TRIAXIAL TEST: Specimen Calculations & Summary(1)

Project Number: 0411-08-1701 | Cell No.: TRX 4 | File Name: B630_UD12a
Task Number: NA | Specific Gravity: 2.700 [ ] Measured; [X] Assumed
Boring No.: B630 | Sample No.: UD12 | Specimen No.: a | Depth (ft): 178.90
Type Test: CIU Triaxial | Specimen: [X] "Undisturbed"; [ ] Reconstituted; [ ]
Calculations Corr. for Salt (dissolved solids): [X] No or, [ ] Yes, with concentration = _____ ppm

	Inital Water Contents (WC), (W_o) over Saturation, (S_o), in (%):						Calculated Mass of Dry Soil (g)	
	Top, $W_{o,1}$	Botttom, $W_{o,2}$	Sides, $W_{o,3}$	Avg., $W_{o,avg}$	Selct., $W_{o,s}$	Back Cal., $W_{o,bc}$	Initial Selected WC, w_o (%)	30.13
W_o	30.36	31.10	28.92	30.13	30.13	31.01	Initial , $M_{d,o}$	336.97
S_o	91.0	92.1	88.8	90.7	90.7	92.0	Final, $M_{d,at}$	334.71
	Measured final mass of moist soil, $M_{t,at}$ (g)					442.86	Selected, M_d	334.71
	Final mass of moist soil corrected for excess dry soil, $M_{tat,c}$ (g)					442.86		

Consolidation Data	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	
Changes in Height (mm) and Volume (cm^3) Within Given Consolidation Stages/Columns	At Initial Seating Stress	During Back-Pressuring	1st Consol. Increment (1)	Column 2 or 3 to 1st Test Stage (1)	Column 4 to 2nd Test Stage	Column 5 to 3rd Test Stage	Column 6 to 4th Test Stage	
Sign Convention: (+) Deformation in compression or Flow out of spec.; (-) Deformation in extension (swell) or Flow into spec.								
Change in Height, $\Delta H_{c,n}$	0.00	0.08		0.19	NA	NA	NA	
Sum of changes in burette readings, $\Delta b_{r,n}$ (+ out)	1.65			2.09	NA	NA	NA	
(- in)		-5.33	NA	22.00	NA	NA	NA	(2)
Theoretical $\Delta V_{ct,n} = (3V_o \times \Delta H_{c,n}/H_o)$	0.02	0.52		1.18	NA	NA	NA	
Vol. Factor, $F_v = \Delta b_{r,n} / \Delta V_{t,n}$				1.78	NA	NA	NA	
Corrected $\Delta V_{ct,n} = F_v \times \Delta V_{t,n}$			NA	0.00	NA	NA	NA	(3)
Selected $\Delta V_{c,n}$	1.65	0.52		2.09	NA	NA	NA	

Summary For Test Stages					
Test Stage:	1st = 1	2nd = 2	3rd = 3	4th = 4	
Cell Pressure, $\sigma_{c,n}$ (psi)	104.70	NA	NA	NA	Number of
Back Pressure, $U_{b,n}$ (psi)	70.12	NA	NA	NA	Test Stages = 1
Axial Force Reading, $P_{r,n}$ (lbf)	22.95	NA	NA	NA	
Eff. Consol. Stress (σ'_c or $\sigma'_{v,c}$) (4), (ksf)	5.08	NA	NA	NA	
t_c, ON or in [X] days [ ] hrs	2.00	NA	NA	NA	

At Final Test Stress/Stage - Summary of Calculation of ΔV_c (cm^3) by Different Procedures					
By Selected Volumes	By Saturation = 100 %	By Change in Mass (5)	For Diff. in Meas. Vol. (V_o-V_{at}),	For Selected ΔV_c, required	
ΔV_c = 4.26	ΔV_c = 4.66	ΔV_c = 0.96	& corr. for ΔH_{td} ΔV_c= NA	G_s for S_c = 100 %:	2.691

At Final Test Stress/Stage - Consolidation Conclusions					
$\Delta H_{c,f}$ (mm) = 0.28	$\Delta V_{c,f}$ (cm^3) = 4.26	Back Cal. G_s for S=100% = 2.691	Normalized	Ht. Ch. (%) =	-1.23
$\varepsilon_{ac,c}$ (%) = 0.24	$\varepsilon_{vc,f}$ (%) = 1.80		Diff. in:	Vol. Ch. (%) =	

Summary of Specimen Physical Properties											
Specific Gravity: G_s = 2.700	Height	Volume	Area	Water Content	Unit Weight		Saturation	Void Ratio	Volumetric Water	Porosity	Skempton B para-
Condition:	(mm)	(cm^3)	(cm^2)	(%)	Total (pcf)	Dry (pcf)	(%)	e	Content	n	meter %(6)
Initial:	115.36	237.19	20.56	31.01	115.41	88.09	92.0	0.910	0.4383	0.476	95.0
After to 1st σ'_c	115.08	232.93	20.24	32.31	118.69	89.70	99.6	0.876	0.4651	0.467	NM
Consol.: to 2nd σ'_c											
to 3rd σ'_c											
to 4th σ'_c											

Notes: (1) If the consol. stress in the 1st consol. increment & 1st test stage are equal, log the data in Column 4.

(2) The height changes occuring within each shearing and unloading stage (1 - 4) are recorded in these rows (after Column 3).

(3) The volume changes occuring within each shearing and unloading stage (1 - 4) are calculated/recorded in these rows (after Column 3).

(4) Stresses are corrected for membrane. (5) ~ $M_{t,o}$-($M_{tat,c}$+ρ_{water}x$\Delta V_{in,column1\&2}$)

(6) Initial value is after back pressuring

NA - Not Applicable ON - Over Night; WC - Water Content Remarks: NM = Not Measured

Calculated By: TP Reviewed By: JM

TRIAXIAL TEST: Specimen Calculations Summary(2)

Project Number: 0411-08-1701 | Test Type: CIU Triaxial | App. No.: TRX 4 | File Name: B630_UD12a

Project Name: Turkey Point COL | Task No.: NA | Test No.: 0 | Test Series for: 0

X Tube ☐ Field Extruded	☐ Liner ☐ Remolded	☐ Tamping	☐ Constant Effort:	Blows/Tamps per Layer =	
Boring No.: B630	☐ Reconstituted	☐ Impact/Rammer	Rammer Wgt.(lbf)= ☐		No. Layers =
Sample No.: UD12	Compostite No.:	☐ Pluviated:	Tamper Force (lbf)= ☐		Drop (in.) =
Depth (ft): 178.9	Specimen No.: a	☐ Kneading	☐ Undercompaction:	U_{ni} (%) =	Dia. (in.) =
☐ Spec. Selection by X-ray;	☐ Geomarine Sample		Ref. Effort =	% Comp. =	± Opt. =

Type Consolidation	X	Isotropic		K_o stress path	X	Used automated system	Drained Axial Strain Rate, $\varepsilon_{a,rate}$ (%/hr.)=?Value											
		Anistropic		45° stress path		Remarks:												
Loading Conditions	X	Static	X	Undrained	X	Comp.	X	Strain ☐ Stress	X	Constant Cell pressure		☐ Cyclic (Hz)		☐ Stress ☐ Strain				
		Post Cyclic		Drained		Ext.		Stress Path		Variable Cell pressure		Rate: ☐ 0.1;		☐ 1; Other:				

Specific Gravity: G_s = 2.700	Height	Volume	Area	Water Content	Unit Weight Total	Unit Weight Dry	Saturation	Void Ratio	Skempton B para-
Condition:	(mm)	(cm^3)	(cm^2)	(%)	(pcf)	(pcf)	(%)	e	meter %(1)
Initial:	115.36	237.19	20.56	31.01	115.41	88.09	92.00	0.91	95.0
After to 1st σ'_c	115.08	232.93	20.24	32.31	118.69	89.70	99.62	0.88	NM
Consol.: to 2nd σ'_c									
to 3rd σ'_c									
to 4th σ'_c									

Unit for Stresses: (ksf)

Consolidation Stress Summary and Loading Summary					
Item	Unit	1st Stage	2nd Stage	3rd Stage	4th Stage
Axial Strain during Consol., $\varepsilon_{a,c}$:	%	0.241	NA	NA	NA
Vol. Strain during Consol., $\varepsilon_{v,c}$:	%	1.796	NA	NA	NA
Effective Vertical Stress, σ'_v	(ksf)	5.081	NA	NA	NA
Effective Horizontal Stress, σ'_h:	(ksf)	4.992	NA	NA	NA
Consol. Stress Ratio, k (σ'_h / σ'_v) :	-	0.982			
Induced OCR :	-	1.00	NA	NA	NA
Eff. Average Stress, (σ'_v + σ'_h)/2 :	(ksf)	10.072			
Eff. Mean Stress, (σ'_v + 2*σ'_h)/3 :	(ksf)	5.021			
Undr. Ambient Shear Stress, τ_{ba} :	(ksf)	NA	NA	NA	NA
Undr. Ambient Shear Strain, $\varepsilon_{a,ua}$	%	NA	NA	NA	NA

Notes: See Fugro South, Inc. Notation Listing for definition of symbols and acronyms.

(1) Initial B is after saturation

NA - Not Applicable

Membrane Correction	
Type:	Bulge
Modulus:	150.0 psi
Diameter:	47.27 mm
Thickness:	0.31 mm

Area Correction		
Type:	Bulge	
Stage	Area Corr. Const.:	Final Area (cm^2):
1st	1.520	28.99
2nd		
3rd		
4th		

Filter Paper Correction			
Type:	None	Type Strips:	Sprial #1
Strips:	8		
Force:	0.000 lbf/strip		

Final Visual Description and Remarks: Sandy Silt (ML), greenish gray

Loading Summary							
Stage	Stress Status	ε_a (%)	q (ksf)	p' (ksf)	ΔU (ksf)	σ_1' (ksf)	σ_3' (ksf)
1st	Max Shear Stress	3.23	3.913	6.794	2.112	10.707	2.881
	Max Obliquity	2.33	3.804	6.556	2.240	10.360	2.753
2nd	Max Shear Stress						
	Max Obliquity						
3rd	Max Shear Stress						
	Max Obliquity						
4th	Max Shear Stress						
	Max Obliquity						

Remarks: NM = Not Measured

STAGE 1

Project: 0411-08-1701 Boring No.: B630 Depth (ft.): 178.90
Test Type: CIU Triaxial Sample No.: UD12 Stage No.: 1
Specimen No.: a

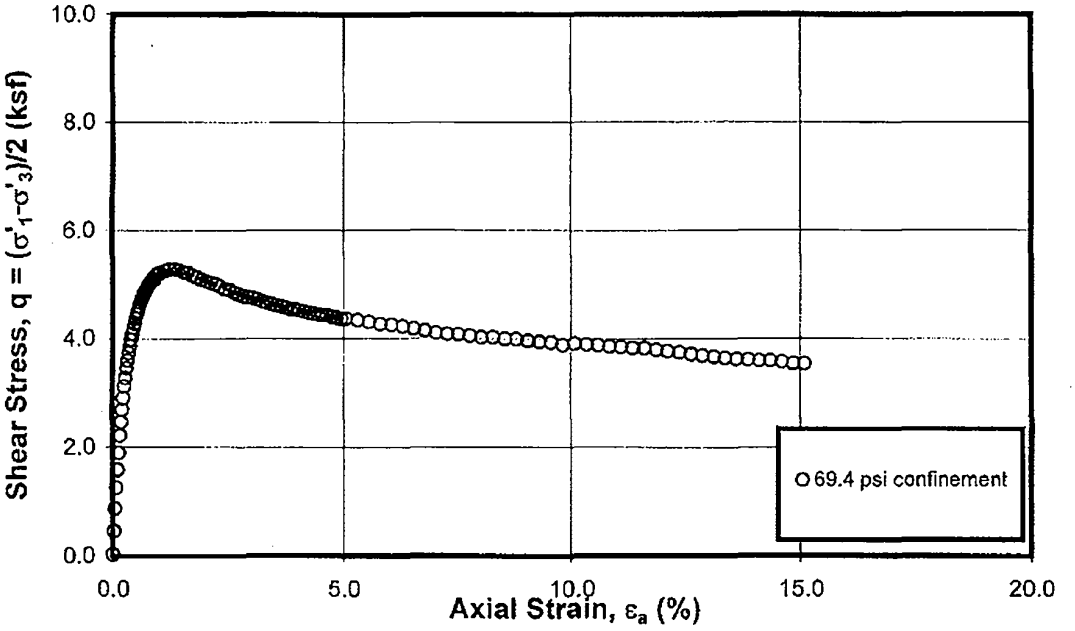
Elapsed Time (min)	Axial Strain ε_a (%)	q (ksf)	p' (ksf)	Excess PWP, ΔU (ksf)	Volume Change (cm^3)	Obliquity σ'_1/σ'_3 -	A_f -	E_S (ksf)	E_T (ksf)
0.0	0.000	0.045	5.036	0.000	0.000	1.018	0.000	-	-
0.8	0.025	0.102	5.075	0.022	0.000	1.041	0.163	460.1	400.3
1.5	0.050	0.145	5.073	0.058	0.000	1.059	0.314	400.5	458.5
2.3	0.075	0.217	5.137	0.076	0.000	1.088	0.207	459.3	513.2
3.0	0.100	0.274	5.128	0.130	0.000	1.113	0.299	456.9	644.3
3.8	0.125	0.379	5.183	0.183	0.000	1.158	0.280	533.3	976.4
4.5	0.150	0.518	5.220	0.282	0.000	1.220	0.306	630.0	1144.1
5.3	0.175	0.665	5.278	0.372	0.000	1.288	0.305	707.7	1046.6
6.0	0.200	0.781	5.271	0.497	0.000	1.348	0.341	734.2	1128.1
6.8	0.225	0.947	5.313	0.619	0.000	1.434	0.347	800.9	1273.7
7.5	0.251	1.100	5.326	0.765	0.000	1.520	0.363	842.0	1131.1
8.3	0.276	1.231	5.331	0.889	0.000	1.601	0.376	861.1	1027.4
9.0	0.301	1.357	5.315	1.038	0.000	1.686	0.394	872.9	863.9
9.8	0.326	1.448	5.301	1.141	0.000	1.752	0.406	861.5	811.0
10.5	0.351	1.560	5.300	1.253	0.000	1.835	0.413	864.1	713.6
11.3	0.376	1.627	5.278	1.342	0.000	1.891	0.424	841.8	573.5
12.0	0.401	1.704	5.250	1.448	0.000	1.961	0.436	827.7	764.6
12.8	0.426	1.819	5.281	1.532	0.000	2.051	0.431	832.7	694.3
13.5	0.451	1.878	5.259	1.614	0.000	2.111	0.439	813.0	548.0
14.3	0.476	1.956	5.262	1.685	0.000	2.184	0.441	802.8	619.1
15.0	0.501	2.034	5.268	1.761	0.000	2.258	0.442	793.5	460.7
15.8	0.526	2.072	5.256	1.808	0.000	2.301	0.446	770.2	402.7
16.5	0.551	2.135	5.256	1.878	0.000	2.368	0.447	758.0	416.8
17.3	0.577	2.176	5.255	1.914	0.000	2.414	0.449	739.5	474.1
18.0	0.602	2.254	5.272	1.979	0.000	2.493	0.447	734.4	511.8
18.8	0.627	2.305	5.293	2.006	0.000	2.543	0.443	721.2	359.7
19.5	0.652	2.344	5.287	2.050	0.000	2.593	0.445	705.5	418.5
20.3	0.677	2.410	5.325	2.077	0.000	2.653	0.439	698.8	407.3
21.0	0.702	2.446	5.319	2.123	0.000	2.703	0.441	684.2	299.6
21.8	0.727	2.485	5.332	2.147	0.000	2.746	0.439	671.2	410.2
22.6	0.752	2.549	5.362	2.183	0.000	2.813	0.435	665.9	390.4
23.3	0.777	2.583	5.379	2.198	0.000	2.848	0.432	653.1	311.2
24.1	0.802	2.627	5.392	2.226	0.000	2.900	0.431	643.7	333.8
24.8	0.828	2.667	5.409	2.250	0.000	2.945	0.429	633.7	303.9
25.6	0.853	2.704	5.435	2.259	0.000	2.980	0.425	623.7	243.4
26.3	0.878	2.728	5.447	2.271	0.000	3.007	0.424	611.4	170.9
27.1	0.903	2.747	5.458	2.284	0.000	3.026	0.422	598.5	330.6
27.8	0.928	2.811	5.483	2.320	0.000	3.104	0.419	596.2	385.9

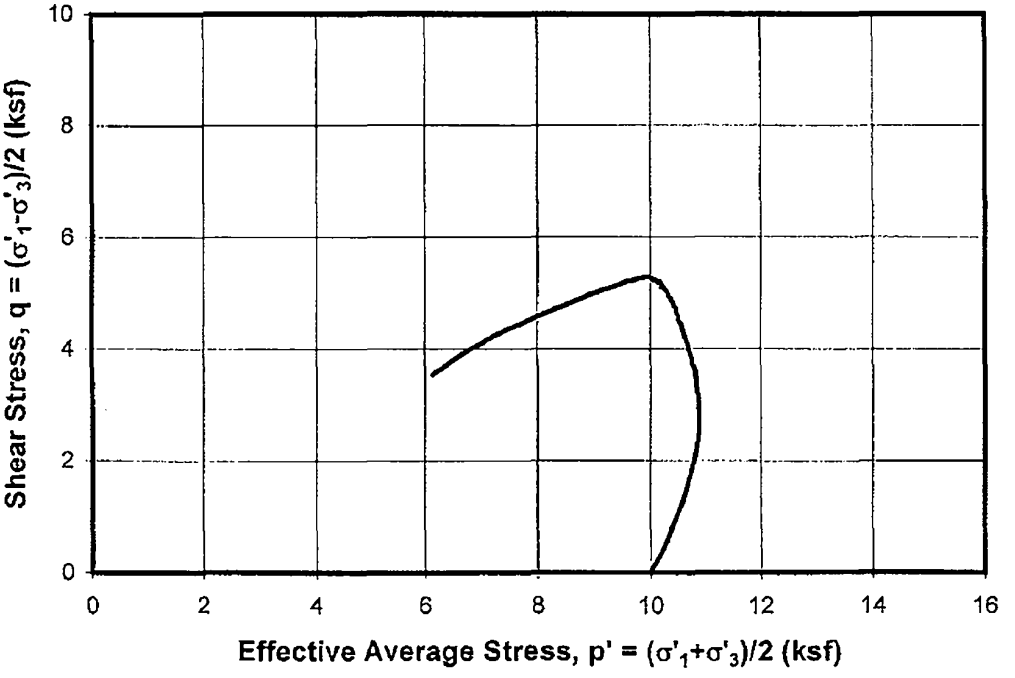
STAGE 1

Elapsed Time (min)	Axial Strain ε_a (%)	q (ksf)	p' (ksf)	Excess PWP, ΔU (ksf)	Volume Change (cm^3)	Obliquity σ'_1/σ'_3 -	A_f -	E_S (ksf)	E_T (ksf)
28.6	0.953	2.843	5.518	2.317	0.000	3.127	0.414	587.3	281.4
29.3	0.978	2.882	5.547	2.328	0.000	3.162	0.410	580.0	290.4
30.1	1.003	2.916	5.564	2.344	0.000	3.203	0.408	572.4	218.6
30.8	1.029	2.937	5.575	2.361	0.000	3.226	0.407	562.3	200.7
33.8	1.129	3.057	5.674	2.376	0.000	3.336	0.394	533.9	235.5
36.8	1.229	3.172	5.776	2.388	0.000	3.437	0.382	509.1	199.5
39.8	1.329	3.257	5.867	2.386	0.000	3.496	0.371	483.4	188.9
42.8	1.429	3.361	5.970	2.382	0.000	3.577	0.359	464.2	176.1
45.8	1.529	3.433	6.046	2.380	0.000	3.628	0.351	443.2	147.0
48.8	1.629	3.509	6.136	2.362	0.000	3.671	0.341	425.2	121.1
51.8	1.729	3.555	6.197	2.347	0.000	3.691	0.335	405.9	80.4
54.8	1.829	3.589	6.257	2.330	0.000	3.690	0.328	387.5	116.6
57.8	1.930	3.671	6.356	2.308	0.000	3.735	0.318	375.9	113.3
60.8	2.030	3.703	6.402	2.294	0.000	3.743	0.313	360.4	65.8
63.8	2.130	3.737	6.463	2.267	0.000	3.743	0.307	346.7	71.2
66.8	2.230	3.774	6.512	2.253	0.000	3.756	0.302	334.4	66.2
69.8	2.331	3.804	6.556	2.240	0.000	3.764	0.298	322.6	45.5
72.8	2.431	3.819	6.591	2.224	0.000	3.756	0.294	310.6	37.3
75.8	2.531	3.841	6.627	2.201	0.000	3.758	0.291	300.0	40.5
78.8	2.631	3.860	6.669	2.183	0.000	3.748	0.286	290.1	32.7
81.8	2.731	3.874	6.700	2.168	0.000	3.742	0.283	280.4	13.2
84.8	2.831	3.873	6.711	2.157	0.000	3.729	0.281	270.5	11.0
87.8	2.931	3.885	6.736	2.141	0.000	3.725	0.279	262.0	29.7
90.8	3.031	3.903	6.761	2.142	0.000	3.731	0.276	254.6	26.6
93.8	3.132	3.911	6.787	2.118	0.000	3.720	0.274	247.0	9.8
96.9	3.232	3.913	6.794	2.112	0.000	3.716	0.273	239.4	-13.5
99.9	3.332	3.898	6.788	2.102	0.000	3.698	0.273	231.3	-12.3
102.9	3.432	3.900	6.793	2.093	0.000	3.697	0.272	224.7	-9.9
105.9	3.532	3.888	6.785	2.090	0.000	3.684	0.273	217.6	-16.9
108.9	3.633	3.884	6.782	2.097	0.000	3.680	0.273	211.4	-19.1
111.9	3.733	3.869	6.775	2.086	0.000	3.663	0.273	204.9	-0.2
114.9	3.833	3.883	6.778	2.094	0.000	3.683	0.273	200.3	-5.8
117.9	3.933	3.863	6.757	2.092	0.000	3.669	0.275	194.2	-34.7
120.9	4.033	3.849	6.749	2.094	0.000	3.654	0.275	188.6	-39.3
123.9	4.133	3.824	6.721	2.089	0.000	3.639	0.277	182.9	-8.0
126.9	4.233	3.841	6.731	2.101	0.000	3.658	0.277	179.3	3.1
20269.6	4.334	3.827	6.718	2.100	0.000	3.647	0.278	174.5	-12.6
20272.6	4.434	3.828	6.695	2.107	0.000	3.670	0.281	170.7	-23.2
20275.6	4.534	3.804	6.686	2.103	0.000	3.639	0.280	165.8	-32.8
20278.6	4.634	3.795	6.669	2.118	0.000	3.641	0.282	161.9	-14.6
20281.6	4.734	3.789	6.660	2.119	0.000	3.639	0.283	158.2	-14.4
20284.6	4.834	3.781	6.641	2.123	0.000	3.643	0.285	154.6	-18.5
20287.6	4.935	3.770	6.634	2.135	0.000	3.633	0.286	151.0	-24.4

STAGE 1

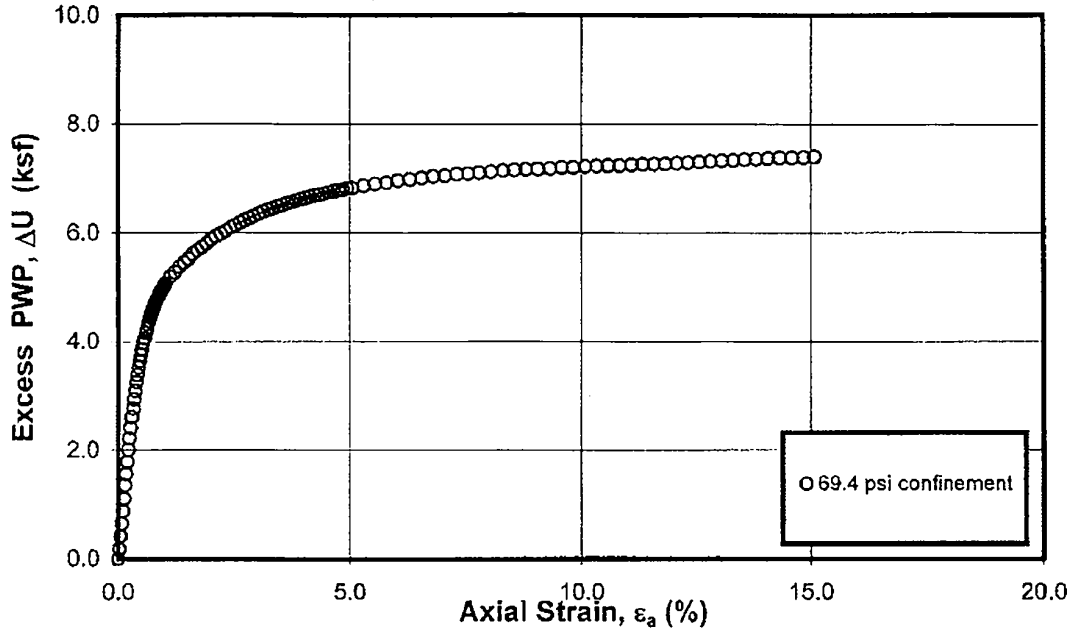
Elapsed Time (min)	Axial Strain ε_a (%)	q (ksf)	p' (ksf)	Excess PWP, ΔU (ksf)	Volume Change (cm^3)	Obliquity σ'_1/σ'_3 -	A_f -	E_S (ksf)	E_T (ksf)
20290.6	5.035	3.756	6.610	2.142	0.000	3.632	0.288	147.4	-19.6
20298.1	5.285	3.743	6.583	2.152	0.000	3.635	0.291	139.9	-13.1
20305.6	5.535	3.723	6.551	2.165	0.000	3.634	0.294	132.9	-14.5
20313.1	5.786	3.706	6.514	2.182	0.000	3.640	0.298	126.6	-19.1
20320.6	6.036	3.676	6.476	2.191	0.000	3.625	0.302	120.3	-16.9
20328.1	6.286	3.664	6.430	2.213	0.000	3.649	0.307	115.1	-20.9
20335.6	6.537	3.623	6.385	2.230	0.000	3.624	0.312	109.5	-20.2
20343.1	6.787	3.613	6.355	2.251	0.000	3.636	0.315	105.2	-15.0
20350.6	7.037	3.586	6.303	2.278	0.000	3.640	0.321	100.6	-28.2
20358.1	7.288	3.543	6.244	2.293	0.000	3.623	0.327	96.0	-27.1
20365.6	7.538	3.518	6.203	2.306	0.000	3.621	0.332	92.2	-20.7
20373.1	7.789	3.491	6.150	2.326	0.000	3.625	0.338	88.5	-23.6
20380.6	8.039	3.459	6.117	2.336	0.000	3.602	0.342	84.9	-17.8
20388.1	8.289	3.446	6.088	2.352	0.000	3.609	0.345	82.1	-16.6
20395.6	8.539	3.432	6.056	2.372	0.000	3.617	0.350	79.3	-17.3
20403.1	8.790	3.403	6.015	2.381	0.000	3.605	0.354	76.4	-12.9
20410.6	9.040	3.400	5.993	2.397	0.000	3.623	0.357	74.2	-20.1
20418.1	9.290	3.353	5.941	2.412	0.000	3.591	0.363	71.2	-18.2
20425.6	9.541	3.354	5.929	2.422	0.000	3.606	0.365	69.4	-9.1
20433.1	9.791	3.330	5.892	2.433	0.000	3.599	0.370	67.1	-13.0
20440.6	10.042	3.322	5.870	2.447	0.000	3.607	0.373	65.3	-10.1
20448.1	10.292	3.305	5.843	2.450	0.000	3.604	0.376	63.4	-17.6
20455.6	10.542	3.278	5.811	2.460	0.000	3.588	0.380	61.3	-9.5
20463.1	10.793	3.281	5.803	2.473	0.000	3.602	0.382	60.0	-8.2
20470.6	11.043	3.257	5.772	2.475	0.000	3.591	0.386	58.2	-14.5
20478.1	11.293	3.245	5.759	2.481	0.000	3.581	0.387	56.7	-11.7
20485.6	11.544	3.228	5.727	2.492	0.000	3.583	0.391	55.2	-25.3
20493.1	11.794	3.181	5.689	2.490	0.000	3.538	0.396	53.2	-14.0
20500.6	12.045	3.193	5.681	2.510	0.000	3.567	0.398	52.3	-3.7
20508.1	12.295	3.172	5.648	2.518	0.000	3.562	0.402	50.9	-15.7
20515.6	12.545	3.154	5.625	2.521	0.000	3.553	0.405	49.6	-25.1
20523.1	12.796	3.109	5.571	2.528	0.000	3.526	0.413	47.9	-23.0
20530.6	13.046	3.096	5.555	2.535	0.000	3.518	0.415	46.8	-7.2
20538.1	13.296	3.091	5.543	2.543	0.000	3.521	0.417	45.8	-17.1
20545.6	13.547	3.053	5.507	2.540	0.000	3.489	0.422	44.4	-19.3
20553.1	13.797	3.043	5.491	2.551	0.000	3.486	0.424	43.5	-8.5
20560.6	14.047	3.032	5.468	2.556	0.000	3.490	0.428	42.5	-11.3
20568.1	14.298	3.015	5.445	2.566	0.000	3.480	0.431	41.5	-10.5
20575.6	14.548	3.006	5.431	2.570	0.000	3.479	0.433	40.7	-16.3
20583.1	14.798	2.974	5.390	2.586	0.000	3.461	0.440	39.6	-14.7

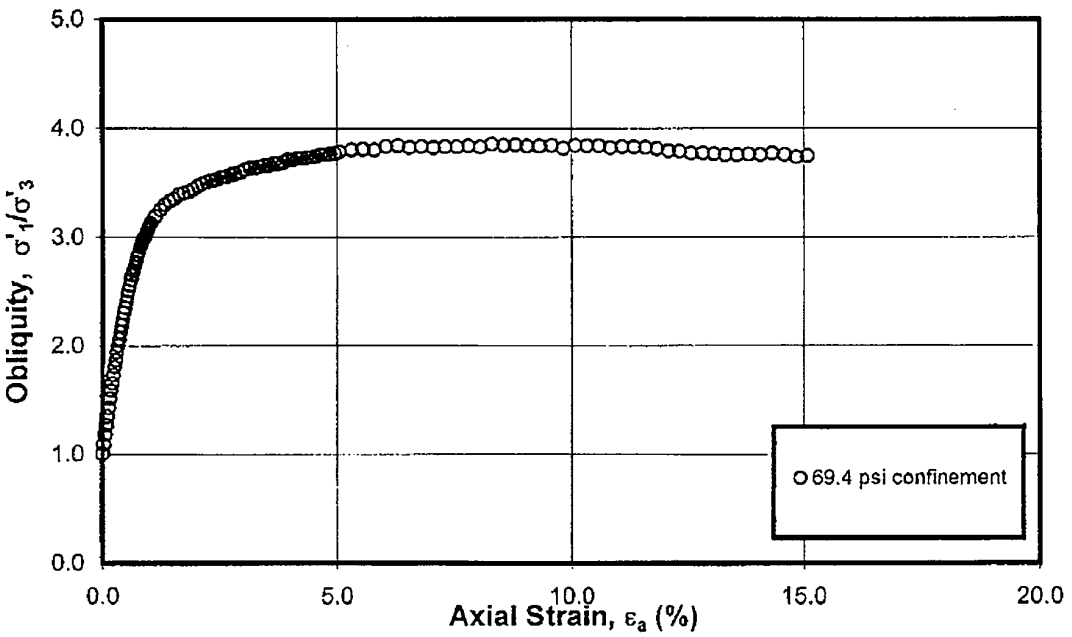




UNDRAINED TRIAXIAL COMPRESSION TEST
Isotropically Consolidated
Sample: UD12b - Depth: 179.30 ft
Boring B630

Reviewed By: JM





UNDRAINED TRIAXIAL COMPRESSION TEST
Isotropically Consolidated
Sample: UD12b - Depth: 179.30 ft
Boring B630

Reviewed By: JM.

TRIAXIAL TEST (ASTM D 4767): Specimen Setup / Take Down

Project Number: 0411-08-1701 | Test Type: CIU Triaxial | Cell No.: TRX-4 | File Name: B630_UD12b
Task No.: NA | Test Stress(es), σ'_c or $\sigma'_{v,c}$ = 10.00 , NA , NA & NA ksf
Project Name: Turkey Point COL | k ($\sigma'_{h,c}$ / $\sigma'_{v,c}$) = 1.00 | Induced OCR = 1.00 | K_{ua} ($\sigma_{d,ua}/2\sigma'_{v,c}$) = NA

Assig. Remarks: | Specific Gravity: 2.700 | [ ] Meas.; [X] Assumed

[X] Tube [ ] Field Extruded [ ] Liner [ ] Remolded	[ ] Tamping	[ ] Constant Effort:	Blows/Tamps per Layer =		
Boring No.: B630 [ ] Reconstituted	[ ] Impact/Rammer	Rammer Wgt.(lbf)=	No. Layers =		
Sample No.: UD12 Compostite No.:	[ ] Pluviated:	Tamper Force (lbf)=	Drop (in.) =		
Depth (ft): 179.30 Specimen No.: b	[ ] Kneading	[ ] Undercompaction: U_{ni} (%) =	Dia. (in.) =		
[ ] Spec. Selection by X-ray; [ ] Geomarine Sample		Ref. Effort =	% Comp. =	± Opt. =	

Type Consolidation :	[X] Isotropic [ ] Anistropic	[ ] K_o stress path [ ] 45° stress path	[X] Used automated system: Drained Axial Strain Rate, $\varepsilon_{a,rate}$ (%/h) = ?Value Remarks:													
Loading Conditions :	[X] Static [ ] Post Cyclic	[X] Undrained [ ] Drained	[X] Comp. [ ] Ext.	[X] Strain [ ] Stress [ ] Stress Path	[X] Constant Cell Pressure [ ] Variable Cell Pressure	[ ] Cyclic (Hz) Rate:	[ ] 0.1;	[ ] Stress [ ] Strain 1; Other:								

Water Content (WC);	Initial - Trimming Location			Final, W_{at}
	Top ($W_{o,1}$)	Bottom ($W_{o,2}$)	Sides ($W_{o,3}$)	(see below)
Container No	4049	4015	4187	824
Mass Moist Soil + Cont. (g)	41.17	50.35	92.19	97.24
Mass Dry Soil + Container (g)	38.41	45.27	77.48	81.88
Mass Container (g)	29.83	29.48	29.89	32.32
Water Content, $W_{o,n}$ (%)	32.17	32.17	30.91	30.99
Avg. Initial WC, $W_{o,avg}$ (%)	31.75	Final (W_{at}): [X] Slice ; [ ] Whole Spec.		

[ ] See attached data sheet(s) for additional water contents

SOIL MASSES:	Initial	Final
Moist + Tare (etc.)(g)	427.50	423.82
Tare (etc.) (g)	0.00	0.00
Mass Moist Spec., M_{tn} (g)	427.50	423.82
Excess Dry Soil (soil not included in final mass measurement)		
Container No.		NA
Mass Dry Soil + Cont. (g)		NA
Mass Container (g)		NA
Mass Excess Dry Soil, $M_{d,es}$ (g)		0.00

Specimen Dimensions, (mm)

	Height			Dia., X indicates with membrane			
	Initial (H_o)	Final (H_{at})		Initial (D_o)	Final (D_{at})		
GB	100.000	100.000	1 T	50.50	54.50		For
1	15.08	-1.22	2 M	50.50	57.50		Wedge
2	15.08	-1.03	3 B	50.50	51.00		Failure
3	15.03	-1.38	1'T				= d_{max}
4	15.06	-1.39	2'M				= d_{min}
5	15.06	-1.09	3'B				= Δd
Avg	115.06	98.78	Avg.	50.50	54.33		xxxxx

Measuring Devices:
PI Tape: [X] Dia
Calipers: [ ] Ht.; [ ] Dia
Dial Comparator [X] Ht.; [ ] Dia
Remarks:

$A_o = \pi D^2/400$ (cm^2)	20.03
V_o (cm^3)	230.46
$A_{atb,m} = \pi (D^*_{at})^2 /400$ (cm^2)	23.87
$A_{atw,m} = (d_{min}-2\Delta d)d_{max}\pi/400$ (cm^2)	NA
$D^*_{at} = (D_T+2D_M+D_B)/4$ (mm)	55.13

Estimated Initial Unit Weight

Total, $\gamma_{t,o}$ (lb/ft^3) = 115.80 | Dry, $\gamma_{d,o}$ (lb/ft^3) = 87.89

Membrane / Filter Paper / Apparatus

Membrane (mm):		Top	Bottom
Number: = 1	Thickness: [ ] Single; [X] Double	0.70	0.51
		0.69	0.52
	Circumference ($C_{rm,o}$)	148.0	149.0
		Total Thickness	Dia.($C_{rm,o}/\pi$)
	Average:	0.30	47.27

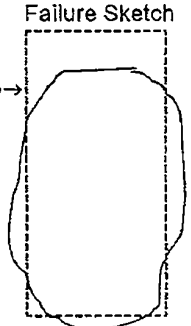
Filter Paper: Top + Bottom: [ ] Yes ; [X] No
Filter Strips: [X] Yes ; [ ] No Number = 8
Type of Filter Strips [ ] Vertical: ¼ in. & Whatman #54
[X] Spiral: ¼ in. & Whatman #1

Apparatus: Mass Top Cap, M_{tc} = 65.6 g, 0.14 lbf
Mass Displ. System, M_{ds} (cap, dial, piston, etc.) = NA g, NA lbf

[ ] Photo Taken.

Failure Sketch

ε_a=
20%→



[ ] See more detailed sketch on attached sheet.

Failure Mode:
[X] Bulge
[ ] Wedge
[ ] Parabolic
Wedge/Bulge Ht.= NA (mm)

NA - Not Applicable
GB - Gage Block
Other Remarks:

Top Cap Attached:	Piston Dia.(in.)				Load Cell:		
[X] Yes; [ ] No;	[X] ½;	[ ] ¾;	[ ]		[ ] External	[X] Internal	
Top Cap - Rotation	[X] Fixed, <1°;	[ ] Limited, <5°;	[ ] Unlimited, >5°				
With: [ ] Frictionless End Caps;	[ ] Lat. Movement Top Cap						
[ ] Internal LVDT Jacket							

Final Visual Classification: Sandy Silt (ML), greenish gray

Trimmed / Reconstituted By: VR | Set Up By: TP | Taken Down By: VR
Date: 7/31/2008 | Date: 7/31/2008 | Date: 8/12/2008
Prelim. Calc. By: TP | Final Calc. By: TP | Reviewed By: JM.

Remarks: NA = Not Applicable

TRIAXIAL TEST: Specimen Calculations & Summary(1)

Project Number: 0411-08-1701 | Cell No.: TRX-4 | File Name: B630_UD12b
Task Number: NA | Specific Gravity: 2.700 [ ] Measured; [X] Assumed
Boring No.: B630 | Sample No.: UD12 | Specimen No.: b | Depth (ft): 179.30
Type Test: CIU Triaxial | Specimen: [X] "Undisturbed"; [ ] Reconstituted; [ ]
Calculations Corr. for Salt (dissolved solids): [X] No or, [ ] Yes, with concentration = _____ ppm

	Inital Water Contents (WC), (W_o) over Saturation, (S_o), in (%):						Calculated Mass of Dry Soil (g)	
	Top, $W_{o,1}$	Botttom, $W_{o,2}$	Sides, $W_{o,3}$	Avg., $W_{o,avg}$	Selct., $W_{o,s}$	Back Cal., $W_{o,bc}$	Initial Selected WC, w_o (%)	31.75
W_c	32.17	32.17	30.91	31.75	31.75	32.13	Initial , $M_{d,o}$	324.48
S_o	94.4	94.4	92.5	93.8	93.8	94.3	Final, $M_{d,at}$	323.54
					Measured final mass of moist soil, $M_{t,at}$ (g)	423.82	Selected, M_d	324.48
					Final mass of moist soil corrected for excess dry soil, $M_{tat,c}$ (g)	423.82		

Consolidation Data	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	
Changes in Height (mm) and Volume (cm^3) Within Given Consolidation Stages/Columns	At Initial Seating Stress	During Back-Pressuring	1st Consol. Increment (1)	Column 2 or 3 to **1st Test** Stage (1)	Column 4 to **2nd Test** Stage	Column 5 to **3rd Test** Stage	Column 6 to **4th Test** Stage	
Sign Convention: (+) Deformation in compression or Flow out of spec.; (-) Deformation in extension (swell) or Flow into spec.								
Change in Height, $\Delta H_{c,n}$	-0.01	0.25		0.47	NA	NA	NA	
Sum of changes in (+ out)	5.31			13.75	NA	NA	NA	
burette readings, $\Delta b_{r,n}$ (- in)		-3.39	NA	16.31	NA	NA	NA	(2)
Theoretical $\Delta V_{ct,n} = (3V_o \times \Delta H_{c,n}/H_o)$	-0.03	1.50		2.85	NA	NA	NA	
Vol. Factor, $F_v = \Delta b_{r,n} / \Delta V_{t,n}$				4.82	NA	NA	NA	
Corrected $\Delta V_{ct,n} = F_v \times \Delta V_{t,n}$			NA	0.00	NA	NA	NA	(3)
Selected $\Delta V_{c,n}$	-0.03	-3.39		13.75	NA	NA	NA	

Summary For Test Stages					
Test Stage:	1st = 1	2nd = 2	3rd = 3	4th = 4	
Cell Pressure, $\sigma_{c,n}$ (psi)	119.47	NA	NA	NA	Number of
Back Pressure, $U_{b,n}$ (psi)	50.00	NA	NA	NA	Test Stages = 1
Axial Force Reading, $P_{r,n}$ (lbf)	1.91	NA	NA	NA	
Eff. Consol. Stress (σ'_c or $\sigma'_{v,c}$) (4), (ksf)	10.03	NA	NA	NA	
t_c, ON or in [X] days [ ] hrs	10.00	NA	NA	NA	

At Final Test Stress/Stage - Summary of Calculation of ΔV_c (cm^3) by Different Procedures					
By Selected Volumes	By Saturation = 100 %	By Change in Mass (5)	For Diff. in Meas. Vol. (V_o-V_{at}),	For Selected ΔV_c, required	
ΔV_c = 10.33	ΔV_c = 10.55	ΔV_c = 7.06	& corr. for ΔH_{td} ΔV_c= NA	G_s for S_c = 100 %:	2.695

At Final Test Stress/Stage - Consolidation Conclusions					
$\Delta H_{c,f}$ (mm) = 0.72	$\Delta V_{c,f}$ (cm^3) = 10.33	Back Cal. G_s for S=100% = 2.695	Normalized	Ht. Ch. (%) =	0.65
$\varepsilon_{ac,c}$ (%) = 0.62	$\varepsilon_{vc,f}$ (%) = 4.48		Diff. in:	Vol. Ch. (%) =	

Summary of Specimen Physical Properties											
Specific Gravity: G_s = 2.700		Height	Volume	Area	Water Content	Unit Weight		Saturation	Void Ratio	Volumetric Water	Porosity	Skempton B para-
Condition:		(mm)	(cm^3)	(cm^2)	(%)	Total (pcf)	Dry (pcf)	(%)	e	Content	n	meter %(6)
Initial:		115.06	230.46	20.03	31.75	115.80	87.89	93.7	0.914	0.4478	0.478	99.0
After	to 1st σ'_c	114.34	220.13	19.25	30.62	120.19	92.02	99.8	0.829	0.4521	0.453	NM
Consol.:	to 2nd σ'_c											
	to 3rd σ'_c											
	to 4th σ'_c											

Notes: (1) If the consol. stress in the 1st consol. increment & 1st test stage are equal, log the data in Column 4.
(2) The height changes occuring within each shearing and unloading stage (1 - 4) are recorded in these rows (after Column 3).
(3) The volume changes occuring within each shearing and unloading stage (1 - 4) are calculated/recorded in these rows (after Column 3).
(4) Stresses are corrected for membrane. (5) ~ $M_{t,o}$-($M_{tat,c}$+ρ_{water}x$\Delta V_{in,column1\&2}$)
(6) Initial value is after back pressuring
NA - Not Applicable ON - Over Night; WC - Water Content Remarks: NM = Not Measured
Calculated By: TP Reviewed By: JM

TRIAXIAL TEST: Specimen Calculations Summary(2)

Project Number: 0411-08-1701 | Test Type: CIU Triaxial | App. No.: TRX-4 | File Name: B630_UD12b
Project Name: Turkey Point COL | Task No.: NA | Test No.: 0 | Test Series for: 0

[X] Tube [ ] Field Extruded	[ ] Liner [ ] Remolded	[ ] Tamping	[ ] Constant Effort:	Blows/Tamps per Layer =	
Boring No.: B630	[ ] Reconstituted	[ ] Impact/Rammer	Rammer Wgt.(lbf)=	No. Layers =	
Sample No.: UD12	Compostite No.:	[ ] Pluviated:	Tamper Force (lbf)=	Drop (in.) =	
Depth (ft): 179.3	Specimen No.: b	[ ] Kneading	[ ] Undercompaction:	U_{ni} (%) =	Dia. (in.) =
[ ] Spec. Selection by X-ray;	[ ] Geomarine Sample		Ref. Effort =	% Comp. =	± Opt. =

Type Consolidation	[X] Isotropic [ ] Anistropic	[ ] K_o stress path [ ] 45° stress path	[X] Used automated system	Remarks:	Drained Axial Strain Rate, $\varepsilon_{a,rate}$ (%/hr.)=Value
Loading Conditions	[X] Static [ ] Post Cyclic	[X] Undrained [ ] Drained	[X] Comp. [ ] Ext.	[X] Strain [ ] Stress Path	[X] Constant Cell pressure [ ] Variable Cell pressure
[ ] Cyclic (Hz)	Rate: [ ] 0.1;	[ ] Stress [ ] Strain	[ ] 1; Other:		

Condition:	Height (mm)	Volume (cm^3)	Area (cm^2)	Water Content (%)	Unit Weight Total (pcf)	Unit Weight Dry (pcf)	Saturation (%)	Void Ratio e	Skempton B parameter %(1)
Specific Gravity: G_s = 2.700									
Initial:	115.06	230.46	20.03	31.75	115.80	87.89	93.75	0.91	99.0
After Consol.: to 1st σ'_c	114.34	220.13	19.25	30.62	120.19	92.02	99.76	0.83	NM
to 2nd σ'_c									
to 3rd σ'_c									
to 4th σ'_c									

Unit for Stresses: (ksf)

Consolidation Stress Summary and Loading Summary

Item	Unit	1st Stage	2nd Stage	3rd Stage	4th Stage
Axial Strain during Consol., $\varepsilon_{a,c}$:	%	0.625	NA	NA	NA
Vol. Strain during Consol., $\varepsilon_{v,c}$:	%	4.482	NA	NA	NA
Effective Vertical Stress, σ'_v:	(ksf)	10.028	NA	NA	NA
Effective Horizontal Stress, σ'_h:	(ksf)	9.974	NA	NA	NA
Consol. Stress Ratio, k (σ'_h / σ'_v):	-	0.995			
Induced OCR:	-	1.00	NA	NA	NA
Eff. Average Stress, (σ'_v + σ'_h)/2:	(ksf)	20.002			
Eff. Mean Stress, (σ'_v + 2*σ'_h)/3:	(ksf)	9.992			
Undr. Ambient Shear Stress, τ_a:	(ksf)	NA	NA	NA	NA
Undr. Ambient Shear Strain, $\varepsilon_{a,ua}$:	%	NA	NA	NA	NA

Notes: See Fugro South, Inc. Notation Listing for definition of symbols and acronyms.
(1) Initial B is after saturation
NA - Not Applicable

Membrane Correction
Type: Bulge
Modulus: 150.0 psi
Diameter: 47.27 mm
Thickness: 0.30 mm

Area Correction
Type: Bulge

Stage	Area Corr. Const.:	Final Area (cm^2):
1st	1.127	23.87
2nd		
3rd		
4th		

Filter Paper Correction
Type: None Type Strips: Sprial #1
Strips: 8
Force: 0.000 lbf/strip

Final Visual Description and Remarks: Sandy Silt (ML), greenish gray

Loading Summary

Stage	Stress Status	ε_a (%)	q (ksf)	p' (ksf)	ΔU (ksf)	σ_1' (ksf)	σ_3' (ksf)
1st	Max Shear Stress	1.33	5.285	9.888	5.379	15.173	4.602
	Max Obliquity	8.32	4.032	6.857	7.148	10.889	2.826
2nd	Max Shear Stress						
	Max Obliquity						
3rd	Max Shear Stress						
	Max Obliquity						
4th	Max Shear Stress						
	Max Obliquity						

Remarks: NM = Not Measured

STAGE 1

Project: 0411-08-1701 Boring No.: B630 Depth (ft.): 179.30
Test Type: CIU Triaxial Sample No.: UD12 Stage No.: 1
Specimen No.: b

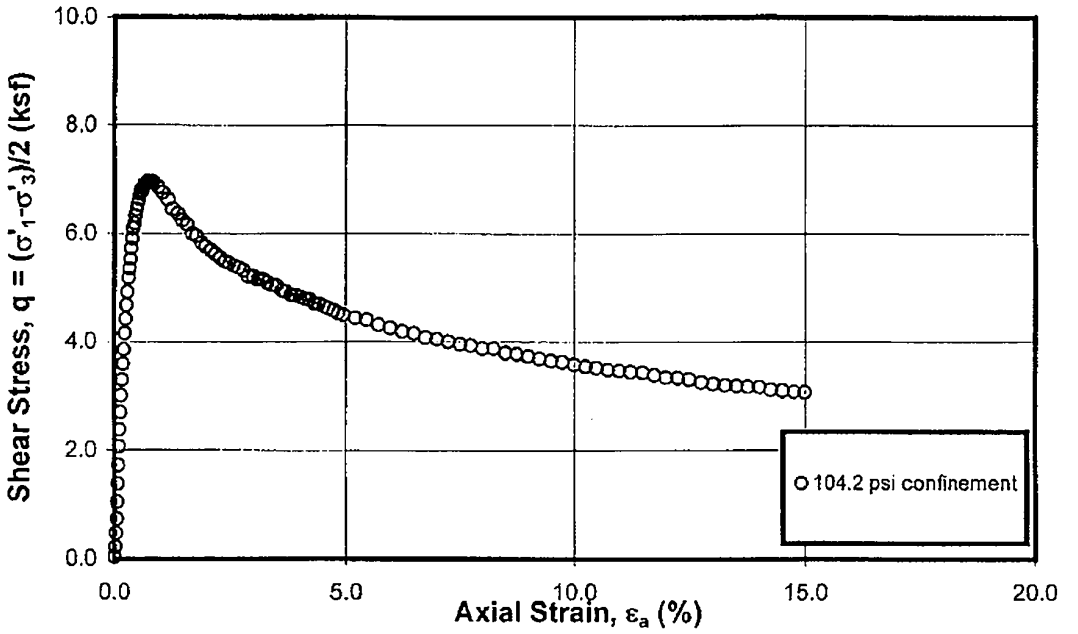
Elapsed Time (min)	Axial Strain ε_a (%)	q (ksf)	p' (ksf)	Excess PWP, ΔU (ksf)	Volume Change (cm^3)	Obliquity σ'_1/σ'_3 -	A_f -	E_S (ksf)	E_T (ksf)
0.0	0.000	0.027	10.001	0.000	0.000	1.005	0.000	-	-
0.8	0.025	0.456	10.241	0.185	0.000	1.093	0.221	3413.2	3359.4
1.5	0.050	0.870	10.421	0.419	0.000	1.182	0.251	3359.4	3171.1
2.3	0.076	1.258	10.580	0.647	0.000	1.270	0.265	3250.7	2807.8
3.0	0.101	1.581	10.675	0.879	0.000	1.348	0.283	3083.4	2550.4
3.8	0.126	1.900	10.765	1.112	0.000	1.429	0.296	2970.8	2518.5
4.5	0.151	2.216	10.837	1.360	0.000	1.514	0.309	2895.2	2274.6
5.3	0.176	2.472	10.871	1.570	0.000	1.588	0.322	2772.5	1891.0
6.0	0.202	2.691	10.877	1.788	0.000	1.658	0.336	2644.7	1721.9
6.8	0.227	2.906	10.871	2.010	0.000	1.730	0.349	2538.9	1707.4
7.5	0.252	3.122	10.870	2.226	0.000	1.806	0.360	2457.1	1474.4
8.3	0.277	3.276	10.840	2.413	0.000	1.866	0.371	2345.8	1343.7
9.0	0.302	3.459	10.824	2.610	0.000	1.939	0.380	2272.0	1299.2
9.8	0.327	3.604	10.807	2.771	0.000	2.001	0.387	2184.5	1079.9
10.5	0.353	3.732	10.766	2.942	0.000	2.061	0.397	2101.4	1046.5
11.3	0.378	3.867	10.746	3.095	0.000	2.124	0.403	2033.0	982.8
12.0	0.403	3.979	10.700	3.261	0.000	2.184	0.412	1961.6	917.4
12.8	0.428	4.098	10.682	3.390	0.000	2.245	0.416	1901.7	861.6
13.6	0.453	4.195	10.633	3.531	0.000	2.303	0.424	1840.0	711.2
14.3	0.478	4.276	10.609	3.640	0.000	2.351	0.428	1776.7	685.6
15.1	0.504	4.368	10.582	3.761	0.000	2.406	0.433	1724.3	705.8
15.8	0.529	4.454	10.560	3.865	0.000	2.459	0.437	1674.8	586.3
16.6	0.554	4.516	10.511	3.978	0.000	2.506	0.443	1621.1	560.1
17.3	0.579	4.595	10.505	4.064	0.000	2.555	0.445	1577.9	576.2
18.1	0.604	4.661	10.465	4.167	0.000	2.606	0.450	1534.1	538.1
18.8	0.629	4.731	10.472	4.232	0.000	2.648	0.450	1494.6	418.4
19.6	0.655	4.766	10.417	4.330	0.000	2.687	0.456	1448.2	378.3
20.3	0.680	4.826	10.414	4.386	0.000	2.727	0.457	1412.1	423.4
21.1	0.705	4.873	10.380	4.474	0.000	2.769	0.461	1375.0	372.5
21.8	0.730	4.919	10.371	4.520	0.000	2.805	0.462	1340.5	283.7
22.6	0.755	4.944	10.331	4.590	0.000	2.836	0.466	1302.3	250.7
23.3	0.780	4.983	10.322	4.637	0.000	2.866	0.468	1270.2	331.9
24.1	0.805	5.028	10.301	4.705	0.000	2.907	0.470	1241.7	278.7
24.8	0.831	5.053	10.282	4.743	0.000	2.932	0.472	1210.1	178.0
25.6	0.856	5.072	10.254	4.792	0.000	2.958	0.475	1179.2	218.1
26.3	0.881	5.108	10.242	4.841	0.000	2.990	0.476	1153.4	104.5
27.1	0.906	5.099	10.192	4.890	0.000	3.002	0.481	1119.4	185.9
27.8	0.931	5.154	10.209	4.922	0.000	3.040	0.480	1101.1	300.3

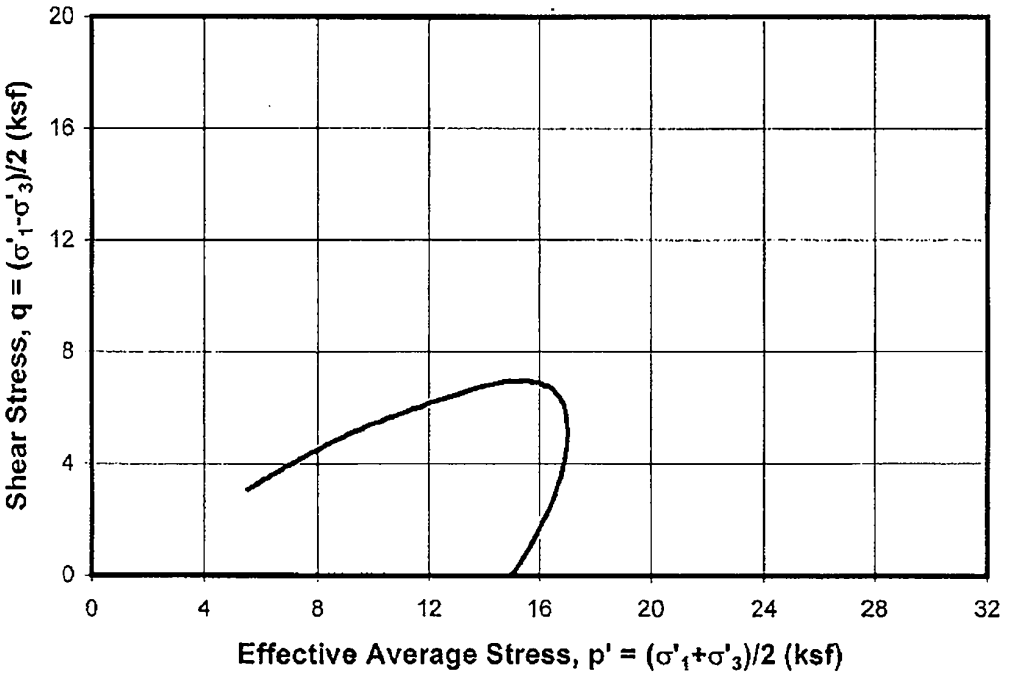
STAGE 1

Elapsed Time (min)	Axial Strain ε_a (%)	q (ksf)	p' (ksf)	Excess PWP, ΔU (ksf)	Volume Change (cm^3)	Obliquity σ'_1/σ'_3 -	A_f -	E_S (ksf)	E_T (ksf)
28.6	0.957	5.174	10.186	4.961	0.000	3.065	0.482	1076.3	179.0
29.3	0.982	5.199	10.181	4.994	0.000	3.088	0.483	1053.9	89.8
30.1	1.007	5.197	10.123	5.046	0.000	3.110	0.488	1027.0	70.8
30.8	1.032	5.217	10.123	5.067	0.000	3.127	0.488	1005.9	112.8
33.8	1.132	5.249	10.037	5.188	0.000	3.193	0.497	922.5	66.2
36.8	1.233	5.284	9.981	5.277	0.000	3.250	0.502	852.8	36.0
39.8	1.333	5.285	9.888	5.379	0.000	3.297	0.511	788.7	-15.0
42.8	1.434	5.269	9.784	5.457	0.000	3.334	0.521	731.0	-61.1
45.8	1.534	5.224	9.670	5.527	0.000	3.350	0.532	677.4	-55.0
48.8	1.635	5.213	9.573	5.615	0.000	3.392	0.541	634.4	-62.7
51.8	1.735	5.161	9.457	5.680	0.000	3.403	0.553	591.7	-84.0
54.8	1.836	5.129	9.370	5.733	0.000	3.419	0.562	555.8	-71.4
57.8	1.937	5.089	9.260	5.803	0.000	3.440	0.573	522.8	-69.5
60.8	2.037	5.059	9.155	5.879	0.000	3.470	0.584	494.1	-59.3
63.8	2.138	5.030	9.071	5.932	0.000	3.489	0.593	468.1	-55.3
66.8	2.238	5.004	8.996	5.987	0.000	3.506	0.601	444.7	-69.7
69.8	2.339	4.960	8.896	6.040	0.000	3.520	0.612	421.9	-94.5
72.8	2.439	4.908	8.788	6.095	0.000	3.530	0.624	400.3	-66.4
75.8	2.540	4.893	8.729	6.136	0.000	3.551	0.631	383.2	-57.7
78.8	2.640	4.850	8.642	6.185	0.000	3.559	0.641	365.4	-76.2
81.9	2.741	4.816	8.557	6.233	0.000	3.574	0.651	349.5	-65.4
84.9	2.841	4.785	8.488	6.274	0.000	3.584	0.659	334.9	-52.2
87.9	2.942	4.764	8.435	6.306	0.000	3.595	0.665	322.0	-37.9
90.9	3.042	4.747	8.371	6.349	0.000	3.619	0.673	310.3	-41.3
93.9	3.143	4.722	8.304	6.389	0.000	3.636	0.681	298.8	-64.8
96.9	3.243	4.681	8.235	6.424	0.000	3.635	0.690	287.0	-60.6
99.9	3.344	4.661	8.181	6.456	0.000	3.649	0.696	277.2	-43.4
102.9	3.444	4.638	8.126	6.489	0.000	3.659	0.703	267.7	-45.2
105.9	3.545	4.616	8.080	6.513	0.000	3.664	0.709	258.9	-42.9
108.9	3.646	4.595	8.022	6.546	0.000	3.681	0.717	250.6	-43.6
111.9	3.746	4.572	7.984	6.563	0.000	3.680	0.722	242.7	-54.0
114.9	3.847	4.540	7.919	6.597	0.000	3.688	0.731	234.7	-25.1
117.9	3.947	4.547	7.901	6.622	0.000	3.711	0.732	229.0	-24.7
120.9	4.047	4.516	7.850	6.640	0.000	3.708	0.740	221.8	-47.6
123.9	4.148	4.499	7.800	6.670	0.000	3.725	0.746	215.6	-36.5
126.9	4.249	4.479	7.764	6.693	0.000	3.727	0.751	209.6	-38.4
129.9	4.349	4.460	7.726	6.703	0.000	3.731	0.757	203.9	-34.8
132.9	4.450	4.444	7.693	6.725	0.000	3.735	0.761	198.5	-31.3
135.9	4.550	4.429	7.658	6.749	0.000	3.743	0.766	193.5	-14.7
138.9	4.651	4.429	7.639	6.766	0.000	3.760	0.768	189.3	-25.9
141.9	4.751	4.403	7.592	6.786	0.000	3.761	0.775	184.2	-39.1
144.9	4.852	4.390	7.563	6.794	0.000	3.767	0.779	179.9	-26.0
147.9	4.952	4.377	7.536	6.821	0.000	3.771	0.783	175.7	-8.1

STAGE 1

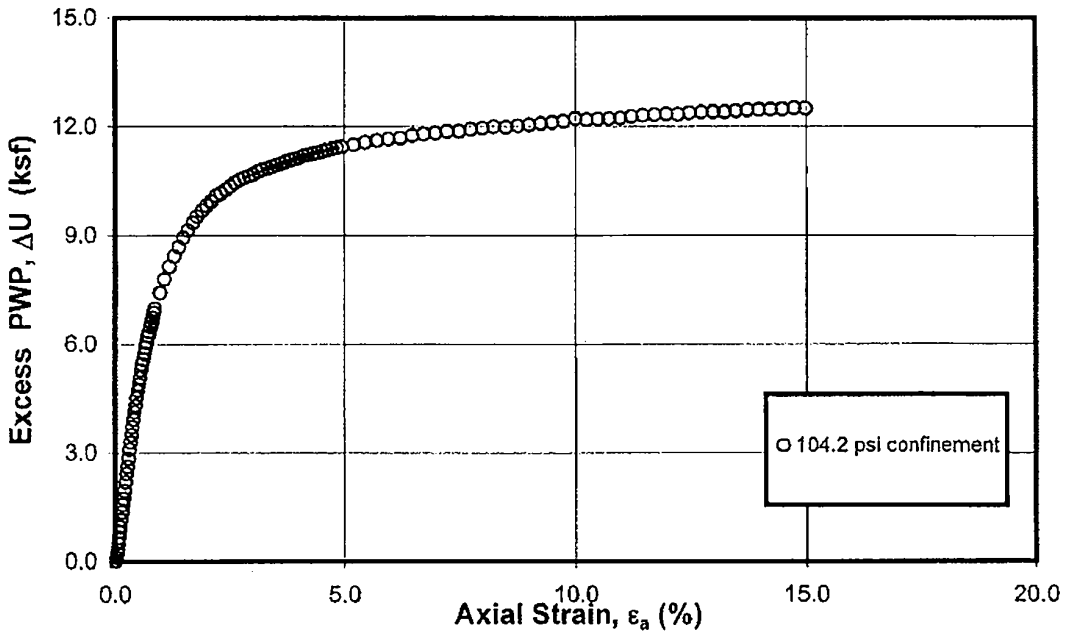
Elapsed Time (min)	Axial Strain ε_a (%)	q (ksf)	p' (ksf)	Excess PWP, ΔU (ksf)	Volume Change (cm^3)	Obliquity σ'_1/σ'_3 -	A_f -	E_S (ksf)	E_T (ksf)
150.9	5.053	4.382	7.527	6.827	0.000	3.786	0.784	172.4	-6.9
158.4	5.304	4.352	7.458	6.867	0.000	3.802	0.794	163.1	-25.5
165.9	5.556	4.318	7.391	6.902	0.000	3.809	0.804	154.5	-28.9
173.4	5.807	4.279	7.332	6.925	0.000	3.804	0.814	146.5	-23.9
180.9	6.058	4.258	7.261	6.967	0.000	3.835	0.824	139.7	-19.2
188.4	6.309	4.231	7.211	6.992	0.000	3.839	0.832	133.3	-27.0
195.9	6.560	4.190	7.156	7.010	0.000	3.825	0.842	126.9	-30.5
203.4	6.811	4.154	7.085	7.043	0.000	3.835	0.853	121.2	-28.0
210.9	7.063	4.119	7.039	7.054	0.000	3.821	0.862	115.9	-23.2
218.4	7.314	4.096	6.991	7.081	0.000	3.830	0.870	111.3	-14.7
225.9	7.565	4.082	6.967	7.093	0.000	3.830	0.874	107.2	-14.8
233.4	7.816	4.059	6.918	7.112	0.000	3.840	0.882	103.2	-21.5
240.9	8.067	4.028	6.877	7.129	0.000	3.828	0.890	99.2	-10.9
248.4	8.319	4.032	6.857	7.148	0.000	3.854	0.892	96.3	-9.3
255.9	8.570	4.005	6.824	7.159	0.000	3.842	0.899	92.8	-14.9
263.4	8.821	3.994	6.799	7.174	0.000	3.848	0.903	90.0	-15.2
270.9	9.073	3.967	6.762	7.180	0.000	3.838	0.911	86.9	-17.6
278.4	9.324	3.950	6.734	7.191	0.000	3.838	0.916	84.2	-10.7
285.9	9.575	3.940	6.713	7.205	0.000	3.842	0.920	81.7	-22.3
293.4	9.826	3.894	6.660	7.209	0.000	3.816	0.932	78.7	-9.3
300.9	10.078	3.916	6.673	7.224	0.000	3.842	0.928	77.2	2.2
308.4	10.329	3.899	6.646	7.229	0.000	3.839	0.933	75.0	-10.6
315.9	10.580	3.890	6.629	7.237	0.000	3.840	0.936	73.0	-14.1
323.4	10.831	3.864	6.602	7.241	0.000	3.823	0.943	70.9	-13.9
330.9	11.082	3.855	6.579	7.252	0.000	3.831	0.947	69.1	-11.1
338.4	11.334	3.836	6.548	7.261	0.000	3.829	0.953	67.2	-9.6
345.9	11.585	3.831	6.544	7.264	0.000	3.824	0.954	65.7	-14.4
353.4	11.836	3.800	6.500	7.271	0.000	3.815	0.964	63.8	-23.9
360.9	12.087	3.771	6.470	7.282	0.000	3.795	0.972	62.0	-20.4
368.4	12.338	3.749	6.434	7.291	0.000	3.792	0.979	60.3	-22.8
375.9	12.590	3.714	6.390	7.304	0.000	3.775	0.990	58.6	-21.0
383.4	12.841	3.696	6.361	7.315	0.000	3.774	0.996	57.2	-17.7
390.9	13.092	3.669	6.321	7.326	0.000	3.767	1.005	55.6	-19.4
398.4	13.343	3.647	6.294	7.330	0.000	3.756	1.012	54.3	-16.2
405.9	13.595	3.629	6.261	7.349	0.000	3.757	1.019	53.0	-11.9
413.4	13.846	3.618	6.236	7.362	0.000	3.763	1.024	51.9	-10.4
420.9	14.097	3.603	6.212	7.371	0.000	3.761	1.030	50.7	-6.8
428.4	14.348	3.601	6.197	7.381	0.000	3.773	1.032	49.8	-9.5
435.9	14.600	3.579	6.173	7.385	0.000	3.759	1.039	48.7	-20.2
443.4	14.851	3.550	6.143	7.390	0.000	3.738	1.048	47.4	-13.3
450.2	15.078	3.546	6.126	7.401	0.000	3.748	1.051	46.7	-3.8

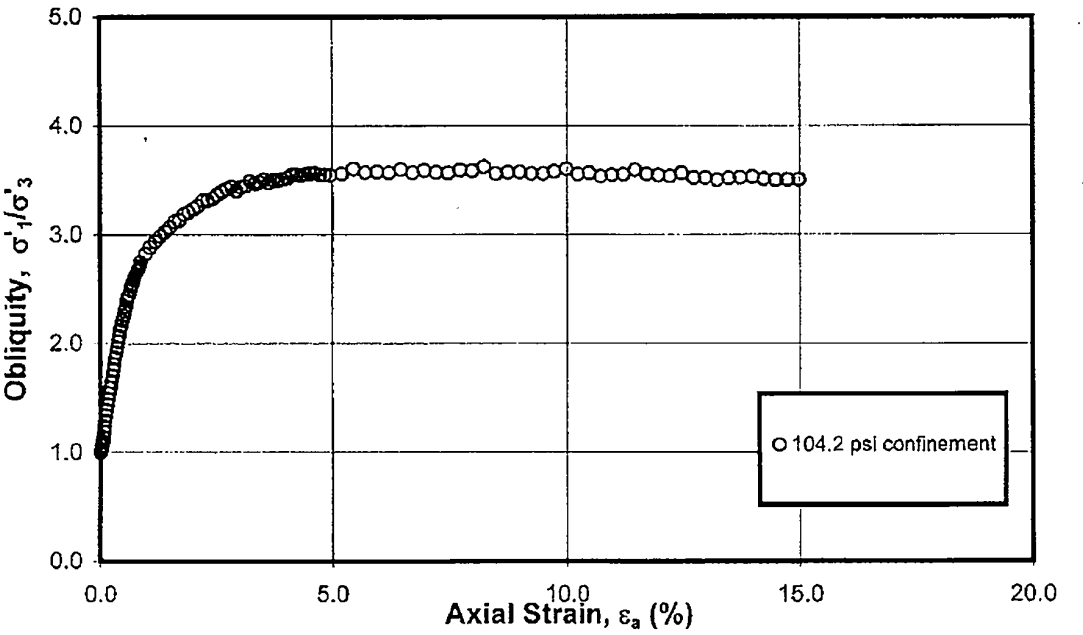




UNDRAINED TRIAXIAL COMPRESSION TEST
Isotropically Consolidated
Sample: UD12c - Depth: 179.70 ft
Boring B630

Reviewed By: JM





UNDRAINED TRIAXIAL COMPRESSION TEST
Isotropically Consolidated
Sample: UD12c - Depth: 179.70 ft
Boring B630

Reviewed By: JM

TRIAXIAL TEST (ASTM D 4767): Specimen Setup / Take Down

Project Number: 0411-08-1701 | Test Type: CIU Triaxial | Cell No.: TRX-8 | File Name: B630_UD12c
Task No.: NA | Test Stress(es), σ'_c or $\sigma'_{v,c}$ = 15.00 , NA , NA & NA ksf
Project Name: Turkey Point COL | k ($\sigma'_{h,c}$ / $\sigma'_{v,c}$) = 1.00 | Induced OCR = 1.00 | K_{ua} ($\sigma_{d,ua}/2\sigma'_{v,c}$) = NA

Assig. Remarks: | Specific Gravity: 2.700 [ ] Meas.; [X] Assumed

[X] Tube [ ] Field Extruded	[ ] Liner [ ] Remolded	[ ] Tamping	[ ] Constant Effort:	Blows/Tamps per Layer =	
Boring No.: B630	[ ] Reconstituted	[ ] Impact/Rammer	Rammer Wgt.(lbf)=	No. Layers =	
Sample No.: UD12	Compostite No.:	[ ] Pluviated:	Tamper Force (lbf)=	Drop (in.) =	
Depth (ft): 179.70	Specimen No.: c	[ ] Kneading	[ ] Undercompaction: U_{nf} (%) =	Dia. (in.) =	
[ ] Spec. Selection by X-ray;	[ ] Geomarine Sample		Ref. Effort =	% Comp. =	± Opt. =

Type Consolidation :	[X] Isotropic [ ] Anistropic	[ ] K_o stress path [ ] 45° stress path	[X] Used automated system: Drained Axial Strain Rate, $\varepsilon_{a,rate}$ (%/h) = ?Value Remarks:															
Loading Conditions :	[X] Static [ ] Post Cyclic	[X] Undrained [ ] Drained	[X] Comp. [ ] Ext.	[X] Strain [ ] Stress Path	[X] Constant Cell Pressure [ ] Variable Cell Pressure	[ ] Cyclic (Hz) Rate: [ ] 0.1;	[ ] Stress [ ] Strain 1; Other:

Water Content (WC);	Initial - Trimming Location			Final, W_{at}
	Top ($W_{o,1}$)	Bottom ($W_{o,2}$)	Sides ($W_{o,3}$)	(see below)
Container No	827	885	886	6064
Mass Moist Soil + Cont. (g)	44.97	47.26	120.28	104.57
Mass Dry Soil + Container (g)	41.92	43.54	98.42	86.43
Mass Container (g)	32.35	31.81	32.28	30.83
Water Content, $W_{o,n}$ (%)	31.87	31.71	33.05	32.63
Avg. Initial WC, $W_{o,avg}$ (%)	32.21	Final (W_{at}): [X] Slice ; [ ] Whole Spec.		
[ ] See attached data sheet(s) for additional water contents				

SOIL MASSES:	Initial	Final
Moist + Tare (etc.)(g)	427.87	429.30
Tare (etc.) (g)	0.00	0.00
Mass Moist Spec., M_{ih} (g)	427.87	429.30
Excess Dry Soil (soil not included in final mass measurement)		
Container No.		NA
Mass Dry Soil + Cont. (g)		NA
Mass Container (g)		NA
Mass Excess Dry Soil, $M_{d,es}$ (g)		0.00

Specimen Dimensions, (mm)

	Height			Dia., X indicates with membrane		
	Initial (H_o)	Final (H_{at})		Initial (D_o)	Final (D_{at})	
GB	100.000	100.000	1 T	50.50	57.00	For
1	14.93	-1.42	2 M	51.00	59.00	Wedge
2	14.86	-1.47	3 B	50.50	51.00	Failure
3	14.98	-1.01	1'T			= d_{max}
4	14.98	-1.04	2'M			= d_{min}
5	14.90	-1.58	3'B			= Δd
Avg.	114.93	98.70	Avg.	50.67	55.67	xxxxx

Measuring Devices:
Pi Tape: [X] Dia
Calipers: [ ] Ht.: [ ] Dia
Dial Comparator: [X] Ht.: [ ] Dia
Remarks:

$A_o = \pi D^2/400$ (cm^2)	20.16
V_o (cm^3)	231.72
$A_{atb,m}=\pi (D^*_{at})^2/400$ (cm^2)	25.07
$A_{atw,m}=(d_{min}-2\Delta d)d_{max}\pi/400$ (cm^2)	NA
$D^*_{at}=(D_T+2D_M+D_B)/4$ (mm)	56.50

Estimated Initial Unit Weight

Total, $\gamma_{t,o}$ (lb/ft^3) = 115.27 | Dry, $\gamma_{d,o}$ (lb/ft^3) = 87.19

Membrane / Filter Paper / Apparatus

Membrane (mm):	Top	Bottom
Number: = 1 Thickness: [ ] Single; [X] Double	0.68	0.52
	0.68	0.51
Circumference ($C_{rm,o}$)	150.0	150.0
	Total Thickness	Dia.($C_{rm,o}/\pi$)
Average:	0.30	47.75

Filter Paper: Top + Bottom: [ ] Yes ; [X] No
Filter Strips: [X] Yes ; [ ] No Number = 8
Type of Filter Strips [ ] Vertical: ¼ in. & Whatman #54
[X] Spiral: ¼ in. & Whatman #1

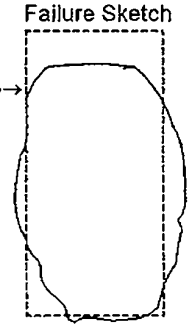
Apparatus: Mass Top Cap, M_{tc} = 53.4 g, 0.12 lbf
Mass Displ. System, M_{ds} (cap, dial, piston, etc.) = NA g, NA lbf

Top Cap Attached: [ ] Yes; [X] No; | Piston Dia.(in.) [X] ½: [ ] ¾: [ ] | Load Cell: [ ] External [X] Internal
Top Cap - Rotation [ ] Fixed,<1°; [ ] Limited,<5°; [ ] Unlimited, >5°
With: [ ] Frictionless End Caps; [ ] Lat. Movement Top Cap
[ ] Internal LVDT Jacket

[ ] Photo Taken.

Failure Sketch

ε_a=
20%→



Failure Mode:
[X] Bulge
[ ] Wedge
[ ] Parabolic
Wedge/Bulge Ht.=
NA (mm)

NA - Not Applicable
GB - Gage Block
Other Remarks:

Final Visual Classification: Sandy Silt (ML), greenish gray

Trimmed / Reconstituted By: VR | Set Up By: TP | Taken Down By: VR
Date: 7/29/2008 | Date: 7/29/2008 | Date: 8/11/2008
Prelim. Calc. By: TP | Final Calc. By: TP | Reviewed By: JM

[ ] See more detailed sketch on attached sheet. Remarks: NA = Not Applicable

TRIAXIAL TEST: Specimen Calculations & Summary(1)

Project Number: 0411-08-1701 | Cell No.: TRX-8 | File Name: B630_UD12c
Task Number: NA | Specific Gravity: 2.700 [ ] Measured; [X] Assumed
Boring No.: B630 | Sample No.: UD12 | Specimen No.: c | Depth (ft): 179.70
Type Test: CIU Triaxial | Specimen: [X] "Undisturbed"; [ ] Reconstituted; [ ]
Calculations Corr. for Salt (dissolved solids): [X] No or, [ ] Yes, with concentration = _____ ppm

	Inital Water Contents (WC), (W_o) over Saturation, (S_o), in (%):						Calculated Mass of Dry Soil (g)	
	Top, $W_{o,1}$	Botttom, $W_{o,2}$	Sides, $W_{o,3}$	Avg., $W_{o,avg}$	Selct., $W_{o,s}$	Back Cal., $W_{o,bc}$	Initial Selected WC, w_o (%)	32.21
W_o	31.87	31.71	33.05	32.21	32.21	32.18	Initial , $M_{d,o}$	323.63
S_o	93.0	92.8	94.7	93.5	93.5	93.5	Final, $M_{d,at}$	323.69
	Measured final mass of moist soil, $M_{t,at}$ (g)					429.30	Selected, M_d	323.63
	Final mass of moist soil corrected for excess dry soil, $M_{tat,c}$ (g)					429.30		

Consolidation Data	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	
Changes in Height (mm) and Volume (cm^3) Within Given Consolidation Stages/Columns	At Initial Seating Stress	During Back-Pressuring	1st Consol. Increment (1)	Column 2 or 3 to **1st Test** Stage (1)	Column 4 to **2nd Test** Stage	Column 5 to **3rd Test** Stage	Column 6 to **4th Test** Stage	
Sign Convention: (+) Deformation in compression or Flow out of spec.; (-) Deformation in extension (swell) or Flow into spec.								
Change in Height, $\Delta H_{c,n}$	-0.08	0.05		0.21	NA	NA	NA	
Sum of changes in (+ out)	0.77			4.03	NA	NA	NA	
burette readings, $\Delta b_{r,n}$ (- in)		-2.47	NA	16.38	NA	NA	NA	(2)
Theoretical $\Delta V_{ct,n} = (3V_o \times \Delta H_{c,n}/H_o)$	-0.48	0.31		1.25	NA	NA	NA	
Vol. Factor, $F_v = \Delta b_{r,n} / \Delta V_{t,n}$				3.22	NA	NA	NA	
Corrected $\Delta V_{ct,n} = F_v \times \Delta V_{t,n}$			NA	0.00	NA	NA	NA	(3)
Selected $\Delta V_{c,n}$	0.77	0.31		4.03	NA	NA	NA	

Summary For Test Stages					
Test Stage:	1st = 1	2nd = 2	3rd = 3	4th = 4	
Cell Pressure, $\sigma_{c,n}$ (psi)	153.60	NA	NA	NA	Number of
Back Pressure, $U_{b,n}$ (psi)	49.89	NA	NA	NA	Test Stages = 1
Axial Force Reading, $P_{r,n}$ (lbf)	1.26	NA	NA	NA	
Eff. Consol. Stress (σ'_c or $\sigma'_{v,c}$) (4), (ksf)	15.01	NA	NA	NA	
t_c, ON or in [X] days [ ] hrs	2.00	NA	NA	NA	

At Final Test Stress/Stage - Summary of Calculation of ΔV_c (cm^3) by Different Procedures

By Selected Volumes	By Saturation = 100 %	By Change in Mass (5)	For Diff. in Meas. Vol. (V_o-V_{at}),	For Selected ΔV_c, required
ΔV_c = 5.11	ΔV_c = 5.78	ΔV_c = 1.04	& corr. for ΔH_{td} ΔV_c = NA	G_s for S_c = 100 %: 2.685

At Final Test Stress/Stage - Consolidation Conclusions

$\Delta H_{c,f}$ (mm) = 0.18	$\Delta V_{c,f}$ (cm^3) = 5.11	Back Cal. G_s for S=100% = 2.685	Normalized	Ht. Ch. (%) = 0.29
$\varepsilon_{ac,c}$ (%) = 0.16	$\varepsilon_{vc,f}$ (%) = 2.21		Diff. in:	Vol. Ch. (%) =

Summary of Specimen Physical Properties

Specific Gravity: G_s = 2.700 / Condition:	Height (mm)	Volume (cm^3)	Area (cm^2)	Water Content (%)	Unit Weight Total (pcf)	Unit Weight Dry (pcf)	Saturation (%)	Void Ratio e	Volumetric Water Content	Porosity n	Skempton B para-meter %(6)
Initial:	114.93	231.72	20.16	32.21	115.27	87.19	93.5	0.930	0.4506	0.482	95.0
After to 1st σ'_c	114.75	226.61	19.75	32.65	118.27	89.15	99.4	0.887	0.4671	0.470	NM
Consol.: to 2nd σ'_c											
to 3rd σ'_c											
to 4th σ'_c											

Notes: (1) If the consol. stress in the 1st consol. increment & 1st test stage are equal, log the data in Column 4.

(2) The height changes occuring within each shearing and unloading stage (1 - 4) are recorded in these rows (after Column 3).

(3) The volume changes occuring within each shearing and unloading stage (1 - 4) are calculated/recorded in these rows (after Column 3).

(4) Stresses are corrected for membrane. (5) ~ $M_{t,o}-(M_{tat,c}+\rho_{water} \times \Delta V_{in,column1\&2})$

(6) Initial value is after back pressuring

NA - Not Applicable ON - Over Night; WC - Water Content Remarks: NM = Not Measured

Calculated By: TP Reviewed By: JM

TRIAXIAL TEST: Specimen Calculations Summary(2)

Project Number: 0411-08-1701 | Test Type: CIU Triaxial | App. No.: TRX-8 | File Name: B630_UD12c
Project Name: Turkey Point COL | Task No.: NA | Test No.: 0 | Test Series for: 0

X Tube ☐ Field Extruded	☐ Liner ☐ Remolded	☐ Tamping	☐ Constant Effort:	Blows/Tamps per Layer =	
Boring No.: B630	☐ Reconstituted	☐ Impact/Rammer	Rammer Wgt.(lbf)=	No. Layers =	
Sample No.: UD12	Compostite No.:	☐ Pluviated:	Tamper Force (lbf)=	Drop (in.) =	
Depth (ft): 179.7	Specimen No.: c	☐ Kneading	☐ Undercompaction: U_{nl} (%) =	Dia. (in.) =	
☐ Spec. Selection by X-ray;	☐ Geomarine Sample		Ref. Effort =	% Comp. =	± Opt. =

Type Consolidation	X	Isotropic		K_o stress path	X	Used automated system	Drained Axial Strain Rate, $\varepsilon_{a,rate}$ (%/hr.)?Value												
		Anistropic		45° stress path		Remarks:													
Loading Conditions	X	Static	X	Undrained	X	Comp.	X	Strain ☐ Stress	X	Constant Cell pressure		☐ Cyclic (Hz)		☐ Stress ☐ Strain					
		Post Cyclic		Drained		Ext.		Stress Path		Variable Cell pressure		Rate: ☐ 0.1;		☐ 1; Other:					

Specific Gravity: G_s = 2.700	Height	Volume	Area	Water Content	Unit Weight		Saturation	Void Ratio	Skempton B para-	
Condition:	(mm)	(cm^3)	(cm^2)	(%)	Total (pcf)	Dry (pcf)	(%)	e	meter %(1)	Unit for Stresses: (ksf)
Initial:	114.93	231.72	20.16	32.21	115.27	87.19	93.52	0.93	95.0	
After to 1st σ'_c	114.75	226.61	19.75	32.65	118.27	89.15	99.35	0.89	NM	
Consol.: to 2nd σ'_c										
to 3rd σ'_c										
to 4th σ'_c										

Consolidation Stress Summary and Loading Summary

Item	Unit	1st Stage	2nd Stage	3rd Stage	4th Stage
Axial Strain during Consol., $\varepsilon_{a,c}$:	%	0.156	NA	NA	NA
Vol. Strain during Consol., $\varepsilon_{v,c}$:	%	2.205	NA	NA	NA
Effective Vertical Stress, σ'_v	(ksf)	15.012	NA	NA	NA
Effective Horizontal Stress, σ'_h:	(ksf)	14.944	NA	NA	NA
Consol. Stress Ratio, k (σ'_h / σ'_v) :	-	0.995			
Induced OCR :	-	1.00	NA	NA	NA
Eff. Average Stress, (σ'_v + σ'_h)/2 :	(ksf)	29.955			
Eff. Mean Stress, (σ'_v + 2*σ'_h)/3 :	(ksf)	14.966			
Undr. Ambient Shear Stress, τ_{ua} :	(ksf)	NA	NA	NA	NA
Undr. Ambient Shear Strain, $\varepsilon_{a,ua}$	%	NA	NA	NA	NA

Notes: See Fugro South, Inc. Notation Listing for definition of symbols and acronyms.
(1) Initial B is after saturation
NA - Not Applicable

Membrane Correction
Type: Bulge
Modulus: 150.0 psi
Diameter: 47.75 mm
Thickness: 0.30 mm

Area Correction
Type: Bulge

Stage	Area Corr. Const.:	Final Area (cm^2):
1st	1.372	25.07
2nd		
3rd		
4th		

Filter Paper Correction
Type: None Type Strips: Sprial #1
Strips: 8
Force: 0.000 lbf/strip

Final Visual Description and Remarks: Sandy Silt (ML), greenish gray

Loading Summary

Stage	Stress Status	ε_a (%)	q (ksf)	p' (ksf)	ΔU (ksf)	σ_1' (ksf)	σ_3' (ksf)
1st	Max Shear Stress	0.74	6.966	15.590	6.344	22.556	8.625
	Max Obliquity	8.22	3.883	6.843	12.005	10.726	2.960
2nd	Max Shear Stress						
	Max Obliquity						
3rd	Max Shear Stress						
	Max Obliquity						
4th	Max Shear Stress						
	Max Obliquity						

Remarks: NM = Not Measured

STAGE 1

Project: 0411-08-1701 Boring No.: B630 Depth (ft.): 179.70
Test Type: CIU Triaxial Sample No.: UD12 Stage No.: 1
Specimen No.: c

Elapsed Time (min)	Axial Strain ε_a (%)	q (ksf)	p' (ksf)	Excess PWP, ΔU (ksf)	Volume Change (cm^3)	Obliquity σ'_1/σ'_3 -	A_f -	E_S (ksf)	E_T (ksf)
0.0	0.000	0.034	14.978	0.000	0.000	1.005	0.000	-	-
0.8	0.020	0.225	15.159	0.028	0.000	1.030	0.026	1899.5	2990.5
1.5	0.032	0.474	15.321	0.123	0.000	1.064	0.110	2722.2	3406.9
2.3	0.052	0.739	15.479	0.242	0.000	1.100	0.145	2726.0	4085.3
3.0	0.063	1.052	15.686	0.329	0.000	1.144	0.152	3220.4	5071.0
3.8	0.077	1.381	15.842	0.512	0.000	1.191	0.179	3489.1	5212.5
4.5	0.089	1.720	16.026	0.678	0.000	1.240	0.189	3786.0	5500.6
5.3	0.102	2.072	16.209	0.827	0.000	1.293	0.198	3980.3	4691.8
6.0	0.117	2.379	16.361	0.969	0.000	1.340	0.205	3996.0	3865.9
6.8	0.135	2.696	16.508	1.161	0.000	1.390	0.213	3948.3	3664.4
7.5	0.152	3.011	16.618	1.368	0.000	1.443	0.224	3920.6	3392.3
8.3	0.171	3.299	16.695	1.578	0.000	1.492	0.237	3829.0	3106.3
9.0	0.189	3.590	16.819	1.742	0.000	1.543	0.241	3759.9	2787.7
9.8	0.210	3.851	16.855	1.961	0.000	1.592	0.254	3627.0	2972.9
10.5	0.228	4.155	16.932	2.207	0.000	1.650	0.263	3617.2	2896.9
11.3	0.251	4.421	16.970	2.436	0.000	1.705	0.273	3495.3	2426.8
12.0	0.271	4.679	17.028	2.623	0.000	1.758	0.279	3425.7	2299.3
12.8	0.294	4.915	17.029	2.851	0.000	1.812	0.290	3316.4	2240.1
13.5	0.316	5.178	17.039	3.107	0.000	1.873	0.300	3256.7	1994.4
14.3	0.338	5.352	17.022	3.305	0.000	1.917	0.308	3143.4	1413.0
15.0	0.365	5.522	16.983	3.508	0.000	1.964	0.317	3007.2	1919.0
15.8	0.381	5.723	16.976	3.717	0.000	2.017	0.324	2988.8	2052.2
16.5	0.404	5.903	16.948	3.932	0.000	2.069	0.332	2905.3	1757.2
17.3	0.423	6.087	16.905	4.143	0.000	2.125	0.341	2864.0	1315.1
18.0	0.454	6.189	16.840	4.311	0.000	2.162	0.349	2713.5	1068.7
18.8	0.473	6.333	16.767	4.536	0.000	2.214	0.358	2662.5	1192.3
19.5	0.497	6.442	16.690	4.725	0.000	2.257	0.366	2577.9	859.5
20.3	0.520	6.535	16.601	4.896	0.000	2.298	0.375	2500.4	753.6
21.0	0.548	6.634	16.531	5.080	0.000	2.340	0.382	2406.7	864.3
21.8	0.567	6.727	16.397	5.292	0.000	2.391	0.394	2362.8	797.9
22.5	0.590	6.792	16.297	5.458	0.000	2.429	0.402	2292.1	251.2
23.3	0.623	6.782	16.158	5.597	0.000	2.447	0.413	2166.2	262.3
24.0	0.648	6.856	16.074	5.751	0.000	2.487	0.420	2104.7	519.0
24.8	0.667	6.899	15.935	5.919	0.000	2.527	0.430	2058.0	276.5
25.5	0.694	6.912	15.815	6.058	0.000	2.553	0.439	1982.9	104.1
26.3	0.722	6.927	15.681	6.228	0.000	2.583	0.449	1910.5	256.9
27.0	0.741	6.966	15.590	6.344	0.000	2.615	0.456	1871.6	172.0
27.8	0.769	6.957	15.453	6.481	0.000	2.638	0.466	1801.2	-79.2

STAGE 1

Elapsed Time (min)	Axial Strain ε_a (%)	q (ksf)	p' (ksf)	Excess PWP, ΔU (ksf)	Volume Change (cm^3)	Obliquity σ'_1/σ'_3 -	A_f -	E_S (ksf)	E_T (ksf)
28.5	0.795	6.945	15.274	6.611	0.000	2.667	0.479	1738.3	-62.9
29.3	0.818	6.941	15.183	6.738	0.000	2.684	0.485	1689.8	-54.5
30.1	0.846	6.930	15.043	6.863	0.000	2.708	0.495	1630.9	144.0
30.8	0.863	6.961	14.936	6.979	0.000	2.746	0.503	1606.2	88.8
33.8	0.975	6.854	14.382	7.425	0.000	2.821	0.544	1399.0	-198.0
36.8	1.069	6.758	13.923	7.799	0.000	2.886	0.578	1258.2	-218.3
39.8	1.181	6.628	13.471	8.138	0.000	2.937	0.614	1116.7	-292.3
42.8	1.281	6.451	12.953	8.436	0.000	2.984	0.658	1001.5	-254.8
45.8	1.383	6.371	12.665	8.680	0.000	3.025	0.682	916.5	-201.2
48.8	1.485	6.246	12.292	8.933	0.000	3.066	0.716	836.8	-207.0
51.8	1.586	6.161	11.980	9.140	0.000	3.118	0.745	772.8	-236.5
54.8	1.693	5.998	11.627	9.349	0.000	3.131	0.781	704.6	-203.2
57.8	1.788	5.949	11.388	9.523	0.000	3.188	0.803	661.5	-165.0
60.8	1.896	5.826	11.116	9.678	0.000	3.203	0.833	611.1	-191.1
63.8	1.994	5.751	10.899	9.827	0.000	3.234	0.857	573.5	-138.1
66.8	2.098	5.687	10.708	9.941	0.000	3.265	0.878	538.8	-127.0
69.8	2.197	5.622	10.490	10.094	0.000	3.310	0.901	508.7	-139.2
72.8	2.302	5.545	10.349	10.163	0.000	3.308	0.920	478.8	-138.4
75.8	2.410	5.475	10.175	10.270	0.000	3.330	0.941	451.4	-86.6
78.8	2.500	5.455	10.065	10.350	0.000	3.367	0.953	433.7	-67.1
81.8	2.604	5.408	9.926	10.459	0.000	3.394	0.970	412.9	-78.9
84.8	2.707	5.374	9.817	10.523	0.000	3.419	0.983	394.5	-93.0
87.8	2.803	5.317	9.678	10.596	0.000	3.438	1.002	377.0	-156.4
90.8	2.913	5.210	9.549	10.638	0.000	3.402	1.024	355.4	-101.4
93.8	3.010	5.206	9.480	10.689	0.000	3.436	1.031	343.7	-54.8
96.8	3.113	5.154	9.370	10.756	0.000	3.445	1.048	328.9	-47.0
99.8	3.208	5.157	9.298	10.814	0.000	3.491	1.054	319.4	-56.4
102.8	3.315	5.093	9.221	10.846	0.000	3.467	1.069	305.2	-101.3
105.8	3.416	5.051	9.124	10.896	0.000	3.480	1.083	293.7	-53.3
108.8	3.510	5.040	9.064	10.943	0.000	3.505	1.091	285.2	-93.5
111.8	3.619	4.951	8.946	10.985	0.000	3.479	1.113	271.8	-104.7
114.8	3.716	4.929	8.872	11.036	0.000	3.500	1.124	263.5	-80.4
117.8	3.816	4.872	8.771	11.069	0.000	3.498	1.141	253.6	-71.2
120.8	3.915	4.858	8.731	11.096	0.000	3.509	1.148	246.4	-43.2
123.8	4.018	4.828	8.664	11.143	0.000	3.517	1.159	238.6	-61.3
126.8	4.117	4.796	8.563	11.191	0.000	3.546	1.173	231.4	-50.3
129.8	4.216	4.778	8.525	11.226	0.000	3.550	1.180	225.0	-84.2
132.8	4.320	4.709	8.417	11.262	0.000	3.541	1.202	216.5	-68.8
135.8	4.421	4.706	8.392	11.278	0.000	3.554	1.205	211.4	-51.6
138.8	4.523	4.657	8.297	11.327	0.000	3.559	1.222	204.4	-86.0
141.8	4.623	4.620	8.224	11.359	0.000	3.564	1.236	198.4	-74.7
144.8	4.738	4.577	8.172	11.389	0.000	3.546	1.249	191.8	-83.4
147.8	4.837	4.531	8.088	11.417	0.000	3.548	1.266	185.9	-74.8

STAGE 1

Elapsed Time (min)	Axial Strain ε_a (%)	q (ksf)	p' (ksf)	Excess PWP, ΔU (ksf)	Volume Change (cm^3)	Obliquity σ'_1/σ'_3 -	A_f -	E_S (ksf)	E_T (ksf)
150.8	4.943	4.501	8.041	11.443	0.000	3.542	1.277	180.7	-50.9
158.4	5.198	4.444	7.918	11.502	0.000	3.559	1.300	169.7	-35.5
165.9	5.450	4.410	7.800	11.575	0.000	3.603	1.320	160.6	-49.0
173.4	5.705	4.320	7.684	11.618	0.000	3.568	1.351	150.2	-58.5
180.9	5.957	4.262	7.571	11.662	0.000	3.576	1.376	142.0	-47.6
188.4	6.212	4.199	7.471	11.690	0.000	3.566	1.401	134.1	-38.9
195.9	6.463	4.163	7.370	11.759	0.000	3.597	1.421	127.8	-46.7
203.4	6.717	4.081	7.259	11.802	0.000	3.568	1.454	120.5	-44.1
210.9	6.967	4.052	7.182	11.832	0.000	3.589	1.470	115.3	-28.6
218.4	7.218	4.009	7.128	11.869	0.000	3.571	1.487	110.1	-36.3
225.9	7.473	3.960	7.048	11.879	0.000	3.565	1.510	105.1	-27.0
233.4	7.715	3.941	6.981	11.931	0.000	3.593	1.523	101.3	-30.3
240.9	7.970	3.884	6.887	11.966	0.000	3.586	1.551	96.6	-22.9
248.4	8.216	3.883	6.843	12.005	0.000	3.623	1.557	93.7	-30.6
255.9	8.475	3.805	6.777	11.991	0.000	3.560	1.587	89.0	-41.0
263.4	8.732	3.777	6.715	12.033	0.000	3.571	1.604	85.7	-25.5
270.9	8.980	3.740	6.647	12.062	0.000	3.574	1.624	82.5	-33.5
278.4	9.234	3.692	6.576	12.090	0.000	3.561	1.648	79.2	-35.3
285.9	9.482	3.652	6.504	12.127	0.000	3.561	1.671	76.3	-25.7
293.4	9.731	3.629	6.442	12.150	0.000	3.580	1.687	73.9	-27.3
300.9	9.991	3.582	6.334	12.228	0.000	3.603	1.718	71.0	-30.4
308.4	10.245	3.550	6.329	12.196	0.000	3.556	1.730	68.6	-22.1
315.9	10.492	3.527	6.277	12.215	0.000	3.565	1.746	66.6	-24.5
323.4	10.740	3.490	6.242	12.225	0.000	3.536	1.764	64.3	-22.7
330.9	10.992	3.470	6.196	12.240	0.000	3.546	1.778	62.5	-16.2
338.4	11.243	3.449	6.153	12.277	0.000	3.551	1.792	60.7	-13.7
345.9	11.496	3.435	6.084	12.315	0.000	3.594	1.807	59.2	-22.5
353.4	11.753	3.391	6.046	12.328	0.000	3.555	1.830	57.1	-34.7
360.9	12.009	3.347	5.978	12.353	0.000	3.544	1.858	55.2	-21.6
368.4	12.257	3.336	5.970	12.340	0.000	3.534	1.864	53.9	-13.6
375.9	12.505	3.313	5.898	12.382	0.000	3.563	1.885	52.4	-31.6
383.4	12.760	3.257	5.840	12.399	0.000	3.521	1.918	50.5	-32.3
390.9	13.011	3.231	5.796	12.409	0.000	3.519	1.936	49.1	-20.6
398.4	13.261	3.205	5.768	12.413	0.000	3.501	1.952	47.8	-14.3
405.9	13.509	3.195	5.734	12.433	0.000	3.517	1.962	46.8	-10.7
413.4	13.752	3.179	5.699	12.462	0.000	3.522	1.975	45.7	-8.6
420.9	14.001	3.174	5.683	12.468	0.000	3.530	1.980	44.9	-22.6
428.4	14.251	3.122	5.611	12.479	0.000	3.509	2.016	43.3	-27.0
435.9	14.500	3.107	5.591	12.489	0.000	3.501	2.027	42.4	-14.2
443.4	14.747	3.087	5.553	12.510	0.000	3.503	2.043	41.4	-13.3
450.4	14.980	3.075	5.530	12.504	0.000	3.504	2.054	40.6	-10.6

SOIL CHEMICAL TESTS

MACTEC

DOCUMENTATION OF TECHNICAL REVIEW
SUBCONTRACTOR WORK PRODUCT

Project Name: Turkey Point COL Project

Project Number: 6468-07-1950

Project Manager: Scott Auger

Project Principal: Tom McDaniel

The report described below has been prepared by the named subcontractor retained in accordance with the MACTEC QAPD. The work and report have been reviewed by a MACTEC technically qualified person. Comments on the work or report, if any, have been satisfactorily addressed by the subcontractor. The attached report is approved in accordance with section QS-7 of MACTEC's QAPD.

The information and data contained in the attached report are hereby released by MACTEC for project use.

REPORT : **Analytical Report Lot #: F8D150138**

SUBCONTRACTOR: **TestAmerica, Earth City, MO**

DATE OF ACCEPTANCE : 7/25/2008

TECHNICAL REVIEWER: William S. Grimes

SENIOR PROJECT PRINCIPAL: J. Allan Tice

MACTEC
3301 Atlantic Avenue, Raleigh, NC 27604

MACTEC

Client **Bechtel Power Corp.** Laboratory **TestAmerica Inc.**

MACTEC Project **6468-07-1950** Data Report Number/Date **Lot# F8D150138/ 4-18-08**

LABORATORY DATA REVIEW CHECKLIST

		YES	NO	NOT APPLICABLE
1.	Laboratory analytical data report appears complete (all data results present for all samples submitted for analysis) and there are no apparent transcription errors:	___	✓[1]	___
2.	Samples analyzed within applicable holding times (based on date of sample collection):*	✓	___	___
3.	Trip blanks, field blanks or laboratory method blanks are free of blank contamination:	✓	___	___
4.	If field duplicate samples collected, calculated results meet Relative Percent Difference guidelines: **	___	___	✓
5.	Surrogate recoveries (organic analyses only) within laboratory reported recovery acceptance ranges:	___	___	✓
6.	If Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples required to meet project objectives, Percent Recoveries (%R) and Relative Percent Difference (RPD) within laboratory reported acceptance ranges:	✓	___	___
7.	Reported detection limits meet project objectives (e.g., are capable of achieving applicable site standards):	✓	___	___
8.	Completed Chain-Of-Custody received noting sample/custody seal condition (with airbill, if appropriate):	✓	___	___
9.	Analytical costs within authorized budget for these services:	✓	___	___

COMMENTS: [1] **Due to a limitation in the laboratory's data reporting system, TestAmerica incorrectly reported that pH was tested by SW-846 9045C, when it was actually tested according to 9045D. This discrepancy is noted in the case narrative.**

Notes: 1. This checklist is intended for use with the laboratory reporting formats typical of most projects. If "no" is answered to one or more of the above checklist questions 1 through 7, a more detailed Data Validation may be required, and a person knowledgeable in Data Validation protocols should be consulted. This checklist should not be used if the project scope requires Data Validation from the onset.

2. * = Based upon EPA Guidance and the applicable analytical method references. See reverse side of checklist for details.

3. ** = Based upon EPA Guidance. Use these criteria on duplicate and sample results which exceed five times the reported detection limit. See reverse side of checklist for details.

Checked by: _____ Date: 7-15-08

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 6468071950

FPL Turkey Point COL

Lot #: F8D150138

Al Tice

MACTEC Engineering and Cons.
3301 Atlantic Ave.
Raleigh, NC 27604

TESTAMERICA LABORATORIES, INC.

Ivan Vania
Project Manager

April 18, 2008

Case Narrative
LOT NUMBER: F8D150138

This report contains the analytical results for the eight samples received under chain of custody by TestAmerica St. Louis on April 14, 2008. These samples are associated with your FPL Turkey Point COL project.

The analytical results included in this report meet all applicable quality control procedure requirements.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Method 9045C is listed on the results report due to a limitation of the laboratory's data reporting system. However, method 9045D was used for the analysis of pH. This can be verified by observation of the lab bench worksheets in the raw data package.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

There were no nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F8D150138

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Chloride	MCAWW 300.0A	MCAWW 300.0A
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
Soil and Waste pH	SW846 9045C	SW846 DI-LEACHA
Sulfate	MCAWW 300.0A	MCAWW 300.0A

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F8D150138

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KLAKP	001	B-706 706-2	02/09/08	
KLALA	003	B-603 603-3	02/14/08	
KLALD	005	B-605 605-20	02/26/08	
KLALE	006	B-607 607-10	03/09/08	
KLALF	007	B-703 703-10	02/05/08	
KLAL2	008	B-704 704-16	02/27/08	
KLAL3	009	B-705 705-11	02/22/08	
KLAL4	010	B-711 711-12	03/06/08	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: B-706 706-2

General Chemistry

Lot-Sample #...: F8D150138-001 **Work Order #...:** KLAKP **Matrix.....:** SOLID
Date Sampled...: 02/09/08 **Date Received..:** 04/14/08
% Moisture.....: 21

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	8.3	0.10	No Units	SW846 9045C	04/16/08	8107188
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	8830	509	mg/kg	MCAWW 300.0A	04/18/08	8109033
		Dilution Factor: 200		Analysis Time..: 11:42		
Percent Moisture	21.4	0.10	%	MCAWW 160.3 MOD	04/16-04/17/08	8106226
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	1190	63.6	mg/kg	MCAWW 300.0A	04/18/08	8109034
		Dilution Factor: 10		Analysis Time..: 11:02		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: B-603 603-3

General Chemistry

Lot-Sample #...: F8D150138-003 Work Order #...: KLALA Matrix.....: SOLID
Date Sampled...: 02/14/08 Date Received..: 04/14/08
% Moisture.....: 18

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	8.4	0.10	No Units	SW846 9045C	04/16/08	8107188
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	5430	489	mg/kg	MCAWW 300.0A	04/18/08	8109033
		Dilution Factor: 200		Analysis Time..: 11:55		
Percent Moisture	18.2	0.10	%	MCAWW 160.3 MOD	04/16-04/17/08	8106226
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	780	61.1	mg/kg	MCAWW 300.0A	04/18/08	8109034
		Dilution Factor: 10		Analysis Time..: 06:47		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: B-605 605-20

General Chemistry

Lot-Sample #...: F8D150138-005 **Work Order #...:** KLALD **Matrix.....:** SOLID
Date Sampled...: 02/26/08 **Date Received..:** 04/14/08
% Moisture.....: 22

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	8.3	0.10	No Units	SW846 9045C	04/16/08	8107188
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	5190	514	mg/kg	MCAWW 300.0A	04/18/08	8109033
		Dilution Factor: 200		Analysis Time..: 12:46		
Percent Moisture	22.2	0.10	%	MCAWW 160.3 MOD	04/16-04/17/08	8106226
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	1180	64.3	mg/kg	MCAWW 300.0A	04/18/08	8109034
		Dilution Factor: 10		Analysis Time..: 07:41		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: B-607 607-10

General Chemistry

Lot-Sample #...: F8D150138-006 Work Order #...: KLALE Matrix.....: SOLID
Date Sampled...: 03/09/08 Date Received..: 04/14/08
% Moisture.....: 20

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	8.4	0.10	No Units	SW846 9045C	04/16/08	8107188
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	4490	248	mg/kg	MCAWW 300.0A	04/18/08	8109033
		Dilution Factor: 100		Analysis Time..: 12:33		
Percent Moisture	19.5	0.10	%	MCAWW 160.3 MOD	04/16-04/17/08	8106226
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	1140	62.1	mg/kg	MCAWW 300.0A	04/18/08	8109034
		Dilution Factor: 10		Analysis Time..: 07:27		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: B-703 703-10

General Chemistry

Lot-Sample #...: F8D150138-007 Work Order #...: KLALF Matrix.....: SOLID
Date Sampled...: 02/05/08 Date Received..: 04/14/08
% Moisture.....: 22

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	8.4	0.10	No Units	SW846 9045C	04/16/08	8107188
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	4730	513	mg/kg	MCAWW 300.0A	04/18/08	8109033
		Dilution Factor: 200		Analysis Time..: 10:49		
Percent Moisture	22.1	0.10	%	MCAWW 160.3 MOD	04/16-04/17/08	8106226
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	974	64.2	mg/kg	MCAWW 300.0A	04/18/08	8109034
		Dilution Factor: 10		Analysis Time..: 10:35		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: B-704 704-16

General Chemistry

Lot-Sample #...: F8D150138-008 Work Order #...: KLAL2 Matrix.....: SOLID
Date Sampled...: 02/27/08 Date Received..: 04/14/08
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	8.7	0.10	No Units	SW846 9045C	04/16/08	8107188
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	7020	469	mg/kg	MCAWW 300.0A	04/18/08	8109033
		Dilution Factor: 200		Analysis Time..: 12:58		
Percent Moisture	14.8	0.10	%	MCAWW 160.3 MOD	04/16-04/17/08	8106226
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	914	58.7	mg/kg	MCAWW 300.0A	04/18/08	8109034
		Dilution Factor: 10		Analysis Time..: 07:54		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: B-705 705-11

General Chemistry

Lot-Sample #...: F8D150138-009 Work Order #...: KLAL3 Matrix.....: SOLID
Date Sampled...: 02/22/08 Date Received..: 04/14/08
% Moisture.....: 20

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	8.7	0.10	No Units	SW846 9045C	04/16/08	8107188
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	2540	250	mg/kg	MCAWW 300.0A	04/18/08	8109033
		Dilution Factor: 100		Analysis Time..: 12:08		
Percent Moisture	19.8	0.10	%	MCAWW 160.3 MOD	04/16-04/17/08	8106226
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	461	62.4	mg/kg	MCAWW 300.0A	04/18/08	8109034
		Dilution Factor: 10		Analysis Time..: 07:01		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: B-711 711-12

General Chemistry

Lot-Sample #...: F8D150138-010 Work Order #...: KLAL4 Matrix.....: SOLID
Date Sampled...: 03/06/08 Date Received..: 04/14/08
% Moisture.....: 21

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	8.3	0.10	No Units	SW846 9045C	04/16/08	8107188
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	4430	254	mg/kg	MCAWW 300.0A	04/18/08	8109033
		Dilution Factor: 100		Analysis Time..: 12:20		
Percent Moisture	21.1	0.10	%	MCAWW 160.3 MOD	04/16-04/17/08	8106226
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	806	63.4	mg/kg	MCAWW 300.0A	04/18/08	8109034
		Dilution Factor: 10		Analysis Time..: 07:14		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F8D150138 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: KLLKX1AA		MB Lot-Sample #:	F8D180000-033	
	ND	2.0	mg/kg	MCAWW 300.0A	04/18/08	8109033
		Dilution Factor: 1				
		Analysis Time..: 06:04				
Sulfate		Work Order #: KLLK21AA		MB Lot-Sample #:	F8D180000-034	
	ND	5.0	mg/kg	MCAWW 300.0A	04/18/08	8109034
		Dilution Factor: 1				
		Analysis Time..: 06:04				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8D150138 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)		Work Order #: KLEFM1AA	LCS Lot-Sample#: F8D160000-188		
	100	(99 - 101)	SW846 9045C	04/16/08	8107188
		Dilution Factor: 1	Analysis Time..: 00:00		
Chloride		Work Order #: KLLKX1AC	LCS Lot-Sample#: F8D180000-033		
	96	(90 - 110)	MCAWW 300.0A	04/18/08	8109033
		Dilution Factor: 1	Analysis Time..: 05:50		
Sulfate		Work Order #: KLLK21AC	LCS Lot-Sample#: F8D180000-034		
	98	(90 - 110)	MCAWW 300.0A	04/18/08	8109034
		Dilution Factor: 1	Analysis Time..: 05:50		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8D150138 **Matrix.....:** SOLID
Date Sampled...: 02/27/08 **Date Received..:** 04/14/08

Percnt Moisture: 8.0

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #...: KLAL21AF		MS Lot-Sample #: F8D150138-008	
	104	(90 - 110)	MCAWW 300.0A	04/18/08	8109033
		Dilution Factor: 200	Analysis Time..: 12:58		
Sulfate		Work Order #...: KLAL21AH		MS Lot-Sample #: F8D150138-008	
	103	(90 - 110)	MCAWW 300.0A	04/18/08	8109034
		Dilution Factor: 10	Analysis Time..: 07:54		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8D150138 **Work Order #...:** KK706-SMP KK706-DUP **Matrix.....:** SOLID

Date Sampled...: 04/11/08 10:00 **Date Received..:** 04/12/08

% Moisture.....: 8.0

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture						SD Lot-Sample #: F8D120160-002		
	8.0	8.4	%	4.7	(0-30)	MCAWW 160.3 MOD	04/16-04/17/08	8106226

Dilution Factor: 1 Analysis Time..: 00:00

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8D150138 **Work Order #...:** KLALD-SMP KLALD-DUP **Matrix.....:** SOLID

Date Sampled...: 02/26/08 **Date Received..:** 04/14/08

% Moisture.....: 22

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)						SD Lot-Sample #: F8D150138-005		
	8.3	8.1	No Units	2.7	(0-0.0)	SW846 9045C	04/16/08	8107188

Dilution Factor: 1 Analysis Time..: 00:00

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8D150138 **Work Order #...:** KLAL2-SMP **Matrix.....:** SOLID
KLAL2-DUP

Date Sampled...: 02/27/08 **Date Received..:** 04/14/08

% Moisture.....: 15

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride						SD Lot-Sample #: F8D150138-008		
	7020	7270	mg/kg	3.5	(0-20)	MCAWW 300.0A	04/18/08	8109033
		Dilution Factor: 200				Analysis Time..: 12:58		
Sulfate						SD Lot-Sample #: F8D150138-008		
	914	915	mg/kg	0.046	(0-20)	MCAWW 300.0A	04/18/08	8109034
		Dilution Factor: 10				Analysis Time..: 07:54		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

F8D150138 CLIENT ANALYSIS SUMMARY

Storage Loc: 2-349

Project Manager: IV | Quote #: 79192 | SDG:

Project: 6468071950 | FPL Turkey Point COL

PO#: 200807151 | Report to: Kathryn White

Client: 63036 MACTEC Engineering & Consulting Inc

RUSH

#SMPS in LOT: 10

Date Received: 2008-04-14

Analytical Due Date: 2008-04-18

Report Due Date: 2008-04-18

Report Type: W

EDD Code: 00

Inform PM of any receiving issues.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
1	B-706 706-2			2008-02-09 / 0	KLAKP	SOLID

SAMPLE COMMENTS:

XX	CX	MCAW W	300.0A	SOLID, 300.0A, Chloride (300.0A, Ion Chr	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW W	300.0A	SOLID, 300.0A, Sulfate (300.0A, Ion Chro	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	OZ	SW846	9045C	SOLID, 9045C, pH (9045C) - Non-Aqueous	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
3	B-603 603-3			2008-02-14 / 0	KLALA	SOLID

SAMPLE COMMENTS:

XX	CX	MCAW W	300.0A	SOLID, 300.0A, Chloride (300.0A, Ion Chr	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW W	300.0A	SOLID, 300.0A, Sulfate (300.0A, Ion Chro	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	OZ	SW846	9045C	SOLID, 9045C, pH (9045C) - Non-Aqueous	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
5	B-605 605-20			2008-02-26 / 0	KLALD	SOLID

SAMPLE COMMENTS:

XX	CX	MCAW W	300.0A	SOLID, 300.0A, Chloride (300.0A, Ion Chr	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW W	300.0A	SOLID, 300.0A, Sulfate (300.0A, Ion Chro	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	OZ	SW846	9045C	SOLID, 9045C, pH (9045C) - Non-Aqueous	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
6	B-607 607-10			2008-03-09 / 0	KLALE	SOLID

SAMPLE COMMENTS:

XX	CX	MCAW W	300.0A	SOLID, 300.0A, Chloride (300.0A, Ion Chr	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW W	300.0A	SOLID, 300.0A, Sulfate (300.0A, Ion Chro	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	OZ	SW846	9045C	SOLID, 9045C, pH (9045C) - Non-Aqueous	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
7	B-703 703-10			2008-02-05 / 0	KLALF	SOLID

SAMPLE COMMENTS:

XX	CX	MCAW W	300.0A	SOLID, 300.0A, Chloride (300.0A, Ion Chr	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW W	300.0A	SOLID, 300.0A, Sulfate (300.0A, Ion Chro	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	OZ	SW846	9045C	SOLID, 9045C, pH (9045C) - Non-Aqueous	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE # CLIENT SAMPLE ID Site ID Client Matrix DATE/TIME SAMPLED WORKORDER A

F8D150138 CLIENT ANALYSIS SUMMARY

Storage Loc: 2-349

Project Manager: IV | Quote #: 79192 | SDG:

Project: 6468071950 | FPL Turkey Point COL

PO#: 200807151 | Report to: Kathryn White

Client: 63036 MACTEC Engineering & Consulting Inc

RUSH

#SMPS in LOT: 10

Date Received: 2008-04-14

Analytical Due Date: 2008-04-18

Report Due Date: 2008-04-18

Report Type: W

EDD Code: 00

Inform PM of any receiving issues.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
8	B-704 704-16			2008-02-27 / 0	KLAL2	SOLID

SAMPLE COMMENTS:

XX	CX	MCAW W	300.0A	SOLID, 300.0A, Chloride (300.0A, Ion Chr	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW W	300.0A	SOLID, 300.0A, Sulfate (300.0A, Ion Chro	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	OZ	SW846	9045C	SOLID, 9045C, pH (9045C) - Non-Aqueous	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
9	B-705 705-11			2008-02-22 / 0	KLAL3	SOLID

SAMPLE COMMENTS:

XX	CX	MCAW W	300.0A	SOLID, 300.0A, Chloride (300.0A, Ion Chr	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW W	300.0A	SOLID, 300.0A, Sulfate (300.0A, Ion Chro	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	OZ	SW846	9045C	SOLID, 9045C, pH (9045C) - Non-Aqueous	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
10	B-711 711-12			2008-03-06 / 0	KLAL4	SOLID

SAMPLE COMMENTS:

XX	CX	MCAW W	300.0A	SOLID, 300.0A, Chloride (300.0A, Ion Chr	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW W	300.0A	SOLID, 300.0A, Sulfate (300.0A, Ion Chro	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	OZ	SW846	9045C	SOLID, 9045C, pH (9045C) - Non-Aqueous	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

CHAIN OF CUSTODY RECORD
TURKEY POINT COL PROJECT - FPL
MACTEC JOB NO. 6468-07-1950

COC No. TP-08

SAMPLE DESIGNATION	SAMPLE TYPE	TAKEN BY	DATE TAKEN	CHEMICAL ANALYSIS INTENDED USE	REMARKS
B-706 706-7	SAND + ROCK	CB	2/9/08 (3.1-4.6)		
B-706 706-6			2/9/08 (12.9-14.4)	not send	INSUFFICIENT SAMPLE
B-603-603-3			2/14/08 (5.0-6.5)		
B-605 605-10			2/23/08 (30-31.5)	not send	insufficient Sample
B-605 605-20			2/26/08 (154.4-156.4)		
B-607 607-10			3/9/08 (139.5-141)		
B-703 703-10			2/5/08 (123.8-125.3)		
B-704 704-16			2/27/08 (128-129.5)		
B-705 705-11			2/22/08 (33.5-35-0		
B-711 711-12			3/6/08 (130.2-131.7		

1. Relinquished by:	1. Date/Time	1. Received by:	1. Date/Time	
(name) CHANA SAVANNAH (signature)	4/10/08 9:40 AM	(name) AB Cranson (signature)	4/14/08 9:20	
2. Relinquished by:	2. Date/Time	2. Received by:	2. Date/Time	
(name) (signature)		(name) (signature)		

Remarks: If relinquishing to a common carrier or Fed Ex – Record tracking number TRK# ~~7993-0668-8050~~ 7998-3593-0877 CO 4/11/08

~~B-706-6~~ B-706 706-6 & ~~B605-605-10~~ are not sent due to insufficient Samples

all Samples obtained from TP-04 DCN No TUR-111

Receiving Laboratory: Please return original form after signing for receipt of samples; keep copy for your records. Retain all portions of unused samples in labeled containers.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F8D150138
- 2634 -

Condition Upon Receipt Form

Client: Mactec COC/RFA No: TR-08 Date: 4-14-08
Quote No: 74192 Initiated By: AB Time: 9:20

Shipping Information

Shipper Name: FE
Multiple Packages Y (N)

Shipping # (s):*				Sample Temperature (s):**			
1.	7998 3593 0877	6.		1.	HMD.at	6.	
2.		7.		2.		7.	
3.		8.		3.		8.	
4.		9.		4.		9.	
5.		10.		5.		10.	

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	Y (N)	Are there custody seals present on the cooler?	8.	Y (N)	Are there custody seals present on bottles?
2.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?	9.	Y N (N/A)	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N	If N/A- Was pH taken by original TestAmerica lab?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:
Received out of temp. Ruined out of hold. OK to log per T.V. 4/15/08

Corrective Action:
☐ Client Contact Name: _____ Informed by: _____
☐ Sample(s) processed "as is"
☐ Sample(s) on hold until: _____ If released, notify: _____
Project Management Review: _____ Date: 4-17-8

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

MACTEC

DOCUMENTATION OF TECHNICAL REVIEW
SUBCONTRACTOR WORK PRODUCT

Project Name: Turkey Point COL Project

Project Number: 6468-07-1950

Project Manager: Scott Auger

Project Principal: Tom McDaniel

The report described below has been prepared by the named subcontractor retained in accordance with the MACTEC QAPD. The work and report have been reviewed by a MACTEC technically qualified person. Comments on the work or report, if any, have been satisfactorily addressed by the subcontractor. The attached report is approved in accordance with section QS-7 of MACTEC's QAPD.

The information and data contained in the attached report are hereby released by MACTEC for project use.

REPORT : **Analytical Report Lot #: F8E060234**

SUBCONTRACTOR: **TestAmerica, Earth City, MO**

DATE OF ACCEPTANCE : 7/25/2008

TECHNICAL REVIEWER: William S. Grimes

SENIOR PROJECT PRINCIPAL: J. Allan Tice

MACTEC

Client **Bechtel Power Corp.** Laboratory **TestAmerica Inc.**

MACTEC Project **6468-07-1950** Data Report Number/Date **Lot# F8E060234/ 5-12-08**

LABORATORY DATA REVIEW CHECKLIST

		YES	NO	NOT APPLICABLE
1.	Laboratory analytical data report appears complete (all data results present for all samples submitted for analysis) and there are no apparent transcription errors:	___	✓[1]	___
2.	Samples analyzed within applicable holding times (based on date of sample collection):*	✓	___	___
3.	Trip blanks, field blanks or laboratory method blanks are free of blank contamination:	✓	___	___
4.	If field duplicate samples collected, calculated results meet Relative Percent Difference guidelines: **	___	___	✓
5.	Surrogate recoveries (organic analyses only) within laboratory reported recovery acceptance ranges:	___	___	✓
6.	If Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples required to meet project objectives, Percent Recoveries (%R) and Relative Percent Difference (RPD) within laboratory reported acceptance ranges:	✓	___	___
7.	Reported detection limits meet project objectives (e.g., are capable of achieving applicable site standards):	✓	___	___
8.	Completed Chain-Of-Custody received noting sample/custody seal condition (with airbill, if appropriate):	✓	___	___
9.	Analytical costs within authorized budget for these services:	✓	___	___

COMMENTS: [1] **Due to a limitation in the laboratory's data reporting system, TestAmerica incorrectly reported that pH was tested by SW-846 9045C, when it was actually tested according to 9045D.**

Notes: 1. This checklist is intended for use with the laboratory reporting formats typical of most projects. If "no" is answered to one or more of the above checklist questions 1 through 7, a more detailed Data Validation may be required, and a person knowledgeable in Data Validation protocols should be consulted. This checklist should not be used if the project scope requires Data Validation from the onset.

2. * = Based upon EPA Guidance and the applicable analytical method references. See reverse side of checklist for details.

3. ** = Based upon EPA Guidance. Use these criteria on duplicate and sample results which exceed five times the reported detection limit. See reverse side of checklist for details.

Checked by: _____ Date: 7-25-08

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 6468071950

FPL Turkey Point COL

Lot #: F8E060234

Al Tice

MACTEC Engineering and Cons.
3301 Atlantic Ave.
Raleigh, NC 27604

TESTAMERICA LABORATORIES, INC.

Ivan Vania
Project Manager

May 12, 2008

Case Narrative
LOT NUMBER: F8E060234

This report contains the analytical results for the six samples received under chain of custody by TestAmerica St. Louis on May 6, 2008. These samples are associated with your FPL Turkey Point COL project.

The analytical results included in this report meet all applicable quality control procedure requirements.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

There were no nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F8E060234

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Chloride	MCAWW 300.0A	MCAWW 300.0A
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
Soil and Waste pH	SW846 9045C	SW846 DI-LEACHA
Sulfate	MCAWW 300.0A	MCAWW 300.0A

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F8E060234

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KMMHW	001	B-701-701-3	05/05/08	
KMMJC	002	B-701-701-1	05/05/08	
KMMJD	003	B-701-701-8	05/05/08	
KMMJE	004	B-701-701-12	05/05/08	
KMMJF	005	B-715-715-3	05/05/08	
KMMJH	006	B-715-715-11	05/05/08	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: B-701-701-3

General Chemistry

Lot-Sample #...: F8E060234-001 Work Order #...: KMMHW Matrix.....: SOLID
Date Sampled...: 05/05/08 Date Received..: 05/06/08
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	8.5	0.10	No Units	SW846 9045C	05/09/08	8130226
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	5050	480	mg/kg	MCAWW 300.0A	05/09/08	8130370
		Dilution Factor: 200		Analysis Time..: 03:03		
Percent Moisture	16.7	0.10	%	MCAWW 160.3 MOD	05/07-05/08/08	8128051
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	551	60.0	mg/kg	MCAWW 300.0A	05/09/08	8130371
		Dilution Factor: 10		Analysis Time..: 01:14		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: B-701-701-1

General Chemistry

Lot-Sample #...: F8E060234-002 Work Order #...: KMMJC Matrix.....: SOLID
Date Sampled...: 05/05/08 Date Received..: 05/06/08
% Moisture.....: 65

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	7.4	0.10	No Units	SW846 9045C	05/09/08	8130226
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	70400	2890	mg/kg	MCAWW 300.0A	05/09/08	8130370
		Dilution Factor: 500		Analysis Time..: 04:16		
Percent Moisture	65.4	0.10	%	MCAWW 160.3 MOD	05/07-05/08/08	8128051
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	7590	1440	mg/kg	MCAWW 300.0A	05/09/08	8130371
		Dilution Factor: 100		Analysis Time..: 04:04		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: B-701-701-8

General Chemistry

Lot-Sample #...: F8E060234-003 Work Order #...: KMMJD Matrix.....: SOLID
Date Sampled...: 05/05/08 Date Received..: 05/06/08
% Moisture.....: 26

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	8.5	0.10	No Units	SW846 9045C	05/09/08	8130226
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	4290	269	mg/kg	MCAWW 300.0A	05/09/08	8130370
		Dilution Factor: 100		Analysis Time..: 04:29		
Percent Moisture	25.6	0.10	%	MCAWW 160.3 MOD	05/07-05/08/08	8128051
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	560	67.2	mg/kg	MCAWW 300.0A	05/09/08	8130371
		Dilution Factor: 10		Analysis Time..: 01:39		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: B-701-701-12

General Chemistry

Lot-Sample #...: F8E060234-004 Work Order #...: KMMJE Matrix.....: SOLID
Date Sampled...: 05/05/08 Date Received..: 05/06/08
% Moisture.....: 30

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	8.3	0.10	No Units	SW846 9045C	05/09/08	8130226
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	6960	573	mg/kg	MCAWW 300.0A	05/09/08	8130370
		Dilution Factor: 200		Analysis Time..: 04:41		
Percent Moisture	30.2	0.10	%	MCAWW 160.3 MOD	05/07-05/08/08	8128051
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	993	71.6	mg/kg	MCAWW 300.0A	05/09/08	8130371
		Dilution Factor: 10		Analysis Time..: 01:51		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: B-715-715-3

General Chemistry

Lot-Sample #...: F8E060234-005 **Work Order #...:** KMMJF **Matrix.....:** SOLID
Date Sampled...: 05/05/08 **Date Received..:** 05/06/08
% Moisture.....: 12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	8.8	0.10	No Units	SW846 9045C	05/09/08	8130226
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	3250	228	mg/kg	MCAWW 300.0A	05/09/08	8130370
		Dilution Factor: 100		Analysis Time..: 05:54		
Percent Moisture	12.3	0.10	%	MCAWW 160.3 MOD	05/07-05/08/08	8128051
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	334	57.0	mg/kg	MCAWW 300.0A	05/09/08	8130371
		Dilution Factor: 10		Analysis Time..: 02:03		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: B-715-715-11

General Chemistry

Lot-Sample #...: F8E060234-006 Work Order #...: KMMJH Matrix.....: SOLID
Date Sampled...: 05/05/08 Date Received..: 05/06/08
% Moisture.....: 26

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	8.4	0.10	No Units	SW846 9045C	05/09/08	8130226
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	6090	540	mg/kg	MCAWW 300.0A	05/09/08	8130370
		Dilution Factor: 200		Analysis Time..: 05:05		
Percent Moisture	26.0	0.10	%	MCAWW 160.3 MOD	05/07-05/08/08	8128051
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	957	67.5	mg/kg	MCAWW 300.0A	05/09/08	8130371
		Dilution Factor: 10		Analysis Time..: 02:15		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F8E060234 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: KM1261AA		MB Lot-Sample #:	F8E090000-370	
	ND	2.0	mg/kg	MCAWW 300.0A	05/09/08	8130370
		Dilution Factor: 1				
		Analysis Time..: 10:10				
Sulfate		Work Order #: KM1271AA		MB Lot-Sample #:	F8E090000-371	
	ND	5.0	mg/kg	MCAWW 300.0A	05/09/08	8130371
		Dilution Factor: 1				
		Analysis Time..: 10:10				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E060234 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)		Work Order #: KMWLT1AA LCS Lot-Sample#: F8E090000-226			
	100	(99 - 101)	SW846 9045C	05/09/08	8130226
		Dilution Factor: 1	Analysis Time..: 00:00		
Chloride		Work Order #: KM1261AC LCS Lot-Sample#: F8E090000-370			
	97	(90 - 110)	MCAWW 300.0A	05/09/08	8130370
		Dilution Factor: 1	Analysis Time..: 09:58		
Sulfate		Work Order #: KM1271AC LCS Lot-Sample#: F8E090000-371			
	96	(90 - 110)	MCAWW 300.0A	05/09/08	8130371
		Dilution Factor: 1	Analysis Time..: 09:58		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E060234 **Matrix.....:** SOLID
Date Sampled...: 05/05/08 **Date Received..:** 05/06/08

Percnt Moisture: 8.8

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #...: KMMHW1AF		MS Lot-Sample #: F8E060234-001	
	100	(90 - 110)	MCAWW 300.0A	05/09/08	8130370
		Dilution Factor: 200	Analysis Time..: 03:03		
Sulfate		Work Order #...: KMMHW1AH		MS Lot-Sample #: F8E060234-001	
	96	(90 - 110)	MCAWW 300.0A	05/09/08	8130371
		Dilution Factor: 10	Analysis Time..: 01:14		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E060234 **Work Order #...:** KMMT6-SMP KMMT6-DUP **Matrix.....:** SOLID

Date Sampled...: 04/28/08 14:17 **Date Received..:** 05/02/08

% Moisture.....: 8.8

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture						SD Lot-Sample #: F8E060281-005		
	8.8	9.3	%	5.0	(0-30)	MCAWW 160.3 MOD	05/07-05/08/08	8128051

Dilution Factor: 1 Analysis Time..: 00:00

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E060234 **Work Order #...:** KMMJH-SMP KMMJH-DUP **Matrix.....:** SOLID

Date Sampled...: 05/05/08 **Date Received..:** 05/06/08

% Moisture.....: 26

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)						SD Lot-Sample #: F8E060234-006		
	8.4	8.3	No Units	0.72	(0-0.0)	SW846 9045C	05/09/08	8130226

Dilution Factor: 1 Analysis Time..: 00:00

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8E060234 **Work Order #...:** KMMHW-SMP KMMHW-DUP **Matrix.....:** SOLID

Date Sampled...: 05/05/08 **Date Received..:** 05/06/08

% Moisture.....: 17

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride						SD Lot-Sample #: F8E060234-001		
	5050	4980	mg/kg	1.4	(0-20)	MCAWW 300.0A	05/09/08	8130370
		Dilution Factor: 200				Analysis Time..: 03:03		
Sulfate						SD Lot-Sample #: F8E060234-001		
	551	552	mg/kg	0.24	(0-20)	MCAWW 300.0A	05/09/08	8130371
		Dilution Factor: 10				Analysis Time..: 01:14		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

F8E060234 CLIENT ANALYSIS SUMMARY

Storage Loc: 3-79

Project Manager: IV | Quote #: 79192 | SDG:

Project: 6468071950 | FPL Turkey Point COL

PO#: 200807151 | Report to: Al Tice

Client: 63036 MACTEC Engineering & Consulting Inc

RUSH

#SMPS In LOT: 6

Date Received: 2008-05-06

Analytical Due Date: 2008-05-09

Report Due Date: 2008-05-09

Report Type: W

EDD Code: 00

Inform PM of any receiving issues.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
1	B-701-701-3			2008-05-05 / 0	KMMHW	SOLID

SAMPLE COMMENTS:

XX	CX	MCAW W	300.0A	SOLID, 300.0A, Chloride (300.0A, Ion Chr	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW W	300.0A	SOLID, 300.0A, Sulfate (300.0A, Ion Chro	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	OZ	SW846	9045C	SOLID, 9045C, pH (9045C) - Non-Aqueous	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
2	B-701-701-1			2008-05-05 / 0	KMMJC	SOLID

SAMPLE COMMENTS:

XX	CX	MCAW W	300.0A	SOLID, 300.0A, Chloride (300.0A, Ion Chr	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW W	300.0A	SOLID, 300.0A, Sulfate (300.0A, Ion Chro	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	OZ	SW846	9045C	SOLID, 9045C, pH (9045C) - Non-Aqueous	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
3	B-701-701-8			2008-05-05 / 0	KMMJD	SOLID

SAMPLE COMMENTS:

XX	CX	MCAW W	300.0A	SOLID, 300.0A, Chloride (300.0A, Ion Chr	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW W	300.0A	SOLID, 300.0A, Sulfate (300.0A, Ion Chro	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	OZ	SW846	9045C	SOLID, 9045C, pH (9045C) - Non-Aqueous	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
4	B-701-701-12			2008-05-05 / 0	KMMJE	SOLID

SAMPLE COMMENTS:

XX	CX	MCAW W	300.0A	SOLID, 300.0A, Chloride (300.0A, Ion Chr	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW W	300.0A	SOLID, 300.0A, Sulfate (300.0A, Ion Chro	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	OZ	SW846	9045C	SOLID, 9045C, pH (9045C) - Non-Aqueous	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
5	B-715-715-3			2008-05-05 / 0	KMMJF	SOLID

SAMPLE COMMENTS:

XX	CX	MCAW W	300.0A	SOLID, 300.0A, Chloride (300.0A, Ion Chr	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW W	300.0A	SOLID, 300.0A, Sulfate (300.0A, Ion Chro	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	OZ	SW846	9045C	SOLID, 9045C, pH (9045C) - Non-Aqueous	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A

F8E060234 CLIENT ANALYSIS SUMMARY

Storage Loc: 3-79

Project Manager: IV Quote #: 79192 SDG:

Project: 6468071950 FPL Turkey Point COL

PO#: 200807151 Report to: Al Tice

Client: 63036 MACTEC Engineering & Consulting Inc

RUSH

#SMPS in LOT: 6

Date Received: 2008-05-06

Analytical Due Date: 2008-05-09

Report Due Date: 2008-05-09

Report Type: W

EDD Code: 00

Inform PM of any receiving issues.

6	B-715-715-11	2008-05-05 / 0	KMMJH	SOLID	

SAMPLE COMMENTS:

XX	CX	MCAW W	300.0A	SOLID, 300.0A, Chloride (300.0A, Ion Chr	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	CY	MCAW W	300.0A	SOLID, 300.0A, Sulfate (300.0A, Ion Chro	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	OZ	SW846	9045C	SOLID, 9045C, pH (9045C) - Non-Aqueous	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

LOT# F8E060234

CHAIN OF CUSTODY RECORD
TURKEY POINT COL PROJECT - FPL
MACTEC JOB NO. 6468-07-1950

COC No 1 22 of 40

SAMPLE DESIGNATION	SAMPLE TYPE	TAKEN BY	DATE TAKEN	INTENDED USE (ABS 4-08)	REMARKS
B-701 701-3	Sand+Rock	C. Savanapridi	5/5/08	120g CHEMICAL TESTING	191.69n
B-701-701-1					161.59n
B-701-701-8					199.3 gr
B-701-701-12					205.49r
B-715-715-3					125.89n
B-715-715-11					155.59n

1. Relinquished by:	1. Date/Time	1. Received by:	1. Date/Time		
C. Savanapridi	5/5/08	Angela Dunn	5/6/08 9:15		
(name) (signature)	12:00 PM	(name) (signature)			
2. Relinquished by:	2. Date/Time	2. Received by:	2. Date/Time		
(name) (signature)		(name) (signature)			

Remarks: If relinquishing to a common carrier or Fed Ex – Record tracking number TRK# 7984-3440-0719

Taken Samples from the following JARS B-701-3, B-701-1, B-701-8, B-701-12
B-715-3, B-715-11 (Total 6 JARS)

Receiving Laboratory: Please return original form after signing for receipt of samples; keep copy for your records. Retain all portions of unused samples in labeled containers.

TestAmerica St. Louis

25409-000-K0A-CY00-00006

GEOTECHNICAL LABORATORY TEST ASSIGNMENT

Date 4/24/2008 Job Name FPL COL Job No. 25409 Requested By John Sturman

Assignment 05

SAMPLE LOCATION				PHYSICAL PROPERTIES										STRENGTH TESTS								COM-PACTION			CONSOLIDATION
								Grain Size Analysis																	
Boring No.	Sample Type (Tube Sample Length)	Top of Sample/Core Run Depth, Ft	Sample/Run Number	Moisture Content	Unit Weight	Specific Gravity	Atterberg Limits	Sieve Only	Sieve + Hydrometer	Chemical Analysis (pH, chloride, sulphate)	Organic Content	Carbonate Content		Unconsolidated-Undrained Triaxial	Consolidated-Undrained Triaxial (3-stage w/pore-pressure meas.)	Unconfined Compression (Soil)	Confining Pressures (psf)	Direct Shear	TSRC (Assume K_0 = 0.5)	Unconfined Compression (rock)	Unconfined Compression (rock) w/stress-strain measurements	Standard (A, B, C, D)	Modified (A, B, C, D)	CBR	
B-711	Core	34.1	R-1	x	x							(x)								x					
B-711	Core	35.6	R-2	x	x															x					
B-711	Core	50.9	R-5	x	x															x					
B-711	Core	58.5	R-6	x	x	x														x	perform stress-strain				
B-711	Core	60.7	R-7	x	x							(x)								x	measurements				
B-711	Core	62.0	R-7	x	x															x	where possible				
B-711	Core	86.7	R-12	x	x															x					
B-711	Core	102.0	R-15	x	x															x					
B-711	Core	104.0	R-15	x	x							(x)								x					
B-711	Jar	120.5	711-11						x																
B-711	Jar	130.2	711-12					x																	
B-711	Jar	150.2	711-14						x																
B-715	Jar	5	715-3					x		(x)															
B-715	Jar	10	715-5					x																	
B-715	Jar	21.7	715-8					x																	
B-715	Core	32	R-2	x	x							x								x					
B-715	Core	42	R-4	x	x															x					
B-715	Core	55.4	R-7	x	x															x					
B-715	Core	88	R-13	x	x															x					
B-715	Jar	118.4	715-10						x											x					
B-715	Jar	128.1	715-11						x	(x)															
B-715	Jar	148.6	715-13					x																	

5 4

Contact John Sturman of Bechtel if there are any questions: Phone (301) 228-6061; e-mail jsturman@BECHTEL.COM.

08/07

25409-000-K0A-CY00-00006

GEOTECHNICAL LABORATORY TEST ASSIGNMENT

Date 4/24/2008 Job Name FPL COL Job No. 25409 Requested By John Sturman

Assignment 05

SAMPLE LOCATION				PHYSICAL PROPERTIES										STRENGTH TESTS								COM-PACTION			CONSOLIDATION
								Grain Size Analysis																	
Boring No.	Sample Type (Tube Sample Length)	Top of Sample/Core Run Depth, Ft	Sample/Run Number	Moisture Content	Unit Weight	Specific Gravity	Atterberg Limits	Sieve Only	Sieve + Hydrometer	Chemical Analysis (pH, chloride, sulphate)	Organic Content	Carbonate Content		Unconsolidated-Undrained Triaxial	Consolidated-Undrained Triaxial (3-stage w/pore-pressure meas.)	Unconfined Compression (Soil)	Confining Pressure (psi)	Direct Shear	Uniaxial Strength (Assume Kp=1.0)	Unconfined Compression (rock)	Unconfined Compression (rock) w/stress-strain measurements	Standard (A, B, C, D)	Modified (A, B, C, D)	CBR	
B-625	Jar	15.2	625-7					x																	
B-625	Jar	120.4	625-8						x																
B-625	Jar	125.2	625-9						x																
B-701	Jar	0	701-1	x			x	x		x															
B-701	Jar	2.5	701-2					x																	
B-701	Jar	5	701-3					x		x		x													
B-701	Jar	12.5	701-6					x																	
B-701	Core	26.4	R-3 (01)	x	x															x					
B-701	Core	42.3	R06(02)	x	x							x								x					
B-701	Core	51.8	R-8 (03)	x	x														x						
B-701	Core	60.8	R-10 (04	x	x															x					
B-701	Core	62.2	R-10 (05	x	x														x						
B-701	Core	74.3	R-12	x	x															x					
B-701	Jar	115.5	701-8					x		x															
B-701	Jar	122.7	701-9						x																
B-701	Jar	127.5	701-10					x																	
B-701	Jar	147.5	701-12					x		x															
B-701	Jar	197.6	701-18					x																	
B-701	Jar	297.5	701-28						x																
B-701	Jar	347.5	701-33					x																	
B-701	Jar	397.5	701-38					x																	

Contact John Sturman of Bechtel if there are any questions: Phone (301) 228-8081; e-mail jsturman@BECHTEL.COM.

08/07

LOT# F8E060234

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): - 3053 - F8E060234

Condition Upon Receipt Form

Client: Matrix COC/RFA No: V-2 Date: 5-6-08
Quote No: 7192 Initiated By: VXB Time: 9:15

Shipping Information

Shipper Name: FE Multiple Packages Y (N)

Shipping # (s):*				Sample Temperature (s):**			
1.	7984 3440 0719	6.		1.	Amb. out	6.	
2.		7.		2.		7.	
3.		8.		3.		8.	
4.		9.		4.		9.	
5.		10.		5.		10.	

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	Y (N)	Are there custody seals present on the cooler?	8.	Y (N)	Are there custody seals present on bottles?
2.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?	9.	Y N (N/A)	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N	If N/A- Was pH taken by original TestAmerica lab?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:
Received out of temp. - Ok to login IV.

Corrective Action:
☐ Client Contact Name: _____ Informed by: _____
☐ Sample(s) processed "as is"
☐ Sample(s) on hold until: _____ If released, notify: _____
Project Management Review: _____ Date: 5-6-8 3053

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004, REVISED 08/06/07\\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

MACTEC

DOCUMENTATION OF TECHNICAL REVIEW
SUBCONTRACTOR WORK PRODUCT

Project Name: Turkey Point COL Project

Project Number: 6468-07-1950

Project Manager: Scott Auger

Project Principal: Tom McDaniel

The report described below has been prepared by the named subcontractor retained in accordance with the MACTEC QAPD. The work and report have been reviewed by a MACTEC technically qualified person. Comments on the work or report, if any, have been satisfactorily addressed by the subcontractor. The attached report is approved in accordance with section QS-7 of MACTEC's QAPD.

The information and data contained in the attached report are hereby released by MACTEC for project use.

REPORT : **Analytical Report Lot #: F8G110193**

SUBCONTRACTOR: **TestAmerica, Earth City, MO**

DATE OF ACCEPTANCE : 7/25/2008

TECHNICAL REVIEWER: William S. Grimes

SENIOR PROJECT PRINCIPAL: J. Allan Tice

MACTEC

Client **Bechtel Power Corp.** Laboratory **TestAmerica Inc.**

MACTEC Project **6468-07-1950** Data Report Number/Date **Lot# F8G110193/ 7-24-08**

LABORATORY DATA REVIEW CHECKLIST

		YES	NO	NOT APPLICABLE
1.	Laboratory analytical data report appears complete (all data results present for all samples submitted for analysis) and there are no apparent transcription errors:	___	✓[1]	___
2.	Samples analyzed within applicable holding times (based on date of sample collection):*	✓	___	___
3.	Trip blanks, field blanks or laboratory method blanks are free of blank contamination:	✓	___	___
4.	If field duplicate samples collected, calculated results meet Relative Percent Difference guidelines: **	___	___	✓
5.	Surrogate recoveries (organic analyses only) within laboratory reported recovery acceptance ranges:	___	___	✓
6.	If Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples required to meet project objectives, Percent Recoveries (%R) and Relative Percent Difference (RPD) within laboratory reported acceptance ranges:	✓	___	___
7.	Reported detection limits meet project objectives (e.g., are capable of achieving applicable site standards):	✓	___	___
8.	Completed Chain-Of-Custody received noting sample/custody seal condition (with airbill, if appropriate):	✓	___	___
9.	Analytical costs within authorized budget for these services:	✓	___	___

COMMENTS: [1] **Due to a limitation in the laboratory's data reporting system, TestAmerica incorrectly reported that pH was tested by SW-846 9045C, when it was actually tested according to 9045D. This discrepancy is noted in the case narrative.**

Notes: 1. This checklist is intended for use with the laboratory reporting formats typical of most projects. If "no" is answered to one or more of the above checklist questions 1 through 7, a more detailed Data Validation may be required, and a person knowledgeable in Data Validation protocols should be consulted. This checklist should not be used if the project scope requires Data Validation from the onset.

2. * = Based upon EPA Guidance and the applicable analytical method references. See reverse side of checklist for details.

3. ** = Based upon EPA Guidance. Use these criteria on duplicate and sample results which exceed five times the reported detection limit. See reverse side of checklist for details.

Checked by: _____ Date: 7-25-08

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 6468071950

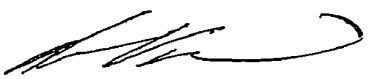
FPL Turkey Point COL

Lot #: F8G110193

Al Tice

MACTEC Engineering and Cons.
3301 Atlantic Ave.
Raleigh, NC 27604

TESTAMERICA LABORATORIES, INC.



Ivan Vania
Project Manager

July 24, 2008

Case Narrative
LOT NUMBER: **F8G110193**

This report contains the analytical results for the sample received under chain of custody by TestAmerica St. Louis on July 10, 2008. This sample is associated with your FPL Turkey Point COL project.

The analytical results included in this report meet all applicable quality control procedure requirements.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Method 9045C is listed on the results report due to a limitation of the laboratory's data reporting system. However, method 9045D was used for the analysis of pH. This can be verified by observation of the lab bench worksheets in the raw data package.

Observations/Nonconformances
Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

There were no nonconformances or observations noted with any analysis on this lot.

METHODS SUMMARY

F8G110193

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Chloride	MCAWW 300.0A	MCAWW 300.0A
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
Soil and Waste pH	SW846 9045C	SW846 DI-LEACHA
Sulfate	MCAWW 300.0A	MCAWW 300.0A

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F8G110193

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
KRD31	001	B-601 601-8	07/09/08	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

MACTEC Engineering & Consulting Inc

Client Sample ID: B-601 601-8

General Chemistry

Lot-Sample #...: F8G110193-001 Work Order #...: KRD31 Matrix.....: SOLID
Date Sampled...: 07/09/08 Date Received..: 07/10/08
% Moisture.....: 12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	8.9	0.10	No Units	SW846 9045C	07/14/08	8196268
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	6790	226	mg/kg	MCAWW 300.0A	07/22/08	8204501
		Dilution Factor: 100		Analysis Time..: 07:48		
Percent Moisture	11.5	0.10	%	MCAWW 160.3 MOD	07/14-07/15/08	8196234
		Dilution Factor: 1		Analysis Time..: 00:00		
Sulfate	953	56.5	mg/kg	MCAWW 300.0A	07/22/08	8204502
		Dilution Factor: 10		Analysis Time..: 06:56		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F8G110193 Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: KR4XR1AA		MB Lot-Sample #:	F8G220000-501	
	ND	2.0	mg/kg	MCAWW 300.0A	07/22/08	8204501
		Dilution Factor: 1				
		Analysis Time..: 06:27				
Sulfate		Work Order #: KR4XT1AA		MB Lot-Sample #:	F8G220000-502	
	ND	5.0	mg/kg	MCAWW 300.0A	07/22/08	8204502
		Dilution Factor: 1				
		Analysis Time..: 06:27				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8G110193 Matrix.....: SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)		Work Order #: KRGR41AA	LCS Lot-Sample#: F8G140000-268		
	100	(99 - 101)	SW846 9045C	07/14/08	8196268
		Dilution Factor: 1	Analysis Time..: 00:00		
Chloride		Work Order #: KR4XR1AC	LCS Lot-Sample#: F8G220000-501		
	95	(90 - 110)	MCAWW 300.0A	07/22/08	8204501
		Dilution Factor: 1	Analysis Time..: 06:41		
Sulfate		Work Order #: KR4XT1AC	LCS Lot-Sample#: F8G220000-502		
	94	(90 - 110)	MCAWW 300.0A	07/22/08	8204502
		Dilution Factor: 1	Analysis Time..: 06:41		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F8G110193 Matrix.....: SOLID
Date Sampled...: 07/09/08 Date Received..: 07/10/08

Percnt Moisture: 17

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #...: KRD311AG		MS Lot-Sample #: F8G110193-001	
	107	(90 - 110)	MCAWW 300.0A	07/22/08	8204501
		Dilution Factor: 100		Analysis Time..: 07:48	
Sulfate		Work Order #...: KRD311AJ		MS Lot-Sample #: F8G110193-001	
	97	(90 - 110)	MCAWW 300.0A	07/22/08	8204502
		Dilution Factor: 10		Analysis Time..: 06:56	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8G110193 **Work Order #...:** KREN3-SMP **Matrix.....:** SOLID
KREN3-DUP
Date Sampled...: 07/09/08 13:52 **Date Received..:** 07/11/08
% Moisture.....: 17

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture						SD Lot-Sample #: F8G110277-002		
	16.9	17.4	%	2.9	(0-30)	MCAWW 160.3 MOD	07/14-07/15/08	8196234

Dilution Factor: 1 Analysis Time..: 00:00

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F8G110193 **Work Order #...:** KRD31-SMP KRD31-DUP **Matrix.....:** SOLID

Date Sampled...: 07/09/08 **Date Received..:** 07/10/08

% Moisture.....: 12

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)						SD Lot-Sample #:	F8G110193-001	
	8.9	9.0	No Units	0.78	(0-0.0)	SW846 9045C	07/14/08	8196268
			Dilution Factor: 1			Analysis Time..: 00:00		
Chloride						SD Lot-Sample #:	F8G110193-001	
	6790	6840	mg/kg	0.78	(0-20)	MCAWW 300.0A	07/22/08	8204501
			Dilution Factor: 100			Analysis Time..: 07:48		
Sulfate						SD Lot-Sample #:	F8G110193-001	
	953	949	mg/kg	0.41	(0-20)	MCAWW 300.0A	07/22/08	8204502
			Dilution Factor: 10			Analysis Time..: 06:56		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

TestAmerica St. Louis

TestAmerica St. Louis Laboratory
pH Method 9045D

Page: 1 of 1

Analyst: SOB

Batch No.: 819628

Analysis Date: 7-14-8

Lab ID	Sample Aliquot (nom. 20 g)	DI Water Added (nom. 20ml)	Soil Preparation Time	Analysis Time (min. 1 hour after Preparation Time)	Temp (°C)	pH Reading	Comments
pH 4 Standard	—	—	1200	1315	22.1	4.00	
pH 7 Standard	—	—			22.1	7.02	
pH 10 Standard	—	—			22.1	10.03	
LCS/ICV	—	—			22.1	7.03	
KRD31	20.0	20.0			21.6	8.93	
KRD31X	20.0	20.0			21.3	9.00	
CCV	—	—			21.2	7.03	

Control Limits (Water): LCS =99 - 101

SOP	Rev	Date
STL-WC-0011	9	10/18/2007

File: Slsvr01\Wet Chem Results\pH, modified 02/21/07

F8G110193 CLIENT ANALYSIS SUMMARY

Storage Loc: 2-131
Date Received: 2008-07-10
Analytical Due Date: 2008-07-24
Report Due Date: 2008-07-25
Report Type: W
EDD Code: 00

Project Manager: IV
Project: 6468071950
PO#: 200807151
Client: 63036 MACTEC Engineering & Consulting Inc

Quote #: 79192 SDG:
FPL Turkey Point COL
Report to: Al Tice
#SMPS in LOT: 0

Inform PM of any receiving issues.

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
1	B-601 601-8			2008-07-09 / 0	KRD31	SOLID

SAMPLE COMMENTS:

XX	CX	MCAW W	300.0A	SOLID, 300.0A, Chloride (300.0A, Ion Chr	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: B	WRK LOC	06
XX	CY	MCAW W	300.0A	SOLID, 300.0A, Sulfate (300.0A, Ion Chro	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: B	WRK LOC	06
XX	OZ	SW846	9045C	SOLID, 9045C, pH (9045C) - Non-Aqueous	82	LEACHATE, DI (Routine)	01	STANDARD TEST SET	PROT: B	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	SOLID, 160.3 MOD, Percent Moisture	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

TestAmerica - St. Louis Logged in by: BRUNSONA 2008-07-11 11:37:06 printed on: Friday, July 11, 2008 12:47 PM Page 1 of 1

LOT# F8G110193

cur 3759

CHAIN OF CUSTODY RECORD
TURKEY POINT COL PROJECT - FPL
MACTEC JOB NO. 6468-07-1950

COC No. TP-31

SAMPLE DESIGNATION	SAMPLE TYPE	TAKEN BY	DATE TAKEN	INTENDED USE	REMARKS
B-601 601-8	SOIL	CD	7/9/08	CHEMICAL ANALYSIS	41 gR.
				by Test America	
				~~in accordance w WI No 19~~	1205
				[illegible] 7/9/08	8/
					07.10.08

1. Relinquished by:	1. Date/Time	1. Received by:	1. Date/Time
C Savonupnid, C Savongavij (name) (signature)	7/9/08 9:00AM	Fed Ex # 7900 4905 2175 (name) (signature)	
2. Relinquished by:	**2. Date/Time**	**2. Received by:** [signature]	**2. Date/Time** 07-10-08 0930
(name) (signature)		(name) (signature)	

Remarks: If relinquishing to a common carrier or Fed Ex – Record tracking number

Taken FROM ORIGINAL JAR # B-601 601-8

1 Jar [illegible] 7/9/08

Receiving Laboratory: Please return original form after signing for receipt of samples; keep copy for your records. Retain all portions of unused samples in labeled containers.

Chain of Custody Form Rev 0 - 1/29/08

Page 1 of 1

ORIGINAL

DCN No. TUR- 428

TestAmerica St. Louis

13 of 14

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F8G110193
- 3759 -

Condition Upon Receipt Form

Client: Matel COC/RFA No: TP-31 Date: 07.10.08
Quote No: 79192 Initiated By: Time: 0930

Shipping Information

Shipper Name: FedEx
Shipping # (s):*
1. 7905 4905 2175 6.
2. 7. 3. 8. 4. 9. 5. 10.

Multiple Packages Y (N)
Sample Temperature (s):**
1. 3 6.
2. 7. 3. 8. 4. 9. 5. 10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	(Y) N	Are there custody seals present on the cooler?	8.	Y (N)	Are there custody seals present on bottles?
2.	Y (N) N/A	Do custody seals on cooler appear to be tampered with?	9.	Y N (N/A)	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N	If N/A- Was pH taken by original TestAmerica lab?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N ?	Is sample volume sufficient for analysis?	14.	Y N	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

No analyses on C-O-C.

Corrective Action:
☐ Client Contact Name: Informed by:
☐ Sample(s) processed "as is"
☐ Sample(s) on hold until: If released, notify:
Project Management Review: Date: 7-2-8

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004, REVISED 08/06/07\\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

Carbonate Content Test Results

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-601 (DH) ZHU 7-25-08	**Sample No.:**	601-5
Depth:	9.7-11.2'	**Lab No.:**	8656
Tested By:	BM	**Reviewed By:**	SW
Test Date:	05/13/08	**Review Date:**	5/13/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.4
0.25	6.2
0.50	7.2
1	7.7
2	7.8
4	8.0
8	8.1
10	8.2
15	8.3
20	8.3
25	8.3

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	4.4
	0.25	6.2
	0.50	7.2
	1	7.7
	2	7.8
	4	8.0
	8	8.1
	10	8.2
	15	8.3
	20	8.3
	25	8.3

Chamber Pressure: 8.3 psi Pan # R-23

Calcium Carbonate Content: 92.98 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Balance	416
Chamber	2676
Pressure Transducer	2773 2774

Balance 416
No 40 sieve 1187
Oven 144
50ml Flask 1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. : 6468-07-1950 **Project Name:** Turkey Point COL Project-FPL

Boring No.: B-601 DH **Sample No.:** B-601 DH-18

Depth: 198.4-199.9 Ft. **Lab No.:** 8992

Tested By: BNL **Reviewed By:** JW

Test Date: 7/15/08 **Review Date:** 7/17/08

Leak Check of the Chamber

Time min (See BNL 7/15/08)	Pressure (psi)
0.10	1.0
0.25	1.4
0.50	1.5
1	1.7
2	2.0
4	2.3
8	2.5
10	2.6
15	2.6

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	1.0
	0.25	1.4
	0.50	1.5
	1	1.7
	2	2.0
	4	2.3
	8	2.5
	10	2.6
	15	2.6

Chamber Pressure: 2.6 psi Pan # AB-39

Calcium Carbonate Content: ~~11.203~~ 29.13 % 7/15/08 BNL

Calibration Factor: ~~11.203~~ ~~29.13~~ 7/15/08 BNL % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21076
Balance	416
Oven	500

Equipment	LID No.
No. 40 sieve	7/15/08 BNL 5608
50ml Flask	1240
Pressure Transducer	2773 2774

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-601 (DH) ZHU 7-25-08	**Sample No.:**	601-23
Depth:	248.4-249.9'	**Lab No.:**	8657
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/13/08	**Review Date:**	5/13/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	0.1
0.25	0.1
0.50	0.2
1	0.2
2	0.7
4	BM 05/13/08 1.0
8	1.6
10	1.8
15	1.9
20	1.9
25	

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	0.1
	0.25	0.1
	0.50	0.2
	1	0.2
	2	0.7
	4	BM 05/13/08 1.0
	8	1.6
	10	1.8
	15	1.9
	20	1.9
	25	N/A

Chamber Pressure: 1.9 psi Pan # C-28

Calcium Carbonate Content: 21.29 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl
N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Balance	416
Chamber	21076
Pressure Transducer	2773 2774

No. 40 Sieve 1187
Oven 144
50ml Flask 1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-603	**Sample No.:**	603-3
Depth:	5.0-6.5'	**Lab No.:**	8643
Tested By:	BN	**Reviewed By:**	JW
Test Date:	5/9/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	5.0
0.25	6.3
0.50	7.2
1	7.6
2	7.8
4	~~8.0~~ 7.8
8	8.0
10	8.0
15	8.0

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	5.0
	0.25	6.3
	0.50	7.2
	1	7.6
	2	7.8
	4	7.8
	8	8.0
	10	8.0
	15	8.0

Chamber Pressure: 8.0 psi Pan # C-44

Calcium Carbonate Content: 89.62 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773
	2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-603	**Sample No.:**	603-5
Depth:	10.0-11.5'	**Lab No.:**	8644
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/9/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	5.0
0.25	6.8
0.50	7.1
1	7.8
2	8.1
4	8.1
8	8.2
10	8.2
15	N/A

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	5.0
	0.25	6.8
	0.50	7.1
	1	7.8
	2	8.1
	4	8.1
	8	8.2
	10	8.2
	15	N/A

Chamber Pressure: 8.2 psi Pan # C-27

Calcium Carbonate Content: 91.86 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl
N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	26746
Pressure Transducer	2773 2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-603	**Sample No.:**	603-8
Depth:	120.5-122'	**Lab No.:**	8645
Tested By:	BNS	**Reviewed By:**	JW
Test Date:	5/9/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	1.0
0.25	1.5
0.50	1.6
1	1.6
2	1.7
4	1.7
8	1.7
10	1.7
15	1.7

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	1.0
	0.25	1.5
	0.50	1.6
	1	1.6
	2	1.7
	4	1.7
	8	1.7
	10	1.7
	15	1.7

Chamber Pressure: 1.7 psi Pan # R-34

Calcium Carbonate Content: 19.05 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21076
Pressure Transducer	2773
	2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-603	**Sample No.:**	603-11
Depth:	136.4-137.9'	**Lab No.:**	8646
Tested By:	BM	**Reviewed By:**	JW
Test Date:	05/09/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	2.5
0.25	3.3
0.50	3.5
1	3.6
2	3.6
4	3.6
8	3.6
10	3.6
15	3.6

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	2.5
	0.25	3.3
	0.50	3.5
	1	3.6
	2	3.6
	4	3.6
	8	3.6
	10	3.6
	15	3.6

Chamber Pressure: 3.6 psi Pan # V-55

Calcium Carbonate Content: 40.33 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl
N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21076
Pressure Transducer	2773 2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-605	**Sample No.:**	605-4
Depth:	7.5-9.0'	**Lab No.:**	8647
Tested By:	BM	**Reviewed By:**	JW
Test Date:	05/09/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.6
0.25	6.3
0.50	7.0
1	7.6
2	7.8
4	7.9
8	7.9
10	7.9
15	N/A

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	4.6
	0.25	6.3
	0.50	7.0
	1	7.6
	2	7.8
	4	7.9
	8	7.9
	10	7.9
	15	N/A

Chamber Pressure: 7.9 psi Pan # V-80

Calcium Carbonate Content: 88.50 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773
	2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-605	**Sample No.:**	605-12
Depth:	119.9-121.4'	**Lab No.:**	8648
Tested By:	BM	**Reviewed By:**	SD
Test Date:	05/09/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	1.6
0.25	2.1
0.50	2.2
1	2.3
2	2.4
4	2.4
8	2.4
10	2.4
15	N/A

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	1.6
	0.25	2.1
	0.50	2.2
	1	2.3
	2	2.4
	4	2.4
	8	2.4
	10	2.4
	15	N/A

Chamber Pressure: 2.4 psi Pan # V-32

Calcium Carbonate Content: 26.89 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773
	2774

Balance 416
No. 40 Sieve 1187
Oven 144
50ml Flask 1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. : 6468-07-1950 **Project Name:** Turkey Point COL Project-FPL

Boring No.: B-605 **Sample No.:** 605-15

Depth: 131.4-132.9 **Lab No.:** 8723

Tested By: BM 5/21/08 **Reviewed By:** SW

Test Date: 5/22/08 **Review Date:** 5/22/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	1.1
0.25	1.4
0.50	2.0
1	2.1
2	2.2
4	2.4
8	2.6
10	2.7
15	2.7
20	2.7

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	1.1
	0.25	1.4
	0.50	2.0
	1	2.1
	2	2.2
	4	2.4
	8	2.6
	10	2.7
	15	2.7
	20	2.7

Chamber Pressure: 2.7 psi Pan # K-15

Calcium Carbonate Content: 30.25 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2671P
Balance	4116
Oven	500

Equipment	LID No.
No. 40 sieve	1187
50ml Flask	1240
Pressure Transducer	2773 2774

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-605	**Sample No.:**	605-18
Depth:	144.9-146.4'	**Lab No.:**	8625
Tested By:	BM	**Reviewed By:**	JW
Test Date:	05/12/08	**Review Date:**	5/13/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	0.5
0.25	0.8
0.50	0.9
1	1.1
2	1.2
4	1.6
8	2.0
10	2.1
15	2.1
20	2.1

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	0.5
	0.25	0.8
	0.50	0.9
	1	1.1
	2	1.2
	4	1.6
	8	2.0
	10	2.1
	15	2.1
	20	2.1

Chamber Pressure: 2.1 psi Pan # V-25

Calcium Carbonate Content: 23.53 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	26776
Pressure Transducer	2773
	2774
Balance	416
No. 40 sieve	1187
Oven	144
50 ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-605	**Sample No.:**	605-26
Depth:	184.5-186.0'	**Lab No.:**	8626
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/12/08	**Review Date:**	5/13/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	0.8
0.25	1.1
0.50	1.2
1	1.3
2	1.5
4	1.9
8	2.0
10	2.1
15	2.1
20	2.1

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	0.8
	0.25	1.1
	0.50	1.2
	1	1.3
	2	1.5
	4	1.9
	8	2.0
	10	2.1
	15	2.1
	20	2.1

Chamber Pressure: 2.1 psi Pan # V-24

Calcium Carbonate Content: 23.53 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773
	2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-607	**Sample No.:**	607-3
Depth:	5.0-6.5'	**Lab No.:**	8627
Tested By:	BM	**Reviewed By:**	JW
Test Date:	05/12/08	**Review Date:**	5/13/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	5.0
0.25	6.4
0.50	7.4
1	7.8
2	7.9
4	7.9
8	7.9
10	7.9
15	7.9

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	5.0
	0.25	6.4
	0.50	7.4
	1	7.8
	2	7.9
	4	7.9
	8	7.9
	10	7.9
	15	7.9

Chamber Pressure: 7.9 psi Pan # C-37

Calcium Carbonate Content: 8.50 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773 2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-607	**Sample No.:**	R-3
Depth:	25.7-26.5'	**Lab No.:**	8659 A
Tested By:	BNL	**Reviewed By:**	JW
Test Date:	5/15/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	3.7
0.25	5.4
0.50	6.4
1	6.7
2	6.9
4	6.9
8	7.0
10	7.0
15	7.0

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	3.7
	0.25	5.4
	0.50	6.4
	1	6.7
	2	6.9
	4	6.9
	8	7.0
	10	7.0
	15	7.0

Chamber Pressure: 7.0 psi Pan # K-9

Calcium Carbonate Content: 78.42 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2670
Balance	416
Pressure Transducer	2773 2774
No. 40 sieve	1187
Oven	500
50ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-607	**Sample No.:**	R-3
Depth:	25.7-26.5'	**Lab No.:**	8659 B
Tested By:	BNL	**Reviewed By:**	JCW
Test Date:	5/15/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	3.7
0.25	5.4
0.50	6.4
1	6.7
2	6.9
4	6.9
8	6.9
10	6.9
15	6.9

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	3.7
	0.25	5.4
	0.50	6.4
	1	6.7
	2	6.9
	4	6.9
	8	6.9
	10	6.9
	15	6.9

Chamber Pressure: 6.9 psi Pan # F-70

Calcium Carbonate Content: 87.30 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21076
Balance	416
Pressure Transducer	2773 2774
No. 40 sieve	1187
Oven	500
50ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-607	**Sample No.:**	R-3
Depth:	25.7-26.5'	**Lab No.:**	8659 C
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/15/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	3.8
0.25	5.5
0.50	6.5
1	6.8
2	7.0
4	7.1
8	7.1
10	7.1
15	7.1

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	3.8
	0.25	5.5
	0.50	6.5
	1	6.8
	2	7.0
	4	7.1
	8	7.1
	10	7.1
	15	7.1

Chamber Pressure: 7.1 psi Pan # K-1

Calcium Carbonate Content: 79.54 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Balance	416
Pressure Transducer	2773 2774
No. 40 Sieve	1187
Oven	500
50 ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-607	**Sample No.:**	R-19
Depth:	99.7-100.5'	**Lab No.:**	8660 A
Tested By:	RM	**Reviewed By:**	JW
Test Date:	5/15/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	3.9
0.25	5.7
0.50	6.7
1	7.1
2	7.2
4	7.3
8	7.3
10	7.3
15	7.3

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	3.9
	0.25	5.7
	0.50	6.7
	1	7.1
	2	7.2
	4	7.3
	8	7.3
	10	7.3
	15	7.3

Chamber Pressure: 7.3 psi Pan # V-69

Calcium Carbonate Content: 81.78 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Balance	416
Pressure Transducer	2773 2774

No. 40 Sieve 1187
Oven 500
50 ml Flask 1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-607	**Sample No.:**	R-19
Depth:	99.7-100.5'	**Lab No.:**	8660 B
Tested By:	BM	**Reviewed By:**	JRD
Test Date:	5/15/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.2
0.25	5.7
0.50	6.7
1	7.1
2	7.2
4	7.2
8	7.2
10	7.2
15	N/A

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	4.2
	0.25	5.7
	0.50	6.7
	1	7.1
	2	7.2
	4	7.2
	8	7.2
	10	7.2
	15	N/A

Chamber Pressure: 7.2 psi Pan # C-23

Calcium Carbonate Content: 80.1 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21076
Balance	416
Pressure Transducer	2773 2774

No. 40 Sieve 1187
Oven 500
50 ml Flask 1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-607	**Sample No.:**	R-19
Depth:	99.7-100.5'	**Lab No.:**	8660 C
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/15/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.0
0.25	5.6
0.50	6.7
1	7.0
2	7.2
4	7.3
8	7.3
10	7.3
15	7.3

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	4.0
	0.25	5.6
	0.50	6.7
	1	7.0
	2	7.2
	4	7.3
	8	7.3
	10	7.3
	15	7.3

Chamber Pressure: 7.3 psi Pan # V-8

Calcium Carbonate Content: 81.78 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21676
Balance	416
Pressure Transducer	2773 2774
No. 40 Sieve	1187
Oven	500
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-607	**Sample No.:**	607-9
Depth:	129.5-131.0'	**Lab No.:**	8628
Tested By:	BM	**Reviewed By:**	JW
Test Date:	05/12/08	**Review Date:**	5/13/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	1.2
0.25	1.6
0.50	1.7
1	1.7
2	1.7
4	1.7
8	1.7
10	1.7
15	N/A

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	1.2
	0.25	1.6
	0.50	1.7
	1	1.7
	2	1.7
	4	1.7
	8	1.7
	10	1.7
	15	N/A

Chamber Pressure: 1.7 psi Pan # R-45

Calcium Carbonate Content: 19.05 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2674
Pressure Transducer	2773
	2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-608 (DH) 리밍 7-25-08	**Sample No.:**	R-15 (CS-03)
Depth:	105.2-106.0'	**Lab No.:**	8713 A
Tested By:	BM	**Reviewed By:**	JCO
Test Date:	05/14/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.3
0.25	5.4 5.6
0.50	6.5
1	6.9
2	6.9
4	6.9
8	6.9
10	6.9
15	6.9

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	4.3
	0.25	5.6
	0.50	6.5
	1	6.9
	2	6.9
	4	6.9
	8	6.9
	10	6.9
	15	6.9

Chamber Pressure: 6.9 psi Pan # A-9

Calcium Carbonate Content: 77.30 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl
N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Balance	416
Pressure Transducer	2773 2774

No. 40 sieve 1187
Oven 500
50 ml Flask 1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-608 (DH) ZHU 7-25-08	**Sample No.:**	R-15 (CS-03)
Depth:	105.2-106.0'	**Lab No.:**	8713 B
Tested By:	DM	**Reviewed By:**	JW
Test Date:	05/14/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.9
0.25	5.8
0.50	6.7
1	6.9
2	7.0
4	7.0
8	7.0
10	7.0
15	7.0

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	4.9
	0.25	5.8
	0.50	6.7
	1	6.9
	2	7.0
	4	7.0
	8	7.0
	10	7.0
	15	7.0

Chamber Pressure: 7.0 psi Pan # C-35

Calcium Carbonate Content: 7.8.42 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21676
Balance	4116
Pressure Transducer	2773 / 2774
No 40 Sieve	1187
Oven	500
50 mL Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-608 (DH) 7-25-08	**Sample No.:**	R-15 (CS-03)
Depth:	105.2-106.0'	**Lab No.:**	8713 C
Tested By:	BNL	**Reviewed By:**	JCO
Test Date:	5/14/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.4
0.25	5.8
0.50	6.5
1	6.9
2	7.0
4	7.0
8	7.0
10	7.0
15	7.0

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	4.4
	0.25	5.8
	0.50	6.5
	1	6.9
	2	7.0
	4	7.0
	8	7.0
	10	7.0
	15	7.0

Chamber Pressure: 7.0 psi Pan # P-13

Calcium Carbonate Content: 78.42 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Balance	416
Pressure Transducer	2773 2774
No. 40 Sieve	1187
Oven	500
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-608 (DH) 24 5-25-08	**Sample No.:**	608-17
Depth:	178-179.5'	**Lab No.:**	8717
Tested By:	RM	**Reviewed By:**	JW
Test Date:	5/16/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	0.6
0.25	0.8
0.50	1.0
1	1.3
2	1.8
4	1.9
8	2.0
10	2.0
15	2.0

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	0.6
	0.25	0.8
	0.50	1.0
	1	1.3
	2	1.8
	4	1.9
	8	2.0
	10	2.0
	15	2.0

Chamber Pressure: 2.0 psi Pan # AB-37

Calcium Carbonate Content: 22.41 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21076
Balance	416
Pressure Transducer	2773 2774
Oven	500
No. 40 Sieve	1187
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-608 (DH) ZHU 2-25-08	**Sample No.:**	608-22
Depth:	228-229.5'	**Lab No.:**	8718
Tested By:	BNL	**Reviewed By:**	JW
Test Date:	5/16/08	**Review Date:**	5/19/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	0.5
0.25	0.7
0.50	0.9
1	1.1
2	1.5
4	2.2
8	2.9
10	3.0
15	3.0
20	3.0

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	0.5
	0.25	0.7
	0.50	0.9
	1	1.1
	2	1.5
	4	2.2
	8	2.9
	10	3.0
	15	3.0
	20	3.0

Chamber Pressure: 3.0 psi Pan # AB-38

Calcium Carbonate Content: 33.61 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Balance	416
Pressure Transducer	2773 2774

Oven 500

No. 40 Sieve 1187

50ml Flask 1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	Project Name:	Turkey Point COL Project-FPL
Note 1: Boring No.:	B-605 ~~(DH)~~ ~~ZHU 7-25-08~~	Sample No.:	608-28 605-28
Depth:	194.5-196'	Lab No.:	8716
Tested By:	BM	Reviewed By:	JW
Test Date:	5/16/08	Review Date:	5/19/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	0.5
0.25	0.7
0.50	0.9
1	1.1
2	1.5
4	1.9
8	2.2
10	BM 5/14/08 ~~2.3~~ 2.4
15	2.4
20	2.4

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	0.5
	0.25	0.7
	0.50	0.9
	1	1.1
	2	1.5
	4	1.9
	8	2.2
	10	2.4
	15	2.4
	20	2.4

Chamber Pressure: 2.4 psi Pan # F-114

Calcium Carbonate Content: 26.89 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCI
N/A % / psi, for 2 grams of soil and 20 ml 1 N HCI

Note 1:
The correct sample identification is B-605 605-28. See attached correspondance.

ZHU
7-25-08

Equipment	LID No.
Chamber	2676
Balance	416
Pressure	2773
Transducer	2774
Oven	500
Tw. 40 Sieve	1187
50ml Flask	1240

Ulker, Zeynep

From: Moore, Roy
Sent: Monday, June 02, 2008 11:12 AM
To: Ulker, Zeynep
Subject: FW: carbonate testing

Attachments: s2d31409F99106B7929C976A095386C68F8_1.pdf

Zeynep – Does this answer your question from last week?

Roy Moore
(404) 817- 0302

From: Wang, Jianren
Sent: Monday, June 02, 2008 11:08 AM
To: Moore, Roy
Subject: RE: carbonate testing

Roy, please see the attached for the revised table reflecting the correct boring no. The boring number we put on the table came from the COC. That means they have incorrect sample information on the COC. We sent a copy of the COC to

s2d31409F99106B7
929C976A095386...

Raleigh right after we received the samples as instructed by WI. .

Jianren Wang, P.E.

Principal Engineer/Manager, Laboratory Services
MACTEC Engineering and Consulting
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Atlanta, GA 30324
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Email jwang@mactec.com | Web www.mactec.com

From: Moore, Roy
Sent: Friday, May 30, 2008 10:38 AM
To: Wang, Jianren
Cc: Ulker, Zeynep; Lynch, John
Subject: FW: carbonate testing

Jianren,

Please see the note below and either revise the table or let us know otherwise.

Roy Moore
(404) 817- 0302

From: Ulker, Zeynep
Sent: Friday, May 30, 2008 10:35 AM
To: Moore, Roy
Subject: RE: carbonate testing

Roy,

I checked the boring log for B-608. The last sample is SS 24 and it is at around 240 feet. The sample that was tested was at 195 ft and is most probably B-605-28.

I spoke with Al and he suggested looking at the COC to see if there was a mistake there which would need to be followed up with an NCR. If there was a mistake in the reporting this is not necessary and all we need is the revised results table from you. A copy of that table is attached.

Please check the COC and send it along with the revised table ASAP. Thank you.

<< File: 20080530102550.tif >>

Zeynep Huri Ulker
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Raleigh, NC 27604
Tel: (919) 831-8053
Fax: (919) 831-8136

MACTEC

Determination of Carbonate Content of Soils
ASTM D 4373-02

Project No.: 6468-07-1950
Project Name: Turkey Point COL Project-FPL
Tested By: BM
Test Date: 5/16/08-5/19/08

Reviewed By: JW
Review Date: 6/2/08
Office: MACTEC Atlanta

Sample Information				ASTM D 4373-02
Boring No.	Sample No.	Depth (ft.)	Lab ID No.	Calcite Equivalent (%)
B-605	605-28	194.5-196.0	8716	26.89
B-608	608-17	178.0-179.5	8717	22.41
B-608	608-22	228.0-229.5	8718	33.61
TP 701	701-1	3.0-4.5	8719	91.86
TP 601	601-1	3.2-5.0	8720	88.50

Table No.5. Results for Carbonate Content Testing per ASTM D 4373-02.

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-619	**Sample No.:**	619-6
Depth:	12.1-13.6'	**Lab No.:**	8629
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/12/08	**Review Date:**	5/13/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	5.0
0.25	6.5
0.50	7.3
1	7.9
2	8.0
4	BM 5/12/08 8.0 8.1
8	8.1
10	8.1
15	8.1

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	5.0
	0.25	6.5
	0.50	7.3
	1	7.9
	2	8.0
	4	8.1
	8	8.1
	10	8.1
	15	8.1

Chamber Pressure: 8.1 psi Pan # R-52

Calcium Carbonate Content: 90.74 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773 2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-619	**Sample No.:**	619-8
Depth:	121.6-123.1'	**Lab No.:**	8630
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/12/08	**Review Date:**	5/13/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	0.6
0.25	1.0
0.50	1.0
1	1.1
2	1.1
4	1.1
8	1.1
10	1.1
15	N/A

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	0.6
	0.25	1.0
	0.50	1.0
	1	1.1
	2	1.1
	4	1.1
	8	1.1
	10	1.1
	15	N/A

Chamber Pressure: 1.1 psi Pan # V-31

Calcium Carbonate Content: 12.32 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl
N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773 2774
Balance	2116
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-701 (DH) ZHU 7-25-08	**Sample No.:**	701-3
Depth:	5.1-6.6'	**Lab No.:**	8658
Tested By:	BM	**Reviewed By:**	JW
Test Date:	05/13/08	**Review Date:**	5/13/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.3
0.25	6.4
0.50	7.4
1	7.9
2	7.9
4	8.0
8	8.1
10	8.2
15	8.2
20	8.2

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	4.3
	0.25	6.4
	0.50	7.4
	1	7.9
	2	7.9
	4	8.0
	8	8.1
	10	8.2
	15	8.2
	20	8.2

Chamber Pressure: 8.2 psi Pan # V-75

Calcium Carbonate Content: 91.86 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Balance	416
Chamber	2674
Pressure Transducer	2773
	2774

No. 40 Sieve 1187
Oven 144
50ml Flask 1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-701 (DH) ZHU 7-25-08	**Sample No.:**	R-6 (CS-02)
Depth:	42.3-43.4'	**Lab No.:**	8714 A
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/15/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.5
0.25	6.5
0.50	7.6
1	8.0
2	8.2
4	8.2
8	8.3
10	8.3
15	8.3

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	4.5
	0.25	6.5
	0.50	7.6
	1	8.0
	2	8.2
	4	8.2
	8	8.3
	10	8.3
	15	8.3

Chamber Pressure: 8.3 psi Pan # R-31

Calcium Carbonate Content: 92.98 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21076
Balance	416
Pressure Transducer	2773 2774
No. 40 Sieve	1187
Oven	500
50ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-701 (OH) ZHU 7-25-08	**Sample No.:**	R-6 (CS-02)
Depth:	42.3-43.4'	**Lab No.:**	8714 B
Tested By:	BM	**Reviewed By:**	JD
Test Date:	5/15/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.6
0.25	6.5
0.50	7.6
1	7.8
2	8.2
4	8.3
8	8.4
10	8.4
15 BM 5/15/08	8.4 8.5
25	8.5

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	4.6
	0.75	6.5
	0.50	7.6
	1	7.8
	2	8.2
	4	8.3
	8	8.4
	10	8.4
	15	BM 5/15/08 8.4 8.5
	25	8.5

Chamber Pressure: 8.5 psi Pan # V-216

Calcium Carbonate Content: 95.83 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Balance	416
Pressure Transducer	2773 2774

No. 40 Sieve 1187
Oven 500
50 ml Flask 1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-701 (DH) ZHU 7-25-08	**Sample No.:**	R-6 (CS-02)
Depth:	42.3-43.4'	**Lab No.:**	8714 C
Tested By:	BM	**Reviewed By:**	JC
Test Date:	5/15/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	5.0
0.25	6.5
0.50	7.6
1	7.9
2	8.1
4	8.2
8	8.2
10	8.2
15	8.2

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	5.0
	0.25	6.5
	0.50	7.6
	1	7.9
	2	8.1
	4	8.2
	8	8.2
	10	8.2
	15	8.2

Chamber Pressure: 8.2 psi Pan # R-33

Calcium Carbonate Content: 91.86 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl
N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21076
Balance	416
Pressure Transducer	2773 2774

No. 40 Sieve 1187
Oven 500
50ml Flask 1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. : 6468-07-1950 **Project Name:** Turkey Point COL Project-FPL

Boring No.: B-701 DH **Sample No.:** B-701 DH-22

Depth: 237.9-239.0 Ft. **Lab No.:** 8963

Tested By: BM **Reviewed By:** JW

Test Date: 7/15/08 **Review Date:** 7/17/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	0.4
0.25	0.5
0.50	0.6
1	0.7
2	BM 7/15/08 ~~1.0~~ 1.0
4	1.4
8	1.8
10	1.8
15	1.8

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	0.4
	0.25	0.5
	0.50	0.6
	1	0.7
	2	1.0
	4	1.4
	8	1.8
	10	1.8
	15	1.8

Chamber Pressure: 1.8 psi Pan # Z-34

Calcium Carbonate Content: ~~11.203~~ 20.17 ~~%~~ BM 7/15/08 7/15/08

Calibration Factor: ~~11.203~~ ~~20.17~~ BM 7/15/08 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Balance	416
Oven	500

Equipment	LID No.
No. 40 sieve	~~BM 7/15/08~~ 568
50ml Flask	1240
Pressure Transducer	2773 2774

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL
Boring No.:	B-701 (DH) ZHY 7-25-08	**Sample No.:**	R-24
Depth:	467.7-468.5 Ft	**Lab No.:**	8771
Tested By:	BN	**Reviewed By:**	JW
Test Date:	6/04/08	**Review Date:**	6/4/08

Leak Check of the Chamber

Time Minutes	Pressure (psi)
0.10	2.4
0.25	2.7
0.50	3.0
1	3.5
2	3.9
4	5.0
8	6.7
10	7.5
15	7.8

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time Minutes	Pressure (psi)
1.01	0.10	2.4
	0.25	2.7
	0.50	3.0
	1	3.5
	2	3.9
	4	5.0
	8	6.7
	10	7.5
	15	7.8

Chamber Pressure: 7.8 psi Pan # R-66

Calcium Carbonate Content: 87.38 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	20716
Balance	416
Oven	144

Equipment	LID No.
No. 40 sieve	1187
50ml Flask	1240
Pressure Transducer	2773 2774

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL
Boring No.:	B-701 (DH) ZHU 7-25-08	**Sample No.:**	R-32
Depth:	509.0-509.8 Ft	**Lab No.:**	8772
Tested By:	BAL	**Reviewed By:**	JW
Test Date:	06/04/08	**Review Date:**	6/4/08

Leak Check of the Chamber

Time Minutes	Pressure (psi)
0.10	4.9
0.25	6.6
0.50	7.6
1	7.9
2	8.0
4	8.3
8	8.3
10	8.3
15	N/A

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time Minutes	Pressure (psi)
1.01	0.10	4.9
	0.25	6.6
	0.50	7.6
	1	7.9
	2	8.0
	4	8.3
	8	8.3
	10	8.3
	15	N/A

Chamber Pressure: 8.3 psi Pan # AB-12

Calcium Carbonate Content: 92.98 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl
N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	26746
Balance	416
Oven	144

Equipment	LID No.
No. 40 sieve	187
50ml Flask	12410
Pressure Transducer	2773 2774

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL
Boring No.:	B-701 (DH) ZHU 7-25-08	**Sample No.:**	R-51
Depth:	601.8-602.6 Ft.	**Lab No.:**	8773
Tested By:	BH	**Reviewed By:**	JW
Test Date:	6/4/08	**Review Date:**	6/4/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	3.2
0.25	4.2
0.50	4.8
1	5.0
2	5.6
4	6.1
8	6.8
10	6.9
15	6.9

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	3.2
	0.25	4.2
	0.50	4.8
	1	5.0
	2	5.6
	4	6.1
	8	6.8
	10	6.9
	15	6.9

Chamber Pressure: 6.9 psi Pan # #-3

Calcium Carbonate Content: 78.70 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21976
Balance	4116
Oven	144

Equipment	LID No.
No. 40 sieve	1187
50ml Flask	1940
Pressure Transducer	2773 2774

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-703	**Sample No.:**	703-6
Depth:	12.3-13.8'	**Lab No.:**	8631
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/12/08	**Review Date:**	5/13/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	2.9
0.25	4.9
0.50	5.9
1	7.0
2	7.6
4	7.7
8	7.9
10	7.9
15	7.9

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	2.9
	0.25	4.9
	0.50	5.9
	1	7.0
	2	7.6
	4	7.7
	8	7.9
	10	7.9
	15	7.9

Chamber Pressure: 7.9 psi Pan # R-64

Calcium Carbonate Content: 88.50 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773
	2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. : 6468-07-1950 **Project Name:** Turkey Point COL Project-FPL

Boring No.: B-703 **Sample No.:** 703-9 R

Depth: 118.6-120.1 **Lab No.:** 8722

Tested By: BM **Reviewed By:** JW

Test Date: 05/20/08 **Review Date:** 5/20/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	0.8
0.25	1.1
0.50	1.1
1	1.1
2	1.1
4	BM 5/20/08 1.1
8	1.1
10	1.1
15	N/A

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	0.8
	0.25	1.1
	0.50	1.1
	1	1.1
	2	1.1
	4	BM 5/20/08 1.1
	8	1.1
	10	1.1
	15	N/A

Chamber Pressure: 1.1 psi Pan # W-7

Calcium Carbonate Content: 12.32 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	26740
Balance	416
Oven	500

Equipment	LID No.
No. 40 sieve	1187
50ml Flask	1240
Pressure Transducer	2773 2774

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-703	**Sample No.:**	703-15
Depth:	148.5-150.0'	**Lab No.:**	8633
Tested By:	BM	**Reviewed By:**	JW
Test Date:	05/12/08	**Review Date:**	5/13/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	0.6
0.25	1.0
0.50	1.0
1	1.1
2	1.3
4	1.6
8	1.7
10	1.8
15	1.8

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	0.6
	0.25	1.0
	0.50	1.0
	1	1.1
	2	1.3
	4	1.6
	8	1.7
	10	1.8
	15	1.8

Chamber Pressure: 1.8 psi Pan # V-13

Calcium Carbonate Content: 20.17 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21076
Pressure Transducer	2773 2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-704 (DH) ZHU 7-25-08	**Sample No.:**	704-15
Depth:	123.0-124.5'	**Lab No.:**	8634
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/12/08	**Review Date:**	5/13/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	0.6
0.25	1.0
0.50	1.1
1	1.1
2	1.1
4	1.1
8	1.1
10	1.1
15	N/A

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	0.6
	0.25	1.0
	0.50	1.1
	1	1.1
	2	1.1
	4	1.1
	8	1.1
	10	1.1
	15	N/A

Chamber Pressure: 1.1 psi Pan # R-79

Calcium Carbonate Content: 12.32 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl
N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773 2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-704 (OH) ZHU 7-25-08	**Sample No.:**	704-21
Depth:	150.0-151.5'	**Lab No.:**	8635
Tested By:	BH	**Reviewed By:**	JW
Test Date:	05/12/08	**Review Date:**	5/13/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	0.5
0.25	1.0
0.50	1.0
1	1.1
2	1.3
4	1.5
8	1.6
10	1.6
15	1.6

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	0.5
	0.25	1.0
	0.50	1.0
	1	1.1
	2	1.3
	4	1.5
	8	1.6
	10	1.6
	15	1.6

Chamber Pressure: 1.6 psi Pan # C-45

Calcium Carbonate Content: 17.92 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773
	2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-705	**Sample No.:**	705-4
Depth:	7.5-9.0'	**Lab No.:**	8636
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/13/08	**Review Date:**	5/13/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.6
0.25	6.3
0.50	7.3
1	7.9
2	7.9
4	8.2
8	8.2
10	8.2
15	N/A

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	4.6
	0.25	6.3
	0.50	7.3
	1	7.9
	2	7.9
	4	8.2
	8	8.2
	10	8.2
	15	N/A

Chamber Pressure: 8.2 psi Pan # V-61

Calcium Carbonate Content: 91.86 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773
	2774

Balance 416
No. 40 sieve 1187
Oven 144
50ml Flask 1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-705	**Sample No.:**	705-14
Depth:	128.5-130.0'	**Lab No.:**	8618
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/8/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	1.3
0.25	1.7
0.50	1.7
1	1.8
2	1.8
4	1.8
8	1.8
10	1.8
15	1.8

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	1.3
	0.25	1.7
	0.50	1.7
	1	1.8
	2	1.8
	4	1.8
	8	1.8
	10	1.8
	15	1.8

Chamber Pressure: 1.8 psi Pan # R-29

Calcium Carbonate Content: 20.17 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773
	2774
Balance	416
No 40 Sieve	1187
Oven	500
50ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-705	**Sample No.:**	705-24
Depth:	178.5-180.0'	**Lab No.:**	8619
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/8/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	0.5
0.25	0.8
0.50	1.0
1	1.3
2	1.6
4	2.0
8	2.1
10	2.1
15	2.1

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	0.5
	0.25	0.8
	0.50	1.0
	1	1.3
	2	1.6
	4	2.0
	8	2.1
	10	2.1
	15	2.1

Chamber Pressure: 2.1 psi Pan # V-82

Calcium Carbonate Content: 23.53 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

n/a % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773
	2774
Balance	416
No 40 Sieve	1187
Oven	500
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-706	**Sample No.:**	706-2
Depth:	3.1-4.6'	**Lab No.:**	8637
Tested By:	BW	**Reviewed By:**	JW
Test Date:	5/9/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	3.7
0.25	5.7
0.50	6.2
1	7.3
2	7.5
4	7.7
8	7.7
10	7.7
15	7.7

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	3.7
	0.25	5.7
	0.50	6.2
	1	7.3
	2	7.5
	4	7.7
	8	7.7
	10	7.7
	15	BW 5/9/08 ~~7.5~~ 7.7

Chamber Pressure: 7.7 psi Pan # V-19

Calcium Carbonate Content: 16.26 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773 2774
Balance	416
No 40 Sieve	1187
Oven	144
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-706	**Sample No.:**	706-6
Depth:	12.9-14.4'	**Lab No.:**	8638
Tested By:	BM	**Reviewed By:**	JO
Test Date:	5/9/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.3
0.25	6.2
0.50	7.0
1	7.8
2	8.0
4	8.1
8	8.2
10	8.2
15	8.2

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	4.3
	0.25	6.2
	0.50	7.0
	1	7.8
	2	8.0
	4	8.1
	8	8.2
	10	8.2
	15	8.2

Chamber Pressure: 8.2 psi Pan # V-81

Calcium Carbonate Content: 91.86 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl
N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773 2774
Balance	416
No.40 Sieve	1187
Oven	144
50 ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-706	**Sample No.:**	706-11
Depth:	125.9-127.4'	**Lab No.:**	8639
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/9/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	1.3
BM 5/14/08 ~~1.20~~ 0.25	1.7
0.50	1.8
1	1.8
2	1.8
4	1.9
8	1.9
10	1.9
15	N/A

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	1.3
	0.25	1.7
	0.50	1.8
	1	1.8
	2	1.8
	4	1.9
	8	1.9
	10	1.9
	15	N/A

Chamber Pressure: 1.9 psi Pan # R-25

Calcium Carbonate Content: 21.29 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773
	2774

Balance 416
No. 40 Sieve 1187
Oven 144
50 ml Flask 1260

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-706	**Sample No.:**	706-15
Depth:	145-146.9'	**Lab No.:**	8640
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/9/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	0.6
0.25	0.9
0.50	1.0
1	1.2
2	1.3
4	1.4
8	1.5
10	1.5
15	1.5

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	0.6
	0.25	0.9
	0.50	1.0
	1	1.2
	2	1.3
	4	1.4
	8	1.5
	10	1.5
	15	1.5

Chamber Pressure: 1.5 psi Pan # C-13

Calcium Carbonate Content: 16.80 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21076
Pressure Transducer	2773
	2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-707	**Sample No.:**	707-6
Depth:	12.5-14.0'	**Lab No.:**	8620
Tested By:	BLY	**Reviewed By:**	JW
Test Date:	5/8/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	3.8
0.25	6.2
0.50	6.5
1	7.0
2	8.0
4	8.2
8	8.2
10	8.2
15	8.2

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	3.8
	0.25	6.2
	0.50	6.5
	1	7.0
	2	8.0
	4	8.2
	8	8.2
	10	8.2
	15	8.2

Chamber Pressure: 8.2 psi Pan # R-76

Calcium Carbonate Content: 91.86 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773
	2774
Balance	416
No 40 Sieve	1187
Oven	500
50 ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-707	**Sample No.:**	707-14
Depth:	125.3-126.8'	**Lab No.:**	8621
Tested By:	BM	**Reviewed By:**	JCW
Test Date:	5/8/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	1.3
0.25	1.5
0.50	1.5
1	1.7
2	1.7
4	1.8
8	1.8
10	1.8
15	1.8

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	1.3
	0.25	1.5
	0.50	1.5
	1	1.7
	2	1.7
	4	1.8
	8	1.8
	10	1.8
	15	1.8

Chamber Pressure: 1.8 psi Pan # R-43

Calcium Carbonate Content: 20.17 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl
N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2607
Pressure Transducer	2773
	2774
Balance	416
No 40 Sieve	1187
Oven	500
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-707	**Sample No.:**	707-18
Depth:	145.5-147'	**Lab No.:**	8624
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/8/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	0.6
0.25	0.9
0.50	1.1
1	1.2
2	1.4
4	1.5
8	1.6
10	1.6
15	1.6

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	0.6
	0.25	0.9
	0.50	1.1
	1	1.2
	2	1.4
	4	1.5
	8	1.6
	10	1.6
	15	1.6

Chamber Pressure: 1.6 psi Pan # V-522

Calcium Carbonate Content: 17.92 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl
N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2670
Pressure Transducer	2773 2774

Balance 416
No 40 Sieve 1187
Oven 500
50 ml Flask 1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-711	**Sample No.:**	711-3
Depth:	5.0-6.5'	**Lab No.:**	8622
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/8/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	5.0
0.25	6.6
0.50	7.5
1	8.0
2	8.3
4	8.4
8	8.5
10	8.5
15	8.5

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	5.0
	0.25	6.6
	0.50	7.5
	1	8.0
	2	8.3
	4	8.4
	8	8.5
	10	8.5
	15	8.5

Chamber Pressure: 8.5 psi Pan # V-72

Calcium Carbonate Content: 95.23 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	26076
Pressure Transducer	2773
	2774
Balance	416
No 40 Sieve	1187
Oven	500
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-711	**Sample No.:**	R-1
Depth:	34.1-34.9'	**Lab No.:**	8661 A
Tested By:	BM	**Reviewed By:**	JW
Test Date:	05/15/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.4
0.25	6.1
0.50	7.4
1	7.9
2	8.1
4	8.2
8	8.2
10	8.2
15	8.2

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	4
	0.25	6.1
	0.50	7.4
	1	7.9
	2	8.1
	4	8.2
	8	8.2
	10	8.2
	15	8.2

Chamber Pressure: 8.2 psi Pan # R-38

Calcium Carbonate Content: 91.86 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21676
Balance	416
Pressure Transducer	2773 2774

No. 40 Sieve 1187
Oven 500
50 ml Flask 1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-711	**Sample No.:**	R-1
Depth:	34.1-34.9'	**Lab No.:**	8661 B
Tested By:	BNI	**Reviewed By:**	JW
Test Date:	5/15/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.3
0.25	6.5
0.50	7.7
1	8.0
2	8.2
4	8.3
8	8.4
10	8.4
15	8.4

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	4.3
	0.25	6.5
	0.50	7.7
	1	8.0
	2	8.2
	4	8.3
	8	8.4
	10	8.4
	15	8.4

Chamber Pressure: 8.4 psi Pan # R-63

Calcium Carbonate Content: 94.11 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21076
Balance	416
Pressure Transducer	2773 2774

No. 40 sieve 1187

Oven 500

50ml Flask 1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-711	**Sample No.:**	R-1
Depth:	34.1-34.9'	**Lab No.:**	8661 C
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/15/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.0
0.25	6.0
0.50	7.4
1	7.9
2	8.1
4	8.2
8	8.2
10	8.2
15	8.2

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	4.0
	0.25	6.0
	0.50	7.4
	1	7.9
	2	8.1
	4	8.2
	8	8.2
	10	8.2
	15	8.2

Chamber Pressure: 8.2 psi Pan # C-25

Calcium Carbonate Content: 91.86 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl
N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21676
Balance	416
Pressure Transducer	2773 2774

No. 40 Sieve 1187
Oven 500
50 ml Flask 1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-711	**Sample No.:**	R-7
Depth:	60.7-61.5'	**Lab No.:**	8662 A
Tested By:	BM	**Reviewed By:**	JJO
Test Date:	05/14/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	3.5
0.25	4.8
0.50	BM 5/14/08 ~~5.0~~ 5.7
1	5.8
2	5.9
4	6.0
8	6.0
10	6.0
15	6.0

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	3.5
	0.25	4.8
	0.50	5.7
	1	5.8
	2	5.9
	4	6.0
	8	6.0
	10	6.0
	15	6.0

Chamber Pressure: 6.0 psi Pan # V-11

Calcium Carbonate Content: 67.22 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21676
Balance	416
Pressure Transducer	2773
	2774
No. 40 Sieve	1187
Oven	500
50 ml Flask	1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-711	**Sample No.:**	R-7
Depth:	60.7-61.5'	**Lab No.:**	8662 B
Tested By:	BNL	**Reviewed By:**	JW
Test Date:	5/14/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	3.5
0.25	4.8
0.50	5.6
1	6.0
2	6.0
4	6.0
8	6.0
10	6.0
15	6.0

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	3.5
	0.25	4.8
	0.50	5.6
	1	6.0
	2	6.0
	4	6.0
	8	6.0
	10	6.0
	15	6.0

Chamber Pressure: 6.0 psi Pan # R-48

Calcium Carbonate Content: 67.22 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21076
Balance	416
Pressure Transducer	2773 2774

No. 40 Sieve 1187
Oven 500
50ml Flask 1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-711	**Sample No.:**	R-7
Depth:	60.7-61.5'	**Lab No.:**	8662 C
Tested By:	BM	**Reviewed By:**	JW
Test Date:	05/14/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	3.6
0.25	5.0
0.50	5.9
1	6.0
2	6.1
4	6.1
8	6.1
10	6.1
15	6.1

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	3.6
	0.25	5.0
	0.50	5.9
	1	6.0
	2	6.1
	4	6.1
	8	6.1
	10	6.1
	15	6.1

Chamber Pressure: 6.1 psi Pan # V-4

Calcium Carbonate Content: 68.34 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21676
Balance	416
Pressure Transducer	2773 2774

No. 40 sieve 1187
Oven 500
50ml Flask 1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-711	**Sample No.:**	R-15
Depth:	104-104.8'	**Lab No.:**	8663 A
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/14/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.2
0.25	5.9
0.50	6.8
1	7.1
2	7.2
4	7.3
8	7.3
10	7.3
15	7.3

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	4.2
	0.25	5.9
	0.50	6.8
	1	7.1
	2	7.2
	4	7.3
	8	7.3
	10	7.3
	15	7.3

Chamber Pressure: 7.3 psi Pan # C-33

Calcium Carbonate Content: 81.78 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21676
Balance	416
Pressure Transducer	2773 2774

No. 40 sieve 1187
Oven 500
50ml Flask 1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-711	**Sample No.:**	R-15
Depth:	104-104.8'	**Lab No.:**	8663 B
Tested By:	BM	**Reviewed By:**	JRD
Test Date:	05/14/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.2
0.25	5.9
0.50	6.9
1	7.3
2	7.4
4	7.4
8	7.4
10	7.4
15	N/A

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	4.2
	0.25	5.9
	0.50	6.9
	1	7.3
	2	7.4
	4	7.4
	8	7.4
	10	7.4
	15	N/A

Chamber Pressure: 7.4 psi Pan # R-74

Calcium Carbonate Content: 82.90 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Balance	416
Pressure Transducer	2773 2774

No. 40 Sieve 1187
Oven 500
50ml Flask 1240

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CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-711	**Sample No.:**	R-15
Depth:	104-104.8'	**Lab No.:**	8663 C
Tested By:	BNL	**Reviewed By:**	JE
Test Date:	5/14/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.0
0.25	5.9
0.50	6.8
1	7.0
2	7.3
4	7.3
8	7.4
10	7.4
15	7.4

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	4.0
	0.25	5.9
	0.50	6.8
	1	7.0
	2	7.3
	4	7.3
	8	7.4
	10	7.4
	15	7.4

Chamber Pressure: 7.4 psi Pan # R-5

Calcium Carbonate Content: 82.90 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	26716
Balance	416
Pressure Transducer	2773 2774

No. 40 Sieve 1187

Oven 500

50 mL Flask 1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-711	**Sample No.:**	711-11
Depth:	120.5-122.0'	**Lab No.:**	8623
Tested By:	BM	**Reviewed By:**	JV
Test Date:	05/08/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	1.3
0.25	1.6
0.50	1.8
1	1.8
2	1.8
4	1.8
8	1.9
10	1.9
15	1.9

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
2.00	0.10	1.3
	0.25	1.6
	0.50	1.8
	1	1.8
	2	1.8
	4	1.8
	8	1.9
	10	1.9
	15	1.9

Chamber Pressure: 1.9 psi Pan # V-18

Calcium Carbonate Content: 10.64 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl
5.6012 % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773
	2774
Balance	416
No 40 Sieve	1187
Oven	500
50ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-715	**Sample No.:**	R-2 (CS-01)
Depth:	32.8-33.6'	**Lab No.:**	8715 A
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/16/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.8
0.25	6.5
0.50	7.5
1	7.9
2	8.1
4	8.2
8	8.2
10	8.2
15	N/A

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	4.8
	0.25	6.5
	0.50	7.5
	1	7.9
	2	8.1
	4	8.2
	8	8.2
	10	8.2
	15	N/A

Chamber Pressure: 8.2 psi Pan # K-14

Calcium Carbonate Content: 91.86 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	26716
Balance	4116
Pressure Transducer	2773 2774

No. 40 sieve 1187
Oven 500
50 ml Flask 1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-715	**Sample No.:**	R-2 (CS-01)
Depth:	32.8-33.6'	**Lab No.:**	8715 B
Tested By:	BNL	**Reviewed By:**	JLJ
Test Date:	5/16/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.8
0.25	6.5
0.50	7.6
1	8.0
2	8.2
4	8.2
8	8.2
10	8.2
15	N/A

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	4.8
	0.25	6.5
	0.50	7.6
	1	8.0
	2	8.2
	4	8.2
	8	8.2
	10	8.2
	15	N/A

Chamber Pressure: 8.2 psi Pan # AB-20

Calcium Carbonate Content: 91.86 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Balance	416
Pressure Transducer	2773 2774

No. 40 Sieve 1187
Oven 500
50ml Flask 1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-715	**Sample No.:**	R-2 (CS-01)
Depth:	32.8-33.6'	**Lab No.:**	8715 C
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/16/08	**Review Date:**	5/16/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	5.0
0.25	6.5
0.50	7.7
1	8.0
2	8.0
4	8.1
8	8.3
10	8.3
15	8.3

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	5.0
	0.25	6.5
	0.50	7.7
	1	8.0
	2	8.0
	4	8.1
	8	8.3
	10	8.3
	15	8.3

Chamber Pressure: 8.3 psi Pan # F-208

Calcium Carbonate Content: 92.98 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Balance	416
Pressure Transducer	2773 2774

No. 40 Sieve 1187

Oven 500

50 ml Flask 1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-730	**Sample No.:**	730-3
Depth:	3.9-5.4'	**Lab No.:**	8641
Tested By:	BM	**Reviewed By:**	JW
Test Date:	05/09/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.4
0.25	6.0
0.50	6.3
1	7.5
2	7.9
4	8.0
8	8.0
10	8.1
15	8.1

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time Min	Pressure (psi)
1.01	0.10	4.4
	0.25	6.0
	0.50	6.3
	1	7.5
	2	7.9
	4	8.0
	8	8.0
	10	8.1
	15	8.1

Chamber Pressure: 8.1 psi Pan # R-53

Calcium Carbonate Content: 90.74 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	2676
Pressure Transducer	2773
	2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	B-730	**Sample No.:**	730-8
Depth:	19.6-21.1'	**Lab No.:**	8642
Tested By:	BM	**Reviewed By:**	JW
Test Date:	5/9/08	**Review Date:**	5/12/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	3.8
0.25	6.0
0.50	6.9
1	7.6
2	7.9
4	7.9
8	7.9
10	7.9
15	7.9

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	3.8
	0.25	6.0
	0.50	6.9
	1	7.6
	2	7.9
	4	7.9
	8	7.9
	10	7.9
	15	7.9

Chamber Pressure: 7.9 psi Pan # P-28

Calcium Carbonate Content: 88.50 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21676
Pressure Transducer	2773
	2774
Balance	416
No. 40 Sieve	1187
Oven	144
50 ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	TP601	**Sample No.:**	601-1
Depth:	3.2-5.0'	**Lab No.:**	8720
Tested By:	BNL	**Reviewed By:**	JW
Test Date:	5/16/08	**Review Date:**	5/19/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	4.9
0.25	6.5
0.50	7.4
1	7.8
2	7.8
4	7.9
8	7.9
10	7.9
15	N/A

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.01	0.10	4.4
	0.25	6.5
	0.50	7.4
	1	7.8
	2	7.8
	4	7.9
	8	7.9
	10	7.9
	15	N/A

Chamber Pressure: 7.9 psi Pan # K-5

Calcium Carbonate Content: 88.50 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21076
Balance	416
Pressure Transducer	2773 2774
Oven	500
No. 40 Sieve	1187
50 ml Flask	1240

MACTEC

CALCIUM CARBONATE CONTENT

(ASTM D4373-02)

Project No. :	6468-07-1950	**Project Name:**	Turkey Point COL Project-FPL
Boring No.:	TP701	**Sample No.:**	701-1
Depth:	3.0-4.5'	**Lab No.:**	8719
Tested By:	BWL	**Reviewed By:**	SW
Test Date:	5/16/08	**Review Date:**	5/19/08

Leak Check of the Chamber

Time min	Pressure (psi)
0.10	5.0
0.25	6.6
0.50	7.5
1	7.9
2	8.1
4	8.1
8	8.2
10	8.2
15	8.2

Pressure Readings for Calcium Carbonate Content

Weight of Soil (g)	Time min	Pressure (psi)
1.00	0.10	5.0
	0.25	6.6
	0.50	7.5
	1	7.9
	2	8.1
	4	8.1
	8	8.2
	10	8.2
	15	8.2

Chamber Pressure: 8.2 psi Pan # AB-70

Calcium Carbonate Content: 91.86 %

Calibration Factor: 11.203 % / psi, for 1 gram of soil and 20 ml 1 N HCl

N/A % / psi, for 2 grams of soil and 20 ml 1 N HCl

Equipment	LID No.
Chamber	21676
Balance	416
Pressure Transducer	2773
	2774
Oven	500
No. 40 sieve	1187
50 ml Flask	1240

APPENDIX E.2

LABORATORY TEST RESULTS ON ROCK CORES

Summary Of Laboratory Testing
Turkey Point COL Project
MACTEC Job No. 6468-07-1950

ASTM D 7012-07
Compressive Strength And Elastic Moduli Of Intact Rock Core

SAMPLE ID	AS RECEIVED MOISTURE CONTENT	SPECIMEN DIAMETER (INCH)	SPECIMEN HEIGHT (INCH)	L/D Ratio	DIMENSIONAL REQUIREMENTS	DRY UNIT WEIGHT (pcf)	TEST DURATION (TIME TO FAILURE IN MINUTES : SECONDS)	Strain Rate (in/min)	UNCONFINED COMPRESSIVE STRENGTH, (PSI)	TYPE OF BREAK
B-601/R3/39.9'-41.0'	4.3%	3.26	7.19	2.3	See Note (1)	140.6	9:09	20-60 lbs/sec	4823 (7)	COLUMNAR
B-601/R4/43.5'-44.6'	8.4%	3.26	7.06	2.2	See Note (1)	130.4	3:36	0.03	2,384	CONE
B-601/R5/50.2'-53.1'	12.0%	3.25	7.19	2.2	See Note (1)	120.4	3:33	0.03	1962	SHEAR
B-601/R6/52.0'-53.1'	17.0%	3.26	7.28	2.3	See Note (1)	114.4	9:38	0.008	1559	SHEAR
B-601/R9/66.7'-67.8'	14.2%	3.27	7.19	2.3	See Note (1)	119.3	2:14	0.03	1197	SHEAR
B-601/R14/92.9'-94.0'	12.7%	3.25	7.26	2.3	See Note (1)	115.5	6:43	0.008	938	SHEAR
B-601/T14/94.3'-95.4'	14.1%	3.24	7.14	2.3	See Note (1)	102.0	6:08	0.008	812	SHEAR
B-601/R15/99.7-100.8	13.4%	3.23	7.16	2.2	See Note (1)	112.8	1:37 (8)	20-60 lbs/sec	413	SHEAR
B-608/R2/41.3'-42.1'	4.2%	2.40	5.17	2.2	See Note (1)	144.2	7:08	20-60 lbs/sec	5416(7)	CONE
B-608/R3/42.9'-43.7'	4.4%	2.41	5.11	2.2	See Note (1)	142.1	12:54	0.008	4160	CONE
B-616/R6/61.2'-62.0'	10.5%	2.40	5.15	2.3	See Note (1)	122.8	2:33	0.03	2245	CONE/SHEAR
B-621/R4/43.8'-44.5'	7.1%	2.40	5.15	2.2	See Note (1)	131.1	3:42	0.03	3178	SHEAR
B-621/R17/107.3'-108.1'	17.9%	2.40	5.26	2.2	See Note (1)	96.3	3:36	0.008	443	SHEAR
B-701/R3/26.4'-27.5'	11.7%	3.26	7.34	2.3	See Note (1)	104.2	3:38	0.008	309	SHEAR
B-701/R6/42.3'-43.4'	7.1%	3.24	7.03	2.2	See Note (1)	141.7	10:30	20-60 lbs/sec	5665 (7)	COLUMNAR

Note (1): Because of core conditions, preparation according to ASTM D 4543 and achieving dimensional tolerances of ASTM D 4543 was not feasible. Cores were capped for testing

Note (2): Material Type: Limestone

Note (3): Confining Pressure: None

Note (4): Laboratory Temperature During Testing was 23.9 degrees Celsius

Note (5): Load Direction approximately perpendicular to general bedding.

Note (6): See individual test sheets for more information.

Note (7): Due to higher than anticipated loads, compressive testing had to be completed using a higher capacity testing frame.

Note (8): Test Duration time was less than 2 minutes due to a compressive load at failure that was less than anticipated.

Reviewed by: MK 5-13-08

Summary Of Laboratory Testing
Turkey Point COL Project
MACTEC Job No. 6468-07-1950

ASTM D 7012-07
Compressive Strength And Elastic Moduli Of Intact Rock Core

SAMPLE ID	AS RECEIVED MOISTURE CONTENT	SPECIMEN DIAMETER (INCH)	SPECIMEN HEIGHT (INCH)	L/D Ratio	DIMENSIONAL REQUIREMENTS	DRY UNIT WEIGHT (pcf)	TEST DURATION (TIME TO FAILURE IN MINUTES : SECONDS)	Strain Rate (in/min)	UNCONFINED COMPRESSIVE STRENGTH, (PSI)	TYPE OF BREAK
B-608/R15/105.2'-106.0'	18.5%	2.39	5.06	2.2	See Note (1)	101.5	2:51	0.008	430	SHEAR
B-611/R3/36.6'-37.7'	9.7%	2.39	5.36	2.3	See Note (1)	125.1	2:39	0.03	2,806	SHEAR
B-611/R5/43.7'-44.5'	5.8%	2.40	5.20	2.2	See Note (1)	136.5	11:34	0.008	3603	SHEAR
B-611/R10/68.7'-69.5'	4.1%	2.39	5.10	2.2	See Note (1)	142.5	8:10	0.008	2471	SHEAR
B-614/R5/52.1'-52.9'	12.9%	2.40	5.08	2.1	See Note (1)	122.7	2:58	0.03	3550	SHEAR
B-614/R11/831'-83.9'	17.3%	2.39	5.06	2.2	See Note (1)	110.8	4:37	0.008	990	SHEAR
B-616/R1/36.1'-36.9'	12.9%	2.39	5.01	2.1	See Note (1)	106.2	4:50	0.008	1050	SHEAR
B-620/R8/61.6'-62.4'	8.6%	2.41	5.25	2.2	See Note (1)	125.5	5:03	0.008	1356	SHEAR
B-702/R8/70.1'-70.8'	3.1%	2.40	5.26	2.2	See Note (1)	143.7	9:22	0.008	2976	SHEAR
B-715/R4/42.0'-42.8'	14.2%	2.36	5.15	2.2	See Note (1)	133.7	8:21	20-60 lbs/sec	5831 (7)	SHEAR
B-715/R2/32.8'-33.6'	4.5%	2.36	5.16	2.3	See Note (1)	130.1	7:48	0.008	2173	SHEAR
B-715/R7/55.4'-56.2'	8.6%	2.36	5.19	2.3	See Note (1)	138.1	3:25	0.03	4062	CONE/SHEAR
B-715/R13/88.0'-88.8'	3.0%	2.36	4.97	2.2	See Note (1)	148.7	2:53	0.03	3485	CONE/SHEAR
B-737/R3/42.7'-43.5'	3.3%	2.37	5.18	2.2	See Note (1)	151.4	10:23	20-60 lbs/sec	7800 (7)	SHEAR
B-737/R3/44.3'-45.1'	4.0%	2.36	5.17	2.2	See Note (1)	149.8	8:26	20-60 lbs/sec	5112 (7)	COLUMNAR

Note (1): Because of core conditions, preparation according to ASTM D 4543 and achieving dimensional tolerances of ASTM D 4543 was not feasible. Cores were capped for testing

Note (2): Material Type: Limestone

Note (3): Confining Pressure: None

Note (4): Laboratory Temperature During Testing was 23.9 degrees Celsius

Note (5): Load Direction approximately perpendicular to general bedding.

Note (6): See individual test sheets for more information.

Note (7): Due to higher than anticipated loads, compressive testing had to be completed using a higher capacity testing frame.

Reviewed by: MA 5-13-08

Summary Of Laboratory Testing
Turkey Point COL Project
MACTEC Job No. 6468-07-1950

ASTM D 7012-07
Compressive Strength And Elastic Moduli Of Intact Rock Core

SAMPLE ID	AS RECEIVED MOISTURE CONTENT	SPECIMEN DIAMETER (INCH)	SPECIMEN HEIGHT (INCH)	L/D Ratio	DIMENSIONAL REQUIREMENTS	DRY UNIT WEIGHT (pcf)	TEST DURATION (TIME TO FAILURE IN MINUTES : SECONDS)	Strain Rate (in/min)	UNCONFINED COMPRESSIVE STRENGTH, (PSI)	TYPE OF BREAK
B-701/R8/51.8'-52.9'	8.2%	3.24	7.10	2.2	See Note (1)	131.4	4:11	0.03	2,323	CONE
B-701/R10/60.8'-61.9'	10.1%	3.26	7.17	2.2	See Note (1)	133.5	8:15	20-60 lbs/sec	2921 (7)	SHEAR
B-701/R10/62.2'-63.3'	6.7%	3.26	7.14	2.2	See Note (1)	123.0	2:07	0.008	172	SHEAR
B-701/R12/74.3'-75.4'	7.6%	3.25	7.20	2.3	See Note (1)	137.7	12:52	0.008	2099	SHEAR

Note (1): Because of core conditions, preparation according to ASTM D 4543 and achieving dimensional tolerances of ASTM D 4543 was not feasible. Cores were capped for testing

Note (2): Material Type: Limestone

Note (3): Confining Pressure: None

Note (4): Laboratory Temperature During Testing was 23.9 degrees Celsius

Note (5): Load Direction approximately perpendicular to general bedding.

Note (6): See individual test sheets for more information.

Note (7): Due to higher than anticipated loads, compressive testing had to be completed using a higher capacity testing frame.

Note (8): Test Duration time was less than 2 minutes due to a compressive load at failure that was less than anticipated.

Reviewed by: MM 5-13-08

Summary Of Laboratory Testing
Turkey Point COL Project
MACTEC Job No. 6468-07-1950

ASTM D 7012-07
Compressive Strength And Elastic Moduli Of Intact Rock Core

SAMPLE ID	AS RECEIVED MOISTURE CONTENT	SPECIMEN DIAMETER (INCH)	SPECIMEN HEIGHT (INCH)	L/D Ratio	DIMENSIONAL REQUIREMENTS	DRY UNIT WEIGHT (pcf)	TEST DURATION (TIME TO FAILURE IN MINUTES :	Strain Rate (in/min)	UNCONFINED COMPRESSIVE STRENGTH, (PSI)	TYPE OF BREAK
B-607/R3/25.7'-26.5'	10.6%	2.39	5.21	NA	See Note (1)	103.9	NA	NA	NA	Core Broke During Capping Procedure
B-607/R5/33.9'-34.7'	13.0%	2.39	4.92	2.1	See Note (1)	112.1	5:30	0.01	1559	SHEAR
B-607/R6/40.7'-41.5'	10.5%	2.39	4.95	2.1	See Note (1)	120.5	7:23	0.008	1963	SHEAR
B-607/R8/50.4'-51.2'	11.8%	2.39	4.98	2.1	See Note (1)	123.8	2:11	0.05	3266	SHEAR
B-607/R10/58.6'-59.4'	9.4%	2.38	4.98	2.1	See Note (1)	133.9	1:45 (8)	0.03	1418	SHEAR
B-607/R19/99.7'-100.5'	13.6%	2.37	5.02	2.1	See Note (1)	110.1	3:55	0.008	350	SHEAR
B-619/R4/29.0'-29.8'	20.6%	2.39	4.77	2.1	See Note (1)	108.4	6:21	0.008	935	SHEAR
B-619/R8/49.4'-50.2'	6.8%	2.40	4.90	2.1	See Note (1)	134.4	6:11	0.03	4413	CONE/SHEAR
B-711/R1/34.1'-34.9'	14.1%	2.39	4.99	2.1	See Note (1)	108.1	2:54	0.03	907	SHEAR
B-711/R2/35.6'-36.4'	13.0%	2.40	4.94	2.1	See Note (1)	105.2	3:15	0.008	1417	SHEAR
B-711/R5/50.9'-51.7'	7.3%	2.39	4.98	2.1	See Note (1)	135.3	6:08	0.03	4051	CONE/SHEAR
B-711/R6/59.5'-60.3'	9.0%	2.39	5.10	2.2	See Note (1)	132.6	5:21	0.03	3129	SHEAR
B-711/R7/60.7'-61.5'	6.6%	2.39	4.98	2.1	See Note (1)	138.9	5:48	0.03	3194	SHEAR
B-711/R7/62.0'-62.8'	5.5%	2.40	4.90	2.1	See Note (1)	142.5	12:11	20-60 lbs/sec	5031 (7)	CONE/SHEAR
B-711/R12/86.7'-87.5'	7.8%	2.40	4.95	2.1	See Note (1)	133.0	7:40	0.008	1133	SHEAR
B-711/R15/102.0'-102.8'	15.0%	2.40	5.01	2.1	See Note (1)	99.2	9:54	0.008	378	SHEAR
B-711/R15/104.0'-104.8'	14.4%	2.39	4.97	2.1	See Note (1)	102.9	6:20	0.008	367	SHEAR

Note (1): Because of core conditions, preparation according to ASTM D 4543 and achieving dimensional tolerances of ASTM D 4543 was not feasible. Cores were capped for testing

Note (2): Material Type: Limestone

Note (3): Confining Pressure: None

Note (4): Laboratory Temperature During Testing was 23.9 degrees Celsius

Note (5): Load Direction approximately perpendicular to general bedding.

Note (6): See individual test sheets for more information.

Note (7): Due to higher than anticipated loads, compressive testing had to be completed using a higher capacity testing frame.

Note (8): Test Duration time was less than 2 minutes due to a compressive load at failure that was less than anticipated.

Reviewed by: MM 5-13-08

Summary Of Laboratory Testing
Turkey Point COL Project
MACTEC Job No. 6468-07-1950

ASTM D 7012-07
Compressive Strength And Elastic Moduli Of Intact Rock Core

SAMPLE ID	AS RECEIVED MOISTURE CONTENT	SPECIMEN DIAMETER (INCH)	SPECIMEN HEIGHT (INCH)	L/D Ratio	DIMENSIONAL REQUIREMENTS	DRY UNIT WEIGHT (pcf)	TEST DURATION (TIME TO FAILURE IN MINUTES : SECONDS)	Strain Rate (in/min)	UNCONFINED COMPRESSIVE STRENGTH, (PSI)	TYPE OF BREAK
B-602/R10/52.2'-53.0'	15.8%	2.37	4.94	2.1	See Note (1)	110.8	5:32	0.008	883	SHEAR
B-602/R10/54.4'-55.2'	23.2%	2.40	5.31	NA	See Note (1)	94.1	NA	NA	NA	Core Broke During Capping Procedure
B-602/R16/79.5'-80.3'	6.2%	2.40	5.04	2.2	See Note (1)	139.8	3:23	0.03	3665	SHEAR
B-604/R4/49.8'-50.6'	12.1%	2.40	5.19	2.4	See Note (1)	126.0	4:55	0.03	4012	CONE
B-604/R4/50.6'-51.4'	12.1%	2.40	5.07	2.2	See Note (1)	123.2	10:13	0.008	3175	SHEAR
B-604/R10/80.2'-81.0'	7.9%	2.40	5.03	2.2	See Note (1)	133.5	4:34	0.03	3183	SHEAR
B-606/R18/74.3'-75.1'	7.7%	2.38	5.25	2.2	See Note (1)	132.1	7:21	0.008	2188	SHEAR
B-606/R19/80.1'-80.9'	8.9%	2.39	5.03	2.2	See Note (1)	125.0	10:04	0.008	2752	SHEAR
B-609/R1/29.0'-29.8'	10.5%	2.40	5.24	2.2	See Note (1)	111.4	5:58	0.008	416	SHEAR
B-609/R1/30.1'-30.9'	15.8%	2.41	4.99	2.1	See Note (1)	109.4	5:39	0.008	1494	SHEAR
B-609/R22/101.9'-102.7'	13.2%	2.39	5.20	2.3	See Note (1)	110.3	4:43	0.008	587	SHEAR
B-610/R3/27.6'-28.4'	16.6%	2.40	5.12	2.2	See Note (1)	112.7	2:56	0.03	1239	SHEAR
B-610/R3/29.6'-30.4'	20.0%	2.39	4.97	2.1	See Note (1)	107.9	6:12	0.008	1446	SHEAR
B-611/R1/28.7'-29.5'	11.9%	2.39	5.07	2.2	See Note (1)	120.6	5:45	0.008	1480	SHEAR
B-708/R16/102.2'-103.0	12.9%	2.39	5.38	NA	See Note (1)	97.2	NA	NA	NA	Core Broke During Capping Procedure

Note (1): Because of core conditions, preparation according to ASTM D 4543 and achieving dimensional tolerances of ASTM D 4543 was not feasible. Cores were capped for testing

Note (2): Material Type: Limestone

Note (3): Confining Pressure: None

Note (4): Laboratory Temperature During Testing was 23.9 degrees Celsius

Note (5): Load Direction approximately perpendicular to general bedding.

Note (6): See individual test sheets for more information.

Reviewed by: MM 5-13-08

Summary Of Laboratory Testing
Turkey Point COL Project
MACTEC Job No. 6468-07-1950

ASTM D 7012-07
Compressive Strength And Elastic Moduli Of Intact Rock Core

SAMPLE ID	AS RECEIVED MOISTURE CONTENT	SPECIMEN DIAMETER (INCH)	SPECIMEN HEIGHT (INCH)	L/D Ratio	DIMENSIONAL REQUIREMENTS	DRY UNIT WEIGHT (pcf)	TEST DURATION (TIME TO FAILURE IN MINUTES : SECONDS)	Strain Rate (in/min)	UNCONFINED COMPRESSIVE STRENGTH, (PSI)	TYPE OF BREAK
B-606/R7/32.0'-32.8'	11.4%	2.39	5.35	2.3	See Note (1)	124.4	7:08	0.008	1,764	SHEAR
B-606/R8/33.5'-34.3'	11.9%	2.40	5.15	2.2	See Note (1)	114.7	5:23	0.008	772	SHEAR
B-606/R12/52.2'-53.0'	5.6%	2.40	5.29	2.3	See Note (1)	144.0	5:01	20-60 lbs/sec	4991 (7)	SHEAR
B-609/R6/50.1'-50.9'	10.8%	2.40	5.28	2.2	See Note (1)	126.0	8:53	0.008	2551	SHEAR
B-609/R16/79.6'-80.4'	7.9%	2.38	5.16	2.2	See Note (1)	127.8	6:39	0.008	1865	SHEAR
B-610/R13/77.6'-78.4'	8.8%	2.40	5.24	2.2	See Note (1)	130.9	3:17	0.03	3000	SHEAR
B-611/R15/92.9'-93.7'	13.0%	2.39	5.30	NA	See Note (1)	107.1	NA	NA	NA	Core Broke During Capping Procedure
B-611/R18/108.7'-109.5'	22.7%	2.39	5.16	NA	See Note (1)	96.2	NA	NA	NA	Core Broke During Capping Procedure
B-620/R4/40.6'-41.4'	11.1%	2.40	4.71	2.0	See Note (1)	125.5	2:32	0.03	2556	SHEAR
B-702/R8/72.0'-72.8'	6.9%	2.39	5.11	2.2	See Note (1)	138.5	7:38	0.008	2251	SHEAR
B-702/R11/86.9'-87.7'	5.5%	2.39	5.17	2.2	See Note (1)	133.7	5:39	0.008	1364	SHEAR
B-702/R14/102.2'-103.0'	12.5%	2.39	5.17	NA	See Note (1)	104.4	NA	NA	NA	Core Broke During Capping Procedure
B-708/R3/37.8'-38.6'	6.3%	2.40	5.08	2.2	See Note (1)	134.6	11:26	0.008	3924	CONE
B-708/R6/50.7'-51.5'	6.4%	2.40	5.24	2.2	See Note (1)	138.8	5:35	0.03	4414	SHEAR
B-708/R8/61.4'-62.2'	5.7%	2.40	5.29	2.3	See Note (1)	138.6	12:49	0.008	4230	SHEAR

Note (1): Because of core conditions, preparation according to ASTM D 4543 and achieving dimensional tolerances of ASTM D 4543 was not feasible. Cores were capped for testing
Note (2): Material Type: Limestone
Note (3): Confining Pressure: None
Note (4): Laboratory Temperature During Testing was 23.9 degrees Celsius
Note (5): Load Direction approximately perpendicular to general bedding.
Note (6): See individual test sheets for more information.
Note (7): Due to higher than anticipated loads, compressive testing had to be completed using a higher capacity testing frame.

Reviewed by: MM 5-13-08

Summary Of Laboratory Testing
Turkey Point COL Project
MACTEC Job No. 6468-07-1950

ASTM D 7012-07
Compressive Strength And Elastic Moduli Of Intact Rock Core

SAMPLE ID	AS RECEIVED MOISTURE CONTENT	SPECIMEN DIAMETER (INCH)	SPECIMEN HEIGHT (INCH)	L/D Ratio	DIMENSIONAL REQUIREMENTS	DRY UNIT WEIGHT (pcf)	TEST DURATION (TIME TO FAILURE IN MINUTES : SECONDS)	Strain Rate (in/min)	UNCONFINED COMPRESSIVE STRENGTH, (PSI)	TYPE OF BREAK
B-701/R-24/467.7'-468.5'	20.4%	2.36	5.20	2.3	See Note (1)	108.8	6:57	0.008	94	CONE/SHEAR
B-701/R-28/487.4'-488.2'	17.7%	2.33	5.18	2.3	See Note (1)	113.8	4:57	0.008	18	CONE/SHEAR
B-701/R-32/509.0'-509.8'	20.2%	2.37	3.36	NA	See Note (1)	105.7	NA	NA	NA	Core Broke During Sawing Process
B-701/R-42/556.4'-557.2'	24.4%	2.36	5.11	2.2	See Note (1)	99.9	10:02	0.008	310	CONE/SHEAR
B-701/R-51/601.8'-602.6'	19.7%	2.35	4.24	NA	See Note (1)	107.6	NA	NA	NA	Core Broke During Sawing Process

Note (1): Because of core conditions, preparation according to ASTM D 4543 and achieving dimensional tolerances of ASTM D 4543 was not feasible. Cores were capped for testing
Note (2): Material Type: Limestone
Note (3): Confining Pressure: None
Note (4): Laboratory Temperature During Testing was 23.9 degrees Celsius
Note (5): Load Direction approximately perpendicular to general bedding.
Note (6): See individual test sheets for more information.
Note (7): Due to higher than anticipated loads, compressive testing had to be completed using a higher capacity testing frame.

Reviewed by: 6-5-08
STEVE KISER

Summary Of Laboratory Testing
Turkey Point COL Project
MACTEC Job No. 6468-07-1950

ASTM D854-06
Specific Gravity Of Soils Solids By Water Pycnometer
Method B

SAMPLE IDENTIFICATION	Test Temperature (°C)	Dry Weight of Rock (grams)	Weight of Water & Pycnometer (grams)	Weight of Dealred Sample, Water, & Pycnometer (grams)	Specific Gravity (At Test Temperature)	Temperature Coefficient Factor	Specific Gravity (at 20°C)
B-607 / R-3 / 25.7'-26.5'	24.1	92.4	360.78	418.30	2.65	0.99907	2.65
B-711 / R-6 / 59.5'-60.3'	24.1	100.39	362.57	425.51	2.68	0.99907	2.68

Notes:
(1) Sample was prepared by crushing a section of the specified core to a size that would pass the #4 sieve as specified in WI-22 Rev.2

Reviewed By: MM 5-21-08

MACTEC

Data Testing Sheet For The Standard Test Method For Laboratory Determination of Water Content of Soil and Rock by Mass
ASTM D2216-05

Project No.	6468-07-1950	Tested By	T. HALL
Project Name	Turkey Point COL	Test Date	5-15-08
Boring No.	N/A	Reviewed By	D Kapitsky
Sample Depth	N/A	Review Date	5-19-08
Sample No.	N/A	MACTEC Lab Location	Charlotte, NC
Assignment Sheet Date	W1-22		

Boring No.	Sample No.	Depth (Ft)	Tare No.	Tare Wt. (grams)	Wet Soil + Tare (grams)	Dry Soil + Tare (grams)	Water Wt (grams)	Dry Soil Wt (grams)	Moisture Content (%)
B-610	R-7	499-507	FLY	106.97	460.72	421.59	39.13	314.62	12.4 ✓
B-620	R-6	51.2-52.0	PENNEE	115.07	311.59	287.90	23.69	172.83	13.7 ✓
—	—	—	—	—	—	—	—	—	—

Equipment used	Equipment ID #
Scale	1112
Oven	SL00-2
N/A	N/A
↓	↓

Form Approved By Project Principle:
Name: [signature]
Date: 5/7/08

Reviewed By: MK 5-20-08

MACTEC

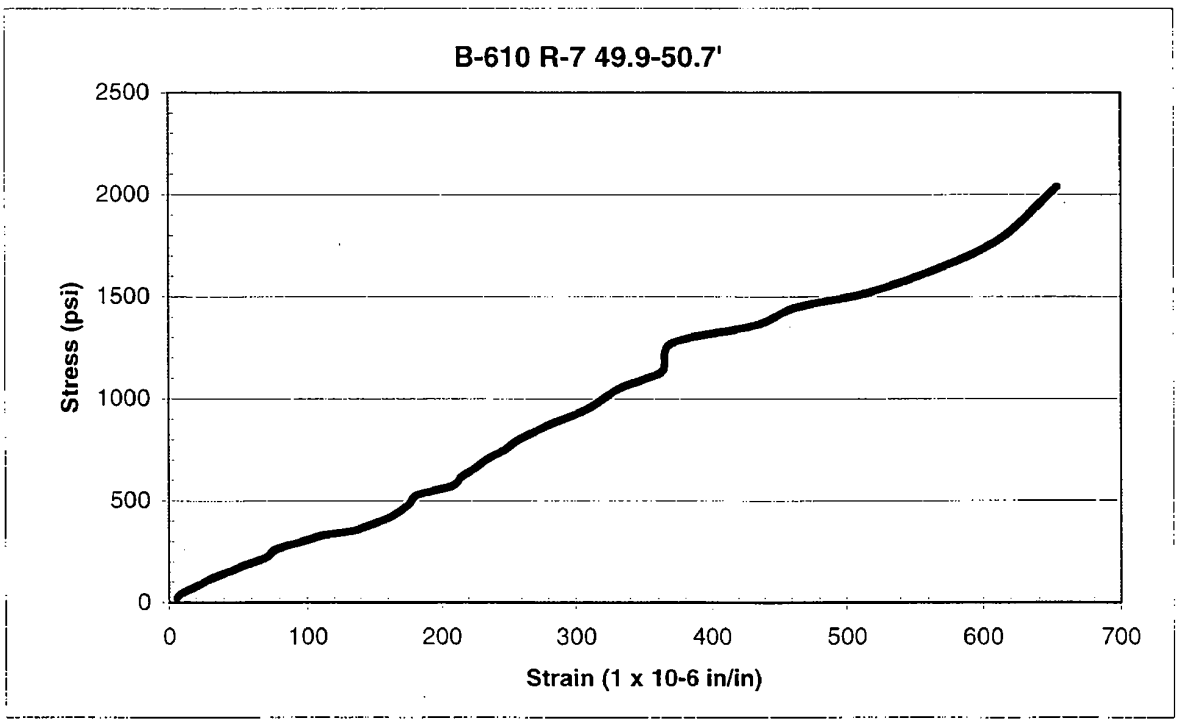
MACTEC ENGINEERING AND CONSULTING

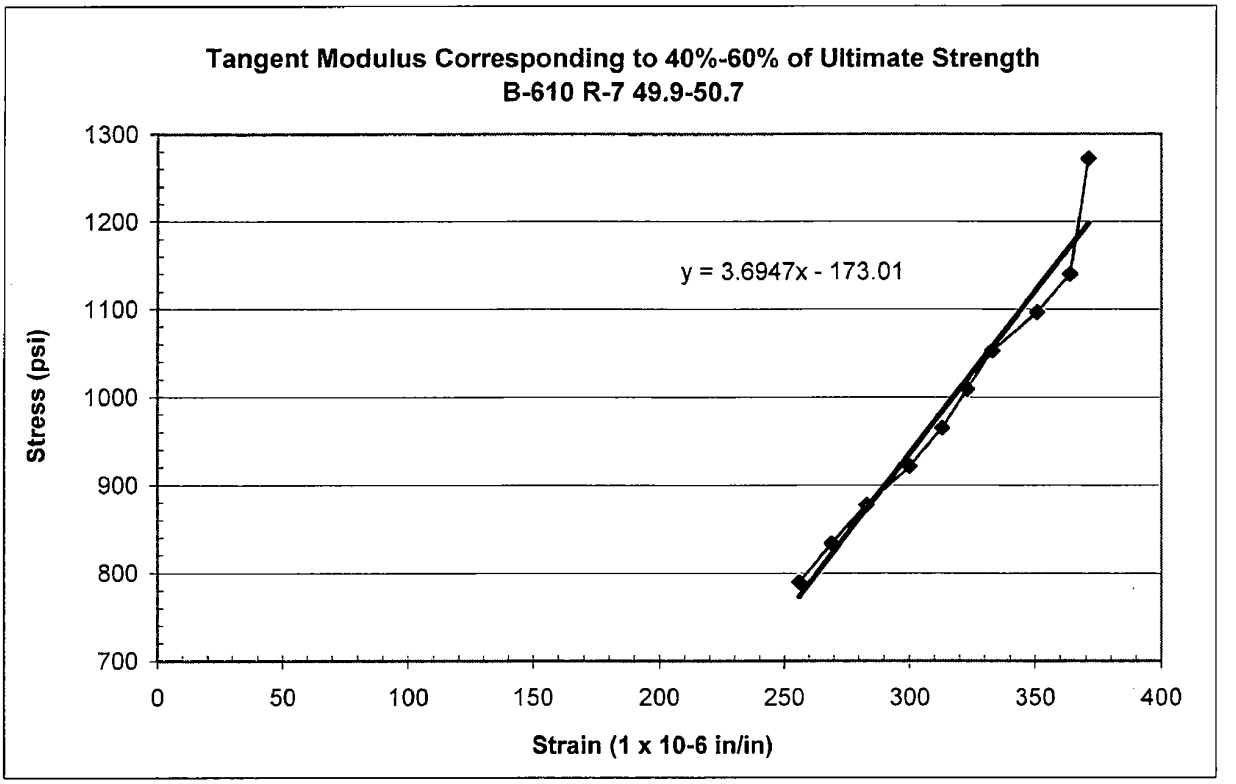
ELASTIC MODULI OF INTACT ROCK CORE SPECIMENS IN UNIAXIAL COMPRESSION
ASTM D 7012-07

PROJECT NAME: TURKEY POINT COL
MACTEC PROJECT NUMBER: 6468-07-1950
DATE: 7/8/2008
BORING NUMBER: B-610
SAMPLE DEPTH: 49.9-50.7 feet

Tested by: M. Hamlett
Test Date: 5/20/2008
Reviewed by: MM
Review Date: 7/24/08

TEST DATA	
Rock Type	N/A
Moisture Condition, %	12.4
Specimen Diameter, inch	2.41
Specimen Length, inch	5.27
Length/Diameter Ratio	2.2
Unit Weight (lbs/ft3)	125.0
Test Duration (time to failure in minutes:seconds)	2:46
Unconfined Compressive Strength, psi (from test)	2038
Unconfined Compressive Strength, psi (with L/D correction)	-
Type of Break	Shear
Young's Modulus, ksi x1000	3.7





B-610 R-7 49.9-50.7'		
Load (lbs)	Stress	Strain
100	21.9	6
200	43.9	9
300	65.8	16
400	87.7	23
500	109.6	29
600	131.6	36
700	153.5	45
800	175.4	53
900	197.4	62
1000	219.3	70
1100	241.2	74
1200	263.2	78
1300	285.1	89
1400	307.0	101
1500	328.9	111
1600	350.9	134
1700	372.8	144
1800	394.7	153
1900	416.7	161
2000	438.6	167
2200	482.5	176
2400	526.3	182
2600	570.2	208
2800	614.0	215
3000	657.9	225
3200	701.8	234

B-610 R-7 49.9-50.7'		
Load (lbs)	Stress	Strain
3400	745.6	247
3600	789.5	256
3800	833.3	269
4000	877.2	283
4200	921.1	300
4400	964.9	313
4600	1008.8	323
4800	1052.6	333
5000	1096.5	351
5200	1140.4	364
5800	1271.9	371
6200	1359.6	434
6600	1447.4	465
7000	1535.1	525
8000	1754.4	606
9295.5	2038.5	653

MACTEC

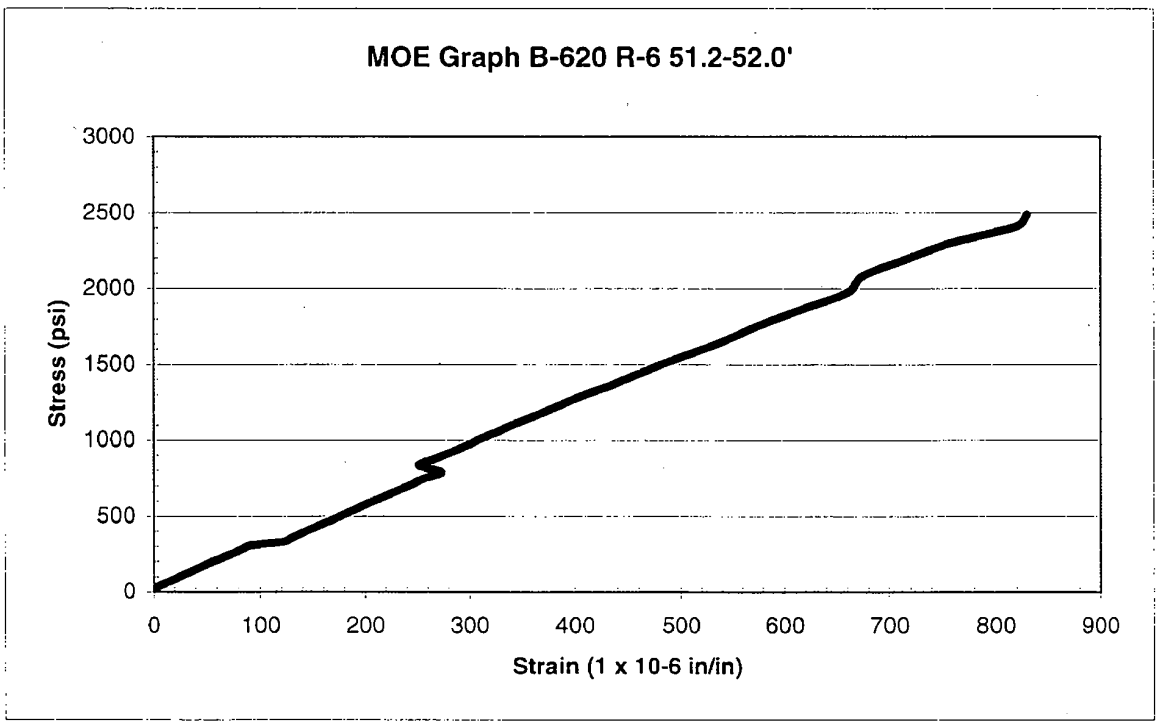
MACTEC ENGINEERING AND CONSULTING

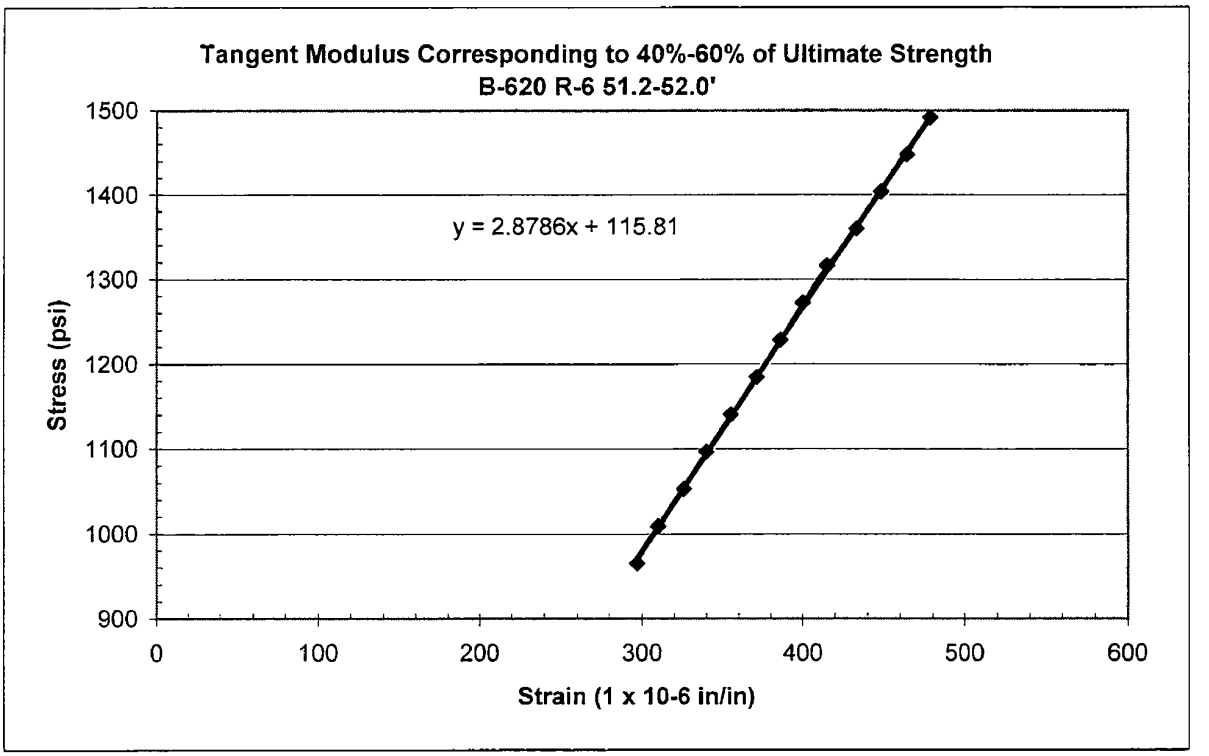
ELASTIC MODULI OF INTACT ROCK CORE SPECIMENS IN UNIAXIAL COMPRESSION
ASTM D 7012-07

PROJECT NAME: TURKEY POINT COL
MACTEC PROJECT NUMBER: 6468-07-1950
DATE: 7/8/2008
BORING NUMBER: B-620
SAMPLE DEPTH: 51.2-52.0 feet

Tested by: M. Hamlett
Test Date: 5/20/2008
Reviewed by: [signature]
Review Date: 7/24/08

TEST DATA	
Rock Type	N/A
Moisture Condition, %	13.7
Specimen Diameter, inch	2.41
Specimen Length, inch	5.02
Length/Diameter Ratio	2.1
Unit Weight (lbs/ft3)	122.7
Test Duration (time to failure in minutes:seconds)	11:00
Unconfined Compressive Strength, psi (from test)	2487
Unconfined Compressive Strength, psi (with L/D correction)	-
Type of Break	Shear
Young's Modulus, ksi x1000	2.9





B-610 R-7 49.9-50.7'		
Load (lbs)	Stress	Strain
100	21.93	1
200	43.86	7
300	65.79	14
400	87.72	21
500	109.65	28
600	131.58	35
700	153.51	42
800	175.44	49
900	197.37	55
1000	219.30	63
1100	241.23	70
1200	263.16	77
1300	285.09	84
1400	307.02	91
1500	328.95	122
1600	350.88	128
1700	372.81	135
1800	394.74	142
1900	416.67	149
2000	438.60	156
2200	482.46	171
2400	526.32	185
2600	570.18	199
2800	614.04	213
3000	657.89	228
3200	701.75	243

B-610 R-7 49.9-50.7'		
Load (lbs)	Stress	Strain
3400	745.61	256
3600	789.47	273
3800	833.33	252
4000	877.19	267
4200	921.05	283
4400	964.91	297
4600	1008.77	310
4800	1052.63	326
5000	1096.49	340
5200	1140.35	355
5400	1184.21	371
5600	1228.07	386
5800	1271.93	400
6000	1315.79	415
6200	1359.65	433
6400	1403.51	448
6600	1447.37	464
6800	1491.23	478
7000	1535.09	495
7500	1644.74	539
8000	1754.39	576
8500	1864.04	618
9000	1973.68	661
9500	2083.33	675
10000	2192.98	716
10500	2302.63	760
11000	2412.28	821
11342.1	2487.30	830

Prepared By _____
Checked By ZHU 7/24/08

TABLE 4.5
SUMMARY OF LABORATORY TEST RESULTS - CARBONATE CONTENT
ASTM D 4373-02
TURKEY POINT COL
MACTEC PROJECT NO. 6468-07-1950

Boring No.	Sample No.	Depth (ft.)	Calcite Equivalent (%)
B-601 (DH)	601DH-5	9.7-11.2	92.98
B-601 (DH)	601DH-18	198.4-199.9	29.13
B-601 (DH)	601DH-23	248.4-249.9	21.29
B-603	603-3	5.0-6.5	86.30
B-603	603-5	10.0-11.5	91.90
B-603	603-8	120.5-122.0	19.10
B-603	603-11	136.4-137.9	40.30
B-605	605-4	7.5-9.0	88.50
B-605	605-12	119.9-121.4	26.90
B-605	605-15	131.4-132.9	30.25
B-605	605-18	144.9-146.4	23.53
B-605	605-26	184.5-186.0	23.53
B-605	605-28	194.5-196.0	26.89
B-607	607-3	5.0-6.5	88.50
B-607	607-9	129.5-131.0	19.05
B-608 (DH)	608DH-17	178.0-179.5	22.41
B-608 (DH)	608DH-22	228.0-229.5	33.61
B-619	619-6	12.1-13.6	90.74
B-619	619-8	121.6-123.1	12.32
B-701 (DH)	701DH-3	5.1-6.6	91.86
B-701 (DH)	701DH-22	237.5-239.0	20.17
B-703	703-6	12.3-13.8	88.50
B-703	703-9	118.6-120.1	12.32
B-703	703-15	148.5-150.0	20.17
B-704 (DH)	704DH-15	123.0-124.5	12.32
B-704 (DH)	704DH-21	150.0-151.5	17.92
B-705	705-4	7.5-9.0	91.86
B-705	705-14	128.5-130.0	20.20
B-705	705-24	178.5-180.0	23.50

Prepared By _____
Checked By_____

TABLE 4.5
SUMMARY OF LABORATORY TEST RESULTS - CARBONATE CONTENT
ASTM D 4373-02
TURKEY POINT COL
MACTEC PROJECT NO. 6468-07-1950

Boring No.	Sample No.	Depth (ft.)	Calcite Equivalent (%)
B-706	706-2	3.1-4.6	86.30
B-706	706-6	12.9-14.4	91.90
B-706	706-11	125.9-127.4	21.30
B-706	706-15	145.0-146.9	16.80
B-707	707-6	12.5-14.0	91.90
B-707	707-14	125.3-126.8	20.20
B-707	707-18	145.5-147.0	17.90
B-711	711-3	5.0-6.5	95.20
B-711	711-11	120.5-122.0	10.60
B-715	715-CS-01	32.8-33.6	92.23*
B-730	730-3	3.9-5.4	90.70
B-730	730-8	19.6-21.1	88.50
TP-601	601-1	3.2-5.0	88.50
TP-701	701-1	3.0-4.5	91.86

*Value shown is the average of three separate tests.