 50 bpf in the top 100 feet. It should be noted that this evaluation is based on existing grades and the Seismic Site Classification, which accounts for site effects under earthquake loading, should consider design grades.

Based on Section 1613.5.5 of the 2006 International Building Code and the results of the borings performed by others, the subsurface conditions for the parcels in the eastern portion of the industrial park are indicative of Seismic Site Class C conditions and the parcels in the western portion are indicative of Seismic Site Class D. Interpolating between the borings performed, the approximate boundary between the classes is provided in Figure 1.

For design purposes, we recommend the Seismic Site Class be determined based on borings performed within proposed building footprints and consider design grades.

CLOSING

S&ME, Inc. appreciates the opportunity to assist you during this phase of the project. If you should have any questions concerning this report or if we may be of further assistance, please contact us.

Very truly yours,

S&ME, Inc.

Jason B Cox, G.I.T.

Staff Professional

Duane Bents, P.E.

Geotechnical Manager/Senior Engine Geotechnical Manager S.C. Registration No. 26385.

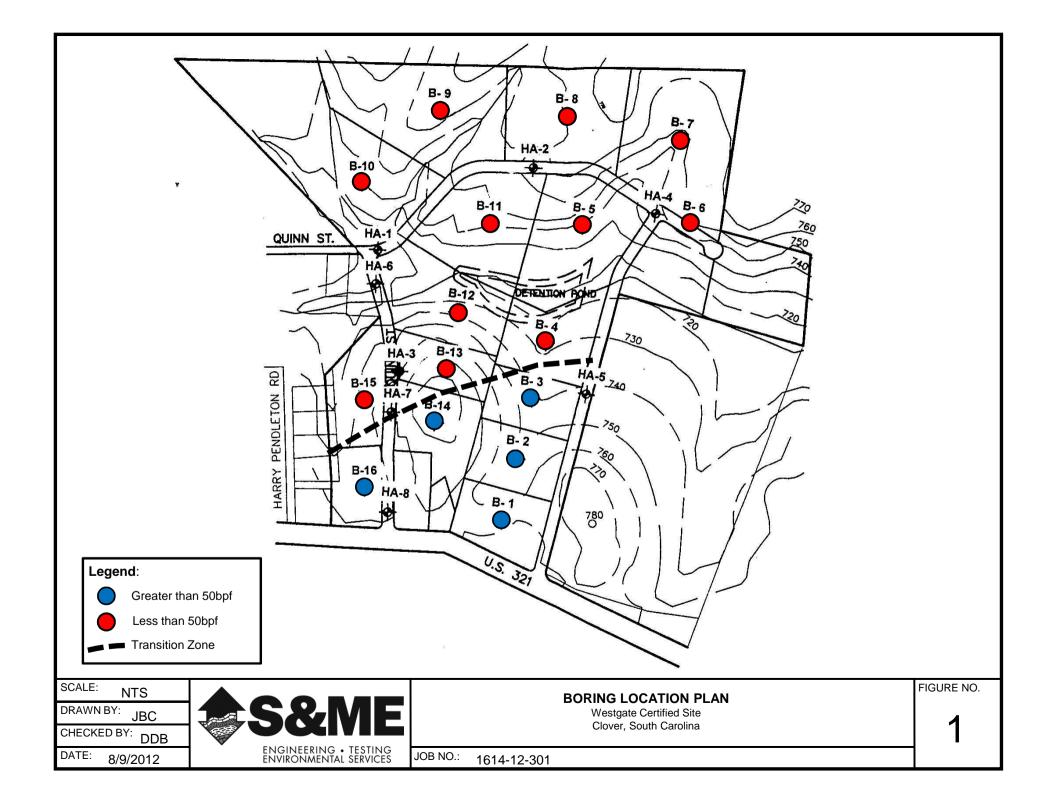
No. 25285

Attachments: Boring Location Plan, Figure 1

Hason Lot/grs

F&ME Boring Logs B-1 through B-16

S:\1614\1614-12-301WestgateCertifiedSiteLetter Report



	Westgate Indust Clover, South (G2959		LC	OG OF BORIN		B- 1		
DATE STAR	TED: 2/19/97	DATE FINISHED: 2/19/97			NOTES:			
DRILLING M	ETHOD: Hollow Stem Auge	er			0145 550 43	T1 / 11 / .	1.5.71	D:
CASING LEN	ıgтн: N/A	SUPERVISOR: Ron Willin	g		CME-550 AT	I V Mounte	ia Drill	ніg
WATER LEV	EL: None at T.O.B.							
DEPTH (feet) GRAPHIC LOG	MATERIAL	DESCRIPTION	ELEVATION (feet)	S S	STANDARD PENETI (blov	ws/ft)	T DATA 50 8	N VALU
0.5 立立立	Grassmat	and Topsoil	765.0					
3.0	Stiff Tan and Red Fine (MH) with Quartz Fr Micaceous Fines	to Medium Sandy SILT agments and	763.0					11
5.5	Very Firm Tan and Red SAND (SC) with Qu Micaceous Fines	d Silty Fine to Coarse artz Fragments and	761.0	X				23
	Very Firm to Dense Lig Black Silty Fine to C Rock Fragments and	iht Gray, Tan, and oarse SAND (SM) with Micaceous Fines	759.0 757.0	X				39
14.7	Very Dense Slightly W Boring Termina Due to Au	eathered ROCK ted at 14.7 Feet ger Refusal	753.0 ·	X				5 0/1'



	Westgate Indus Clover, South G2959		LC	OG OF BORII		B- :	2		
DATE STAR	TED: 2/19/97	DATE FINISHED: 2/19/97			NOTES:				
DRILLING M	ETHOD: Hollow Stem Aug	er]				
CASING LEN	NGTH: N/A	SUPERVISOR: Ron Willin	ng		CME-550 A	TV Moun	ted Di	rill F	₹ig
WATER LEV	EL: None at T.O.B.								
DEPTH (feet) GRAPHIC LOG	MATERIAL	DESCRIPTION	ELEVATION (feet)	SAMPLE NO/TYPE		ws/ft)	ST DA1		N VALUE
0.5	Leafmat	and Topsoil	755.0				ĬĬĬ	ΤĬĬ	
3.5	Firm Light Gray, Tan, Coarse SAND (SP) Quartz Fragments,	and Black Fine to with a Trace of Silt, and Micaceous Fines	753.0	X					20
5.5	Firm Red and Tan Silty (SM) with Micaceou	/ Fine to Medium SAND is Fines	751.0	X					15
12.5	Loose Light Gray and Fine to Medium SAN Fragments	Tan Micaceous Silty ID (SM) with Quartz	749.0 747.0 745.0	X	,				9
	Very Dense Slightly W		741.0 - 739.0 - 737.0 -	X					50/2
	Boring Termina	ted at 20.0 Feet	733.0 *				711		50/0



	Westgate Industrial Park Clover, South Carolina G2959				LC	OG OF BORING Lot #3		3- 3	
DATES	STAR	TED: 2/19/97	DATE FINISHED: 2/19/97			NOTES:			
DRILLII	NG M	ETHOD: Hollow Stem Auge	r			CME-550 AT	V Mounter	l Drill F	Ria
CASIN	G LEN	IGTH: N/A	SUPERVISOR: Ron Willing	9		OWIE-300 AT	Viviounted	<i>i</i> Dilli i	"9
WATER	R LEV	EL: None at T.O.B.							
DEPTH (feet)	GRAPHIC LOG	MATERIAL	DESCRIPTION	ELEVATION (feet)	SAMPLE NO/TYPE	STANDARD PENETR (blow	/s/ft)		N VALUE
1.0	7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.	Leafmat a	and Topsoil	740.0					
3.5		Very Loose Tan Silty F (SM) with Quartz Fr	ine to Coarse SAND agments	738.0 -	X	•			2
				736.0 -	X				69
- 		Very Dense Light Gray Fine to Coarse SANI Fragments and Mica	O (SM) with Quartz	734.0 -	X				50/4'
9.5				730.0	X				50/5'
		Very Dense Slightly W	eathered BOCK	728.0 - -					
, d		vor, bones signify v		726.0 -	X				50/4'
18.3				724.0 - - 722.0 -					
		Boring Termina Due to Au	ted at 18.3 Feet ger Refusal						



	Westgate Industr Clover, South C G2959	rial Park arolina		LC	G OF BORIN		0. 1	B- 4	1	
DATE STA	RTED: 2/19/97	DATE FINISHED: 2/19/97			NOTES:					
DRILLING I	METHOD: Hollow Stem Auge	r			CME-550 A1	C\ / \$4a		۹ D.	:n c):_
CASING LE	NGTH: N/A	SUPERVISOR: Ron Willing			CIVIE-550 A	V IVIO	unte	u Di	111 1	ng
WATER LE	VEL: 11.4 Feet at T.O.B	•								
DEPTH (feet) GRAPHIC		DESCRIPTION	ELEVATION (feet)	SAMPLE NO/TYPE		vs/ft)	0 30			N VALUE
1.0 4 44	I a a from a tra	and Topsoil	725.0					Ш	\prod	
1.0 2 3/2	Stiff Tan Fine to Mediu with Quartz Fragmer Fines	om Sandy SILT (MH) ots and Micaceous	723.0 -	X						9
(5) 8.0	Loose to Firm Tan and Medium SAND (SM)	Gray Silty Fine to with Quartz Fragments	721.0	X			·			11
11.4	Very Loose Gray Silty F (SM) with Quartz Fra Fines	Fine to Coarse SAND agments and Micaceous	115.0	X						3
(S)	Very Loose Light Gray Silty Fine to Coarse S Quartz Fragments	and Tan Micaceous SAND (SM) with	09.0 -	X						4
20.0	Boring Terminat	red at 20.0 Feet	05.0	$\angle \forall$	<u> </u>		_	\coprod	\coprod	4
ľ	23		i			. 1	- 1	\Box	Ш	∤ I



	Clover, South Carolina G2959				G OF BORIN Lot #		O. E	}- 5		
DATE STAR	RTED: 2/20/97	DATE FINISHED: 2/20/97	<u> </u>		NOTES:		<u> </u>			
DRILLING M	ETHOD: Hollow Stem Auge	r							. 5.	
CASING LEN	NGTH: N/A	SUPERVISOR: Ron Willing	3		CME-550 A	I A MIO	unte	וווזט נ	i Ki	g
WATER LEV	/EL: 15.6 Feet at T.O.B									
DEPTH (feet) GRAPHIC LOG	MATERIAL	DESCRIPTION	ELEVATION (feet)	SAMPLE NO/TYPE	STANDARD PENET (blow	ws/ft)	TEST			N VALUE
1.0 4 44	Leafmat a	and Topsoil	735.0							
3.5	Stiff Red and Tan SILT Fine to Medium Sand	(MH) with a Trace of d	733.0 -	X		•				13
6.0	Very Firm Red and Tan SAND (SM) with Qu Micaceous Fines	ı Silty Fine to Medium artz Fragments and	731.0 -	X						21
9.5	Stiff to Very Stiff Tan with a Trace of Fine Micaceous Fines	to Medium Sand and	729.0 - - 727.0 -	X						13
11.5	Very Firm Red and Tan (SP) with a Trace of and Micaceous Fines	Silt, Quartz Fragments,	725.0 <i>-</i>				b			22
15.6	Very Loose Light Gray, Micaceous Silty Fine <u>⊽</u>	Tan, and Black to Coarse SAND (SM)	723.0 - - 721.0 - - 719.0 - -	X						3
20.0	(SC)	Fine to Medium SAND	715.0 -	X	\					14
	boring lerminat	ted at 20.0 Feet								



	Clover, South (G2959		LC	OG OF BORIN Lot #		O. I	3- €	3		
DATE STAR	TED: 2/20/97	DATE FINISHED: 2/20/97			NOTES:			****		
DRILLING M	ЕТНОD: Hollow Stem Auge	er			CME-550 A7	T\		۲ D-	:11 C) ;_
CASING LEN	IGTH: N/A	SUPERVISOR: Ron Willin	g		CIVIL-330 A	I V IVIC	unte	וטנ	111	พษ
WATER LEV	EL: 12.1 Feet at T.O.E	3.								
DEPTH (feet) GRAPHIC LOG	MATERIAL	DESCRIPTION	ELEVATION (feet)	SAMPLE NO/TYPE	STANDARD PENETI (blov	ws/ft}	I TEST			N VALUE
1.0 2 22	Leafmat	and Topsoil	755.0						\prod	
3.5	Firm Red and Tan Silty (SM) with Quartz Fr Fines	/ Fine to Medium SAND agments and Micaceous	763.0	X						11
(·) -			751.0 -	X						12
(15)	Very Loose to Firm Re Fine to Medium San	d and Tan Micaceous dy SILT (ML)	749.0 - - 747.0 -	X						4
12.1			745.0 - - 743.0 -							3
13.0	=				\					
(b)	Loose Light Gray, Tan	and Black Fine to	741.0 -	X						10
18.0	Coarse SAND (SP) v Quartz Fragments, a	nd Micaceous Fines	739.0 -							
20.0	Very Loose Light Gray Silty Fine to Medium	and Tan Micaceous SAND (SM)	737.0 -	X						
	Boring Termina	ted at 20.0 Feet	735.0 -		•			\prod	\prod	3



	Westgate Industrial Park Clover, South Carolina G2959				G OF BORIN		O. I	3- 7	7	
DATE STAR	TED: 2/19/97	DATE FINISHED: 2/19/97			NOTES:					
DRILLING M	ETHOD: Hollow Stem Auge	er e e e e e e e e e e e e e e e e e e			CME-550 A	T\/ 8.4-	Silmer.	4 L)-	Hi E) };~
CASING LEN	IGTH: N/A	SUPERVISOR: Ron Willin	g		CIVIE-550 A	1 0 1010	JUINE	וט ט	ai e	พษ
WATER LEV	EL: None at T.O.B.									
DEPTH (feet) GRAPHIC LOG	MATERIAL	DESCRIPTION	ELEVATION (feet)	SAMPLE NO/TYPE	STANDARD PENET (blo	ws/ft)	1 TEST			N VALUE
1.0 4 1/2	Grassmat	and Topsoil	755.0							
5.5	Stiff to Very Stiff Red of Fine Sand	SILT (MH) with a Trace	753.0 - - 751.0 -	X		1				14
13.5	Loose Red and Tan to Medium SAND (SM)	Red Silty Fine to with Micaceous Fines	749.0 747.0 745.0 743.0 -	X						8
18.5		with Micaceous Fines	741.0 - - 739.0 - - 737.0 -							6
20.0	Loose Gray and Tan M Medium SAND (SM)	-	735.0 +	X					Ш	- 6
	Boring Termin	ated 20.0 Feet			_					



	Westgate Industrial Park Clover, South Carolina G2959				G OF BORIN		B- 8		
DATE STAF	RTED: 2/19/97	DATE FINISHED: 2/19/97			NOTES:				
DRILLING N	METHOD: Hollow Stem Auge	er			CME-550 A	T\/	4 Deili	Di-	
CASING LE	NGTH: N/A	SUPERVISOR: Ron Willin	g		GIVIE-000 A	, v mounte	u Dill	mg	3
WATER LEV	VEL: None at T.O.B.								
DEPTH (feet) GRAPHIC	MATERIAL	DESCRIPTION	ELEVATION (feet)	SAMPLE NO/TYPE	STANDARD PENET (blo	ws/ft)	50 8	- 1	N VALUE
26.7	l eafmat	and Topsoil	760.0					$\parallel \parallel$	
1.0 4 44		n SILT (MH) with Fine	758.0 - 756.0 -	X					17
6.0			754.0 - - 752.0 -	X					12
	Loose to Firm Red and Medium SAND (SM) and Micaceous Fine	d Tan Silty Fine to) with Quartz Fragments s	750.0 - 748.0 - 746.0 -	X					7
18.5	Loose Red, Tan, and I Fine to Medium SAI	Šlāck Micāceous Silty ND (SM)	744.0 - - 742.0 -						
20.0	Boring Termina	ated at 20.0 Feet	740.0 -		WITHTO A CONTRACT OF THE CONTR		††††	$\parallel \parallel$	9



	Westgate Industr Clover, South C G2959	rial Park Parolina		LC	G OF BORING NO). B- 9	
DATE ST	ARTED: 2/19/97	DATE FINISHED: 2/19/97			NOTES:		
DRILLING	METHOD: Hollow Stem Auge	r			CME-550 ATV Mou	inted Drill (Dia
CASING L	LENGTH: N/A	SUPERVISOR: Ron Willing			CIVIL-050 ATV WIOL	Hifed Olm I	''y
WATER L	EVEL: 16.0 Feet at T.O.B						
DEPTH (feet) GRAPHIC	MATERIAL	DESCRIPTION	ELEVATION (feet)	SAMPLE NO/TYPE	STANDARD PENETRATION (blows/ft) 0 10 20	TEST DATA	N VALUE
0.5	다	and Topsoil	765.0				
7	Stiff to Very Stiff Tan to Medium Sand (MI	and Red SILT with Fine H) and Micaceous Fines	763.0 - 761.0 -	X			14
6.0	Loose to Firm Tan and Medium SAND (SM)	Red Silty Fine to with Quartz Fragments	769.0 - - 757.0 - - 765.0 -	X			13
13.5	and Micaceous Fines	·	753.0 - 751.0 -	X			17
16.0	Firm Gray and Tan Find ☑ (SP-SM) and Micace	ous Fines	749.0 - 747.0 -				
20.0	Loose Gray and Tan Micaceous Fine to Medium SAND (SP) with a Trace of Silt						9
1	Boring Terminated at 20.0 Feet						



	Westgate Industrial Park Clover, South Carolina G2959				G OF BORIN		O. E	3-1	0	
DATE STAR	TED: 2/19/97	DATE FINISHED: 2/19/97			NOTES:					
DRILLING M	ETHOD: Hollow Stem Auge	er			CME-550 AT	`\		ч D.	.:11 r	O: ~
CASING LE	NGTH: N/A	SUPERVISOR: Ron Willing			CIVIE-050 AT	V IVIC	une	u Di	111 [Ήg
WATER LEV	EL: 12.6 Feet at T.O.I	3.								
DEPTH (feet) GRAPHIC LOG	MATERIAL	DESCRIPTION	ELEVATION (feet)	SAMPLE NO/TYPE	STANDARD PENETF (blow	vs/ft)	0 30			N VALUE
0.5	Grassmat	and Topsoil	740.0					\prod		
T	Stiff Red and Tan Fine (MH) with Quartz Fi Micaceous Fines	to Medium Sandy SILT agments and	738.0 736.0	X						13
6.0			734.0 -			1	-			
8.5	Firm Tan Silty Fine to and Micaceous Fine	Medium SAND (SM)	732.0 -	X						12
12.6	☑ Loose to Very Firm Gr SAND (SP) with a T Micaceous Fines	ay Fine to Medium race of Silt and	730.0 728.0 726.0 724.0							6
	Boring Termina	ted at 20.0 Feet	720.0 -					\prod	\prod	21



	Westgate Industrial Park Clover, South Carolina G2959					G OF BORIN Lot #1		B-'	11		
DATE	STAR	TED: 2/20/97	DATE FINISHED: 2/20/97			NOTES:	.,	•			
DRILLI	NG M	етнор: Hollow Stem Aug	er			CME-550 AT	fV Moun	ted [Orill	Ri	<u></u>
CASIN	G LEN	IGTH: N/A	SUPERVISOR: Ron Willin	ng			, , , , , , ,		,,,,,	• ••	9
WATE	RLEV	EL: 15.9 Feet at T.O.	В.								
DEPTH (feet)	GRAPHIC LOG	MATERIAL	. DESCRIPTION	ELEVATION (feet)	SAMPLE NO/TYPE	STANDARD PENETI (blov	RATION TE ws/ft)				N VALUE
0.5	<u> 邓</u> 五	Leafmat	and Topsoil	740.0							
3.5		Stiff Red and Tan Find (MH)	e to Medium Sandy SILT	738.0	X						12
-				736.0	X						13
-				734.0	X						6
-		Loose to Firm Red and to Coarse SAND (S Fines	d Tan to Tan Silty Fine M) with Micaceous	732.0	X						5
13.0				728.0							
-		Very Loose Tan. Red.	and Black Micaceous	726.0	X						4
15.9		Fine to Coarse SAN Silt and Quartz Frag	D (SP) with a Trace of	724.0							
18.5		Silty Fine to Coarse Quartz Fragments		722.0	X						A
		Boring Termin	ated at 20.0 Feet	720.0							7



Westgate Indust Clover, South C G2959	LC	OG OF BORIN Lot #		3-12		
DATE STARTED: 2/20/97	DATE FINISHED: 2/20/97		NOTES:			
DRILLING METHOD: Hollow Stem Auge	r		CME EEO A	T\/ 84*****	1.5.21.5	
CASING LENGTH: N/A	SUPERVISOR: Ron Willing		CME-550 A	i v iviounte	a Dun H	ug
WATER LEVEL: 4.6 Feet at T.O.B.]			
G 8 7	DESCRIPTION	ELEVATION (feet) SAMPLE NO/TYPE	STANDARD PENET (blo	ws/ft)	F DATA 50 80	N VALUE
1.0 Leafmat a	and Topsoil	730.0	, , , , , , , , , , , , , , , , , , ,			
(MH) with Micaceou	to Medium Sandy SILT s Fines	728.0				11
4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6 4.6	7	726.0 -				
Loose Tan and Gray Si SAND (SM) with Mic	caceous Fines 7	724.0		-		10
Loose Tan and Gray Fir (SP) with a Trace of	ne to Coarse SAND Silt	722.0				10
20.0	ot Gray, Tan, and Black to Coarse SAND (SM) ts	14.0				4
Boring Terminate	ed at 20.0 Feet	10.0				13



		Westgate Industr Clover, South C G2959	rial Park Parolina		LO	G OF BORIN		. В	-1:	3	
DATE	STAR	TED: 2/20/97	DATE FINISHED: 2/20/97			NOTES:					
DRILL	DRILLING METHOD: Hollow Stem Auger					CME EEO AT	T\ / N.A		l Dei	: II E); _~
CASIN	CASING LENGTH: N/A SUPERVISOR: Ron Willin					CME-550 AT	V IVIOU	HEC	וטו	111 1	ug
WATE	R LEV	EL: None at T.O.B.									
DEPTH (feet)	MATERIAL DESCRIPTION			ELEVATION (feet)	SAMPLE NO/TYPE	STANDARD PENETF (blow	vs/ft)	EST 30			N VALUE
0.5	<u>av</u> a	Leafmat and Topsoil 7					ŤŤ	Ť	Ť	ĦÌ	
•		Loose Red, Tan, and B Coarse SAND (SM) and Micaceous Fines	lack Silty Fine to with Quartz Fragments	773.0 -	X						10
8.5				769.0 - - 767.0 -							8
10		Loose to Firm Light Gra Silty Fine to Medium Quartz Fragments	ay and Tan Micaceous SAND (SM) with	765.0 - - 763.0 - - 761.0 -	X			-			9
20		add iz Fragments	7		X						12



Westgate Industrial Park Clover, South Carolina G2959					OG OF BORIN Lot #1		O. E	3-13	3					
DATE STAR	TED: 2/20/97	DATE FINISHED: 2/20/97			NOTES:									
DRILLING M	ETHOD: Hollow Stem Auge	<u>[</u>		CME-550 ATV Mounted Drill R										
CASING LEN	идтн: N/A	SUPERVISOR: Ron Willing]			V IVIO	unit	u DII	10 IT	שי				
WATER LEV	EL: None at T.O.B.			······································			•							
DEPTH (feet) GRAPHIC LOG	MATERIAL DESCRIPTION			SAMPLE NO/TYPE	STANDARD PENETE (blov	vs/ft)	0 30		N VALL					
			775.0					ĬĬ	ĬĬ					
30.0	Loose to Firm Light Gr. Silty Fine to Medium Quartz Fragments	ay and Tan Micaceous SAND (SM) with	751.0 - 751.0 - 749.0 - 747.0 -	X						15				
	Boring Termina	ted at 30.0 Feet												



	Westgate Industr Clover, South C G2959	2/19/97 DATE FINISHED: 2/19/97 DE: Hollow Stem Auger N/A SUPERVISOR: Ron Willing None at T.O.B. MATERIAL DESCRIPTION Grassmat and Topsoil /ery Stiff Red Fine to Medium Sandy SILT (MH) /ery Firm to Very Dense Tan and Red to Light Gray Silty Fine to Medium SAND (SM) with Quartz Fragments and Micaceous Fines NOTES: CME-550 ATV Mounted Drill F CME-550 AT					4			
DATE STAR	RTED: 2/19/97	DATE FINISHED: 2/19/97			NOTES:			_		
DRILLING M	METHOD: Hollow Stem Auge	ir.	CAAF EEO ATVAA							
CASING LE	NGTH: N/A	SUPERVISOR: Ron Willing	ng CME-550 ATV Mounted Drill Rig							
WATER LEV	/EL: None at T.O.B.									
DEPTH (feet) GRAPHIC LOG	MATERIAL DESCRIPTION			SAMPLE NO/TYPE	STANDARD PENETRA (blows	s/ft)	N VALU			
0.5 <u>公文 文</u>	Grassmat	and Topsoil	780.0				1111	_		
2.5	Very Stiff Red Fine to (MH)	Medium Sandy SILT	778.0 -	X						
	I Gray Silty Fine to Me	edium SAND (SM) with	776.0 -	X			50/3			
6.0			774.0 -	X						
10.0			•	X			• 50/2	,		
	Boring Terminat Due to Au	ger Refusal					50/2			



	Westgate Indust Clover, South C G2959	rial Park Carolina		LO	G OF BORIN		Ю.	B-1	15		
DATE STAR	TED: 2/20/97	DATE FINISHED: 2/20/97			NOTES:			-			
DRILLING M	DRILLING METHOD: Hollow Stem Auger										·
CASING LE	NGTH: N/A	SUPERVISOR: Ron Willing	ng CME-550 ATV Mounted Drill Rig								g
WATER LEVEL: 15.6 Feet at T.O.B.											
DEPTH (feet) GRAPHIC LOG	MATERIAL	DESCRIPTION (Feet)			STANDARD PENETRATION TEST DATA (blows/ft) 0 10 20 30 50 80						N VALUE
0.5	Leafmat a	and Topsoil	766.0					\top	111	1	
· -	Firm to Stiff Red and T Sandy SILT (MH)	an Fine to Medium	753.0 - - 751.0 -	X	•						8
5.0			751.0 -	X		X					
8.5	Firm Gray and Tan Silt SAND (SM) with Qu Micaceous Fines	y Fine to Medium artz Fragments and	- 749.0 - - 747.0 -	X			•				13
15.6	Loose Light Gray, Tan, Silty Fine to Coarse S Quartz Fragments an	and Black Micaceous SAND (SM) with d Micaceous Fines	745.0 - 743.0 - 741.0 - 739.0 -	X							6
~0.0	Boring Terminat	ed at 20.0 Feet	735.0 ~	$\overline{}$	•	+		$\dagger \dagger$	₩	\parallel	6



	Westgate Indus Clover, South G2959	trial Park Carolina		LO	G OF BORING N Lot #17	IO. B-16	
DATE STARTED: 2/20/97 DATE FINISHED: 2/20/97					NOTES:		
DRILLING M	ETHOD: Hollow Stem Aug)r			ONAE 550 ATV. NA	and the state of	
CASING LE	NGTH: N/A	SUPERVISOR: Ron Willing	g		CME-550 ATV M	ountea Drill K	ig
WATER LEV	/EL: None at T.O.B.						
- P	MATERIAL DESCRIPTION				STANDARD PENETRATION (blows/ft)	N TEST DATA	N VALUE
1.0 4 24	Grassmat	and Topsoil	755.0				
6.0	Firm to Stiff Gray and Sandy SILT (MH) w Firm Gray and Tan Silt (SM) with Quartz Fr Fines Very Dense Slightly W	Tan Fine to Coarse ith Quartz Fragments by Fine to Coarse SAND agments and Micaceous	753.0 - 751.0 - 749.0 - 747.0 -				15 13 50/1°

