Nuclear Regulatory Commission
Exhibit # - NRC0001AB-MA-CM01
Docket # - 05200027 | 05200028
Identified: 10/12/2011

Admitted: 10/12/2011 Withdrawn:
Rejected: Stricken:

ROCK LOG_MFC SCE&G-6-30-06.GPJ WLA.GDT 12/4/06

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

ROCK LOG - Boring No. B-335

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Adjacent to Power Block		Total Depth: 85 feet
Drilling Contractor and Rig: MACTEC/Oglesby/219907 / CME 75	Elevation at Boring: 426.3 feet	Ground Water Depth: 28 feet	Depth to Bedrock: 40 feet
Casing Size and Depth: 3.5 / 40 feet	Length of Core Barrel and Bit	No. of Core Boxes	Date Started: 7/25/06
	Borehole Inclination: 0	Logged by: B. Sharp	Date Completed: 7/26/06

Reviewed by / Date: M. Cooke 8/4/06

Depth (feet)	Run No.	Recovery / Cut	% RQD	Weathering	Strength	In-Situ Testing	Lithology	Lithology	Remarks
40	1	2.0 / 3.5	33	SW to F	R3			AMPHIBOLITE SCHIST; bluish black (10 B 2.5/1); fine grained; foliated; dip not apparent; feldspar, quartz, biotite, amphibole	Refusal on 7/25/06 at 40 ft
43				CW	R0				Very soft drilling from 41.5 to 43 ft
44	2	5.0 / 5.0	100	F	R3			GRANODIORITE; white (N 8/); gray (N 6/); black (N 2.5/); pink (2.5 YR 8/4); predominately coarse grained; massive; some pink K-spar in localized zones; few small xenoliths of bluish black (10 B 2.5/1); amphibolite schist; feldspar, quartz, diorite, amphibole	
49	3	5.0 / 5.0	100	F	R3			GRANODIORITE	
54	4	5.0 / 5.0	100	F	R3				End of day 7/25/06 Begin day 7/26/06; water level at 28 ft
59	5	5.0 / 5.0	100	F	R3			GRANODIORITE	
64	6	5.0 / 5.0	100	F	R3 to R4				
69	7	5.0 / 5.0	100	F	R3 to R4			SAA; trace pyrite GRANODIORITE	
74	8	5.0 / 5.0	100	F	R3 to R4				
80									

Project Name : Job Number

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ROCK LOG - Boring No. B-335

Depth (feet)	Run No.	Recovery / Cut	% RQD	Weathering	Strength	In-Situ Testing	Lithology	Lithology	Remarks
80	9	6.5 / 6.5	100	F	R3 to R4			GRANODIORITE	
85									Boring terminated at 85 ft on 7/26/06

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-336

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Adjacent to Power Block		Total Depth: 115 feet
Drilling Contractor and Rig: MACTEC/Oglesby/219907 / CME 75	Elevation at Boring: 424.3 feet	Ground Water Depth:	Depth to Bedrock: 37 feet
Sampling Method: Standard	Sample Driving Hammer/Drop: 140 lbs / 30 inches	No. of Samples: 12	Date Started: 8/2/06
	Borehole Inclination: 0	Logged by: B. Sharp	Date Completed: 8/3/06

Reviewed by / Date: M. Cooke 8/3/06
Reviewed by / Date: Clay Sams 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0-3		SPT 1	4 5 6	14/18						SAND silty (SM); red (10 R 4/8); moist; medium dense; ~80% fine grained sand, ~20% fines, gravel and roots upper 2 inches; RESIDUUM	Residuum
		SPT 2	4 3 4	16/18						SAA; dark red (10 R 3/6); strong brown (7.5 YR 5/8); trace black (N 2.5/); some white (N 8/); moist; loose; ~70% fine grained sand, ~30% fines; micaceous; mottled with some possible subhorizontal structure; trace black manganese staining; RESIDUUM/SAPROLITE	
4-6		SPT 3	5 6 8	16/18						SILT sandy (ML); dark red (10 R 3/6); trace black (N 2.5/); moist; stiff; ~70% fines, 30% fine grained sand; low plasticity; micaceous; trace black manganese staining; RESIDUUM	Saprolite
6-8		SPT 4	8 9 11	18/18						SAND silty (SM); brown (10 YR 4/3); dark yellowish brown (10 YR 4/6); moist; medium dense; 60 to 70% fine grained sand; 30 to 40% fines; micaceous; massive relic texture; abundant white (N 8/) feldspar; SAPROLITE	
9-11		SPT 5	2 3 6	12/18						SAA; loose	
		SPT 6	8 11 13	18/18						SAA; medium dense	
12-14		SPT 7	4 5 8	12/18						SILT sandy (ML); red (2.5 YR 4/8); olive brown (2.5 Y 4/4); moist; very stiff; 15 to 25% fine grained sand; 75 to 85% fines; micaceous; low plasticity; some black manganese staining; SAPROLITE	
15-18										SAND silty (SM); olive brown (2.5 Y 4/4); strong brown (7.5 YR 5/8); trace white (N 8/); moist; medium dense; 60% fine grained sand; 40% fines; micaceous; SAPROLITE	
18-20		SPT 8	3 5 8	14/18						SAA; strong brown (7.5 YR 5/8); brown (7.5 YR 4/3); red (10 R 4/8); moist; medium dense; 60 to 70% fine grained sand; 30 to 40% fines; micaceous; SAPROLITE	
21-24		SPT 9	4 6 8	15/18						SAA with some black (N 2.5/) manganese staining	
25-29		SPT 10	6 9 10	13/18						SAA; olive brown (2.5 Y 4/3); trace black manganese staining; trace white (N 8/) feldspar	
30-34		SPT 11	4 4 6	17/18						SAA; yellowish brown (10 YR 5/8); strong brown (7.5 YR 5/8); moist; loose; 70% fine grained sand; 30% fines; SAPROLITE	
35-37										Refusal at 37 ft, see rock log PARTIALLY WEATHERED ROCK bluish black (10 B 2.5/1)	

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ROCK LOG - Boring No. B-336

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Adjacent to Power Block		Total Depth: 115 feet
Drilling Contractor and Rig: MACTEC/Oglesby/219907 / CME 75	Elevation at Boring: 424.3 feet	Ground Water Depth	Depth to Bedrock: 37 feet
Casing Size and Depth: 3.5 / 37 feet	Length of Core Barrel and Bit	No. of Core Boxes	Date Started: 8/2/06
	Borehole Inclination: 0	Logged by: B. Sharp	Date Completed: 8/3/06

Reviewed by / Date: M. Cooke 8/3/06

Depth (feet)	Run No.	Recovery / Cut	% RQD	Weathering	Strength	In-Situ Testing	Lithology	Lithology	Remarks
37				CW to HW	R0 to R1			SAPROLITE with lenses of fine to medium grained bluish black (10 B 2.5/1) amphibolite schist	Refusal at 37 ft on 8/2/06; see rock log
38									
39	1	0.3/5.5	0	RS to CW	R0			SAPROLITE or PARTIALLY WEATHERED ROCK No recovery	
40									
41									
42									
43	2	0.0/5.0	0	RS to CW	R0				
44									
45									
46									
47									
48	3	1.3/5.0	0	HW	R2			MIGMATITE; bluish black (10 B 2.5/1); gray (N 6/); white (N 8/); black (N 2.5/); medium grained; massive granodiorite with irregular flow banding; few xenoliths of amphibolite schist; feldspar, quartz, biotite, amphibole	
49				RS to CW	R0			SAPROLITE or PARTIALLY WEATHERED ROCK zone	
50									
51									
52									
53	4	0.6/5.0	10	RS to CW	R0				
54									
55									
56									
57				MW	R2			MIGMATITE; bluish black (10 B 2.5/1); gray (N 6/); white (N 8/); black (N 2.5/); medium grained; massive granodiorite with irregular flow banding; few xenoliths of amphibolite schist; feldspar, quartz, biotite, amphibole	Sound rock
58	5	5.0/5.0	100	F	R3				
59									
60									
61									
62									
63	6	5.0/5.0	100	F	R3			SAA; contains a zone of fine to medium grained well foliated biotite gneiss	
64									
65									
66									
67									
68	7	5.0/5.0	100	F	R3				
69									
70									
71									
72									
73	8	5.0/5.0	100	F	R3			Large xenolith of fine to medium grained; bluish black amphibolite schist from 72.8 to 75.3 ft	
74									
75									
76									
77									

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ROCK LOG - Boring No. B-336

Depth (feet)	Run No.	Recovery / Cut	% RQD	Weathering	Strength	In-Situ Testing	Lithology	Lithology	Remarks
77									
78	9	5.0/5.0	100	F	R3 to R4				
83	10	5.0/5.0	100	F	R3 to R4			SAA; some pyrite, some epidote due to alteration of feldspar; few zones of distinct gneissic flow banding; few large xenoliths of amphioblite schist	
88	11	5.0/5.0	100	F	R3 to R4			SAA; small xenoliths of amphibolite schist; no pyrite or epidote	
92	12	5.0/5.0	100	F	R3 to R4			Gray felsic dike 91.7 to 92 ft contacts dipping 25 to 30°	
98	13	5.0/5.0	99	F	R3 to R4				
103	14	5.0/5.0	100	F	R3 to R4			SAA; but predominantly very dark bluish gray (10 B 3/1); medium grained; massive; quartz diorite	
108	15	7.5/7.5	100	F	R3			HORNBLENDE GNEISS MIGMATITE; bluish black (10 B 3/1); greenish black (5 G 2.5/1); gray (N 6/); white (N 8/); black (N 2.5/); fine to medium grained; hornblende gneiss with some biotite gneiss; with zones of massive granodiorite and zones of irregular flow banding; variable dipping angles of foliation (0 to 60°); feldspar, quartz, amphibole, biotite	
115									Boring terminated on 8/3/06 at 115 ft
117									

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SOIL LOG - Boring No. B-401

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 120 feet
Drilling Contractor and Rig: Gregg/Smith/Burnette/311025 / CME 55	Elevation at Boring: 404 feet	Ground Water Depth: 4 feet	Depth to Bedrock: 64 feet
Sampling Method: Standard	Sample Driving Hammer/Drop: 140 lbs / 30 inches	No. of Samples: 17	Date Started: 4/14/06
	Borehole Inclination: 0	Logged by: J. Harmon	Date Completed: 4/19/06

Reviewed by / Date: M. Cooke 4/24/06
Reviewed by / Date: Clay Sams 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0-1		SPT 1	4 5 7	18/18					ML	SILT sandy (ML); moderate reddish brown (10 R 4/6); damp; stiff; fine sand ~30%; low plasticity; FILL	Fill
2-3		SPT 2	8 11 12	13/18					ML	SILT sandy (ML); moderate reddish brown (10 YR 4/6); moist; very stiff; fine sand ~ 40%; low plasticity; RESIDUUM	Residuum
4-5		SPT 3	2 18 10	18/18					▼	SILT sandy (ML); moderate red (5 R 4/6); moist; very stiff; fine sand ~10%; low plasticity; slightly micaceous; RESIDUUM	
6-7		SPT 4	4 5 6	13/18						SILT sandy (ML); moderate reddish brown (10 R 4/6); moist; stiff; fine sand ~ 40%; low plasticity; slightly micaceous; RESIDUUM	
8-9		SPT 5	7 4 6	14/18					ML	SILT sandy (ML); light brown (5 YR 5/6); moist; stiff; fine sand ~40%; low plasticity; slightly micaceous; SAPROLITE	Saprolite
10-11		SPT 6	6 6 6	18/18						SILT (ML); light brown (5 YR 5/6); moist; stiff; fine sand ~5%; low plasticity; micaceous; banded; SAPROLITE	
12-13		SPT 7	2 3 6	14/18						SAA	
14-15		SPT 8	4 4 8	15/18						SAA	
16-17		SPT 9	4 5 9	18/18						SAA; ~10% fine sand	
18-19		SPT 9A	4 6 8	16/18						SILT (ML); moderate reddish brown (10 R 4/6); moist; stiff; fine sand ~5%; low plasticity; micaceous; SAPROLITE	Hard drilling, check for rock at 26.5 ft
20-21		SPT 10	4 5 6	18/18						SILT sandy (ML); pale reddish brown (10 R 5/4); moist; stiff; fine sand ~10%; low plasticity; micaceous; SAPROLITE	End of day 4/17/06 Begin day 4/18/06. No water to 28 ft
22-23		SPT 11	6 8 13	18/18						SILT sandy (ML); dark yellowish orange (10 YR 6/6); moist; very stiff; fine sand ~30%; low plasticity; micaceous; SAPROLITE	
24-25		SPT 12	6 8 13	15/18						SAA	

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SOIL LOG - Boring No. B-401

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
40										SILT sandy (ML); light brown (5 YR 5/6); moist; stiff; fine sand ~40%; low plasticity; slightly micaceous; SAPROLITE *(Continued from previous page)*	
44		SPT 13	8 10 12	18						SAA	
49		SPT 14	6 11 15	14/18						SAA	
52									SM	SAND silty (SM); medium light gray (N 6 6/0); moist; medium dense; fine sand ~60%; SAPROLITE	
54		SPT 15	12 14 14	14/18							
56									ML	SILT sandy (ML); greenish black (N 2); moist; hard; fine sand ~30%; low plasticity; small quartz fragments; micaceous; SAPROLITE	
59		SPT 16	17 27 50	18/18							
62									ML	SILT sandy (ML); dark yellowish orange (10 YR 6/8); moist; hard; fine sand ~40%; low plasticity; small quartz fragments; PARTIALLY WEATHERED ROCK	Partially weathered rock
64		SPT 17	50/6	6/6						BORING TERMINATED AT 64.0 ft. see rock log	

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ROCK LOG - Boring No. B-401

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 120 feet
Drilling Contractor and Rig: Gregg/Smith/Burnette/311025 / CME 55	Elevation at Boring: 404 feet	Ground Water Depth: 4 feet	Depth to Bedrock: 64 feet
Casing Size and Depth: 3.5 / 64 feet	Length of Core Barrel and Bit: 5 feet	No. of Core Boxes: 4	Date Started: 4/14/06
	Borehole Inclination: 0	Logged by: J. Harmon	Date Completed: 4/19/06

Reviewed by / Date: M. Cooke 4/24/06

Depth (feet)	Run No.	Recovery / Cut	% RQD	Weathering	Strength	In-Situ Testing	Lithology	Lithology	Remarks
64									
65	1	1.1 / 5.0	16	RS	R0			AMPHIBOLITE SCHIST with GRANODIORITE; very dark gray and white (10 YR 2/1); and (Gley 1 8 /1); intrusion 30% foliated	Switched to coring. NQ sampler used (Triple tube samples)
66									
67									
68				SW					
69				F					
70	2	4.5 / 5.0	76	SW	R4			GRANODIORITE; with amphibolite dikes and intrusions	
71									
72				F					
73								MIGMATITE GNEISS zones of SCHIST and GRANODIORITE; very dark gray and white (10 YR 2/1); and (Gley 8/1); fine to medium grained	
74				HW	R2				End of day 4/18/06, water at 4 ft
75									
76	3	5.0 / 5.0	100	F	R4			Foliation from 76 to 77 ft.	Begin day 4/19/06, no water to 74 ft
77									
78								AMPHIBOLITE SCHIST with GRANODIORITE intrusions	
79									
80									
81	4	5.0 / 5.0	100	F	R4				
82									
83									
84				SW					
85								AMPHIBOLITE SCHIST; dark gray (10 YR 2/1); fine grained; foliation ~30°	
86	5	5.0 / 5.0	86	F	R4				
87									
88				SW				GRANODIORITE with SCHIST intrusions; fine to medium grained	
89				F					
90								MIGMATITE GNEISS	
91	6	5.0 / 5.0	88	F	R4				
92									
93									
94									
95									
96	7	5.0 / 5.0	88	F	R4				
97									
98									
99									
100								With flowing bands of SCHIST and GRANODIORITE	
101	8	5.0 / 5.0	86	F	R4			MIGMATITE GNEISS with intrusions of SCHIST at 100.5 ft to 101.2 ft; fine to medium grained	
102									
103									
104									

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ROCK LOG - Boring No. B-401

Depth (feet)	Run No.	Recovery / Cut	% RQD	Weathering	Strength	In-Situ Testing	Lithology	Lithology	Remarks
104									
105									
106									
107	9	5.0/5.0	20	F	R4				
108									
109								Flowing texture with GRANODIORITE and SCHIST	
110									
111									
112	10	5.0/5.0	88	F	R4				
113									
114									
115	11	1.0/1.0	100	F	R4			MIGMATITE GNEISS	
116									
117									
118	12	5.0/5.0	100	F	R4			CORING TERMINATED AT 120.0 ft.	
119									
120									Boring terminated at 120 ft, water at 4 ft. on 4/19/06
121									
122									
123									
124									
125									
126									
127									
128									
129									
130									
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142									
143									
144									

Project Name : Job Number
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SOIL LOG - Boring No. B-402

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 61.5 feet
Drilling Contractor and Rig: MACTEC/Cain/100 / D 50	Elevation at Boring: 403.9 feet	Ground Water Depth:	Depth to Bedrock: 47.7 feet
Sampling Method: Standard	Sample Driving Hammer/Drop: 140 lbs / 30 inches	No. of Samples: 13	Date Started: 8/4/06
	Borehole Inclination: 0	Logged by: M. Harvey	Date Completed: 8/5/06

Reviewed by / Date: M. Cooke 8/7/06
Reviewed by / Date: Clay Sams 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0											
1		SPT 1	4 4 8	18/18					ML	SILT sandy (ML); red (2.5 YR 4/6); dry; stiff	Residuum; surface graded for access
2		SPT 2	5 9 12	8/18						SILT sandy (ML); red (2.5 YR 4/6); dry; very stiff	
3											
4		SPT 3	3 6 10	12/18						SILT (ML); red (2.5 YR 4/6); dry; very stiff; trace clay	
5											
6		SPT 4	5 13 14	14/18						SILT (ML); red and pale gray (10 R 5/6 and 10 R 7/2); dry; very stiff; mottled; trace clay	
7											
8											
9		SPT 5	6 11 20	15/18					SM	SAND silty, gravely (SM); red, gray and brown (10 R 5/6, 10R 8/1, 10R 6/1, 10YR 7/6); dry; dense; relict structure; SAPROLITE	Saprolite
10											
11		SPT 6	8 10 15	14/18						SAND gravely (SM); purple and white (10R 6/4 and 10R 8/1); dry; medium dense; some gravel	
12											
13											
14		SPT 7	9 10 12	13/18						SAA	
15									ML	SILT (ML); dry; stiff	
16											
17											
18											
19		SPT 8	3 7 11	16/18							
20									SM	SAND (SM); purplish red (10 R 5/6.4); dry; medium dense; SAPROLITE	
21											
22									ML	SILT sandy (ML); red (10 R 5/6); dry; very stiff; some manganese staining; SAPROLITE	
23											
24		SPT 9	7 7 10	16/18							
25											
26											
27									SM	SAND silty (SM); orange brown (10 YR 6/8); dry; medium dense; with manganese stains and gravel	
28											
29		SPT 10	25 18 12	16/18							
30									ML	SILT sandy (ML); orange and brown (5 YR 4/6, 7.5 YR 6/8); dry; very stiff; with manganese staining; foliated coloration with shaded layers of light and dark; SAPROLITE	
31											
32											
33											
34		SPT 11	4 7 17	16/18							
35											
36											
37											
38											
39		SPT 12	10 10 11	14/18						SILT sandy (ML); brown (10 YR 5/4); dry; very stiff; with prominant black manganese staining	
40											

Project Name : Job Number

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SOIL LOG - Boring No. B-402

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
40										SILT sandy (ML); orange and brown (5 YR 4/6, 7.5 YR 6/8); dry; very stiff; with manganese staining; foliated coloration with shaded layers of light and dark; SAPROLITE *(Continued from previous page)*	
41											
42											
43											
44		SPT 13	11 8 13	15/18						SAA	
45											
46										Refusal at 47.7 ft, see rock log	
47											
48											
49											
50											
51											
52											
53											
54											
55											
56											
57											
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ROCK LOG - Boring No. B-402

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 61.5 feet
Drilling Contractor and Rig: MACTEC/Cain/100 / D 50	Elevation at Boring: 403.9 feet	Ground Water Depth	Depth to Bedrock: 47.7 feet
Casing Size and Depth: 3.5 / 47.7 feet	Length of Core Barrel and Bit	No. of Core Boxes	Date Started: 8/4/06
	Borehole Inclination: 0	Logged by: M. Harvey	Date Completed: 8/5/06

Reviewed by / Date: M. Cooke 8/7/06

Depth (feet)	Run No.	Recovery / Cut	% RQD	Weathering	Strength	In-Situ Testing	Lithology	Lithology	Remarks
48–51	1	2.2 / 3.3	48	HW / MW / F	R0 / R1 / R3 / R4			MIGMATITE; foliated metamorphic granodiorite gneiss with amphibolite xenoliths; some deformed foliations vary in angle from high to near horizontal	
52–55	2	4.0 / 4.0	100	F	R4				Borehole terminated on 8/5/06
55–60	3	5.0 / 5.0	92	SW / F	R3 / R4				
60–61	4	1.2 / 1.5	80	F	R4			CORING TERMINATED at 61.5 ft	Coring terminated on 8/5/06
62–87									

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SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-403

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 82 feet
Drilling Contractor and Rig: MACTEC/Gibson/211797 / CME 75	Elevation at Boring: 400.7 feet	Ground Water Depth:	Depth to Bedrock: 56 feet
Sampling Method: Split Spoon	Sample Driving Hammer/Drop: 140 lbs / 30 inches	No. of Samples: 15	Date Started: 8/5/06
	Borehole Inclination: 0	Logged by: J. Jordan	Date Completed: 8/8/06

Reviewed by / Date: M. Cooke 8/10/06
Reviewed by / Date: Clay Sams 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0-2		SPT 1	3 2 2	5/18					ML	SILT (ML); reddish brown (2.5 YR 5/3); medium soft; micaceous	Residuum
2-4		SPT 2	3 2 5	13/18						SILT (ML); strong brown (7.5 YR 5/6); moist; medium stiff; 90% silt; very micaceous	
4-6		SPT 3	2 6 11	14/18						SAA; very stiff	
6-8		SPT 4	3 8 12	14/18					ML	SILT (ML); light gray (5 YR 7/1); moist; stiff; micaceous; feldspar rich; SAPROLITE	First saprolitic sample
8-10		SPT 5	2 3 7	1/18						SILT sandy (ML)	
10-12		SPT 6	7 7 12	17/18						SILT sandy (ML); pinkish white (10 R 8/2); very stiff; 20% sand; SAPROLITE	
12-14		SPT 7	6 7 14	18/18					SW-SM	SAND silty (SW to SM); light gray (10 R 7/1); wet; medium dense; fine to coarse grained; micaceous	
14-16		SPT 8	0 6 13	18/18						SAA; strong brown (7.5 YR 4/6); wet; medium dense; mica and feldspar abundant	
16-18		SPT 9	3 5 10	6/18						SAA	
18-20		SPT 10	3 5 8	4/18						SAA	
20-22		SPT 11	6 12 17	9/18					ML	SILT trace sand (ML); light yellowish brown; wet; medium dense; 98% silt; feldspar rich with black minerals; SAPROLITE	
22-24		SPT 12	11 17 22	14/18					SP	SAND slightly silty (SP); pinkish white (7.5 YR 8/2); wet; dense; 90% feldspar and fine quartz sand; SAPROLITE/PARTIALLY WEATHERED ROCK	

Project Name : Job Number

MACTEC

SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-403

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
40										SAND slightly silty (SP); pinkish white (7.5 YR 8/2); wet; dense; 90% feldspar and fine quartz sand; SAPROLITE/PARTIALLY WEATHERED ROCK *(Continued from previous page)*	
44		SPT 13	18 33 50/5.5	8 17.5						SAA; very dense	
47									SM	SAND silty (SM); greenish gray (10 GY 5/1); moist; very dense; 25% silt; abundant feldspar; SAPROLITE/PARTIALLY WETHAERED ROCK	
49		SPT 14	12 33 41	15 18							
54		SPT 15	50/0	0 0						No recovery; PARTIALLY WEATHERED ROCK; drilled with casing; see rock log	

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

ROCK LOG - Boring No. B-403

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 82 feet
Drilling Contractor and Rig: MACTEC/Gibson/211797 / CME 75	Elevation at Boring: 400.7 feet	Ground Water Depth:	Depth to Bedrock: 56 feet
Casing Size and Depth: 3.5 / 61 feet	Length of Core Barrel and Bit: 11 feet	No. of Core Boxes: 2	Date Started: 8/5/06
	Borehole Inclination: 0	Logged by: J. Jordan	Date Completed: 8/8/06

Reviewed by / Date: M. Cooke 8/10/06

Depth (feet)	Run No.	Recovery / Cut	% RQD	Weathering	Strength	In-Situ Testing	Lithology	Lithology	Remarks
56	1	1.0 / 1.0	0	HW	R1			GRANODIORITE; light gray (N 7/1); very blocky; multiple fractures; some partially weathered rock	Refusal at 56 ft on 8/7/06
57									
58									
59	2	3.4 / 5.0	50	MW	R1 to R2			QUARTZ DIORITE; light gray (7.5 YR 7/1)	
60									
61									
62									
63									
64								MIGMATITE; multiple fractures; some heavily oxidized; lower in hornblende, quartz, K-spar, and mica	
65								Some partially weathered rock	
66								Some partially weathered rock	
67	3	9.8 / 10.0	59.5	MW	R1 to R2			Some partially weathered rock	
68									
69									
70									
71									
72								MIGMATITE; less weathered	
73									
74	4	5.0 / 5.0	84.1	MW to SW	R3				
75									
76									
77									
78									
79	5	4.8 / 5.0	96	SW	R3 to R4				
80									
81								CORING TERMINATED at 82 ft	
82									End of coring on 8/8/06
83									
84									
85									
86									
87									
88									
89									
90									
91									
92									
93									
94									
95									
96									

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-404

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch	Boring Location: Cooling Tower		Total Depth: 112.6 feet
Drilling Contractor and Rig: MACTEC/Cain/100 / D 50	Elevation at Boring: 410.9 feet	Ground Water Depth: 46.6 feet	Depth to Bedrock: 112.6 feet
Sampling Method: Standard	Sample Driving Hammer/Drop: 140 lbs / 30 inches	No. of Samples: 26	Date Started: 8/2/06
	Borehole Inclination: 0	Logged by: M. Harvey	Date Completed: 8/3/06

Reviewed by / Date: M. Cooke 8/3/06
Reviewed by / Date: Clay Sams 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0-1		SPT 1	3 4 7	18/18					SM	SAND (SM); red (10 R 7/8); dry; medium dense; very fine	Residuum
2-3		SPT 2	4 6 10	12/18					ML	SILT sandy (ML); red (10 R 4.5/6); dry; very stiff; trace mica	
4-5		SPT 3	3 4 9	12/18						SAA; red (10 R 4/8); dry; stiff; traces of orange/brown; mica present	
6-7		SPT 4	4 6 12	11/18							
8									SM	SAND silty (SM); white (10 R 8/2); dry; medium dense	
9-10		SPT 5	3 5 7	12/18					ML	SILT (ML); red (10 R 4/6) and brown (10 YR 5/8); dry; stiff; some mica	
11-12		SPT 6	3 7 9	10/18						SAA; red and brown (10 R 5/6 and 10 YR 5/3); some medium to coarse sand in silt matrix at base of sampler; dry; very stiff	
13-14		SPT 7	4 5 9	12/18					ML	SILT (ML); red and brown (10 YR 5/8 and 10 R 4/4); dry; stiff; SAPROLITE	Saprolite
15-19											
19		SPT 8	3 7 8	12/18							
20									SM	SAND (SM); white; dry; medium dense	
21-23									ML	SILT (ML); light green (5 Y 7/3); brown (7.5 YR 6/8); red (10 R 5/8); dry; stiff; with some manganese stains; SAPROLITE	
24-25		SPT 9	3 4 8	11/18							
26-28											
29-30		SPT 10	3 4 7	15/18						SAA	
31-33											
34-35		SPT 11	4 5 10	14/18						SILT (ML); very pale brown, red and orange (10 YR 7/3, 10 YR 6/8, 10 R 5/8, 10 R 2.5/1); dry; stiff; with manganese stains; sandy; micaceous; SAPROLITE	
36-38											
39-40		SPT 12	6 10 13	14/18						SILT (ML); brown and red (7.5 YR 5.5/8, 10 R 5/8); dry; very stiff; with manganese staining	

Project Name : Job Number

MACTEC

SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-404

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
40									SM	SAND silty (SM); white; dry; medium dense; SAPROLITE *(Continued from previous page)*	
44		SPT 13	8 10 16	14/18					ML	SILT (ML); brown (10 YR 5/6); dry; very stiff	
46										▽	
49		SPT 14	8 10 15	14/18						SAA; brown (10 YR 5/4); micaceous; SAPROLITE	
54		SPT 15	7 11 15	16/18						SAA	
57									ML	SILT sandy (ML); brown (7.5 YR 5/8, Gley 1 5/1/10GY); hard; micaceous; SAPROLITE	
59		SPT 16	12 18 28	18/18							Slow drilling
64		SPT 17	17 20 40	14/18						SILT sandy (ML); brown (10 YR 5/3); dry; hard; micaceous; 30% fine sand	
67									SM	SAND silty (SM); dark greenish gray (Gley 1 4/1/5G); moist; very dense; PARTIALLY WEATHERED ROCK	Partially weathered rock
69		SPT 18	25 50/4	10/10							
74		SPT 19	30 50/4.5	10/10.5						SAA	
79		SPT 20	38 50/4	8/10						SAA	

Project Name : Job Number

MACTEC

SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-404

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
80										SAND silty (SM); dark greenish gray (Gley 1 4/1/5G); moist; very dense; PARTIALLY WEATHERED ROCK *(Continued from previous page)*	End drilling 8/2/06 Start drilling 8/3/06; water level at 46.6 ft
81											
82											
83											
84		SPT 21	39 50/5	10 11						SAA; brown and black and gray (10 YR 5/6, Gley 1 2.5/N); very dense; fine to medium grained; micaceous; PARTIALLY WEATHERED ROCK	
85											
86											
87											
88											
89		SPT 22	50/4	3 4						SAA; white; dry; very dense; quartz seam degraded to sand; PARTIALLY WEATHERED ROCK	
90											
91											
92											
93											
94		SPT 23	50/6	6 6						SAA; white, black, and green (Gley 1 3/2/5G, Gley 1 8/1/N); dry; very dense	
95											
96											
97											
98											
99		SPT 24	21 50/6	9 12						SAA	
100											
101											
102											
103											
104		SPT 25	50/5	5 5						SAA	
105											
106											
107											
108											
109		SPT 26	50/2	2 2						SAND (SM); brown, black and white (7.5 YR 5/8, 7.5 YR 8/1, 7.5 YR 2.5/1, 1 Gley 4/2/5G); wet; very dense; PARTIALLY WEATHERED ROCK	
110											
111											
112										Refusal to tricone at 112.6 ft; Boring terminated	
113											
114											
115											
116											
117											
118											
119											
120											

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-405

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 52.6 feet
Drilling Contractor and Rig: MACTEC/Akins/212393 / CME550	Elevation at Boring: 392 feet	Ground Water Depth: 32 feet	Depth to Bedrock: 47.2 feet
Sampling Method: Standard	Sample Driving Hammer/Drop: 140 lbs / 30 inches	No. of Samples: 13	Date Started: 4/12/06
	Borehole Inclination: 0	Logged by: M. Harvey	Date Completed: 4/13/06

Reviewed by / Date: M. Cooke 4/14/06
Reviewed by / Date: Clay Sams 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0		SPT 1	1 1 1	14/18					SM	SAND (SM); red (2.5 YR 5/6); dry; very loose; silty; trace mica	Residuum
1											
2		SPT 2	2 3 4	15/18						SAND silty (SM); orange red and black (10 YR 5/6, 10 R 3/4 and 2.5/N); dry; loose; fine; micaceous	
3											
4		SPT 3	3 4 5	16/18						SAA, color change to brown at 4.6 ft (10 YR 4/3); fine; heavily micaceous; SAPROLITE	
5									ML	SILT sandy (ML); orange and red (7.5 YR 5/8 to 10 R 3/6), 8 inch of pinkish white (7.5 YR 8/2); moist; stiff; SAPROLITE	Saprolite
6		SPT 4	2 6 7	18/18							
7											
8											
9		SPT 5	5 13 12	16/18					SM	SAND silty (SM); brown (7.5 YR 5/7); damp; medium dense; black bands, white vein from toe to 8 inch; SAPROLITE	
10											
11		SPT 6	7 8 12	16/18						SAA; olive yellow (2.5 Y 6/6); moist; medium dense; fine to coarse grained; foliated; black layered; some gravel grains	
12											
13		SPT 7	7 13 9	14/18						SAA; black and brown, white from 14.5 ft; medium dense; fines (2.5 YR 5/6); heavily micaceous	
14											
15											
16											
17											
18											
19		SPT 8	4 7 10	13/18						SAA; reddish yellow (7.5 YR 6/8); with sandier beige/white bands (10 YR 6/2); moist; medium dense; micaceous; manganese stains; SAPROLITE	
20											
21											
22											
23											
24		SPT 9	5 7 9	18						SAND silty (SM); brown (10 YR 5/3); moist; medium dense; white, beige and orange; manganese staining; micaceous; SAPROLITE	
25											
26											
27											
28											
29		SPT 10	5 9 14	18						SAA; grayish brown (10 YR 5/2); moist; medium dense; fine grained; orange manganese staining; SAPROLITE	
30											
31											
32										▼	
33											
34		SPT 11	30 20 29	14/18						SAND silty (SM); very dark brown (10 YR 3/3); moist; very dense; fine to medium grained; white to brown bands 1 to 4 inch; micaceous	
35											
36											
37											
38											
39		SPT 12	6 50/0.5	4/6.5					SM		Partially weathered rock
40											

Project Name : Job Number

MACTEC

SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-405

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
40										SAND silty (SM); black and white salt and pepper (1 Gley 4/1); moist; fine to medium grained; micaceous; PARTIALLY WEATHERED ROCK *(Continued from previous page)*	
41											
42											
43											
44		SPT 13	20 50/1	6 7						SAND gravely (SM); pink (2.5 YR 8/3); and brown (2.5 Y R 5/2); moist; very dense; micaceous; PARTIALLY WEATHERED ROCK	
45											
46										Tricone refusal 46.9 ft.; drilled with casing to 47.2 ft, see rock log	
47											
48											
49											
50											
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80											

Project Name : Job Number	ROCK LOG - Boring No. B-405
MACTEC SCE&G COL : 6234-06-3534	

Type and Diameter of Boring	Boring Location		Total Depth
Mud Rotary / 3 7/8 inch/NQ	Cooling Tower		52.6 feet
Drilling Contractor and Rig	**Elevation at Boring**	**Ground Water Depth**	**Depth to Bedrock**
MACTEC/Akins/212393 / CME550	392 feet	32 feet	47.2 feet
Casing Size and Depth	**Length of Core Barrel and Bit**	**No. of Core Boxes**	**Date Started**
3.5 / 47.3 feet	10 feet	1	4/12/06
	Borehole Inclination	**Logged by**	**Date Completed**
	0	M. Harvey	4/13/06

Reviewed by / Date M. Cooke 4/14/06

Depth (feet)	Run No.	Recovery / Cut	% RQD	Weathering	Strength	In-Situ Testing	Lithology	Lithology	Remarks
48	1	4.5/5.4	51	HW	R1			PEGMATITE K-spar and quartz; large grained; highly weathered granodiorite, orthoclase, quartz; moderately weathered pegmatite, granite grains	Rapid bit advance 47.4 to 47.8 ft
49				MW					
50				SW	R3			GNEISS, quartz, mica, biotite, orthoclase, foliated 60°, medium size grains	
51									
52				MW	R2			CORING TERMINATED AT 52.6 ft.	End of drilling 4/13/06; water at 32 ft.
53									
54									
55									
56									
57									
58									
59									
60									
61									
62									
63									
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86									
87									

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-406

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 64.7 feet
Drilling Contractor and Rig: MACTEC/Cain/100 / D 50	Elevation at Boring: 384.7 feet	Ground Water Depth	Depth to Bedrock: 53.5 feet
Sampling Method: Standard	Sample Driving Hammer/Drop: 140 lbs / 30 inches	No. of Samples: 15	Date Started: 8/9/06
	Borehole Inclination: 0	Logged by: M. Harvey	Date Completed: 8/10/06

Reviewed by / Date: M. Cooke 8/20/06
Reviewed by / Date: Clay Sama 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0-1		SPT 1	3 4 8	18/18					ML	SILT (ML); red (2.5 YR 4/6); dry; stiff; trace mica; some organics (tree roots)	Graded area for access
2-3		SPT 2	5 6 9	18						SAA; red, some black (2.5 YR 4/6 and 2.5 YR 2.5/2); dry; very stiff	
4-5		SPT 3	4 3 5	15/18					ML	SILT clayey (ML); brown (7.5 YR 5/3); dry; medium stiff; organics present; roots	
6-7		SPT 4	3 2 4	12/18						SAA; dark gray (10 YR 4/1); moist; medium stiff	
8-9		SPT 5	2 3 5	6/18					CL	CLAY silty (CL); orange gray (5 YR 5/3); moist; medium stiff	
10-11		SPT 6	4 8 12	15/18					ML	SILT sandy (ML); red (2.5 YR 4/6); dry; very stiff	
12-13		SPT 7	3 4 6	12/18						SILT (ML); orange (7.5 YR 5/8); moist; stiff; some relic structure	
14-15		SPT 8	3 4 7	12/18						SILT (ML); brown (10 YR 6/6 and 2.5 YR 4/6); dry; stiff; micaceous	
16-17		SPT 9	4 6 7	9/18						SILT sandy (ML); brown, orange silt with dark gray, bands of black sand (7.5 YR 5/8 and 7.5 YR 3/1); micaceous	
18-19		SPT 10	4 7 11	10/18					ML	SILT (ML); brown (10 YR 4/3); dry; very stiff; micaceous; SAPROLITE	Saprolite
20-21									SM	SAND silty (SM); dark grayish brown (10 YR 4/2); medium dense; fine grained; micaceous	End of day 8/9/06 Begin day 8/10/06
22-23		SPT 11	7 10 16	12/18							
24-25		SPT 12	8 13 15	13/18						SAND silty (SM); beige and brown (10 YR 2/3, 7.5 YR 5/8, 2.5 YR 10/3); micaceous	

Project Name : Job Number

MACTEC

SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-406

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
40										SAND silty (SM); dark grayish brown (10 YR 4/2); medium dense; fine grained; micaceous *(Continued from previous page)*	
41											
42											
43										Little recovery; PARTIALLY WEATHERED ROCK	Partially weathered rock first occurrence
44		SPT 13	50/2	0 / 2							
45											
46											
47											
48											
49		SPT 14	50/2.5	2.5 / 2.5					GW	GRAVEL (GW); pinkish white (5 YR 8/2); moist; very dense; quartz; PARTIALLY WEATHERED ROCK	
50											
51											
52										Refusal at 53.5 ft	
53											
54											
55											
56											
57											
58											
59											
60											
61											
62											
63											
64											
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Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

ROCK LOG - Boring No. B-406

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 64.7 feet
Drilling Contractor and Rig: MACTEC/Cain/100 / D 50	Elevation at Boring: 384.7 feet	Ground Water Depth	Depth to Bedrock: 53.5 feet
Casing Size and Depth: 3.5 / 53.5 feet	Length of Core Barrel and Bit: 13 feet	No. of Core Boxes: 1	Date Started: 8/9/06
	Borehole Inclination: 0	Logged by: M. Harvey	Date Completed: 8/10/06

Reviewed by / Date: M. Cooke 8/20/06

Depth (feet)	Run No.	Recovery / Cut	% RQD	Weathering	Strength	In-Situ Testing	Lithology	Lithology	Remarks
54				F	R4			QUARTZ DIORITE; with multiple dikes of fine grained granodiorite and quartz; fine grained; nearly a migmatite texture	Refusal on 8/10/06 at 53.5 ft, see rock log
55	1	4.2 / 4.2	92	SW	R2				
56									
57				F	R4				
58									
59	2	3.0 / 3.0	97	F	R4				
60									
61									
62									
63	3	3.9 / 4.0	99	F	R4				
64								CORING TERMINATED at 64.7 ft	
65									Borehole terminated on 8/10/06
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
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92									
93									

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-421

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 78 feet
Drilling Contractor and Rig: Gregg/Burnett/233517 / CME 75	Elevation at Boring: 396 feet	Ground Water Depth:	Depth to Bedrock: 78 feet
Sampling Method: Standard	Sample Driving Hammer/Drop: 140 lbs / 30 inches	No. of Samples: 19	Date Started: 8/8/06
	Borehole Inclination: 0	Logged by: S. Woodham/M. Harvey	Date Completed: 8/8/06

Reviewed by / Date: M. Cooke 8/20/06
Reviewed by / Date: Clay Lamm 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0		SPT 1	4 5 7	16/18					ML	SILT sandy (ML); red (10 R 4/6); damp; stiff; 80% silt; 20% sand; some mica; RESIDUUM	Residuum
1											
2		SPT 2	11 17 17	16/18						SAA; hard	
3											
4		SPT 3	5 10 12	20/18						SAA; very stiff	
5											
6		SPT 4	4 4 7	20/18						SILT sandy (ML); yellowish red (5 YR 4/6); damp; stiff; 80% silt, 20% sand; mica; RESIDUUM	
7											
8											
9		SPT 5	4 6 7	18/18					ML	SILT sandy (ML); yellowish red (7.5 YR 5/8); damp; stiff; 60% silt; 40% sand; SAPROLITE	First saprolitic sample
10											
11		SPT 6	3 4 5	18/18						SAA	
12											
13											
14		SPT 7	3 4 5	16/18					SM	SAND silty (SM); light yellowish brown (10 YR 6/4); damp; loose; 70% sand; 30% silt; micaceous	
15											
16											
17											
18											
19		SPT 8	5 4 5	16/18						SAA; 80% sand; 20% silt	
20											
21											
22											
23											
24		SPT 9	4 6 7	17/18						SAA; medium dense	
25											
26											
27											
28											
29		SPT 10	8 12 12	17/18						SAA; light yellowish brown (10 YR 6/4); damp; medium dense; 70% sand; 30% silt	
30											
31											
32											
33											
34		SPT 11	2 7 10	15/18						SAA; light brownish gray (10 YR 6/2)	
35											
36											
37											
38											
39		SPT 12	12 13 19	15/18						SAA; greenish black and white (Gley 1 2.5/1 and 8/N); damp; dense; 75% sand; 25% silt; fine to	
40											

Project Name : Job Number

MACTEC

SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-421

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
40										medium grained SAND silty (SM); light yellowish brown (10 YR 6/4); damp; loose; 70% sand; 30% silt; micaceous	
41											
42											
43									ML	*(Continued from previous page)* SILT sandy (ML); very dark greenish gray and dark yellowish brown (Gley 1 3/1 and 10 YR 4/4); damp; very stiff; 70% silt; 30% sand	
44		SPT 13	9 11 14	16/18							
45											
46											
47											
48									SM	SAND silty (SM); yellowish brown (10 YR 5/6); damp; dense	
49		SPT 14	10 12 22	14/18							
50											
51											
52											
53											
54		SPT 15	20 22 50/2	16/14						SAA; dark greenish gray; very dense	
55											
56											
57											
58											
59		SPT 16	12 19 16	16/18						SAA; yellowish brown (10 YR 5/6); damp; dense; micaceous	
60											
61											
62											
63											
64		SPT 17	20 50/5	10/11						SAA; very dense	
65											
66											
67											
68											
69		SPT 18	12 28 50/4	14/16						SAA	
70											
71											
72											
73											
74		SPT 19	50/5	6/5						SAA	
75											
76										Refusal at 78 ft, see B-421A for rock log	
77											
78											
79											
80											

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-421A

Type and Diameter of Boring: Rock core / NQ	Boring Location: Cooling Tower		Total Depth: 95 feet
Drilling Contractor and Rig: MACTEC/Cain/100 / D 50	Elevation at Boring: 396.2 feet	Ground Water Depth	Depth to Bedrock: 78.9 feet
Sampling Method: No sampling	Sample Driving Hammer/Drop: NA	No. of Samples: 0	Date Started: 8/15/06
	Borehole Inclination: 0	Logged by: M. Harvey	Date Completed: 8/16/06

Reviewed by / Date: M. Cooke 8/20/06
Reviewed by / Date: Clay Lamm 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0										Drilled without SPT sampling to 78.9 ft, 4 ft south of B-421 to core rock, see B-421 for soil description	

Project Name : Job Number

MACTEC

SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-421A

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
40										Drilled without SPT sampling to 78.9 ft, 4 ft south of B-421 to core rock, see B-421 for soil description *(Continued from previous page)*	
41											
42											
43											
44											
45											
46											
47											
48											
49											
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											
61											
62											
63											
64											
65											
66											
67											
68											
69											
70											
71											
72											
73											
74											
75											Drilling through rock lenses
76											
77											
78											
79											
80											

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

ROCK LOG - Boring No. B-421A

Type and Diameter of Boring: Rock core / NQ	Boring Location: Cooling Tower		Total Depth: 95 feet
Drilling Contractor and Rig: MACTEC/Cain/100 / D 50	Elevation at Boring: 396.2 feet	Ground Water Depth:	Depth to Bedrock: 78.9 feet
Casing Size and Depth: 3.5 / 78.9 feet	Length of Core Barrel and Bit: 13 feet	No. of Core Boxes: 1	Date Started: 8/15/06
	Borehole Inclination: 0	Logged by: M. Harvey	Date Completed: 8/16/06

Reviewed by / Date: M. Cooke 8/20/06

Depth (feet)	Run No.	Recovery / Cut	% RQD	Weathering	Strength	In-Situ Testing	Lithology	Lithology	Remarks
79								GRANODIORITE; medium to coarse grained	
80	1	1.8/2.1	76	F	R4				
81								Fracture zone 80.5 to 83.5; highly weathered	
82									
83	2	4.0/5.0	50	HW	R1				
84									
85				F	R4				
86								Higher mafic content	
87									
88	3	5.0/5.0	96	F	R4				
89								Amphibolite xenoliths	
90									
91									
92									
93	4	4.0/4.0	97.5	F	R4				
94									
95								AMPHIBOLITE SCHIST	Borehole terminated on 8/16/06
96								CORING TERMIANTED at 95 ft	
97									
98									
99									
100									
101									
102									
103									
104									
105									
106									
107									
108									
109									
110									
111									
112									
113									
114									
115									
116									
117									
118									

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-422

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 83.5 feet
Drilling Contractor and Rig: Gregg/Burnette/233517 / CME 75	Elevation at Boring: 411.8 feet	Ground Water Depth: 36 feet	Depth to Bedrock: 71 feet
Sampling Method: Standard	Sample Driving Hammer/Drop: 140 lbs / 30 inches	No. of Samples: 19	Date Started: 8/7/06
	Borehole Inclination: 0	Logged by: S. Woodham/J. Jordan	Date Completed: 8/9/06

Reviewed by / Date: M. Cooke 8/10/06
Reviewed by / Date: Clay Sams 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0-2		SPT 1	4 7 10	18/18					ML	SILT sandy (ML); red (7.5 YR 4/8); damp; very stiff; 60% silt, 40% sand; RESIDUUM	Residuum
2-4		SPT 2	7 12 12	13/18							
3-5		SPT 3	5 5 8	16/18					SM	SAND silty (SM); red (7.5 YR 4/8); with some yellow; medium dense; 60% sand, 40% silt; SAPROLITE	Saprolite
6-8		SPT 4	4 5 7	14/18							
8-10		SPT 5	4 6 7	16/18					ML	SILT sandy (ML); red (7.5 YR 4/8); some yellow; damp; stiff; 60% silt, 40% sand	
11-13		SPT 6	4 4 7	16/18						SAA red (7.5 YR 4/8) and yellowish brown (5/6 10 YR)	
14-16		SPT 7	3 4 6	18						SAA; 55% silt, 45% sand	
17-19		SPT 8	2 3 4	15/18					ML	SILT sandy (ML); brownish yellow (10 YR 6/6); damp; medium stiff; 80% silt, 20% sand	
24-26		SPT 9	3 4 4	17/18						SAA; with black and white	
29-31		SPT 10	3 5 6	18						SAA; stiff	
34-36		SPT 11	5 5 7	16/18						SAA	
36									▽		
39-41		SPT 12	3 5 7	17/18						SAA	

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-422

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
40										SILT sandy (ML); brownish yellow (10 YR 6/6); damp; medium stiff; 80% silt, 20% sand *(Continued from previous page)*	
44		SPT 13	4 5 7	0 / 18						No recovery	
49		SPT 14	4 5 6	0 / 18							
50		SPT 15	7 8 10	18					SM	SAND silty (SM); yellowish brown (10 YR 5/6); damp; medium dense; 65% sand, 35% silt	
54		SPT 16	9 12 16	16 / 18						SAA; yellowish brown (10 YR 5/4); damp; medium dense; 75% sand, 25% silt	
59		SPT 17	6 9 14	18					SM	SAND silty (SM); white and grayish brown (2.5 Y 8/1 and 5/2); damp; medium dense; 70% sand, 30% silt	
64		SPT 18	50/3	6 / 3						SAND silty (SM); white and grayish brown (2.5 Y 8/1); damp; PARTIALLY WEATHERED ROCK See rock log	
69		SPT 19	50/4	5 / 4							
80											

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

ROCK LOG - Boring No. B-422

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 83.5 feet
Drilling Contractor and Rig: Gregg/Burnette/233517 / CME 75	Elevation at Boring: 411.8 feet	Ground Water Depth: 36 feet	Depth to Bedrock: 71 feet
Casing Size and Depth: 3.5 / 71 feet	Length of Core Barrel and Bit: 11.2 feet	No. of Core Boxes: 1	Date Started: 8/7/06
	Borehole Inclination: 0	Logged by: S. Woodham/J. Jordan	Date Completed: 8/9/06

Reviewed by / Date: M. Cooke 8/10/06

Depth (feet)	Run No.	Recovery / Cut	% RQD	Weathering	Strength	In-Situ Testing	Lithology	Lithology	Remarks
71									Tricone refusal at 71 ft on 8/8/06, see rock log
72	1	3.0/3.0	91.6	MW to SW	R3			QUARTZ DIORITE; bluish gray (10 B 5/1); quartz, hornblende abundant	
73									
74								GRANODIORITE; bluish gray (5 B 6/1); quartz, dark mineral, feldspar, hornblende	
75									
76	2	4.5/4.5	72	SW to F	R4				Fracture zone, slightly weathered 76.4 to 76.8 ft
77									
78									
79									
80									
81	3	5.0/5.0	100	F	R4				
82									
83									
84									Borehole ended on 8/9/06 Water at 36 ft during drilling
85									
86									
87									
88									
89									
90									
91									
92									
93									
94									
95									
96									
97									
98									
99									
100									
101									
102									
103									
104									
105									
106									
107									
108									
109									
110									
111									

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-423

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 77.4 feet
Drilling Contractor and Rig: MACTEC/Oglesby/219907 / CME 75	Elevation at Boring: 408 feet	Ground Water Depth: 29 feet	Depth to Bedrock: 67 feet
Sampling Method: Standard	Sample Driving Hammer/Drop: 140 lbs / 30 inches	No. of Samples: 17	Date Started: 8/9/06
	Borehole Inclination: 0	Logged by: J. Jordan	Date Completed: 8/10/06

Reviewed by / Date: M. Cooke 8/10/06
Reviewed by / Date: Clay Sams 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0											
1		SPT 1	4 5 6	14.5/18					ML	SILT (ML); reddish brown (2.5 YR 4/3); dry; stiff; slightly micaceous; RESIDUUM or FILL	May be fill or residuum to 5 ft
2		SPT 2	6 6 7	12/18						SAA; red (2.5 YR 4/6)	
3											
4		SPT 3	8 10 10	16/18						SAA; with quartz fragments	
5									ML	SILT (ML); red (10 R 4/8); damp; very stiff; micaceous; RESIDUUM	Residuum
6		SPT 4	12 19 19	15/18							
7											
8		SPT 5	9 9 12	15/18						SAA; more micaceous	
9											
10		SPT 6	6 7 7	12/18					ML	SILT (ML); reddish yellow (7.5 YR 6/6); dry; stiff; with notable saprolite structure; feldspar and quartz rich areas	Saprolite
11										SAA; very stiff	
12		SPT 7	8 11 9	15/18							
13											
14											
15											
16											
17											
18		SPT 8	12 12 14	14/18						SILT (ML); reddish yellow (7.5 YR 6/6); damp; very stiff; mica, quartz, feldspar rich areas; SAPROLITE	
19											
20											
21											
22											
23		SPT 9	5 8 9	15/18							
24											
25										SILT sandy (ML); strong brown (7.5 YR 5/6); damp; very stiff; micaceous	
26											
27											
28											
29		SPT 10	5 6 9	15/18					▽	SAA; very micaceous	
30											
31											
32											
33											
34		SPT 11	6 6 7	9/18						SILT (ML); strong brown; damp; stiff; mica, iron, some feldspathic areas, very micaceous; SAPROLITE	
35											
36											
37											
38											
39		SPT 12	7 9 11	14/18						SAA	
40											

Project Name : Job Number

MACTEC

SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-423

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
40										SILT sandy (ML); strong brown (7.5 YR 5/6); damp; very stiff; micaceous *(Continued from previous page)*	
44		SPT 13	7 10 12	13/18						SAA	
49		SPT 14	9 14 13	9/18						SILT sandy (ML); strong brown; wet; very stiff; saprolitic structure; quartz, feldspar, iron, mica	
54		SPT 15	12 12 22	7/18						SAA; hard	
59		SPT 16	11 18 20	14/18						SAA; hard	
62									SM	SAND silty (SM); brown (7.5 YR 5/2); wet; dense; quartz feldspar; dark minerals; relict rock structure; PARTIALLY WEATHERED ROCK	Partially weathered rock
64		SPT 17	14 16 26	9/18						Tricone refusal, see rock log	
80											

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

ROCK LOG - Boring No. B-423

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 77.4 feet
Drilling Contractor and Rig: MACTEC/Oglesby/219907 / CME 75	Elevation at Boring: 408 feet	Ground Water Depth: 29 feet	Depth to Bedrock: 67 feet
Casing Size and Depth: 3.5 / 67 feet	Length of Core Barrel and Bit	No. of Core Boxes	Date Started: 8/9/06
	Borehole Inclination: 0	Logged by: J. Jordan	Date Completed: 8/10/06

Reviewed by / Date: M. Cooke 8/10/06

Depth (feet)	Run No.	Recovery / Cut	% RQD	Weathering	Strength	In-Situ Testing	Lithology	Lithology	Remarks
67				SW				QUARTZ DIORITE; dark greenish gray (10 Y 4/1); massive with few quartz filled veins	Tricone refusal on 8/9/06
68								Quartz vein filled	
69									
70	1	6.0/6.0	100	F	R4			Quartz vein thin 70° dip	
71									
72									
73								Quartz veins filling 70°	
74									
75	2	4.0/4.0	92	F	R4			1 inch thick vein filled	
76									
77								Quartz veins	
78									Borehole terminated at 77.4 ft on 8/10/06; water at 29 ft during drilling
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									
89									
90									
91									
92									
93									
94									
95									
96									
97									
98									
99									
100									
101									
102									
103									
104									
105									
106									
107									

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-424

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 60.7 feet
Drilling Contractor and Rig: MACTEC/Cain/100 / D 50	Elevation at Boring: 387.3 feet	Ground Water Depth	Depth to Bedrock: 48.9 feet
Sampling Method: Standard	Sample Driving Hammer/Drop: 140 lbs / 30 inches	No. of Samples: 13	Date Started: 8/5/06
	Borehole Inclination: 0	Logged by: M. Harvey	Date Completed: 8/8/06

Reviewed by / Date: M. Cooke 8/20/06
Reviewed by / Date: Clay Lam 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0-1		SPT 1	3 5 7	18/18					ML	SILT (ML); red (10 R 4/6); dry; stiff	Residuum
2-3		SPT 2	5 9 15	18						SAA; very stiff	
4-5		SPT 3	5 11 17	18						SAA	End of day 8/5/06 Begin day 8/8/06
6-7		SPT 4	4 6 10	18						SAA	
8-9		SPT 5	5 8 14	18						SAA; red (2.5 YR 4/6)	
10-11		SPT 6	5 10 14	18						SAA; red (2.5 YR 4/8); dry; micaceous	
12-13		SPT 7	4 6 9	18						SAA	
14-15											
16-17											
18-19		SPT 8	3 5 9	18						SAA; orange brown (5 YR 5/4); dry; stiff; micaceous	
20-21											
22-23									SM	SAND silty (SM); pale yellow orange (10 YR 7/6 to 10 YR 8/4); moist; medium dense; SAPROLITE	
24-25		SPT 9	5 5 7	18							Saprolite first occurrence
26-27											
28-29		SPT 10	4 5 9	18						SAA; pale brown (10 YR 6/4); micaceous	
30-31											
32-33											
34-35		SPT 11	4 8 10	18						SAA; brown (10 YR 5/4); dry; medium dense; micaceous	
36-37											
38-39		SPT 12	9 14 21	14/18						SAA; black and beige (7.5 YR 6/8 and 7.5 YR 8/2); dry; dense; micaceous	
40											

Project Name : Job Number

MACTEC

SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-424

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
40										SAND silty (SM); pale yellow orange (10 YR 7/6 to 10 YR 8/4); moist; medium dense; SAPROLITE *(Continued from previous page)*	
41											
42											
43											
44		SPT 13	9 14 21	14/18						SAA; black and brown (2 Gley 3/1/5G, 7.5 YR 8/2, 7.5 YR 6/8); moist	
45											
46											
47											
48											
49										BORING TERMINATED at 48.9 ft, see rock log	
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											
61											
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80											

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

ROCK LOG - Boring No. B-424

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Cooling Tower		Total Depth: 60.7 feet
Drilling Contractor and Rig: MACTEC/Cain/100 / D 50	Elevation at Boring: 387.3 feet	Ground Water Depth	Depth to Bedrock: 48.9 feet
Casing Size and Depth: 3.5 / 48.9 feet	Length of Core Barrel and Bit	No. of Core Boxes	Date Started: 8/5/06
	Borehole Inclination: 0	Logged by: M. Harvey	Date Completed: 8/8/06

Reviewed by / Date: M. Cooke 8/20/06

Depth (feet)	Run No.	Recovery / Cut	% RQD	Weathering	Strength	In-Situ Testing	Lithology	Lithology	Remarks
49–50	1	1.8 / 1.8	92	SW	R3			MIGMATITE; fine grained granodiorite with amphibolite xenoliths and quartz dikes, and quartz diorite and hornblende gneiss xenoliths	Refusal on 8/8/06 at 48.9 ft
51–52	2	5.0 / 5.0	100	SW	R3			Near vertical dike weathered away; quartz partly healed	
53–55				F	R4				
56–58	3	5.0 / 5.0	87	F	R4			CORING TERMINATED at 60.7 ft	Recovery run #3 counted 0.3 ft left in hole
59–60									Borehole terminated at 60.7 ft on 8/8/06
61–88									

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-501

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch	Boring Location: Makeup Water Structure		Total Depth: 80 feet
Drilling Contractor and Rig: MACTEC/White/331145 / CME 55 LC	Elevation at Boring: 430 feet	Ground Water Depth: 20.4 feet	Depth to Bedrock
Sampling Method: Standard	Sample Driving Hammer/Drop: 140 lbs / 30 inches	No. of Samples: 25	Date Started: 7/22/06
	Borehole Inclination: 0	Logged by: M. Harvey/C. Gandy	Date Completed: 7/26/06

Reviewed by / Date: M. Cooke 8/4/06
Reviewed by / Date: Clay Sams 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0–1		SPT 1	10 13 16	14/18					ML	SILT (ML); red and brown (10 R 4/8 and 10 YR 6/4); dry; very stiff; with trace gravel and organics (small roots); FILL	Fill
2–3		SPT 2	6 9 12	15/18					SM	SAND silty, clayey (SM); brown, gray (10 YR 5/3); dry to moist; medium dense	
4–5		SPT 3	7 9 11	10/18						SAA	
6–7		SPT 4	3 3 2	0/18						No recovery	MACTEC Diedrich D50, Cain serial # 100 use to drill 0 to 11 ft; MACTEC Raleigh CME 55 LC, White serial # 331145 use to drill deeper than 11 ft
8–9		SPT 5	5 15 14	7/18						SAA	
10–11		SPT 6	50/3	5/3					SM	SAND silty (SM); reddish brown (2.5 YR 4/4); moist; very dense due to gravel; with 1 inch diameter gravel; non plastic; organics; FILL	Refusal in rubble fill 7/22/06 at 11 ft Offset 10 ft; retry; refusal at offset on 7/22/06
12–13		SPT 7	1 2 2	4/18						SAA; reddish brown (5 YR 4/4); very loose	Begin day 7/25/06; used casing advancing for CME 55 LC MACTEC Raleigh
14–15		SPT 8	1 1 1	6.5/18						SAA; very loose	
16–17		SPT 9	0 1 1	4/18					SP	SAND (SP); yellowish red (5 YR 5/8); wet; very loose; non plastic; organics; no silt; FILL	
18–19		SPT 10	1 2 1	10/18					ML	SILT sandy (ML); strong brown (7.5 YR 5/6); very soft; moist to wet; low plasticity; 65% silt, 35% sand; organics; FILL	
20–21		SPT 11	3 2 4	18/18						SILT sandy, gravely (ML); brown (7.5 YR 5/4); moist; medium stiff due to gravel; low plasticity; gravel ~1 inch in diameter; FILL	
22–23		SPT 12	2 3 3	18/18					CL-ML	CLAY sitly (CL-ML); dark reddish brown; (2.5 YR 3/4); moist; medium stiff; medium plasticity; 70% clay, 25% silt; 5% sand; micaceous; RESIDUUM	Bottom of fill, top of residuum
24–25		SPT 13	3 4 5	18/18						SAA; dark red (2.5 YR 3/6); damp; stiff; medium plasticity; ~50/50% clay and silt; increasing mica content; RESIDUUM	
26–27		SPT 14	3 2 3	18/18						CLAY, silty, sandy (CL-ML); damp to moist; medium stiff; 45% clay, 45% silt, 10% sand; micaceous	End of day 7/25/06 Begin day 7/26/06
28–29		SPT 15	1 3 3	16/18						SAA; yellowish red (5 YR 4/6); damp; medium stiff; medium plasticity	

Project Name : Job Number

MACTEC

SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-501

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
40									SM	SAND silty, gravely (SM); red (2.5 YR 4/8); wet; medium stiff; 80% sand, 20% silt; non plastic; micaceous; gravel ~1 inch diameter	
41											
42											
43									ML	*(Continued from previous page)*	Saprolite
44		SPT 16	3 3 5	18/18						SILT sandy (ML); reddish brown (5 YR 4/4); damp; medium stiff; low plasticity; 80% silt, 20% sand; micaceous; SAPROLITE	
45											
46											
47											
48											
49		SPT 17	5 5 8	18/18						SAA; very dark brown (7.5 YR 2.5/2) to light brown (7.5 YR 6/3); stiff	
50											
51											
52											
53											
54		SPT 18	5 12 20	18/18						SAA; except hard; 70% silt, 30% sand	
55											
56											
57											
58											
59		SPT 19	12 17 27	16/18						SAA	
60										SILT sandy (ML); black (7.5 YR 2.5/1); damp; hard; low plasticity; 80% silt, 20% sand; micaceous; SAPROLITE	
61											
62											
63											
64		SPT 20	24 50/6	11/12						SILT sandy (ML); light brown (7.5 YR 6/3); to black (7.5 YR 2.5/1)	
65											
66											
67											
68											
69		SPT 21	22 37 47	15.5/18						SAA	
70											
71											
72											
73											
74		SPT 22	39 50/4	11/10						SAA; pebble to gravel size clasts; angular ~20% volume	
75											
76											
77											
78											
79		SPT 23	22 27 50/2	12/14						SAA; strong brown (7.5 YR 5/6); 55% silt, 45% sand	
80											

Project Name : Job Number

MACTEC

SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-501

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
80										BORING TERMINATED at 80 ft	7/26/06; water level at 20.7 ft 7/27/06; water level at 20.4 ft Borehole terminated at 80 ft on 7/26/06
81											
82											
83											
84											
85											
86											
87											
88											
89											
90											
91											
92											
93											
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107											
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110											
111											
112											
113											
114											
115											
116											
117											
118											
119											
120											

Project Name : Job Number MACTEC SCE&G COL : 6234-06-3534	**SOIL LOG - Boring No. B-501A**		
Type and Diameter of Boring Mud Rotary / 3 7/8 inch	Boring Location Makeup Water Structure		Total Depth 10 feet
Drilling Contractor and Rig MACTEC/Cain/100	Elevation at Boring 430 feet	Ground Water Depth	Depth to Bedrock
Sampling Method No sampling	Sample Driving Hammer/Drop NA / NA	No. of Samples 0	Date Started 7/22/06
	Borehole Inclination 0	Logged by M. Harvey	Date Completed 7/22/06

Reviewed by / Date M. Cooke 8/4/06

Reviewed by / Date Clay Sann 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0										Drilled to 10 feet without sampling.	
10										Refusal in Rubble Fill at 10 feet. Boring Terminated at 10 feet.	

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-502

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch	Boring Location: Makeup Water Structure		Total Depth: 80 feet
Drilling Contractor and Rig: MACTEC/White/331145 / CME 55 LC	Elevation at Boring: 428.8 feet	Ground Water Depth: 9.7 feet	Depth to Bedrock
Sampling Method: Standard	Sample Driving Hammer/Drop: 140 lbs / 30 inches	No. of Samples: 26	Date Started: 7/22/06
	Borehole Inclination: 0	Logged by: M. Harvey/C. Gandy	Date Completed: 7/27/06

Reviewed by / Date: M. Cooke 8/2/06
Reviewed by / Date: Clay Sam 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0-1		SPT 1	10 9 10	12/18					SM	SAND silty (SM); brown, gray; dry; medium dense; FILL	Fill
1-2		SPT 2	9 9 11	18						SAA	
3-4		SPT 3	4 4 6	10/18						SAND silty (SM); gray (10 YR 6/2); dry; loose; fine sand; FILL	
5-6		SPT 4	4 2 3	9/18						SAA; brown (7.5 YR 6/4); moist; loose;	0 to 13.5 ft drilled by MACTEC Diedrich D 50, Cain serial #100; MACTEC Raleigh CME 55 LC, White serial # 331145 use to drill deeper than 13.5 ft
7-8		SPT 5	1 2 1	3/18					▽	SAA; very loose	
9-10		SPT 6	2 2 2	3/18						SAA	
11-12		SPT 7	7 3 4	4/18					SP-SM	SAND silty (SP-SM); brown (7.5 YR 5/4); moist; loose; non plastic; 90% sand, <10% silt; FILL	End of drilling 7/22/06 Cain Begin drilling 7/23/06 White
13-14		SPT 8	2 1 2	3/18						SAA; brown (7.5 YR 4/5); very loose; coarse sand; gravel, angular (~1 inch diameter)	
15-16		SPT 9	4 1 2	6/18						SAA; medium stiff	
17-18		SPT 10	3 3 2	4/18						SAA; except loose	
19-20		SPT 11	2 1 1	10/18					CL	CLAY sandy (CL); brown (7.5 YR 4/4); moist; very soft; medium plasticity; ~50% clay, ~50% sand; gravel (~1 inch diameter, angular); FILL	
21-22		SPT 12	3 4 3	6/18					SP-SM	SAND slightly silty (SP-SM); brown (7.5 YR 5/4); moist; loose; non plastic; ~90% sand; ~10% silt; FILL	
23-24		SPT 13	1 2 2	6/18						SAA; brown (7.5 YR 4/4); wet; very loose; gravel (~1 inch diameter, angular)	
25-26		SPT 14	2 1 2	11/18					CL	CLAY sandy (CL); brown (7.5 YR 5/4); moist; soft; medium plasticity; ~50% clay, ~50% sand; gravel (~1 inch diameter, angular); FILL	
27-28		SPT 15	2 2 1	13/18						SAA	
29-30		SPT 16	4 3 2	13/18						SAA; white (7.5 YR 8/1) to brown (7.5 YR 5/4); and medium stiff; no gravel	
31-32		SPT 17	4 3 2	14/18						SILT sandy (ML); brown (7.5 YR 5/4); damp; medium stiff; low plasticity; ~50% sand, 50% silt	

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-502

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
40										SILT sandy (ML); brown (7.5 YR 5/4); damp; medium stiff; low plasticity; ~50% sand, 50% silt *(Continued from previous page)*	
41											
42											
43											Bottom of fill, top of residuum
44	/	SPT 18	4 5 7	16/18					CL	CLAY (CL); dark red (2.5 YR 3/6); dry; stiff; medium plasticity; RESIDUUM	
45									ML	SILT (ML); dark red (2.5 YR 3/6); damp; medium stiff; medium plasticity; silt and clay >95%, <5% sand; micaceous; RESIDUUM	
46											
47											
48											
49	/	SPT 19	5 5 5	18/18							
50											
51											
52									ML	SILT sandy (ML); brown (7.5 YR 4/4); moist; medium stiff; low plasticity; silt 60%, sand 40%; micaceous; pyritic; SAPROLITE	Saprolite
53											
54	/	SPT 20	4 4 5	16.5/18							
55											End day 7/26/06; water level at 10.7 ft
56											Begin day 7/27/06; water level at 9.7 ft
57											
58											
59	/	SPT 21	8 9 12	16/18						SAA; light brown (7.5 YR 6/4) to black (7.5 YR 2.5/1); black soil is predominate; damp; very stiff; low plasticity; silt 80%, sand 20%; pyritic; micaceous; SAPROLITE	
60											
61											
62											
63											
64	/	SPT 22	15 15 28	16/18						SAA; hard	
65											
66											
67											
68											
69	/	SPT 23	17 19 24	15/18						SILT sandy (ML); black with white veins (7.5 YR 2.5/1); damp; hard	
70											
71											
72											
73											
74	/	SPT 24	17 24 37	17/18						SAA; white (10 R 8/1) to black (2.5 YR 2.5/1)	
75										SAA; brown (7.5 YR 4/3)	
76											
77											
78											
79	/	SPT 25	50/5	5/5						SILT (ML) black (2.5 YR 2.5/1); moist; silt >95%, sand <5%	
80											

Project Name : Job Number

MACTEC

SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-502

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
80										BORING TERMINATED at 80 ft	Drilling terminated on 7/27/06
81											
82											
83											
84											
85											
86											
87											
88											
89											
90											
91											
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120											

Project Name : Job Number
MACTEC
SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-601

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Switchyard		Total Depth: 85 feet
Drilling Contractor and Rig: MACTEC/Cain/100 / D 50	Elevation at Boring: 418.8 feet	Ground Water Depth:	Depth to Bedrock: 55.2 feet
Sampling Method: Standard	Sample Driving Hammer/Drop: 140 lbs / 30 inches	No. of Samples: 15	Date Started: 7/13/06
	Borehole Inclination: 0	Logged by: M. Harvey	Date Completed: 7/19/06

Reviewed by / Date: M. Cooke 8/4/06
Reviewed by / Date: Clay Sams 12/4/06

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
0-1		SPT 1	2 3 3	14/18					ML	SILT (ML); dark reddish brown (2.5 YR 2.5/4); dry; medium stiff; RESIDUUM	Residuum
2-3		SPT 2	5 7 13	12/18						SAA; dark reddish brown (2.5 YR 3/4); very stiff; RESIDUUM	
4-5		SPT 3	9 13 22	14/18						SILT clayey (ML); red (2.5 YR 4/6); dry; hard; RESIDUUM	
6-7		SPT 4	8 13 21	16/18						SAA; trace mica; RESIDUUM	
8-9		SPT 5	7 10 16	14/18						SILT sandy (ML); red (5 YR 4/6); dry; very stiff; trace fine sand; micaceous	
10-11		SPT 6	5 9 12	12/18						SAA	
12-13		SPT 7	4 6 9	9/18					SM	SAND silty (SM); dark yellowish brown (10 YR 4/4); dry; medium dense; micaceous	
14-15									ML	SILT sandy (ML); brown (7.5 YR 5/8); dry; stiff; micaceous	
16-17											
18-19		SPT 8	3 4 7	9/18							
20-21											
22-23											
24-25		SPT 9	2 4 8	11/18					ML	SILT (ML); brown (7.5 YR 5/8); stiff; manganese staining; trace sand; micaceous; SAPROLITE	Saprolite first occurrence
26-27											
28-29		SPT 10	4 6 8	11/18					ML	SILT (ML); yellowish reddish brown (5 YR 4/6, 7.5 YR 5/6); dry; stiff; some manganese staining; trace fine sand; micaceous	
30-31											
32-33											
34-35		SPT 11	6 9 12	3/18						SAA; light greenish gray (Gley 1 7/1/5GY); moist; very stiff	
36-37											
38-39		SPT 12	7 9 13	12/18						SAA; brown (7.5 YR 4/6); dry; very stiff; some fine sand; micaceous	
40											

Project Name : Job Number

MACTEC

SCE&G COL : 6234-06-3534

SOIL LOG - Boring No. B-601

Depth (feet)	Sample	Sample Type & No.	Uncorrected Blows/6 inches	Recovery (inches)	Water Content	Grain Size	Atterberg Limits	Lithology	Soil Type (USCS)	Lithology	Remarks
40										SILT (ML); brown (7.5 YR 5/8); stiff; manganese staining; trace sand; micaceous; SAPROLITE *(Continued from previous page)*	
41											
42											
43										SAND (SM); upper 7 inch, white with black and brown; medium to coarse grained; lower 3 inch, brown (2.5 Y 4/4); dry; very dense; SAPROLITE	
44		SPT 13	16 39 25	10 18							
45											
46											
47											
48											
49		SPT 14	50/2	2 2						SAND (SM); dark grayish black (Gley 1 3/N); medium to coarse grained; PARTIALLY WEATHERED ROCK	Partially weathered rock first occurrence
50											
51										Refusal at 55.2 ft, see rock log	
52											
53											
54		SPT 15	50/1	0 1						No recovery	
55											
56											
57											
58											
59											
60											
61											
62											
63											
64											
65											
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72											
73											
74											
75											
76											
77											
78											
79											
80											

Project Name : Job Number

MACTEC

SCE&G COL : 6234-06-3534

ROCK LOG - Boring No. B-601

Type and Diameter of Boring: Mud Rotary / 3 7/8 inch/NQ	Boring Location: Switchyard		Total Depth: 86 feet
Drilling Contractor and Rig: MACTEC/Cain/100 / D 50	Elevation at Boring: 418.8 feet	Ground Water Depth	Depth to Bedrock: 55.2 feet
Casing Size and Depth: 3.8 / 55.2 feet	Length of Core Barrel and Bit: 13 feet	No. of Core Boxes: 2	Date Started: 7/13/06
	Borehole Inclination: 0	Logged by: M. Harvey	Date Completed: 7/19/06

Reviewed by / Date: M. Cooke 8/4/06

Depth (feet)	Run No.	Recovery / Cut	% RQD	Weathering	Strength	In-Situ Testing	Lithology	Lithology	Remarks
56–60	1	4.0/5.0	0	HW	R2			QUARTZ DIORITE; highly weathered to 63 ft Fracture zone from 55.2 to 63 ft	Tricone refusal at 55.2 ft, see rock log
61–62	2	4.0/5.8	46.5	HW	R2				
63–66				F	R4			QUARTZ DIORITE; dark gray (Gley 2 6/1, 5 PB to 2.5/1 5/1); average (4/1/5PB)	
67–70	3	5.0/5.0	100	F	R4			SAA; lighter color than above, high angle quartz dikes (2 Gley 8/1/5PB to 2.5/1/5PB, 6/1/5PB average)	
71–74	4	5.0/5.0	100	F	R4			Quartz seam to granite pegmatitte, with chlorite, 9 inch, 70° Quartz diorite with high angle quartz seams nearly vertical	
75								MIGMATITE; quartz dike with chlorite and chalcopyrite, hornblende gneiss	
76–81	5	5.0/5.0	100	F	R4			QUARTZ DIORITE; medium grained; blue, gray to black with high angle quartz seams	
82–83								MIGMATITE	
83–86	6	5.0/5.0	100	F	R4			QUARTZ DIORITE; medium grained CORING TERMINATED at 86 ft	Coring terminated on 7/19/06
87–95									